Velocitek Shift User Manual

Introduction

The Velocitek Shift is an electronically gimbaled compass that helps sailors identify wind shifts. The Shift stores starboard and port tack reference angles and displays the difference between the current heading and the reference angle to help monitor wind shifts. The Shift's sensor suite consists of a magnetometer that is electronically gimbaled by a gyroscope and an accelerometer. As a result the compass response is much faster and smoother than the traditional sailing compass.

Mounting the Shift

Mount the Shift by installing the included cradle on your sailboat. The cradle back should be perpendicular to the center line of the boat. The cradle should be installed at least 0.5m away from ferromagnetic metals and permanent magnets.

Battery

Battery Life

Full Battery Half Almost Empty

The battery indicator is located on the bottom of the LCD screen. When the battery is fully charged the device will last 100hrs in normal operation in the dark. If the backlight is on the battery will last 66hrs in the dark. When the battery is empty the device will go into low battery mode and flash the battery icon. When the battery is exhausted, place the solar panel in the sun to recharge the battery.

Recharging the Battery

Full Sun Partial Sun No Sun

To recharge the battery, place the solar panel in the sun. To achieve the best results place the solar panel perpendicularly to the sun. It takes approximately 17hrs of sun to fully charge the battery if the battery is empty.

Backlight

Backlight On

The device comes with a red backlight for night sailing. The backlight icon will turn on when the backlight is on. Keep an eye on the icon to make sure that you don't have the backlight on during the day.

Buttons

There are eight buttons on the device O(Starboard), X(Port), +1, RESET, MODE, LIGHT, GUN and PWR.

Modes

The device has two modes, compass mode and timer mode. Compass mode displays heading, reference angle and the shift indicator. Timer mode displays timer and a small heading.

Compass Mode

In compass mode the device displays heading on top, reference angle at the bottom and the shift indicator on the side. In the above display the heading is 311˚, the starboard reference angle is 300˚ and the shift indicator shows a lift of 11˚.

Heading

Heading is magnetic heading of the device expressed in degrees with 360˚ being north.

Reference Angle

There are two reference angles, starboard reference angle and port reference angle. The reference angle is a user input heading that is the optimal heading on a given tack. The reference angle for the starboard and port tack can be set by pressing the O or X button respectively. The reference angle along with the shift indicator will be displayed when the heading is within 25˚ of the reference angle. When both the starboard and port reference angles are set and are both within 25˚ of the heading, the closest reference angle will be displayed.

Shift Indicator

The shift indicator shows the difference of the heading from the reference angle. Up arrows represent lifts and down arrows represent headers. The shift indicator is only displayed when the heading is within 25˚ of the reference angle.

Timer Mode

In timer mode the device displays the timer on top and heading at the bottom. In the above display there is only 9 seconds left before the start and heading is 311˚.

Timer

The count-down timer displayed as mm:ss. The time can be set from 1:00 to 15:00.

