



Package Contents.....2
 Overview4

Installation Guide

Electrical Connection Diagram5
 Throttle Node / RPM Cable Install.....6
 Display / GPS Receiver Install8
 Temperature Sensor Install.....10
 Power Cable / CPU Install.....11
 CPU Power / Test12

Operation Guide

Overview.....13
 Usage Procedure14
 Auto Launch15
 Main Screen16
 Standby Screen.....18
 SETTINGS Menu.....19

Appendix

Wire Tapping & Troubleshooting.....23
 Purchase Agreement24
 Limited Warranty.....25

2 Package Contents

Package contents: items may appear slightly different than shown.



Display / keypad



CPU



GPS assembly



PORT (or SNGL) Throttle Node



STBD Throttle Node



Power cable



CPU-to-Node cable
"Throttle" cable



Node-to-Node cable



RPM cable(s)



Tap connectors



#6 wood screws



[Optional] Air temp sensor



[Optional] Water temp sensor



8" mounted head zip ties (cable tie)

8" zip ties (cable tie)

4 Overview

Congratulations on your purchase of the Ridesteady speed control system! Your system was designed specifically for use on Yamaha jet boats to provide high performance, easy-to-use operation.

GPS or RPM-based control

The Ridesteady speed control system uses information from satellite-based “Global Positioning System” (GPS) and “Global Navigation Satellite System” (GLONASS) to control the boat speed. The dual, simultaneous use of both GPS and GLONASS systems allow for unprecedented precision and control.

RPM-based control allows for super-smooth operation, useful for slalom skiers or barefooters at higher speeds, or tubing at any speed. It also maximizes fuel efficiency when cruising in choppy water.

Ease-of-use

The Ridesteady user interface provides an experience unmatched in the industry. A high resolution, weather and splash-proof optical rotary encoder provides incredibly fast and easy adjustments. 50 custom user-profiles allows you to dial-in your speed, pull, and control-method preferences, and saves your day and all-time “Ridestats”.

Engine synchronization

Advanced technology is designed into the Ridesteady speed control system to allow synchronization of the engines on twin-engine boats.

Throttle reduction technology

Hardware-based throttle reduction technology electronically prevents Ridesteady from giving more throttle than the amount of throttle the driver provides, for a safe operating environment.

Auto Launch™

On equipped systems, Auto Launch provides a repeatable and tunable ramp up to the set speed, simplifying driver operation while providing a predictable pull up for the rider.

Timed-standby

The industry-first timed-standby keeps the GPS active while reducing power when the ignition switch is OFF. This keeps the power consumption low while continuing to track satellites, allowing for instant restart. It also displays GPS time, air and water temps, battery voltage, and elapsed and remaining time.

Ridestats™

“Ridestats” track the user’s current ride-time, day ride-time, and all-time ride-time. It also displays the percentage of ride-time compared to all other users for the day, and all-time. Use this feature to promote ride-time fairness, gas sharing, training time, or just-for-fun.

GPS-based compass

The GPS-based compass presents your heading in real-time in an easy-to-read graphical format.

Air and water temperature

The optional air and water sensors display real-time temperatures. It is possible to mount the sensors without drilling a single hole using the existing pitot tube pickup hole (if so equipped).

Engine hour meters with trip

Keep track of your engine hours with ease. The hour meters feature independent, twin engine capability with resettable trip meters, handy for maintenance interval tracking.

Installation process

Detailed step-by-step instructions are included in this manual to allow the mechanically-inclined boat owner to install the Ridesteady speed control system successfully. However, if you are not comfortable with performing procedures listed in this manual, you should seek the service of a qualified boat technician.

The instructions are tailored to Yamaha jet boats. However, there are some (usually minor) variations between models and years, so there may be some difference between the instructions and your particular boat. Contact support at Hydrophase if you have any questions.

Read through this manual in its entirety before beginning installation. Visit www.hydrophase.com to download this instruction manual in PDF form with full color pictures.

Engine compatibility

This system was developed for use on Yamaha jet boats with APS (Accelerator Position Sensor). Check www.hydrophase.com for more information.

We’re here for you!

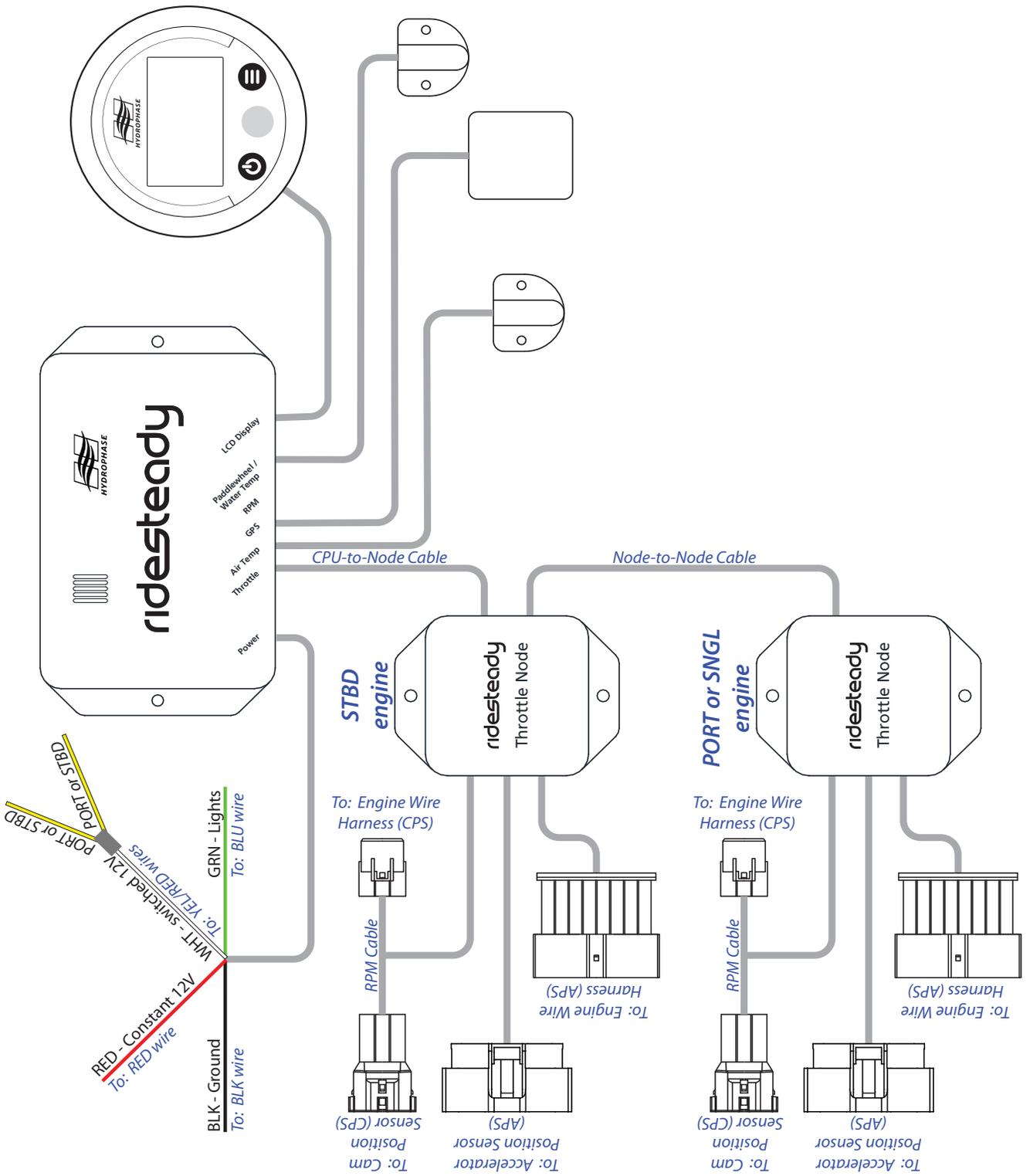
If you have any questions or concerns regarding the installation or use of your Ridesteady speed control system, just send us an e-mail or give us a call. We’re not satisfied until you’re out on the water rippin’ it up!

e-mail: support@hydrophase.com

phone: 512-524-8686

Installation procedures

- 1) Connect throttle node(s) to APS
- 2) Connect throttle nodes to CPS with RPM cable
- 3) Complete connections; mount throttle nodes
- 4) Mount in-dash display
- 5) Mount GPS receiver
- 6) Mount [optional] temperature sensors
- 7) Connect power cable
- 8) Mount and connect CPU
- 9) Power ON test



6 Throttle Node / RPM Cable Install

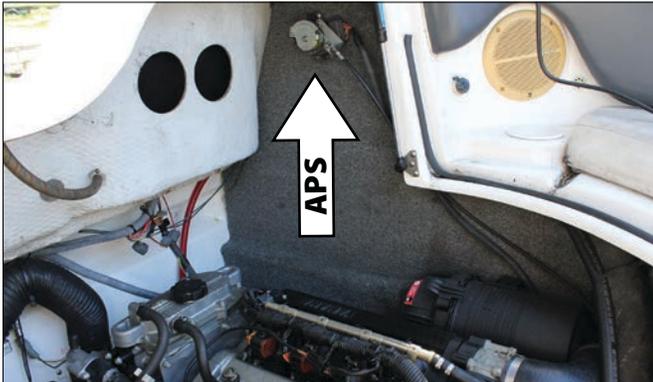
Follow the steps below to install the throttle node(s). Make sure the engine batteries are switched off. "Ground" yourself (by touching a large metal object) before touching the throttle nodes or CPU, and avoid touching the connector contacts to prevent possible accidental "static electricity" (ESD) damage.

If your boat is used in salt water / salt environments, apply a thin coating of electronic-grade di-electric silicone grease (not adhesive/caulk!) to cover the surfaces of each of the contacts of the connectors to prevent corrosion. Electronic grade di-electric silicone grease may be obtained at most auto parts stores (such as Permatex 22058/81150/09980 or Permatex Bulb Grease).

WARNING: Route all wires away from engine ignition components, high power VHF coax, or radios. These components may generate electrical interference that could interfere with the Ridesteady system.

Avoid sharp edges, hot surfaces, and moving components when routing wires.

1) Connect throttle node(s) to APS



Step 1 Locate the APS (Accelerator Position Sensor) for an engine. They are located on the wall near the engine.



