

SpeedCoach Gold®

Rate Meter, Speedometer and Timing System with Backlight

Operation Manual

NK

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Please register your product at www.nkhome.com/register/
to ensure your full 2-year warranty.

Thank you for purchasing the SpeedCoach Gold Rowing Monitor! Please read through the instructions to ensure that you are using the SpeedCoach Gold to its full potential.

The SpeedCoach Gold provides all your performance measurements, updated every stroke, giving instant feedback on any technique or pressure changes. The SpeedCoach Gold can store hundreds of memory points, as detailed as every stroke, to provide analysis of a workout or competition. Custom workouts can be programmed and stored, making it easier to stay on track of a preset schedule, especially when training without a coach. The SpeedCoach Gold also features a backlight that automatically illuminates in low light conditions.

NK Warranty & Service

NK does not believe in "disposable electronics." We know that our products don't lead a pampered life, and we design them for years of performance in tough conditions. We guarantee every NK product to be free of defects in materials and workmanship for a period of TWO YEARS from your date of purchase. We will repair or replace any defective product for via domestic ground shipping at no charge. The following issues do not result from a manufacturing defect and are not covered under this warranty: damage due to improper use or neglect, including corrosion; impact damage; modifications or attempted repairs by someone other than an authorized NK repair agent; normal wear and tear; failed batteries.

Please register your product at www.nkhome.com/register/ to ensure your full 2-year warranty.

NK wants you to be an NK customer for life, so we take care of you even beyond the terms of the normal product warranty with our Customer Care Program. Trade-in any NK display unit, no matter the age or condition, and receive a generous discount on the replacement product.

Contact NK's customer service department via phone: 02 6553 2473 or via email: info@nk.com.au
Visit www.nk.com.au for detailed product specifications, troubleshooting and online ordering.

Need Help? Our Knowledge Center has answers to many common questions, along with tips and tricks for using NK products. It's available 24-7 at: www.nk.com.au

For email assistance with the installation or operation of your NK product, write: techsupport@nkhome.com. For help with an apparent malfunction, or to arrange or inquire about a repair, write: info@nk.com.au

Or call 02 6553 2473, Monday through Friday, 9 - 5 EST.

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Overview of SpeedCoach Gold Modes

The SpeedCoach Gold has two modes: "Just Row" and "Workout". These modes work independent of one another, allowing each to have it's own memory bank. Only one mode can be used at a time.

Just Row Mode and Workout Mode can be useful at different times. When rowing a steady state practice or warming up, use Just Row Mode. When running a workout, use Workout Mode. See Suggested Settings for examples of how to set up the SpeedCoach Gold for various circumstances.

Window 1
Displays One of the Following Measurements:
Split (/500 meters, /mile, /nautical mile)
Speed (meters per second, knots, miles per hour)

→ Switch between your speed and split by holding down the bottom button for one second.

Window 2
Displays Stroke Rate

Window 3
Displays One of the Following Measurements:
Distance (meters, kilometers, nautical miles, statute miles)
Average Speed/Split
Elapsed Time (mm:ss.ss)
Number of Strokes
All (Automatically scrolls between all four measurements each stroke)

→ Toggle between these settings by pressing the bottom button.

Window 4
Indicates Workout and Memory Recall Modes.
Indicates Stop or Ready Mode:
When in Stop mode, the SpeedCoach gold will display and update stroke rate and speed/split, but will not measure time, distance, average speed/split, or stroke count. Memory will not be stored in Stop mode.

→ Press the top button to toggle between Stop and Ready Mode. All measurements will be taken and stored in Ready Mode.

"Just Row" Mode

The Just Row Mode is similar to the original SpeedCoach Monitor. A combination of time, distance, current speed/split, average speed/split, stroke rate and number of strokes is displayed as you row. Simply snap the SpeedCoach Gold onto the docking station and begin rowing. The data will be displayed and updated every stroke.

The word "STOP" will be displayed in Window (4) when the unit is in STOP Mode. The stroke rate and speed/split will continue to be measured and displayed, but the information in Window (3) will not be updated and no data will be stored.