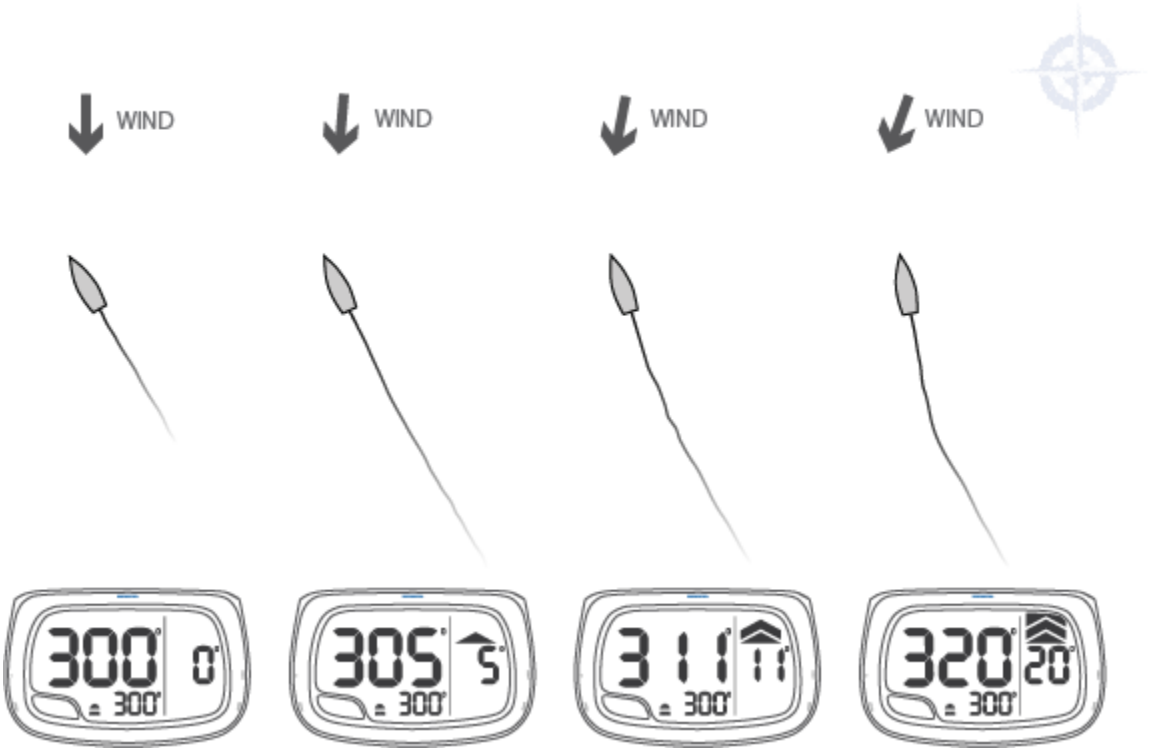
Heading

Heading is magnetic heading of the device expressed in degrees with 360˚ being north.

Understanding the Shift Indicator

The device assumes that the sailor is consistently sailing at an optimal angle to the wind by sailing by the tell-tales. If the sailboat's angle to the wind is consistent, when the wind shifts the heading of the sailboat changes with it. The shift indicator shows the changes in the sailboat's heading. By monitoring the shift indicator carefully you can see what the wind is up to.

Lifts

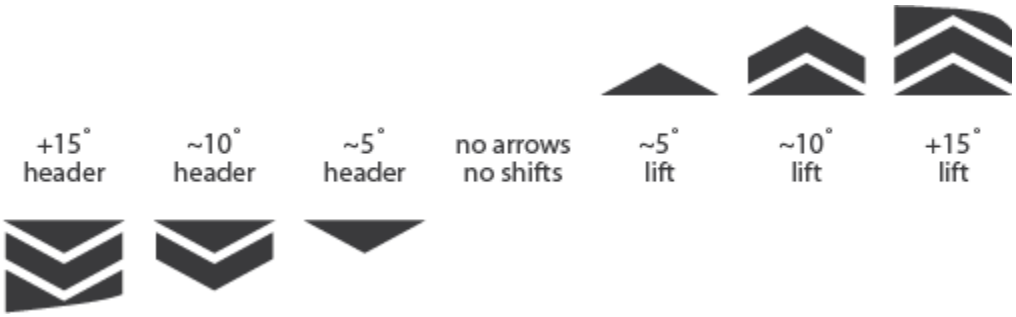


The above illustration shows how a lift will appear on the device. Starboard reference angle was set at 300 with the wind coming out of the north. Lifts are indicated by up arrows. As the lift gets larger, more up arrows will appear on the shift indicator.

Headers

The above illustration shows how a header will appear on the device. Starboard reference angle was set at 300 with the wind coming out of the north. Headers are indicated by down arrows. As the header gets larger, more down arrows will appear on the shift indicator.

Get to Know the Arrows



The arrows on the shift indicator provide an intuitive visual representation of what the wind is up to. Use them as a guide to get a feel for the size of the shifts.

Operation

Set the Reference

No Reference Angles Set

Set the starboard and port reference angles by pressing O and X buttons respectively.