Step 2 While pushing the wiring harness's female connector latch inward (which may be facing the wall), pull back on the connector housing to disconnect it from the APS sensor (see Figure 5-1). It may require a little "wiggling" to free.

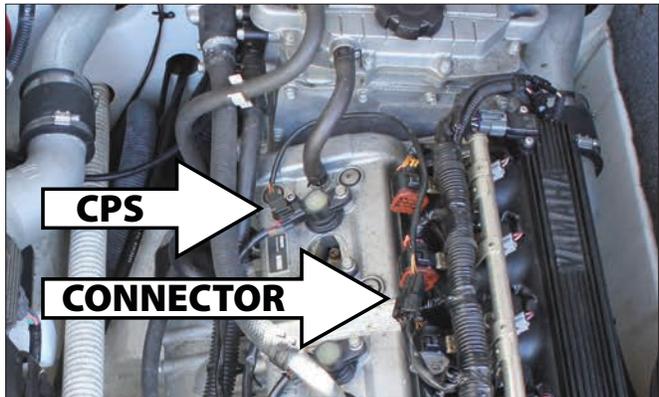
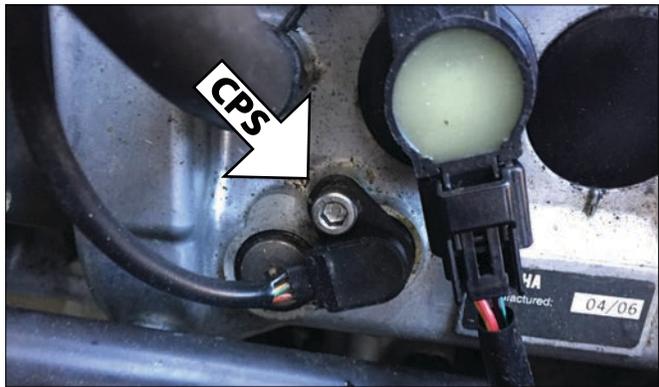
The APS assembly may be moved away from the wall to allow better access to the APS connector latch. There are nuts on the backside of the wall that must be loosened in order to move the assembly away from the wall.



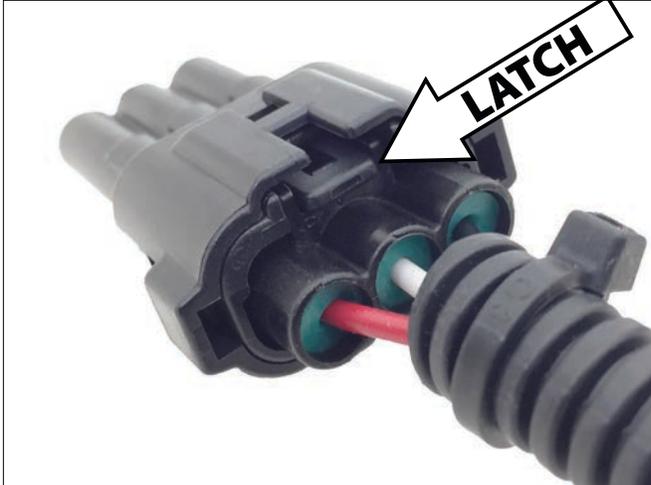
Step 3 Connect the corresponding STBD or PORT throttle node to the APS, ensuring that the connector latch is engaged. Connect the throttle node to the wiring harness, ensuring that the connector latch is engaged.

Repeat steps 1-3 on the opposing engine for twin-engine boats.

2) Connect throttle node(s) to CPS with RPM cable

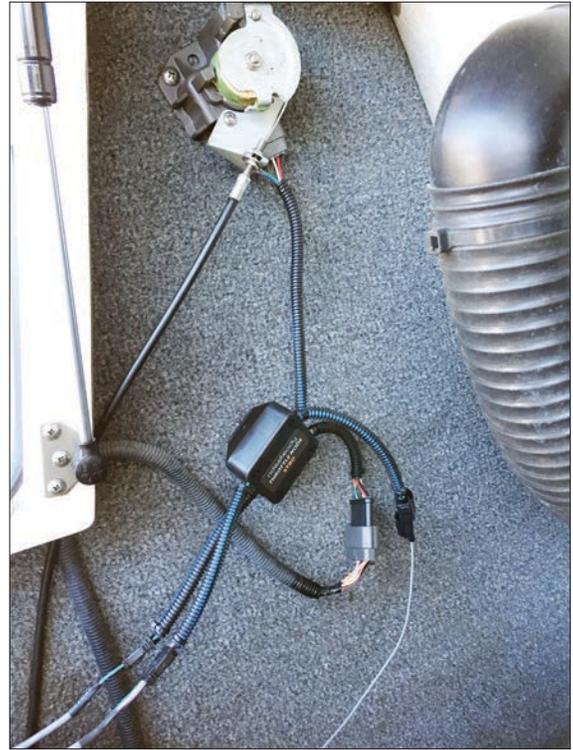


Step 1 Locate the Cam Position Sensor (CPS) on the engine (which may be located under a cover). Follow the wire from the sensor to the connector (typically a little over 12" away). Note that some connectors are black while others are clear or "natural plastic" color.



Step 2 While pulling the inner connector latch outward, gently pull back on the CPS connector housing to disconnect it from the wiring harness. It may require a little “wiggling” to free.

3) Complete connections; mount throttle nodes



Step 1 Route the node-to-node cable (for twin-engine boats) from the STARBOARD to PORT throttle node, routing away from the engines. Connect to the throttle nodes and secure with “zip” ties.

Route the CPU-to-node cable from the STBD throttle node to under the helm. Connect to the throttle node and secure with “zip” ties.



Step 3 Make a loop with the RPM cable so that the connectors align with the CPS / wiring harness connectors. Connect the RPM cable connectors to both the CPS and wiring harness, ensuring that the connector latches are engaged. Secure with a “zip” tie.



Step 2 Mount the throttle node near the APS where it won't get wet (water from above or below can damage the throttle node's circuit boards). A 3/32" pilot hole may be drilled for the wood screws.



Step 4 Route the gray RPM cable along the wire harness loom to avoid electrical interference with ignition parts. Route and connect to the corresponding throttle node. Secure with “zip” ties.

It is best to have the throttle node as high as possible with the holes to the side (not on top / bottom) to help avoid water ingress. If possible, have the wires travel downward immediately after exiting the throttle node so that if water were to collect on the wires, it would not follow them and drip into the throttle node.

Be careful to avoid damaging any ballast tanks behind the panel when drilling pilot holes or tightening screws.

Use the “mounted head” zip ties to secure the cables so that they do not pull on the throttle node connectors.

Repeat step 2 on the opposing engine for twin-engine boats.

Repeat steps 1-4 on opposing engine for twin-engine boats.

8 Display Install

4a) Mount external display (if equipped)



Step 1 Remove the mount bases and arm from the packaging. They may be temporarily assembled in order to find a suitable mounting location on your boat. Keep in mind that it is best if fiberglass/gelcoat or other hard surface is used for proper adhesion and support of the base.



Step 2 Disassemble bases and arm, if previously assembled in step 1. Remove the lining from one side of the VHB tape and apply to each base, spanning the length of the bases as shown.



Step 3 Place the external display face down on a soft surface, such as the foam packaging it was shipped in. Remove the remaining VHB tape lining on one base, and gently apply to the center of the rear of the display, as shown.



Step 4 Clean the area where the base will be mounted on your boat. For fiberglass/gelcoat, a 50/50 isopropyl alcohol/water mix may be used. Remove the remaining VHB tape lining on the second base and apply to the boat.



Step 5 After the VHB tape has been allowed to "cure" for 24 hours, assemble the mount arm to the two bases, completing the assembly.

4b) Mount in-dash display (if equipped)



Step 1 Remove the existing speedometer.

1. Unfasten the helm "meter cover" to access the gauges. The meter cover screws on some boats are accessible from above the meter cover, others have nuts accessible from underneath, while others have screws accessible from the side.

2. Remove the nuts and back clamp / bracket securing the speedometer from behind.

3. Disconnect the pitot tubing and/or electrical connections. Be sure to fold/plug and clamp off the pitot tubing (a "zip" tie may be used) to prevent water from leaking out of it. Tape off any removed electrical connections with electrical tape to prevent accidental short circuits.

4. Remove the speedometer.

NOTE: On Connex-equipped boats with analog tachometers, one of the tachometers may be replaced with the round Ridesteady in-dash display. However, the tachometer must remain connected electronically or else Connex will produce check engine light errors. Securing the tachometer behind the dash panel with zip ties is an option.



Step 2 Install the in-dash display.

1. Remove the nuts and back clamp from the rear of the Ridesteady display.

2. Insert the display into the hole in the dash. From behind the dash, reinstall the back clamp and nuts.

NOTE: On some boat models the hole may need to be enlarged (such as with a rotary tool and a "sanding drum") in order for the Ridesteady display to fit.

5) Mount GPS receiver



Step 1 Mount the GPS receiver

1. Determine a location underneath the windshield and above the helm where the GPS receiver will be placed.

2. Route the GPS receiver wire under or around the meter cover to under the helm where the CPU will later be mounted. If the wire is run under the meter cover, a half-circle cutout may need to be filed into it to prevent the wire from being pinched (a rotary tool may help). Be careful not to pull on the connector to prevent it from coming off.

3. Clean any residue from the gelcoat using a 50/50 mix of isopropyl alcohol and water. Peel the backing off one side of the included VHB tape and apply to the bottom of the GPS receiver. Peel the backing off the other side of the VHB tape and push the GPS receiver down onto the clean surface where the receiver is to be placed. Apply pressure.

NOTE: The bottom of the receiver is the side with the two rubber strips. The opposite side should point towards the sky.

For the best performance, mount the GPS receiver where only the windshield or nothing is between it and the sky.

If mounting under fiberglass is preferred, make sure the top of the GPS receiver is oriented towards the sky, and as little material is between it and the sky (the bottom of the GPS receiver has rubber "traction" pads). For example, it is better to mount the receiver so that the GPS signal only has to pass through fiberglass, rather than fiberglass and windshield. Only mount where passengers will not block the signal. If any "jerkiness" is experienced during use, the GPS may need to be relocated.