The word STOP will disappear in the READY Mode. All measurements will be displayed and stored. The memory storage interval is user-defined, and will allow storage of data based on time, distance or number of strokes. See the Main Menu/Setup/Interval section on page 8 for more information about storing Just Row data.

"Workout" Mode

The Workout Mode programs pieces into the SpeedCoach Gold to run as a workout on the water. Almost any imaginable workout can be programmed into the SpeedCoach Gold - repeating pieces, castles, pyramids, steady state. Up to 50 different workout intervals can be set for time, distance or number of strokes, or any combination thereof. For example, you can program 12 x (25 strokes on, 15 seconds off), or a 19 minute pyramid, or 5 x 500 meters with 2 minutes off between pieces. See the Main Menu/Piece section on page 6 for more information about setting up a workout.

The SpeedCoach Gold stores the time, distance, average speed/split and stroke count over each interval.

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Operation

Turning the SpeedCoach Gold On and Off

When the SpeedCoach Gold is turned on, it will display the total distance rowed for the life of the product, as well as the used memory in both the Just Row and Workout memory banks.

Press the top button to turn the unit on; the total distance stored for the life of the unit is displayed. Press the top button a second time to display the number of stored data points in Just Row memory, up to 560 data points. Press the top button a third time to display the number of stored data points in Workout memory, up to 100 data points. Press the top button a fourth time to set the SpeedCoach Gold ready to start in Just Row Mode.

→ Top Button → Total Distance for Life

→ Top Button → Memory Used in Just Row Mode

→ Top Button → Memory Used in Workout Mode

→ Top Button → Just Row Mode

To turn the SpeedCoach Gold off, hold down the top button until "OFF" appears (approx. 2 seconds). Then release the top button.

→ Hold Top Button → Off

Just Row Mode

To use the Just Row Mode, simply turn the unit on, snap it onto the docking station, and begin rowing. Performance measurements will be displayed as shown below. Elapsed distance, average speed/split, elapsed time, and total stroke count will accumulate every stroke. Stroke rate and instantaneous speed/split will be displayed for each stroke.

Press to toggle between Stop and Ready Modes.
Hold to select Main Menu Options (see page 5 for more information).

Press to toggle the bottom left display between Distance, Avg Speed/Split, Elapsed Time, Stroke Count and All Mode*.
Hold for 2 seconds to toggle top left display between Split and Speed.

*All mode will automatically rotate the bottom left display between Distance, Average Speed/Split, Elapsed Time and Stroke Count on every stroke. This mode is useful for keeping track of multiple measurements without having to manually change modes.

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Workout Mode

The workout parameters must first be programmed into the Gold by setting up the PIECE settings or downloading the information from a PC. For information on setting up a workout, see the Piece Setup section on page 6. For information on downloading a workout from your PC, see the instructions included with the interface.

Once the workout parameters are programmed, the workout can be run. Similar to Just Row Mode, the workout will only be run in the Ready Mode. In Stop Mode, the speed/split and stroke rate will be displayed, but none of the performance measurements will be stored. Press the top button to put the unit into Ready Mode. The workout will begin to run as soon as the unit is triggered by the seat or speed sensor.

Up to 50 intervals can be programmed, in any combination of distance, time or number of strokes. The workout will count down until the end of the interval has been reached, at which point the next interval will begin. Workouts can be set to repeat once all of the programmed intervals have been run.

Press to toggle between Stop and Ready Modes



Options & Settings Menu

Main Menu

The Main Menu lets you turn off the unit, recall stored data, reset (clear) the memory, set up a workout, review and change settings, and enter data upload mode.

To access the Main Menu, hold down the top button. The following menu options will appear in the bottom left window as the top button is held down: "OFF", "rECL", "rESet", "PIECE", "SEtUP", "PC". Continuing to hold down the top button will scroll through these options. To choose one of these options, simply release the button while the word is displayed.