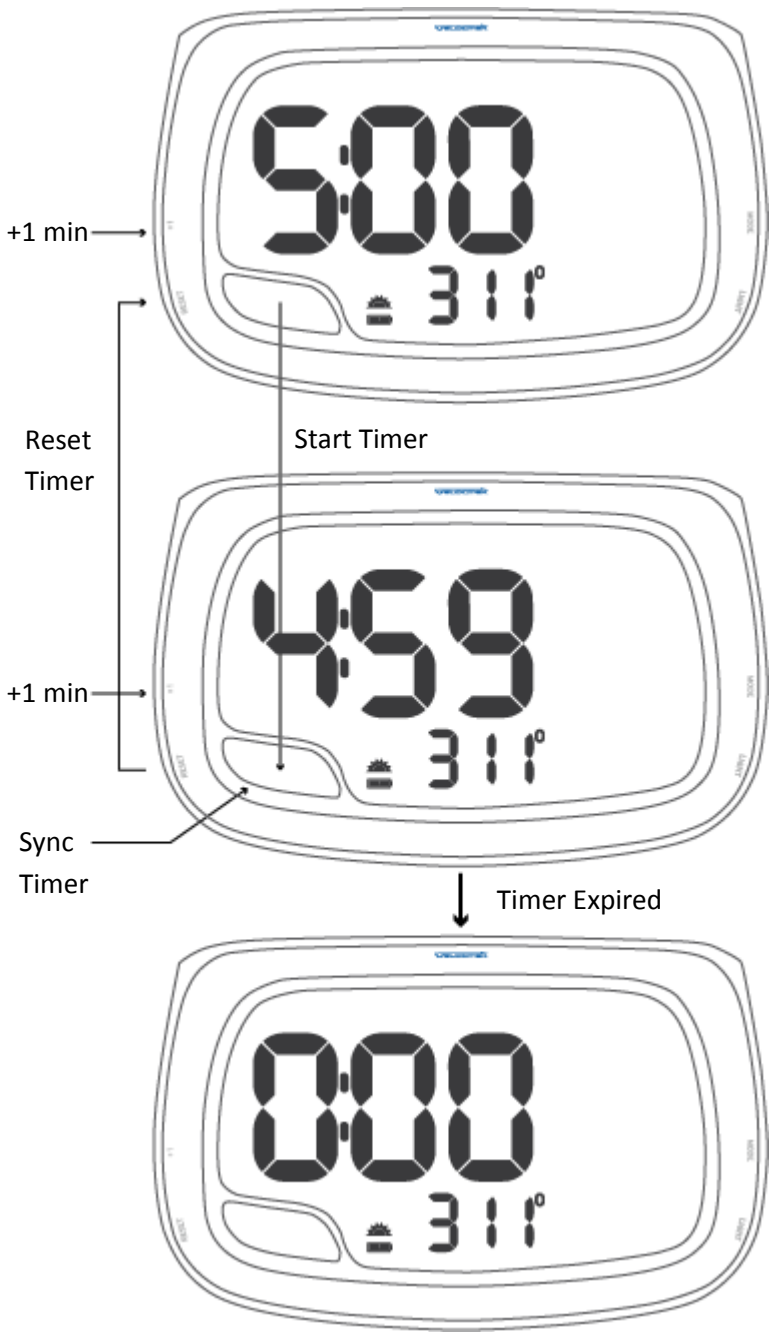
Reference Heading Set

The current heading will be set as the reference heading. The reference heading is displayed on the bottom. The shift indicator is displayed on the side.

Sailing Away from the Reference Heading

As your heading changes, the shift indicator updates accordingly on the side. Up arrows indicate a lift and down arrows indicate a header.

Use the Timer



Timer Reset

Change the reset time by pressing +1 to scroll through the minutes. The timer can be set to 1:00~15:00.

Start the timer by pressing GUN.

Timer Counting Down

Add one minute to the timer without stopping the timer by pressing +1.

Reset timer by pressing RESET.

Sync timer by pressing GUN. The timer will sync to the next minute down, 4:00 in this case.

Post Timer Expire

The timer will display 0:00 for 3 seconds after the timer expires.

After the 3 seconds, the display will switch automatically to shift mode.

Modes Switch Automatically

Timer Mode -> Compass Mode:

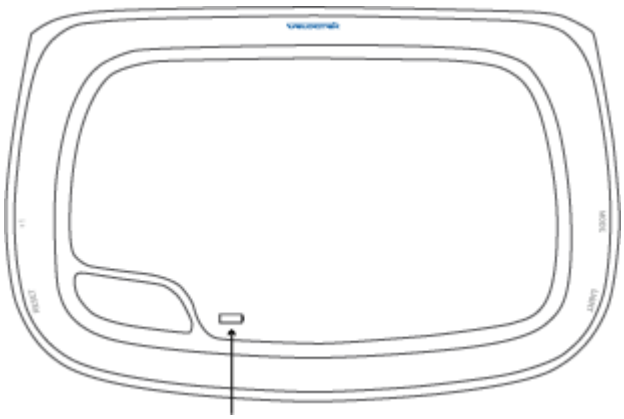
The mode switches from timer mode to compass mode when the timer expires and when either of the compass mode related buttons O and X are pressed.

Compass Mode -> Timer Mode:

The mode switches from compass mode to timer mode when any of the timer related buttons, GUN, RESET and +1, are pressed.

Monitor Your Battery

Low Battery Mode



Battery Icon Flashes

Low Battery Mode

When low battery is detected nothing will be displayed on the LCD except the flashing battery icon.

To resume normal operation you must recharge the battery. When the battery is sufficiently charged the device will resume in compass mode.

Contact

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Support:	http://www.velocitek.com/support

Compliance

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Please note that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Canadian Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

European Community Compliance Statement

The equipment complies with The EMC Directive 2004/108/EC.