Step 2 Keep meter cover unfastened until after power cable installed and CPU mounted in the coming steps.

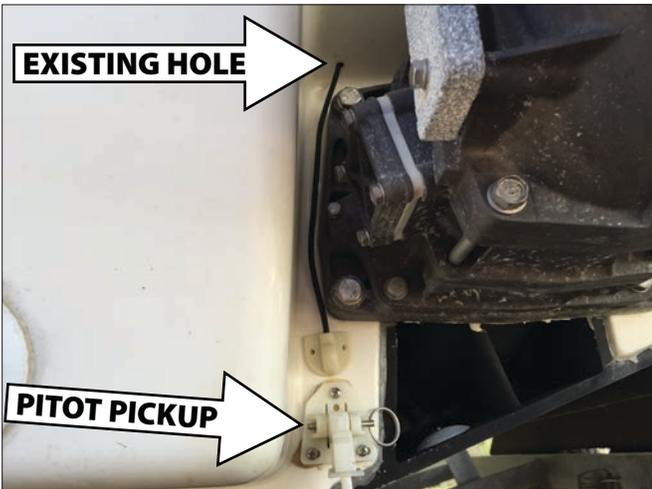
10 Temperature Sensor Install

6) Mount [optional] temperature sensors



Air temperature sensor

The air temperature sensor should be located in a cool area shaded from the sun. Typically the best location is underneath the helm, away from any heat-producing devices such as amplifiers. It is recommended to "hang" the temperature sensor from the cable a couple of inches (with the included zip ties) so that the sensor will be influenced primarily by the air temperature. Route the cable to where the CPU will be located.



Water temperature sensor

If the speedometer pitot tube is no longer being used (since the speedometer was removed in prior steps), the tubing may be disconnected from the pitot pickup and pulled up into the boat. The water temperature sensor cable may then be routed through the existing hole. Apply marine sealant around the hole from inside the boat.

If no existing hole can be used, the water temperature sensor cable may be passed through with a 3/16" hole (as high up as possible), using a marine sealant to seal the hole.

The water temperature sensor should be mounted on the transom. Clean any residue from the gelcoat using a 50/50 mix of isopropyl alcohol and water. After the surface has dried, peel the VHB backing off and place at the desired location. Apply pressure. It's recommend to wait 24 hours before putting the boat in the water to give the VHB tape time to cure.

The water temperature sensor cable comes un-installed in the connector housing to allow for a small hole in the transom. After the cable has been routed through the transom, follow the instructions

to insert the contacts of the connector into the housing. Refer to the pictures below for more information.

1. Locate the arrow on the top of the connector
2. Position either wire contact (the color doesn't matter) just inside the right-most connector slot, denoted by the arrow. The small "retention clip" should be oriented downwards.
3. Position the other wire into the adjacent slot. Again, the "retention clip" should be oriented downwards.
4. Gently push all the contacts into the connector housing. You may hear a small "click" as the contact's retention clips fit into place in the small rectangular cutouts on the back of the housing. You should see each retention clip protrude slightly from the rectangular cutouts.



Position either wire just inside the slot on right, denoted by the small arrow (in circle above). The small "retention clip" of the contact should be oriented downwards. The colors will vary and are irrelevant.



Position the other wire into the adjacent slot. If there is a third wire, insert it into the third slot, as shown.

FRONT



BACK



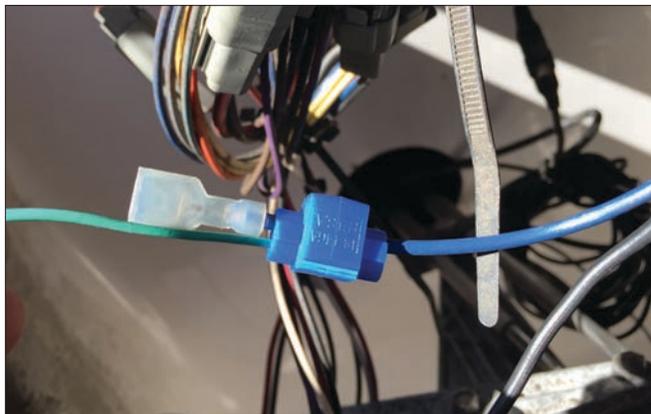
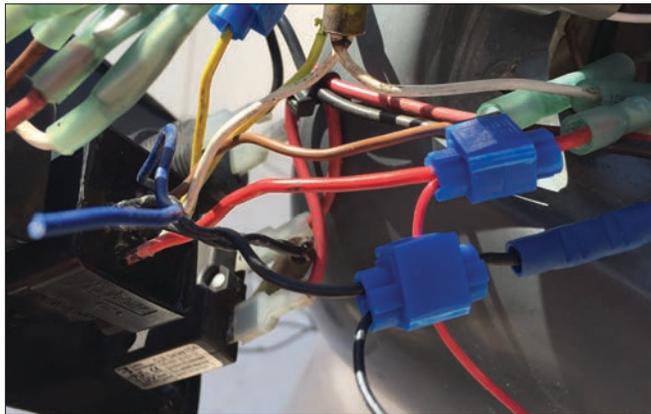
Gently push the contacts all the way into the connector housing. The small retention clips should be seen through the top rectangle cutouts on the back of the housing, as shown.

7) Connect power cable



Step 1 Unfasten the key-switch panel to access the key-switch wiring. On newer boats, the panel may not be removable, so the key-switch wiring can be accessed from behind (the key switches may be removed from the panel to make the wiring easier to access by removing the front-side plastic nut).

1. Remove the screws securing the key-switch panel.
2. Pull the key-switch panel back to access the key-switch wiring.



Step 2 Connect the power cable to the key-switch wiring using the included “tap connectors” (see appendix).

1. Connect the power cable’s black wire to either key-switch’s black wire.
2. Connect the power cable’s red wire to either key-switch’s red wire.
3. Connect the power cable’s two yellow (or sometimes white) wires to each key-switch’s yellow with red stripe wire (on some boats, it will be a solid yellow wire). It doesn’t matter which wire attaches to which key-switch, but on twin engine applications, both wires need to be attached. On single-engine boats, simply tape off the second (unused) yellow wire with electrical tape.
4. Connect the power cable’s green wire to navigation lights +12V. Refer to the following information to find the appropriate wire.

How To Find Navigation Lights +12V Wire

If there was only a blue wire and a black wire going to the old speedometer, the blue wire may be tapped into. The gray with blue stripe wire coming from the navigation lights switch may also be tapped into.

On newer boats with multifunction LCDs built in, or the smaller version of “Connex” that does not have LIGHTS control, the gray with blue stripe wire coming from the navigation lights switch may be tapped into.

On boats with the full-size “Connex” systems (i.e. with LIGHTS control), there is a gray with blue stripe wire labeled “ANCHOR LT” or “ALL RND LT” in the SPU wire harness that may be tapped into. A 16 to 20 AWG wire may be run to the SPU, which is often located under the rear starboard seat (i.e. behind the driver’s seat). Tap one end of the wire into the SPU’s ANCHOR LT wire, and the other end to the Ridesteady LIGHTS wire.

Alternatively, the +12V wire on any light that comes ON when the navigation lights are turned ON may be tapped.

The green Ridesteady LIGHTS wire automatically dims the display and is not necessary for any other operations. It may simply be taped off with electrical tape if desired.

Step 3 Route the connector-end of the power cable to under the helm where the CPU will be located. Wait to re-fasten key-switch cover until after the Power ON test.

8) Mount and connect CPU



Step 1 Find a dry, relatively cool location under the helm (i.e. don’t mount on top of a stereo amplifier or speaker). The included wood screws may be used to secure the CPU. A 7/64” pilot hole may be drilled for screwing into fiberglass. Make sure all cables will reach the CPU before mounting. Only mount to an “inside wall”.

12 CPU Power / Test



Step 2 Connect all cables to the CPU. Note that the power cable and CPU-to-node (i.e. "Throttle") cable have the same connector so be sure to plug into the correct location.

Excess "slack" cabling may be coiled up and secured under or "behind" the helm (i.e. towards the bow). Make sure that any coiled wire is not being suspended by the connection to the CPU (i.e. prevent any coiled wire from pulling down on the connectors). "Mounted head" zip ties may be used to secure the cabling and provide strain relief as needed.

Make sure the cables don't cross over any sharp edges that may cut into them with the normal vibration of the boat. Tape may be applied to questionable areas to dull edges.

Step 3 Re-fasten meter cover.

9) Power ON test

The following procedure is important to test the installation and help prevent future issues.

1. Switch the engine battery ON.
2. Turn only ONE engine ignition key to the "ON" position (without starting the engine). The blue LED on the CPU should light up and the display should turn on, showing the Ridesteady logo and then the main screen.
3. While watching the display, move / jostle the ignition switch wires and power cable taps around, to simulate the vibration experienced on the water. The display should stay in the "home" screen, not go into the "standby" screen or reset. If any anomaly is seen, pry open the ignition wire taps to inspect and re-tap. Then repeat the test above.
4. For twin engines, turn the key in the previous step OFF and turn ON the opposing engine key (without starting). Repeat step 3.
5. Verify that "ERR" is not shown on the main screen, but rather "OFF", "GPS", or "RPM". If ERR is shown, follow the guidance in [Troubleshooting](#).
6. Re-fasten the key-switch cover.
7. Start each engine independently for only a few seconds. Verify that the engine(s) properly responds to the throttle lever(s) and that the RPM is shown correctly on the Ridesteady display. Note that the display will only show the "sync master" engine speed (it will show 0 for the non-"sync master" engine), which can be changed in the SETTINGS. Follow the boat's Owner's Manual procedures on running the engines out of the water, if the boat is not in the water.

Make sure that bilge water is properly bilged at all times to prevent any water from splashing up to the throttle nodes.

If the above tests are successful, the speed control is ready for an on-the-water test run. Follow the procedures in the next section to perform a trial run in a safe environment before officially using the speed control full time.

NOTE: It's best not to wipe down the throttle nodes and CPU, as water could inadvertently make its way to the circuit boards and damage them.

If absolutely necessary, use a clean towel dampened with a minimal amount of water, and avoid the holes going into the circuit boards. Never use Yamalube, Armor All, or any cleaner, as it may damage the circuit boards.