OFF - "OFF"

Selecting "OFF" turns the SpeedCoach Gold off. All memory will be stored when the unit is turned off.

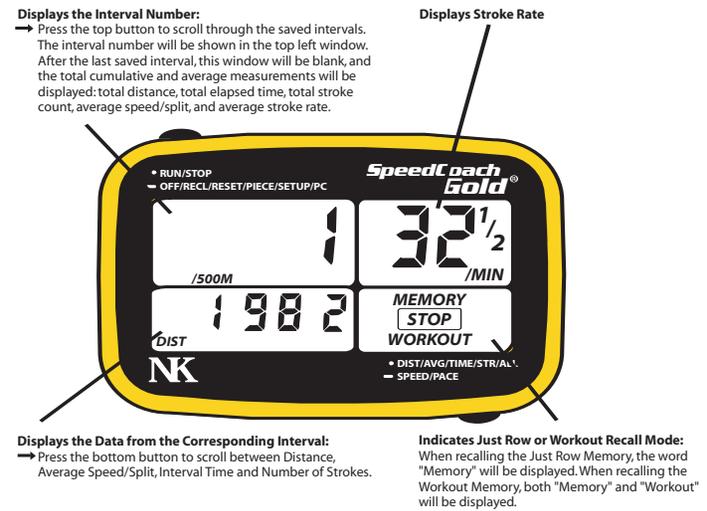
RECALL - "rECL"

Selecting "rECL" will display the data stored in memory. Memory for Just Row Mode and Workout Mode are stored and recalled separately.

Hold down the top button until "rECL" appears in the bottom left window. The word "MEMORY" will flash in the bottom right window, indicating that you will review memory stored in Just Row Mode. Press the bottom button, and the word "WORKOUT" will flash, indicating that you will review data from the Workout Mode.



Press the top button when "MEMORY" is flashing to recall the Just Row Memory. Press the top button when "WORKOUT" is flashing to recall the Workout Memory. See the graphic on the next page for further instructions on recalling data.



To exit the Recall Mode, hold down the top button for one second and the screen will return to Just Row Mode.

RESET- "rESet"

Selecting "rESet" will clear the data stored in memory. Memory for Just Row Mode and Workout Mode are stored separately, and can be reset either separately or simultaneously.

Hold down the top button until "rESet" appears in the bottom left window. The word "MEMORY" will flash in the bottom right window, indicating that the memory stored in Just Row Mode will be cleared. Press the bottom button, and the word "WORKOUT" will flash, indicating that the data from the Workout mode will be cleared. Press the bottom button again, and the words "MEMORY" and "WORKOUT" will flash, indicating that the data from BOTH the Just Row and Workout Modes will be cleared.

To clear the data, press the top button while the desired memory annunciator is flashing. A "u" will appear in the top right window and the bottom right window will stop blinking. Press the bottom button to clear that memory bank. After clearing any data, the unit will return to Just Row Mode.

Pressing the top button after selecting a memory bank will abort the reset.



PIECE - "PIECE"

Selecting "PIECE" will enter the custom workout setup.

Hold down the top button until "PIECE" appears in the bottom left window. "On" will blink in the top left window, indicating that the "WORKOUT" Mode will be turned on. Press the bottom button to toggle to "OFF", indicating that "WORKOUT" Mode will be turned off. Press the top button to select "WORKOUT" on or off. Selecting "On" will enter the workout setup. Selecting "OFF" will exit the workout set up and return to Just Row Mode.



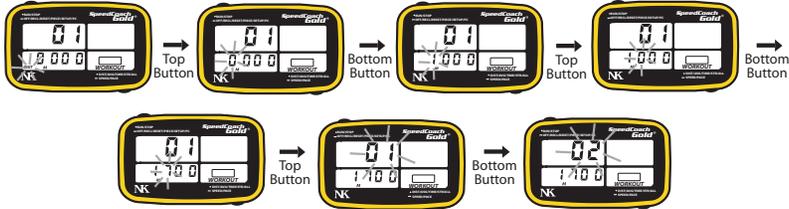
To turn on the workout mode, press the top button while the word "On" is blinking. "01" will appear blinking in the top left window. This indicates the first interval of the workout. Press the

top button and the word "DIST" will start blinking in the bottom left window. Pressing the bottom button will scroll between time, strokes and distance. Choose which of these will be the unit of measure for the first piece.