The throttle nodes have status LEDs on the node-to-node cable side. If everything is OK, a "blinking" green LED will be visible.



WARNING

The Ridesteady speed control system was designed from the ground up to be the easiest-to-use speed control system available. However, it is imperative that every driver / user of the Ridesteady speed control system read, understand, and follow the instructions below to provide for the safest operating environment possible.

The Ridesteady speed control system uses a “throttle reduction” method of manipulating the engine speed. When properly installed, the system can only reduce throttle from the amount of throttle provided by the driver. In other words, the Ridesteady speed control system can only slow down the boat from the amount of “gas” you give it, and cannot speed up past that point. So, if at anytime you would like to slow down or stop, simply pull back on the driver’s throttle lever(s) as you normally would. The speed control system will reset the throttle back to its original position giving you manual throttle control.

The Ridesteady speed control system “remembers” the state it was in prior to being powered OFF. If the speed control was engaged when powered OFF, it will be engaged when it is later powered ON. This feature simplifies the operation of the speed control when the engine is turned OFF and ON repetitively to allow riders and skiers to enter / exit the boat. However, the driver must check the speed control display when powering ON the engine to be aware of its status.

Always follow the recommended procedures as outlined by your boat manufacturer. Always run the bilge blowers for the proper duration before starting the engine or while travelling at low speeds.

Never operate a boat under the influence of drugs or alcohol. Never attempt to operate the Ridesteady speed control under the influence of drugs or alcohol.

Always properly attach the engine shut off cord (lanyard) to your person. It may be pulled if any unexpected situations develop that require immediate slow down.

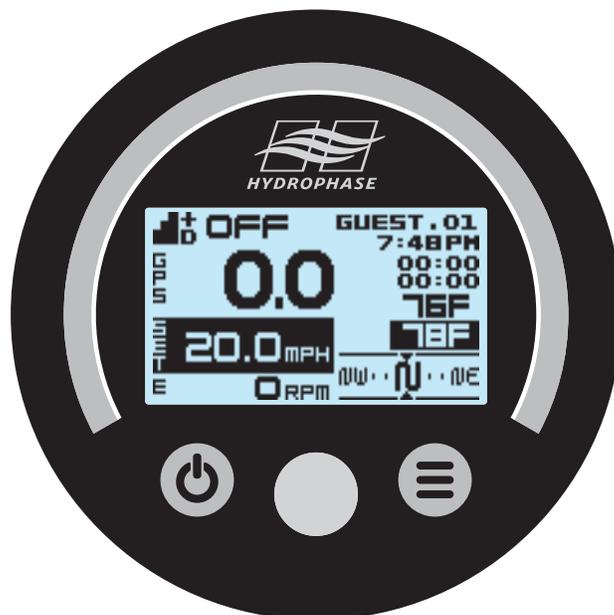
It is recommended to use RPM mode when travelling under or near bridges, as the GPS signal can be temporarily blocked, causing jerky operation or loss of fix.

It is not recommended to use any speed control where fluctuations in speed may cause injury. Speed control should not be used with “barefoot booms”.

Always keep your hand on the driver throttle lever(s) so that you may slow down or stop at any time.

Display overview

The Ridesteady speed control system uses a 2 button with rotary / push knob control panel with backlit graphical LCD display.



Button functions:



ON/OFF button

Toggles between manual-throttle (OFF) and speed-control active (GPS, PW, or RPM).



SETTINGS button

Momentary press: moves cursor on main screen
Press and hold: enters / exits SETTINGS mode
(speed must be less than 5 MPH / 8 KPH to enter SETTINGS mode)



Rotary / push knob

Momentary press: “ENTER”; toggles between:
 cursor-move mode (cursor blinking)
 setting-change mode (cursor solid)
Rotation: cursor-dependent:
 in cursor-move mode: changes cursor position
 in setting-change mode: changes setting

14 Operation Guide: Usage Procedure

The following procedures assume the engine is started and that the rider / skier is ready to be towed behind the boat. For Auto Launch operation, see [p.15](#).

Automatic speed control procedure

1. Select user and adjust desired set speed

Move the cursor to highlight the user (if "CURSOR HOME: USER" is set, the cursor will already be highlighting the user if below 5 MPH / 8 KPH). Rotate the knob to change the user. This will load the settings for the selected user (set speed, control mode, response, etc.). If it is desired to change the set speed, the cursor may be moved to highlight the set speed and adjusted accordingly. The set speed may also be adjusted while the speed control is actively regulating the speed. If "SET SPD SAVE: YES" is set, the adjusted set speed will be saved to the user.

2. Engage the speed control

Press the ON / OFF button to engage the speed control system. The control mode will be displayed. If the control mode is already displayed, the speed control system is already engaged (the speed control system will remember its status even after it is powered OFF). **Warning:** When the speed control is engaged, the driver should be aware that it will begin operating once a certain speed has been reached.

3. Accelerate past the set speed to activate speed control

The Ridesteady speed control system uses a "throttle reduction" method of manipulating the engine speed. The driver must push down the throttle lever(s) slightly more than is normally necessary to maintain the desired set speed. Prior to reaching the set speed, the speed control will begin controlling the throttle to avoid "overshooting" the set speed by too much (this may be detected as a brief reduction in speed). It will then regulate the throttle to maintain the set speed. The rotary knob can be used to adjust the set speed during operation. If the "MORE GAS" screen appears, simply push the throttle lever(s) down more to speed up a bit.

4. Pull back on throttle to slow down / reset throttle

When the rider / skier falls, or when you would like to slow down or stop for any reason, simply pull back on the throttle lever(s) as you normally would. The speed control will attempt to maintain the speed until it falls below a certain threshold (determined by the set speed and other factors) and will then reset the throttle. The "THROTTLE RST" screen will appear on the display, counting down until the throttle is back to the original position. The current user's Ridestats will be displayed simultaneously. If the SETTINGS button is pressed, it will extend the throttle reset screen by 5 seconds for each press (max: 10s). The speed control will remain engaged and ready to "take over" again when the driver begins to accelerate towards the set speed again.

5. Turn off the speed control to return to manual throttle

When it is desired to have "manual throttle" control, disengage the Ridesteady speed control system by pressing the ON/OFF button so that OFF appears. The throttle will now behave like a normal manual throttle, without any speed control. **IMPORTANT:** Disengaging the speed control will reset the throttle; only disengage when the driver throttle lever(s) is in the neutral position.

Traditional "cruise control" procedure

If it is desired to manually engage the speed control, the speed control can behave similar to a typical automobile cruise control.

Follow the same procedures as the "automatic speed control" but accelerate slightly past the desired set speed first, then press the ON/OFF button to engage the speed control.

Throttle lever(s) position

It is only necessary to push the throttle lever(s) down slightly more than is normally necessary to maintain the desired set speed.

With the Yamaha APS throttle system, pushing the throttle lever(s) all the way forward to the stops often induce a "saturation" condition. That is, past a certain point, continuing to push the throttle lever(s) forward will produce no change in engine speed, but will continue to increase the electronic throttle signal that the engine computer (ECU) reads from the APS. This "extra throttle signal" can cause a bigger overshoot on bring up, as Ridesteady has more throttle that it must reduce in order to hit the set speed. If you would prefer to push the throttle lever(s) to the stops, try increasing the "overshoot" user setting to bring the speed down faster if you experience bigger overshoot.

If the speed control slows down too much during the initial acceleration, refer to the SETTINGS Menu page for information on how to reduce the "overshoot" setting.

Engine synchronization [twin-engine boats]

When twin-engine synchronization is enabled in the SETTINGS, push both throttle levers forward approximately the same amount. When the speed control takes over, it will adjust the synchronization slave engine to the master engine. However, it can only adjust approximately +/- 10% of the throttle, so if the throttle levers are significantly apart, the speed control may lose the ability to synchronize. Simply adjusting the throttle levers back to approximately even will rectify this situation.

On equipped systems, Auto Launch provides a repeatable and tunable ramp up to the set speed.

For the driver, this simplifies operation, as they may push the throttle lever(s) all the way forward to the stops each start, no matter the set speed.

For the rider, predictable acceleration is delivered each time, allowing the rider to focus on getting up, while minimizing overshoot of the set speed.

Auto Launch is only available through a user that has a control mode set to "AL + GPS". Auto Launch must be calibrated to your boat before use.

Auto Launch Setup

Before using Auto Launch, complete the following:

1. Calibrate one or both Auto Launch Cal tables to your boat (see [p. 22](#)).
2. Setup a user to use Auto Launch with a calibrated table (see [p.20](#)): "Ctrl Mode: AL + GPS"

Automatic speed control with Auto Launch procedure

1. Select user with "AL+GPS" set up as its "ctrl mode", and adjust desired set speed

Move the cursor to highlight the user. Rotate the knob to change the user. This will load the set speed, response, and acceleration preferences for the selected user. If it is desired to change the set speed, the cursor may be moved to highlight the set speed and adjusted accordingly. The set speed may also be adjusted while the speed control is actively regulating the speed.

2. Engage the speed control

Press the ON / OFF button to engage the speed control system. The control mode will be displayed. If the control mode is already displayed, the speed control system is already engaged (the speed control system will remember its status even after it is powered OFF).

3. Push the throttle lever(s) forward to the stops

A smooth, relatively quick push forward of the throttle(s) allows the system to take over and control the ramp up based on the Accel setting in the user settings. "AL1/2" (depending on which Auto Launch Cal table is being used) will blink as the system ramps up to speed. Once the boat speed approaches the set speed, the system will transition to GPS mode and will display "GPS".

If the THR (throttle) set in the Auto Launch Cal table is insufficient to bring the boat up to the set speed (and the boat's progress towards the set speed stalls), the sys-

tem will progressively add throttle until the set speed is reached (up to a point). If this happens, consider increasing the Accel setting in the user to a higher number.