Using the top and bottom buttons, enter the desired distance/time/strokes for interval 01. The top button changes which number is blinking and the bottom button changes the value of the number that is blinking. After entering the desired interval value, continue pressing the top button until the 01 is blinking again in the top left window. Then press the bottom button to change to interval 02. Repeat this process for subsequent intervals - up to 100 intervals can be entered.

Use the Top Button to move to the next digit, and the Bottom Button to change the value of the digit.



The workout will end when it reaches an empty interval. Therefore, if a workout is programmed with ten intervals, the eleventh interval must be set to 0000. To change to a workout with three intervals, interval four must be changed to zero (0). All subsequent intervals will then be cleared.

When the workout is completely entered, hold the top button for one second. The word "rPEAT" will be displayed in the bottom left window. The word "OFF" will appear blinking in the top left window. When repeat is on, the SpeedCoach Gold will continue to repeat the programmed workout until rowing is stopped, or the Workout Mode is turned off. To simply run the workout as it was entered, turn repeat off. The workout can always be paused by pressing the "STOP" button.



To turn repeat off, press the top button while the word "OFF" is blinking. To repeat the workout, press the bottom button to change to "On". Press the top button with the desired repeat setting blinking in order to select it and move on to the next setting.

After selecting the Repeat Mode, the Workout Mode must then be turned on or off. This allows the workout to be set up in advance and stored for a later practice. If "On", the first interval will appear and the workout will begin running when rowing starts. If "OFF", Just Row mode will resume when the Piece setup is exited. Use the bottom button to toggle between "On" and "OFF". Press the top button to select and exit.



Use the Top Button to select and exit Piece

While learning how to program the SpeedCoach Gold, it may help to remember that the top button changes which option on the screen is blinking, and the bottom button changes the value of that option.

Note that when reviewing the data from the workout, the SpeedCoach Gold does not know the difference between the work and rest intervals, and displays all of them. Presumably, splits will be slower for the rest pieces making it easy to differentiate.

When setting the Gold to Workout Mode, there is a shortcut to turn on a previously programmed workout without going through the interval setup screens. When the first "On/OFF PIECE" screen is displayed, hold down the top button for 2 seconds. When the button is released, the display will jump to the "On/OFF REPEAT" screen, followed by the final "On/OFF PIECE" screen.



SETUP - "SETUP"

Selecting "SETUP" will enter the Settings Menu. In the Setup Menu, the units of measure, the Just Row Memory storage interval, the stroke mode and the calibration number for the SpeedCoach Gold can be programmed. Note that at any time during the Setup Mode, holding down the top button will exit the Setup Mode and return to either the Just Row or Workout Mode.

To enter the Setup Menu, hold down the top button until the word "SETUP" appears. "dSt" appears blinking in the top left window. Press the top button and the unit of measure will blink in the lower portion of the bottom left window. Use the bottom button to scroll through the units of measure available for distance: meters, kilometers, nautical miles and statute miles. To select one of these units of measure, press the top button while it is blinking. The "dSt" will begin blinking. Press the bottom button to move to the next Setup option - storage interval.

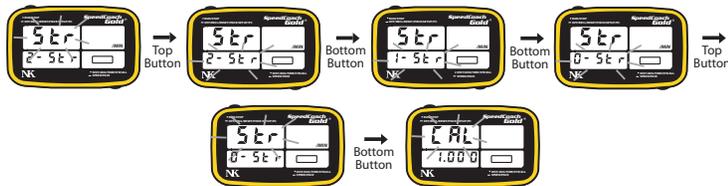


"Int" will appear blinking on the screen. This is the interval that the SpeedCoach Gold will automatically store data while in Just Row Mode. For example, if set to 1 stroke, readings for distance, average speed/split, stroke rate and time will be saved for every stroke. Similarly, if set to 2 minutes, readings set for the distance, average speed/split, stroke rate and time will be saved over every two minutes.