4. Pull back on throttle to slow down / reset throttle

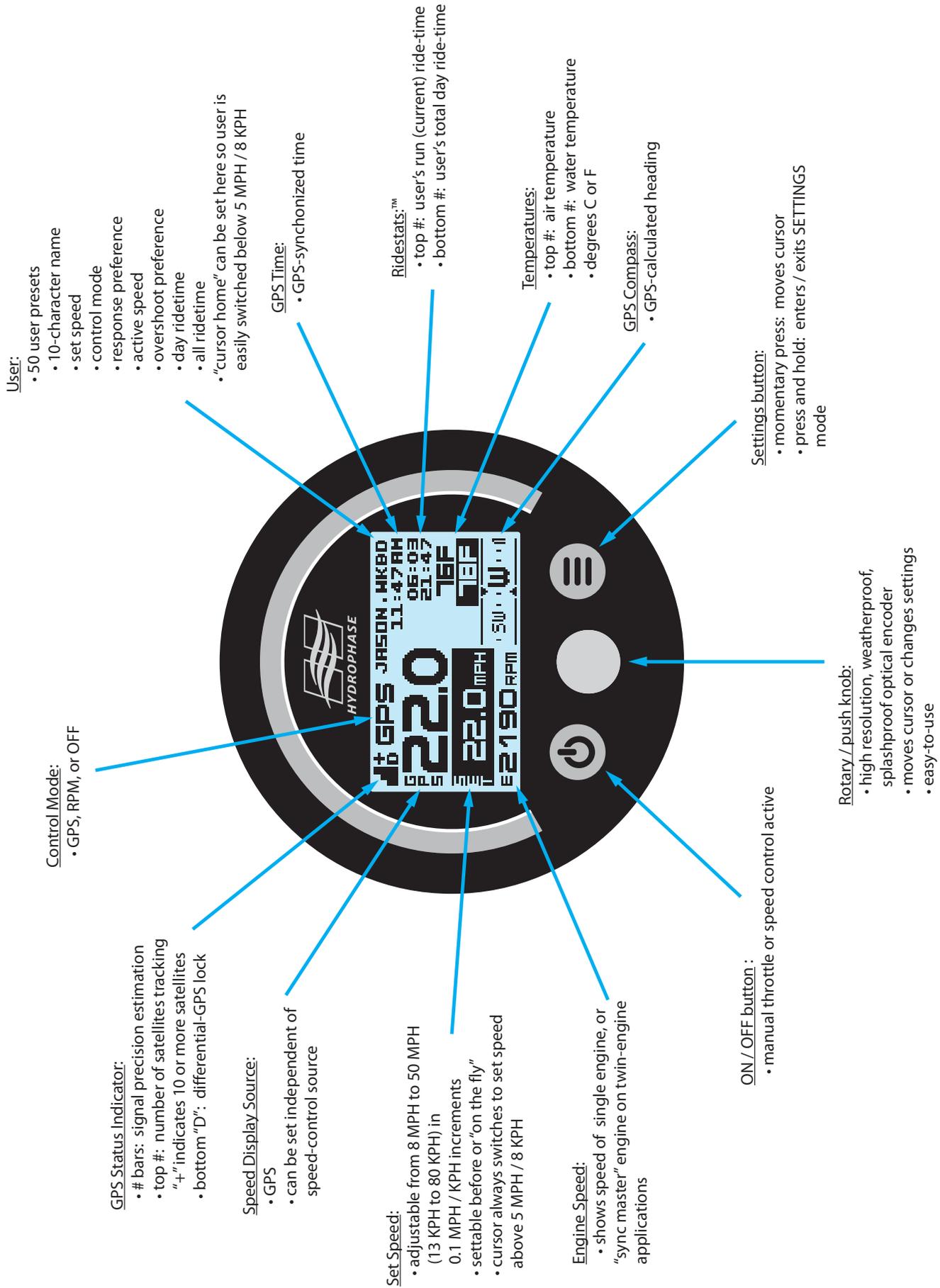
When the rider / skier falls, or when you would like to slow down or stop for any reason, simply pull back on the throttle lever(s) as you normally would. The speed control will attempt to maintain the speed until it falls below a certain threshold (determined by the set speed and other factors) and will then reset the throttle. The "THROTTLE RST" screen will appear on the display, counting down until the throttle is back to the original position. The speed control will remain engaged and ready to "take over" again when the driver begins to accelerate towards the set speed again.

WARNING: When a user with Auto Launch selected as its control mode is used, the ramp up in speed will be controlled by the system. If a sudden burst of acceleration from a stop is needed to power over a wave, avoid a person or obstruction in the water, etc., the system ramping up to speed may not provide enough immediate throttle. Thus, it is recommended to disengage (i.e. turn "OFF") the system after a rider falls and in-between runs, so that manual throttle will be in effect. It can be re-enabled with a press of the ON / OFF button as the rider is ready for the next run.

5. Turn off the speed control to return to manual throttle

When it is desired to have "manual throttle" control, disengage the Ridesteady speed control system by pressing the ON/OFF button so that OFF appears. The throttle will now behave like a normal manual throttle, without any speed control. **IMPORTANT:** Disengaging the speed control will reset the throttle; only disengage when the driver throttle lever(s) is in the neutral position.

16 Operation Guide: Main Screen Overview



Main Screen - referenced from the previous page



GPS Status Indicator: Provides a quick status of the GPS signal.

The bars indicate an estimation of the quality of the signal. This estimation is based on many variables including the signal strength and geometry of the GPS satellites “visible” to the GPS receiver. 2 to 3 bars will typically give an excellent speed signal and thus an excellent pull.

The top number, denoted as “+” sign here, indicates how many satellites are being used to calculate the speed. The “+” sign indicates 10 or more satellites.

The bottom “D” will appear when the system is using differential-GPS (known as “WAAS” or Wide Area Augmentation System in North America) to improve GPS accuracy. Differential-GPS may not be available in all areas, and is not necessary for speed control operation.

GPS Control Mode: [OFF, GPS, RPM]

Shows whether the speed control is active and which speed source is input into the speed control. If OFF is not shown, the speed control is engaged and will regulate the set speed based on the selected control mode. If ERR is shown, follow the guidance in [Troubleshooting](#).

The ON/OFF button toggles the control mode between OFF and GPS or RPM. The control mode is determined by the current user. If the cursor is moved to this area, the control mode may be changed directly, which will cause the user to change to a “system user” [SYS.RPM, SYS.GPS]. System users can be thought of as “temporary” users when you don’t want to use a saved user.



Speed with Speed Display

Shows the current speed based on the selected “speed display source”.



Set Speed with Speed Units:

Shows the set speed along with the speed units [MPH / KPH]. If the cursor is moved to this area, the set speed may be changed directly. If SETTINGS are set to “SET SPD SAVE: YES”, the changed set speed will be saved to the user profile. If SETTINGS are set to “SET SPD SAVE: NO”, the changed set speed will not be saved to the user profile.

E 2190 RPM Engine Speed: Shows the engine speed in revolutions per minute (RPM). With twin-engine applications, the “sync mstr” setting determines which engine’s speed will be shown. Note that needle-based tachometers often have some inaccuracies, so it may not match perfectly with the RPM speed Ridesteady reports.

JASON . HKBD User: Shows the active user. The 50 user profiles contain:

- 10-character name
- set speed
- control mode
- response
- active speed
- overshoot
- day ride-time (accessed in “Ridestats”)
- all ride-time (accessed in “Ridestats”)

If SETTINGS are set to “CURSOR HOME: USER”, the cursor will automatically move from the set speed to the user below 5 MPH / 8 KPH so that the user is easily changed with a rotation of the knob. Otherwise, the cursor may be moved to this area and the user changed.

The default user names are GUEST.01 through GUEST.50. There are also “system users”, SYS.RPM, SYS.GPS. These users can be accessed by rotating the knob counterclockwise to the first user (GUEST.01 by default), waiting a second, then continuing to rotate the knob counterclockwise. This creates a “digital stop” which makes it easy to access the first user without inadvertently going into the system users. The “system users” are provided to allow usage of the speed control without using a saved user.

11:47 AM GPS Time: GPS-synchronized time. The timezone and daylight savings time can be changed in SETTINGS.



Ridestats:™ The top number shows the user’s current ride-time. The bottom number shows the user’s total ride-time for the day. The ride-time starts when the set speed has been reached. The day ride-time will automatically be reset at midnight.



Temperatures: The top number shows the air temperature while the bottom number shows the water (lake) temperature. The water temperature is received through either the paddlewheel or the water temperature sensor. If using the water temperature sensor, the paddlewheel must be turned OFF in SETTINGS to load the proper calibration curve.



GPS Compass: GPS-calculated heading shows your “course-over-ground” in graphical form. The compass works at about 5 MPH and above, and may be erratic at speeds less than that. The compass should not be used for life-critical navigation.

18 Operation Guide: Standby Screen

GPS Status Indicator:

- continues to track satellites
- # bars: signal precision estimation
- top #: number of satellites tracking
- "+" indicates 10 or more satellites
- bottom "D": differential-GPS lock

GPS Time:

- GPS-synchronized time
- Large font for easy boat-wide viewing

Temperatures:

- top #: air temperature
- bottom #: water temperature

Battery Voltage:

- Monitor battery voltage

Settings button:

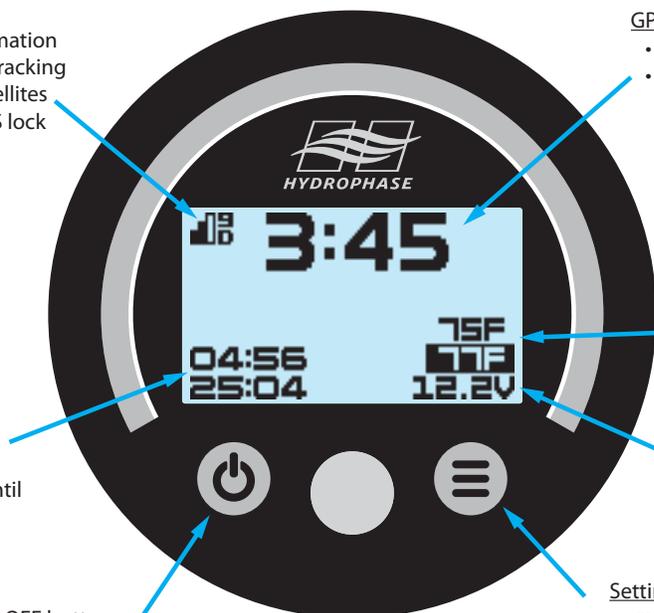
- extend standby time by 5 minutes per press

Standby Time:

- top: elapsed time
- bottom: time remaining until automatic power kill

ON / OFF button :

- instantly kill power



Standby Screen - When the ignition SWITCH is turned OFF, the system will enter standby-mode and the "standby screen" will appear (as shown above).