Press the top button to change the unit of measure for the interval. It may be set for times, distance, or number of strokes. The bottom button will scroll through these options. To select, press the top button while the desired unit of measure is blinking. Then use the top button to change the interval value. Keep in mind that the top button changes what is blinking on the screen, and the bottom button changes the value of what is blinking. After the storage interval is entered, continue to press the top button until the "Int" is blinking again. Then press the bottom button to go to the next option - stroke mode.

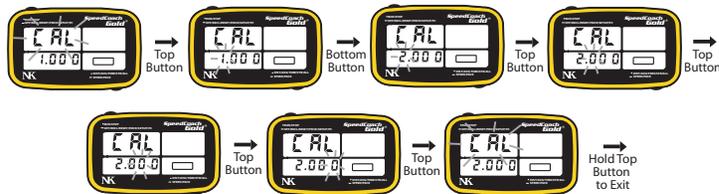


"Str" will appear blinking in the top left window. The Stroke Mode tells the SpeedCoach Gold how many times the magnet passes over the sensor per stroke. Rowers using a seat magnet should use 2-Stroke Mode, kayakers using the paddle switch should use the 1-Stroke Mode, and canoeists, rowers and kayakers not using the optional rate switch should use the 0-Stroke Mode. In 0-Stroke Mode, the SpeedCoach Gold calculates stroke rate from the changes in speed through the water. To change the stroke mode, press the top button and the bottom left window will blink (either 2-Str, 1-Str, or 0-Str). Use the bottom button to scroll to the appropriate stroke mode. Then press the top button and the "Str" in the top window will blink again. Press the bottom button to move to the next option- calibration.



"CAL" will begin blinking in the top left window. The calibration number ensures that the SpeedCoach readings are accurate. Please see Installation of the Impeller and Calibration on pages 10-12 for more information.

To change the calibration value, press the top button while "CAL" is blinking. The first digit in the calibration number will blink. Use the bottom button to change the value, and the top button to advance to the next digit. Repeat for all of the digits in the calibration number. A typical calibration number will be between 0.900 and 1.100.



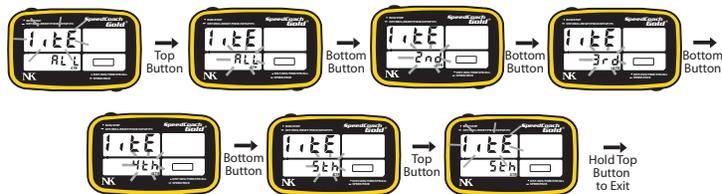
Press the top button to return to the menu, with "CAL" blinking in the top left window. Press the bottom button to advance to the "litE" menu.

"litE" will blink in the top left window. This menu setting controls when the backlight is illuminated: every stroke, every other stroke, every third stroke, every fourth stroke, or every fifth stroke. In cold weather (below 50° F), the backlight battery will tend to lose its power in under 30 minutes. In order to keep the backlight available for longer periods of time, the backlight can be turned off intermittently.

The intermittent use of the backlight will also extend the run-time life of the backlight battery. When used every stroke, the battery will last approximately 20 hours of use. When used every second stroke, the battery will last for 40 hours of run-time use. Every third stroke: 60 hours. Every fourth stroke: 80 hours. Every fifth stroke: 100 hours.

To change the backlight setting, press the top button while "litE" is blinking. The backlight option will blink in the bottom left window. Press the bottom button to scroll through the backlight options: All Strokes, 2nd Stroke, 3rd Stroke, 4th Stroke, or 5th Stroke.

Press the top button to return to the menu, with "litE" blinking. Press the bottom button to return to the first menu option: "dSt".



At any time during the Setup Mode, holding down the top button will exit the Setup Mode and return to either Just Row or Workout Mode.