Standby-mode allows the GPS to remain active while running in a lower power mode. This allows for continuous satellite tracking for instant restart and useful information display such as the time (in large font), air and water temperatures, battery voltage, and elapsed-time and countdown-time, all in a lower power environment.

Standby-mode is useful in-between sessions to keep the GPS active and while "floating", to keep track of the time, temperature, and battery voltage. It can also be used when trailering to the boat ramp--this way the GPS will be actively tracking satellites by the time the boat is in the water.

Pressing the power button in standby mode before 1 minute has elapsed will result in the system waiting until

1 minute has elapsed before powering off, to avoid check engine lights activating.

For software versions 1.02 and before, pressing the power button in standby mode will instantly "kill" the power to the system. Killing power to the system within 1 minute of engine power OFF may cause the engine computer to turn ON the check engine light. If this occurs, turning the battery selector switch to OFF for a minute or two will reset the check engine light.

Pressing the settings button will extend the countdown timer 5 minutes each press, up-to 250 minutes.

The "PWR OFF DELAY" setting may be set from 1 to 250 minutes.

When storing the boat, make sure the blue power LED is OFF.

Press & hold
2 seconds when
speed < 5 MPH
/ 8 KPH



Enters / Exits
MENU

```

SETTINGS
RIDESTATS
      USER: 1
      NAME: GUEST.01
      # RIDES  DAY   ALL
      TIME     18M  14.5H
      RATIO    34.7% 63.1%
USER SET
      USER: 1
      NAME: GUEST.01
      CONTROL MODE: GPS
      SET SPEED: 20.0 MPH
      RESPONSE: 50
      ACTIVE SPD: 1 MPH
      OVERTHOOT: 50%
SYSTEM SET
LCD CONTRAST: 0
LCD BLKT: 100%
LCD BKLT LTS ON: 25%
BEEP VOLUME: 50%
CURSOR HOME: SET SPD
SET SPD SAVE: NO
TIMEZONE: -06 UTC
DAYLT SAVINGS: NO
PWR OFF DELAY: 30 MIN
SPEED UNITS: MPH
PW ENABLED: NO
PW SPEED CAL: 0.0 MPH
TEMP UNITS: DEG F
AIR TEMP CAL: 0.0F
LAKE TEMP CAL: 0.0F
ENGINE CYL: YAM
IN GPS MODE. SHOW: GPS
IN RPM MODE. SHOW: GPS
SHOW RPM OR THR: RPM
ACTIVE BEEP: YES
NAV SAT: GPS+GLONASS
ENG NUM: TWIN
ENG SYNC: ON
SYNC MSTR: PORT
SYSTEM INFO
ENGINE HOURS
NOTE STATUS
BATTERY
SOFTWARE
AUTO LAUNCH CAL
      AL TABLE: 1
      06 MPH: 200 THR
      08 MPH: 200 THR
      . . .
    
```

```

FACTORY RESET
      USER: 1
      NAME: GUEST.01
      RESET STAT ABOVE? NO
      RESET USER ABOVE? NO
      RESET ALL STATS? NO
      RESET ALL USERS? NO
      RESET SYSTEM? NO
      RESET EVERYTHING? NO
    
```

SETTINGS menu

Follow the guide below to customize the Ridesteady speed control system to your preference. Often the default settings provide the best result and require no adjustments (with the exception of Auto Launch, which requires calibration before use).

Older Ridesteady software versions may not contain all the features listed here.

Use the rotary / push knob to navigate the SETTINGS menu. Each menu will start in either cursor-move mode (cursor blinking) or setting-change mode (cursor solid) for the fastest settings changes. Push the knob to change from cursor-move mode to setting-change mode and back.

Each menu has a “back arrow” icon in the top left corner. Moving the cursor to highlight this arrow and pushing the knob will send the SETTINGS menu back a level.

The menu may be exited at any time by pressing and holding the SETTINGS button.

RIDESTATS Ridestats™ shows the ride statistics of a particular user. The number of rides for the day and all-time, the total time for the day and all-time, and ratio of time versus all other users for the day and all-time are displayed. Use the knob to scroll through the users.

USER SET User Set allows the name, control mode, set speed, response, active speed, and overshoot settings to be customized for each user. Use the knob to scroll to the user number you would like to customize. Then highlight the parameter you would like to change.

It is recommended to change the “system users” (users -1, -2, -3) first to a setting that works well for you and your boat. This will become the default setting for all other users with the same control mode. Note that neither the name nor control mode may be changed for the system users.

After changing a user setting and returning to the main screen, it may be necessary to change to a different user and back to refresh the user parameters.

20 Operation Guide: SETTINGS Menu

NAME: GUEST.01 Use the knob to change each letter of the user name. Rotating the knob changes the character. Pushing the knob advances the cursor one position. Pressing the MENU key backs up the cursor one position. Rotating the knob completely counterclockwise inserts a "space" character. The name will be right-justified on the main screen, so it is not necessary to insert spaces on the left.

CONTROL MODE: GPS Use the knob to change the control mode.

RPM-mode (engine RPM-mode) delivers super-smooth speed which can be used for tubing, or fuel-efficient cruising.

GPS-mode provides an excellent, precise pull for watersports from slalom skiing to wakeboarding to wakesurfing.

AL1/AL2 + GPS: [GPS with Auto Launch start] starts in Auto Launch mode (using the respective TBL1 or TBL2) and transition to GPS mode as the set speed is approached. When properly calibrated, Auto Launch can provide a smooth, repeatable ramp up to the set speed at the desired acceleration, minimizing overshoot, and maximizing repeatability. See AUTO LAUNCH CAL (p. 22) for information on how to calibrate the two tables.

SET SPEED: 20.0 MPH Adjust the set speed in 0.1 MPH/KPH increments to your preference.

If RPM-mode is selected as the control mode, the set speed will be in terms of engine RPM.

RESPONSE: 50 Adjust the "response" setting to your preference. Response ranges from 1 to 99.

As "response" is increased, the Ridesteady speed control becomes more aggressive in how it maintains the set speed. For unladen boats (without many people or much ballast), or for boats with smaller engines, lower numbers deliver a smoother ride. For heavily laden boats, higher numbers will keep a more precise set speed.

ACTIVE SPD: 1 MPH [N/A in Auto Launch control mode] Active Spd sets the speed below the set speed in which the speed control begins regulating the speed of the boat. 1 MPH and 0.5 MPH are fixed while NOMINAL and 1/2 NOM (half of nominal) are internal formula-based. Not applicable for RPM-mode.

For jet boats, the 1 MPH and 0.5 MPH are often best. If the boat is fast to accelerate to the set speed (i.e. unladen), NOMINAL or 1/2 NOM may produce less overshoot.

OVERSHOOT: 50% [N/A in Auto Launch control mode] Adjust the "overshoot" setting to your preference. Response ranges from 0% (OFF) to 200% (twice the nominal overshoot speed-reduction).

The "overshoot" parameter helps determine how much the boat slows down as it first approaches the set speed. In addition to the overshoot parameter, the amount that the boat slows down is based on other variables, including how fast the boat is accelerating towards the set speed and the "response" parameter.

For beginner-riders that require a slower, less aggressive throttle start, a lower overshoot number is recommended. For more experienced riders with a quicker throttle start, or when push the throttle lever(s) all the way to the stops, a higher number is recommended.

ACCEL: 25 [Only available in Auto Launch control mode, when equipped] Accel sets how fast the ramp up to the set speed is. Lower numbers allow for a slower ramp up to the set speed, generally with less overshoot (great for beginners). Higher numbers will accelerate faster. Try the default value of 25 and adjust higher / lower from there.

If Accel is set too low or the THR (throttle) set in the Auto Launch Cal table is insufficient to bring the boat up to the set speed (and the boat's progress towards the set speed stalls), the system will progressively add throttle until the set speed is reached (to a degree). If this happens, consider increasing Accel or the THR number in the relevant Auto Launch Cal table.

SYSTEM SET System Set contains the system settings.

LCD CONTRAST: 0 Adjust the LCD display contrast to your preference. Range -9 to +9.

LCD BLKT: 100% Adjust the LCD backlight to your preference. This backlight setting is for when the ignition switch is ON but the LIGHTS are OFF. Ranges from 0% (OFF) to 100% (fully ON).

LCD BKLT LTS ON: 25% Adjust the LCD backlight to your preference. This backlight setting is for when the LIGHTS are ON. Lower numbers will keep from blinding you with a bright backlight at night. Ranges from 0% (OFF) to 100% (fully ON).

BEEP VOLUME: 50% Adjust the volume of the beeper. Note that the beeper may change pitch as the volume is increased or decreased--this is normal. **IMPORTANT:** Reducing the volume to low levels (such as below 10%) may prevent beeping at all. 0% will turn OFF the

beeper completely. Warning beeps will not be heard!

CURSOR HOME: SET SPD Cursor Home changes where the cursor will go on the main screen when the boat slows down to <5 MPH / 8 KPH. It may be set to either “set speed” or “user”.

After the set speed has been dialed-in on each user, it is recommended to set cursor home to “user”. This will allow a mere turn of the knob to change users when the boat slows down, making user changes super fast and convenient.

SET SPD SAVE: NO Set Spd Save determines whether the set speed will be saved to the current user when changed on the main screen. If set to “NO”, the changed set speed will only be saved until the user is changed. This allows the set speed to be changed temporarily without disturbing the user profile. If set to “YES”, the changed set speed will be updated to the current user profile.

TIMEZONE: -06 UTC Adjust the Timezone to your offset from UTC. This affects both the clock and when a “new day” is defined, thereby resetting the Rides-tats for the day.

DAYLT SAVINGS: NO Adjust whether your timezone is in “Daylight Savings Time” or not. This affects both the clock and when a “new day” is defined, thereby resetting the Rides-tats for the day.

PWR OFF DELAY: 30 MIN Adjust the time after the ignition key is switched OFF (and the system enters “timed-standby”) before the power is killed.

“PWR OFF DELAY” may be set from 1 to 250 minutes.

SPEED UNITS: MPH Adjust the speed units to either miles-per-hour or kilometers-per-hour.