PC Interface - "PC"

Selecting PC will enter the PC Interface Mode. With the optional SpeedCoach Gold interface, stored Just Row and Workout data can be uploaded to a PC. Additionally, the programmed workout and memory banks can be cleared, and workouts can be downloaded from a PC to the SpeedCoach Gold.

To interface with a PC, slide the SpeedCoach Gold display unit into the interface cradle. Hold down the top button until PC appears in the bottom left window. To exit the interface mode, press the top button.

Calibration

The SpeedCoach Gold is factory calibrated to provide accurate performance in most shells with the impeller installed 16'3" (5 m) from the bow. Calibration is an optional step which allows the display unit to compensate for different impeller locations, and to perform accurately to that particular boat. There is no need to calibrate the system if comparing daily performance is the only concern.

To calibrate the system, row over a measured distance on still water (on flowing water, row both up and down stream and average the results shown on the display). Then, use the following formula to obtain the new calibration value:

$$\frac{(\text{Old Cal Value}) (\text{True Distance})}{\text{Displayed Distance}} = \text{New Cal Value}$$

For example, if the known rowed distance is 1 mile, but the display shows 0.92, the calibration value would be:

$$\frac{(1.00) (1.00)}{0.92} = 1.086$$

Please note: Calibration is boat and impeller location specific: if the unit is moved to a new boat, or the location of the impeller is modified, it is recommended that the unit be recalibrated.

Automatic Backlight

The backlight will automatically illuminate the display in low-light conditions. A photo-detector located on the front of the unit senses light levels and triggers the backlight when necessary. The backlight may flicker on and off at dawn and dusk until the conditions become sufficiently light or dark.

When the unit is used in cold temperatures (under 50° F), the backlight battery will tend to lose its power in under 30 minutes. For colder temperatures, this may happen even sooner. If the backlight battery is no longer driven, because there is sufficient light or the unit is turned off, it will recover its voltage level and will be able to drive the backlight again.

Under these conditions, it is recommended to change the backlight setting to turn on only intermittently. The backlight can be set to turn on every other stroke or up to every fifth stroke. This will allow the backlight to remain strongly lit in cold temperatures for at least 90 minutes. This will also extend the run-time life of the battery. See page 9 for instructions on how to change the backlight setting.

Replacing the Batteries

The SpeedCoach Gold operates off two batteries- the battery closest to the circuit board (bottom battery) operates the display, and the battery closest to the battery door (top battery) operates the backlight. If the backlight on the SpeedCoach Gold dims or stops illuminating, only the backlight battery needs to be replaced. If the display dims, only the display battery needs to be replaced.

To replace the battery or batteries, open the battery door with a flat head screw driver or a coin. Remove the battery or batteries and replace them with new 3V Lithium CR2032 batteries. Replace the door, making sure that the O-ring is still in place.

Storage and Transporting

After 17 minutes of not taking any strokes or pressing any buttons, the SpeedCoach Gold unit will automatically shut off.

It is best to remove the unit from the boat when not in use and store it in the pouch to prevent scratches or other damage.

To protect the impeller unit from grit and excess wear while transporting, either cover the boat and impeller unit, unscrew the impeller from the hull mount, or tape the impeller with removable tape to keep it from spinning.



Trouble Shooting

Always try to borrow a fellow rower's SpeedCoach or SpeedCoach Gold so that you can narrow down the variables. By testing your boat's docking station with a functional unit, and having your unit tested in a functional docking station, you can help determine where the problem exists. Make sure that the SpeedCoach Gold you are using has a calibration of 1.000 and is set in 2-Stroke Mode.

Initial Checklist:

If a functional unit will not work in your boat, then the problem most likely exists with your wiring and/or docking station...

1. Check to make sure there are no cuts, nicks or pinched areas along the wire. (a flashlight will be helpful here.)
2. Be sure that both sensors are aligned correctly (see Installation).
3. Be sure that there is no debris or corrosion on the impeller.
4. Check that the metal contacts on the mounting dock are flush with the surface of the dock, (contacts may be cleaned with a non abrasive cleanser, like Bon-Ami, to ensure true surface). DO NOT use solvents on the docking station as it may cause damage and voids the warranty.