PW ENABLED: NO PW control mode not approved for use on Yamaha boats.

PW SPEED CAL: 0.0 MPH Increase PW Speed Cal if the paddlewheel speed is reading low. Decrease if the paddlewheel speed is reading high. The +/- MPH/KPH number shown is an estimate of how much the paddlewheel speed reading will be changed at 20 MPH.

TEMP UNITS: DEG F Adjust the temperature units to degrees Fahrenheit or Celsius.

AIR TEMP CAL: 0.0F Adjust the calibration of the air temperature sensor. If the temperature sensor is

installed in an area that gets warmer than the outside air, adjust the Air Temp Cal down. If the temperature sensor is reading cooler than it should, adjust the Air Temp Cal up.

LAKE TEMP CAL: 0.0F Adjust the calibration of the water temperature sensor. If the temperature sensor is installed in an area that gets warmer than the outside air, adjust the Lake Temp Cal down. If the temperature sensor is reading cooler than it should, adjust the Lake Temp Cal up.

ENGINE CYL: YAM Adjust Engine Cyl to the number of cylinders your engine has. This will allow for the correct engine RPM reading. Also allows for 5, 6, 10, 12 PPR (pulse-per-revolution), and Yamaha jet boat setting.

IN GPS MODE, SHOW: GPS This setting allows either the GPS or paddlewheel speed to be displayed when in GPS control mode. This is helpful if you’re on a river and want to use the GPS for speed control, but want to use the paddlewheel for the speed display.

IN RPM MODE, SHOW: GPS This setting allows either the GPS or paddlewheel speed to be displayed when in RPM control mode.

SHOW RPM OR THR: RPM This setting allows either the RPM or THR (throttle value) to be displayed below the set speed. THR mode used for Auto Launch Cal.

ACTIVE BEEP: YES Set whether the system will beep when active speed regulation starts.

NAV SAT: GPS+GLONASS Adjust the navigation satellite system to use either simultaneous GPS and GLONASS or GPS only.

ENG NUM: TWIN Adjust whether to run in twin or single engine mode.

ENG SYNC: ON When twin engines are set, adjust whether to synchronize engines during active speed control operation only (ON) or anytime the speed is above 8 MPH (FULL). SYNC MSTR: AUTO must also be set in order for ENG SYNC: FULL to activate “fulltime” engine synchronization (engine sync will activate above 8 MPH, including when the speed control is in “OFF” mode).

Note that needle-based tachometers are often inaccurate, so the tachometers may not match perfectly, even though the engines are synchronized. Engine synchronization should be turned OFF if RPM cable(s) are not connected.

SYNC MSTR: PORT Adjust which engine will be the synchronization master when twin engines and

22 Operation Guide: SETTINGS Menu

engine synchronization are enabled. The engine selected will be the one that the opposing engine will synchronize to. It is also the engine whose RPM will be displayed on the main screen.

SYNC MSTR: AUTO operation lets the Ridesteady CPU decide which engine to adjust to synchronize the engines. The STBD engine's RPM will be displayed on the main screen. **SYNC MSTR: AUTO** and **ENG SYNC: FULL** must both be set for "fulltime" engine synchronization (above 8 MPH, including when in "OFF" mode).

SYSTEM INFO Displays System Information

ENGINE HOURS Keeps track of engine hours for each engine independently, as well as providing a resettable "trip" hour meter for each engine, handy for monitoring maintenance intervals.

To change the total hours on each engine (for initial setup), move the cursor to highlight the total hours for the appropriate engine. Rotate the knob to change the engine hours in 0.1 hour intervals. To reset the "trip" hour meters, move the cursor over reset for the appropriate engine and push the knob in.

On single engine boats, engine hours will be reported as the PORT engine.

NODE STATUS Provides current node error status and history. To reset history, move the cursor over reset and push the knob in.

On single engine boats, the status will be reported as the PORT engine.

BATTERY Displays the current battery voltage.
SOFTWARE Displays the software version.

AUTO LAUNCH CAL [when equipped] Adjusts the THR (throttle) setting per set speed. These values must be calibrated before the Auto Launch mode should be used. Follow the steps below to get the values for your boat and setup. Obtaining the THR values must be done with MPH speed units.

There are two Auto Launch Cal tables that can be calibrated. Two are provided so that a "heavy" and "light" configuration can be set (as the throttle needed to obtain a certain speed will vary on how much weight the boat is loaded with).

1. Make sure "THR" is set under SETTINGS -> SYSTEM SET -> SHOW RPM OR THR

2. While in GPS mode, set the set speed for 8 MPH. Ac-

celerate so that the Ridesteady is actively regulating the speed at the set speed.

3. After the set speed has been settled on, have an assistant record the average THR value shown on the display for that set speed, or take a picture or video to record it.

4. Repeat steps 2 and 3, increasing the set speed 2 MPH each time. Record the THR for each 2 MPH increment up to the max speed you will use the speed control at.

5. Enter the values recorded into the Auto Launch Cal tables. For speeds above which the THR value was recorded, enter the maximum recorded speed. For example, if you recorded THR speeds up to 34 MPH, enter the THR value recorded for 34 MPH for 36 MPH, 38 MPH, etc.

Alternatively, the THR values for a particular set speed can be recorded during regular use of the speed control.

The system will interpolate for values between the 2 MPH increments. It will also convert when switching back to KPH speed units.

The THR values can be tweaked to suit. For example, it may need to be increased a little to compensate for the extra throttle needed to tow a rider if the system was calibrated without one.

FACTORY RESET Reset Ridestats, users, system settings, or everything back to factory defaults. Rotate the knob to select the user which will have its stats or settings reset, or move the cursor to select the reset to be performed.

NOTE: Performing a SYSTEM or EVERYTHING factory reset will reset the ENG NUM to TWIN, throwing an "ERR" in a SNGL engine setup. If running a single engine setup, change ENG NUM back to SNGL after reset.

NOTE: Performing an ALL STATS or ALL USERS reset may cause "ERR" to be shown on the main screen after reset. To remedy this, simply turn the ignition switches both to the OFF position so the system goes into standby. Then turn an ignition switch back to ON. The throttle node error history may be cleared through SYSTEM INFO -> NODE STATUS if desired.

RESET STAT ABOVE? NO After the desired user to be reset has been selected, changing Reset Stat Above to YES will reset the Ridestats for the user.

RESET USER ABOVE? NO After the desired user to be reset has been selected, changing Reset User Above to YES will reset all attributes of the user, including the Ridestats and user settings.

RESET ALL STATS? NO Changing Reset All Stats to YES will reset the Ridestats for all users.

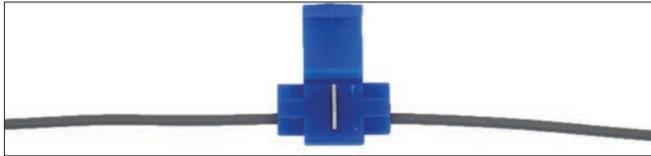
RESET ALL USERS? NO Changing Reset All Users to YES will reset all attributes for all users, including the Ridestats and user settings.

RESET SYSTEM? NO Changing Reset System to YES will reset all settings in System Set back to factory defaults.

RESET EVERYTHING? NO Changing Reset Everything to YES will reset the entire speed control back to factory defaults.

“Tapping”

“Tapping” connects two wires using a special “tap connector”.



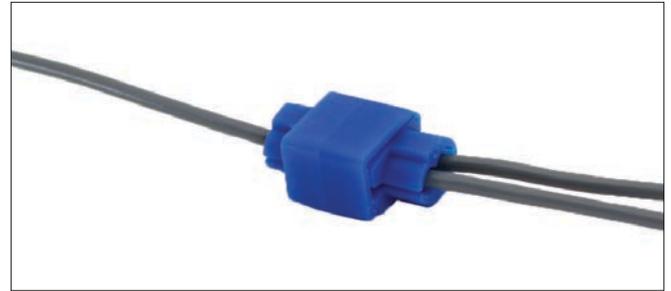
1. Insert the boat wire to be tapped into the “front” of the tap connector. The connector opening may need to be pried open slightly for the wire to fit.



2. Insert the Ridesteady wire fully into the “back” of the tap connector. A stop will prevent the wire from coming out the other side.



3. Make sure the two wires are centered properly in the connector. Use pliers to push the blade into the connector. This will pierce the insulation of the two wires and electrically connect them. It will also securely hold them together.



4. Fold the cover over and latch into place.

Troubleshooting

Issue: “Check Engine” light appears on boat instrument panel

Fix: Ensure both IGN wires on the Ridesteady power cable are correctly tapped to an engine ignition switch YEL/RED wire on twin engine applications. Verify that both key switches will successfully power ON the Ridesteady system. If they don’t, or there is any intermittency, double check all key switch wire taps.

Issue: “ERR” appears on the screen.

Fix: Check SETTINGS -> SYSTEM INFO -> NODE STATUS for information on what may be causing the ERR condition. Verify that node(s) have a “blinking” green LED and no red LED. If no LEDs are lit at all, check the CPU-to-node and node-to-node cables. If there is a blinking green LED and a solid red LED, check the throttle node connection to the APS and wiring harness.

The most common cause of ERR being shown is due to one of the key switch wire taps not sufficiently piercing one of the wires. Test by turning one key on at a time (not starting the engine) and moving the tapped wires around. Make sure that the Ridesteady display always stays on. If it goes into the standby screen or turns off, pry open the taps and re-tap.

Issue: Only one engine’s RPM shows on screen; when only the other engine is running, 0 is shown as the RPM

Fix: Only the Master engine’s RPM will be shown on the display. The system will always read and process both engine’s speeds, but only one engine’s RPM will fit on the display at a time. To change which engine’s RPM is shown on the display, set SYNC MSTR under SETTINGS.

Care & Maintenance

Storage

The extended-temperature LCD display will freeze at -30°C (-22°F), possibly requiring it to be replaced. It is recommended to remove and store the display in a dry, warm environment if temperatures are expected to reach near or below this temperature.

Display Cleaning

The “window” on the display can be scratched and should only be cleaned with new cloths and cleaning fluid suitable for cleaning camera lenses.