Problem 1: Speed or Pace Readings are Inaccurate

TroubleShoot 1: Is the Calibration Value Set Correctly?

The calibration value should be set at 1.000 unless you have completed the necessary steps to re-calibrate your unit. To check and/or reset your calibration value, see "Calibration" on page 12.

TroubleShoot 2: Is the Impeller Properly Installed?

The impeller is to be placed 5 meters from the bow of the boat (see "Installation" on page 11). If for any reason you cannot place the impeller in the proper location, the unit will provide incorrect information unless recalibrated.

TroubleShoot 3: Does the Impeller Spin Freely?

If the impeller begins to accumulate any debris or slight corrosion, it may not spin freely which will lead to inaccuracy. If you are unable to clear the debris, a new impeller can be purchased. If impeller is still covered by the 1-year warranty, the customer can return the faulty impeller for a replacement. The impeller may be unscrewed and replaced without removing the hull mount. Note: Any slight hum created by the impeller should fade within a week or so.

Problem 2: No Stroke Rate or Rate Seems Incorrect

TroubleShoot 1: Is Unit Making Contact with Bracket?

The unit must have clear contact with contact pins on mounting bracket. Push unit into mounting bracket until "click" is heard. Be sure lanyard is not interfering with the connection.

TroubleShoot 2: Is the Magnet and Sensor Aligned?

Double check the set-up and orientation of the seat magnet and black sensor (see page 10).

TroubleShoot 3: If Rate Seems High, Check Stroke Mode.

If your stroke rate consistently seems very high, almost double what it should be, the unit may be in single stroke mode (1-Str). Make sure unit is set in 2 stroke mode (2-Str).

TroubleShoot 4: Is the Unit in Memory Recall Mode?

If there is no rate, time or distance displaying make sure the unit is not in Memory Recall mode. If so, hold down the top button for 2 seconds to exit. If the timer is only displaying rate and split, but no time, distance or stroke count, the unit is in STOP mode. Press the top button once to exit STOP mode.

Sample Workouts

Below are a few sample workouts with the corresponding interval information:

	Interval	Distance	Time	Strokes
2500m, 6' rest, 2000m, 5' rest, 1500m, 4' rest, 1000m, 3' rest, 500m	#01	2500m	6' 5' 4' 3'	
	#02			
	#03	2000m		
	#04			
	#05	1500m		
	#06			
	#07	1000m		
	#08			
	#09	500m		
	#10	0		
Repeat- Off				
2 x[(4', 3', 2', 1') with 5' rest]	#01	0	4 min 3 min 2 min 1 min 5 min	
	#02			
	#03			
	#04			
	#05			
	#06			
Repeat- On				
8 x 500m on, 4' off	#01	500m	4 min	
	#02			
	#03	0		
Repeat- On				
19' pyramid	#01	0	4 min 3 min 2 min 1 min 2 min 3 min 4 min	
	#02			
	#03			
	#04			
	#05			
	#06			
	#07			
	#08			
Repeat- Off				
10 x 25 strokes on, 30" off	#01	0	30 sec	25
	#02			
	#03			
Repeat- On				

Suggested Settings

Depending on the type of training, the SpeedCoach Gold's settings can be customized to get the most appropriate information. Here are a few examples of how to set up the SpeedCoach Gold in various training situations. See page 14 for Sample Workouts that can be programmed into the SpeedCoach Gold, with their corresponding interval information.

	Distance	Interval	Stroke Mode
Rowing	normal rowing, training	m	2-Str
			100 meters 1 minute
			1 stroke
	racing	m	2-Str
	long distance or open water	mi	2-Str
		0.25 mile	
Kayak with Paddle Switch			
training or racing	m	20 meters	1-Str
Canoe/Kayak without paddle switch			
training or racing	m	20 meters	0-Str