24 Appendix - Purchase Agreement

PURCHASE AGREEMENT

PLEASE READ THIS AGREEMENT CAREFULLY BEFORE PURCHASING THE PRODUCT. BY CLICKING "I AGREE", YOU AGREE TO BECOME BOUND BY THE TERMS AND CONDITIONS OF THIS AGREEMENT. IF YOU DO NOT AGREE TO ALL OF THE TERMS AND CONDITIONS OF THIS AGREEMENT, CLICK ON THE "CANCEL" BUTTON AND YOU WILL NOT HAVE ANY RIGHT TO PURCHASE THE PRODUCT. HYDROPHASE'S AGREEMENT TO SELL YOU ANY OF THE PRODUCTS IS EXPRESSLY CONDITIONED UPON YOUR AGREEMENT TO ALL THE TERMS AND CONDITIONS OF THIS AGREEMENT, TO THE EXCLUSION OF ALL OTHER TERMS. IF THESE TERMS AND CONDITIONS ARE CONSIDERED AN OFFER BY HYDROPHASE, THEN ACCEPTANCE IS EXPRESSLY LIMITED TO THESE TERMS.

THIS PURCHASE AGREEMENT (this "Agreement") is made effective as of the Effective Date (as defined below), by and between HYDROPHASE, LLC, a Texas limited liability company ("Hydrophase"), and the party clicking on "I AGREE" below as the "Buyer" ("You" or "Buyer"). You and Hydrophase may be referred to individually as a "Party" or collectively as the "Parties."

1. **Purchase of Product.** Hydrophase agrees to sell to You, and You agree to buy from Hydrophase, the product or products (collectively, the "Product") listed on the separate order form, and in the quantities and at the purchase price listed thereon. Upon Hydrophase's receipt of Your payment in full and Your agreement to the terms and conditions of this Agreement, Hydrophase shall cause the Product to be delivered to You at the shipping address specified by You. Hydrophase makes no representation or warranty concerning the time of shipment or delivery of the Product.
2. **Effective Date.** The effective date of this Agreement (the "Effective Date") shall be the later of (1) the date You sign this Agreement, either digitally or physically, and (2) the date Hydrophase actually receives payment of the full purchase price for the Product.
3. **Returns.** Buyer may return the Product to Hydrophase within sixty (60) days after the Effective Date if and only if the Product is returned to Hydrophase in its original condition and is in good working order when received by Hydrophase. Buyer shall pay all shipping costs related to any such returns.
4. **Sole and Exclusive Remedies of Buyer.** The exclusive remedies of Buyer under this Agreement shall be (1) the return of the Product (in good working order) to Hydrophase and the reimbursement of the purchase price from Hydrophase, OR (2) the repair and replacement of a faulty or defective Product pursuant to the Limited Warranty attached hereto as Exhibit A. It is the express intent of the Parties that the remedies set forth in this Agreement are the sole and exclusive remedies of Buyer and are not cumulative of the remedies provided in the Texas Business and Commerce Code. In the event of a breach or repudiation of this Agreement by Hydrophase, Buyer shall not be entitled to any personal injury damages, property loss damages, economic loss damages, incidental or consequential damages, or any other damages except as expressly set forth herein.
5. **LIMITATION OF LIABILITY.** IN NO EVENT SHALL HYDROPHASE, ITS MANAGERS, MEMBERS, OFFICERS, AGENTS, EMPLOYEES, ASSIGNS AND/OR DEALERS BE LIABLE TO BUYER OR BUYER'S CUSTOMERS, AGENTS, ASSIGNS, EMPLOYEES OR USERS (WHETHER AUTHORIZED OR UNAUTHORIZED) FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES OR DAMAGES, LOSSES OR EXPENSES FOR ANY PERSONAL INJURIES, PROPERTY LOSSES OR ECONOMIC LOSSES ARISING DIRECTLY OR INDIRECTLY FROM ANY ALLEGED BREACH OF WARRANTY, BREACH OF CONTRACT OR ANY ACT, USE OR OMISSION OF ANY PERSON, TORTIOUS OR OTHERWISE, INCLUDING BUT NOT LIMITED TO NEGLIGENCE, GROSS NEGLIGENCE, STRICT LIABILITY AND PRODUCT LIABILITY, WHETHER AT LAW OR EQUITY. BUYER HEREBY RELEASES AND DISCHARGES HYDROPHASE AND ITS MANAGERS, MEMBERS, OFFICERS, AGENTS, EMPLOYEES AND DEALERS FROM ANY LIABILITY, UNDER ANY CIRCUMSTANCE OR THEORY OF LAW, RELATING TO OR ARISING OUT OF THE SALE OR USE OF THE PRODUCT IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT ACTUALLY PAID BY BUYER.
6. **Limited Warranty.** The Product and all of the Product's component parts are subject to the terms of the Limited Warranty attached hereto as Exhibit A and incorporated into this Agreement for all purposes.
7. **ASSUMPTION OF RISK.** BY PURCHASING AND USING THE PRODUCT, YOU EXPRESSLY AGREE TO ASSUME ALL RISKS, DANGERS, CLAIMS AND LOSSES RELATING TO, OR ARISING OUT OF, THE USE OF THE PRODUCT, WHETHER OCCURRING PRIOR TO, DURING, OR SUBSEQUENT TO SUCH USE, WHETHER DIRECTLY OR INDIRECTLY CONNECTED TO SUCH USE, AND WHETHER CAUSED BY ANY PERSON'S NEGLIGENCE, GROSS NEGLIGENCE, OR INTENTIONAL CONDUCT.
8. **Governing Law.** The Parties agree and acknowledge that the transactions that are the subject matter of this Agreement bear a reasonable relation to the State of Texas and agree that this Agreement shall be construed and enforced in accordance with and governed by the laws of the State of Texas without regard to the conflict of law principles thereof.
9. **Integrated Agreement.** The terms of this Agreement are intended by the Parties as the complete and final expression of their agreements concerning the transactions contemplated herein. This Agreement supersedes any and all previous oral or written agreements between the Parties concerning the transactions contemplated herein, and this Agreement shall not be modified by any prior or contemporaneous oral or written agreements between the Parties. This Agreement may not be modified or amended except by a written agreement executed by both Parties.
10. **Severability.** The invalidity or unenforceability of any provision of this Agreement shall not invalidate or affect the enforceability of any other provision of this Agreement.
11. **Successors and Assigns.** This Agreement shall be binding upon and shall inure to the benefit of the Parties and their respective successors and assigns.
12. **Waiver.** No delay in the exercise of any right under this Agreement shall waive such rights. Any waiver, to be enforceable, must be in writing.
13. **Counterparts.** This Agreement may be executed in multiple counterparts, each of which shall have the force and effect of an original, and all of which shall constitute one and the same agreement.
14. **Digital Signature.** You hereby expressly agree by clicking "I AGREE" below, You acknowledge and agree to all of the terms of this Agreement, and You further agree that You have "signed" the Agreement for the purposes of, and as defined in, Section 2.108 of the Texas Business and Commerce Code.

Exhibit A – Limited Warranty

Exhibit A

LIMITED ONE-YEAR WARRANTY

HYDROPHASE, LLC, a Texas limited liability company ("Hydrophase"), makes the following Limited Warranty with respect to the product(s) manufactured and sold by Hydrophase (collectively, the "Product").

1. Hydrophase warrants the Product to be free from defects in workmanship and materials for a period of one (1) year after the date of purchase.

2. FOR BREACH OF ANY WRITTEN OR IMPLIED WARRANTY ON THIS PRODUCT, THE CONSUMER IS LIMITED TO DAMAGES EQUAL TO THE PURCHASE PRICE OF THE PRODUCT, AND ALL OTHER DAMAGES, INCLUDING INCIDENTAL OR CONSEQUENTIAL DAMAGES, ARE EXCLUDED.

NOTE: SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

3. This Limited Warranty extends exclusively to the original purchaser of the Product, and subsequent purchasers are not covered by this Limited Warranty.

4. This Limited Warranty covers the Product and each of its component parts.

5. This Limited Warranty is void if the Product (1) is not installed and operated according to the installation and operating instructions provided, or (2) the defect, malfunction or other failure of the Product results from (a) improper or negligent operation of the Product, or (b) misuse of or damage to the Product while in the purchaser's possession, or (c) water damage.

6. In the event of a defect, malfunction, or other failure of the Product to which the Limited Warranty applies, Hydrophase will remedy the failure or defect, without charge to the purchaser, within a reasonable amount of time after the Product is returned to Hydrophase. The remedy will consist of repair or replacement of the Product OR a refund of the purchase price, at Hydrophase's sole and exclusive option and discretion. This Limited Warranty does not include or cover any costs required to disassemble, remove, ship, or re-install the Product.

7. If the Product or one of its component parts contains a defect or malfunction to which the Limited Warranty applies, after a reasonable number of unsuccessful attempts to remedy the defect or malfunction, the purchaser shall be entitled to a refund or replacement of the Product or its component part(s), at the election of the purchaser.

8. The term of this Limited Warranty begins on the date of purchase and continues for a period of one (1) year thereafter.

9. To obtain performance of any obligation of Hydrophase under this Limited Warranty, Buyer shall contact Hydrophase for a RMA number and securely pack the Product and ship the Product, with the RMA written on the outside of the package, to:

Hydrophase, LLC
RMA: _____
1841 S Lakeline Blvd
Suite 101
Cedar Park, Texas 78613

10. To obtain information about this Limited Warranty or Hydrophase's performance under this Limited Warranty, the purchaser may call +1 512-524-8686.

11. If a dispute arises over the terms of this Limited Warranty or Hydrophase's performance hereunder, either Hydrophase or the purchaser may submit the dispute to a qualified mediator in Austin, Texas.

12. This Limited Warranty gives the purchaser specific legal rights, and the purchaser may also have other rights that vary from state to state.

13. Other than as expressly set forth in this Limited Warranty, Hydrophase makes no other express warranty, and no affirmation of Hydrophase, by words or action, shall constitute a warranty.

DISCLAIMER OF ALL IMPLIED WARRANTIES

THE PRODUCT(S) DESCRIBED IN THIS LIMITED WARRANTY ARE SOLD ON AN "AS IS" AND "WITH ALL FAULTS" BASIS, AND HYDROPHASE DISCLAIMS ANY AND ALL IMPLIED WARRANTIES WITH RESPECT TO THE PRODUCT, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.