

# TECH<sup>4</sup>O<sup>®</sup>

NOTHING'S BEYOND YOU.

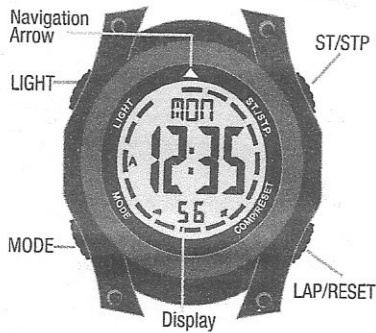
Congratulations on the purchase of the Tech<sup>4</sup>O NORTHSTAR CW1 or CW2 compass watch.

Please read these instructions and save for future reference.

For best performance, we recommend that you:

- Avoid exposing the watch to extreme conditions for extended periods
- Avoid rough use or severe impacts
- Do not open the watch case unless certified to repair electronic instruments
- Clean with a soft damp cloth
- Keep watch away from magnetic fields such as mobile phones, speakers and motors
- Store in a dry place

## NORTHSTAR CW1 & CW2



## NORTHSTAR FEATURES

### Current Time Mode

#### Time System:

- Hour - minute - second. AM [A] PM [P]
- 12 hour or 24 hour format
- Animated 1 second bar graph

#### Calendar System :

- Month - date - day of week. Auto correction for leap year and day of week

#### Compass Mode

- 16 compass directions- 4 cardinal and 12 ordinal points
- Magnetic North pointer
- Backward bearing
- Compass lock
- Declination setting and calibration

#### Daily Alarm Mode

- Daily alarm
- Hourly beep

#### Chronograph Mode

- Measurement unit - 1/100 second
- Measuring capacity - 99 hours, 59 minutes & 59.99 seconds

#### Timer Mode

- Measurement unit - 1 second
- Measuring capacity - 99 hours, 59 minutes & 59.99 seconds

#### Pace Mode

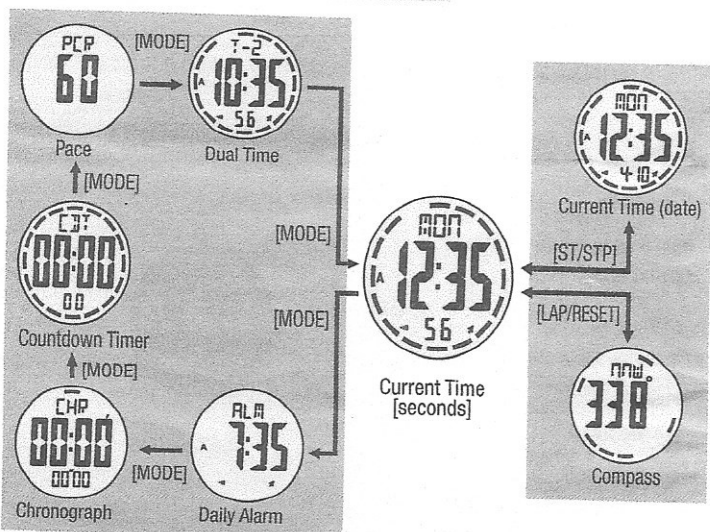
- Pace beat - 40 to 180 beats per minute

#### Dual time Mode

#### Time System

- Hour - minute - second. AM [A] PM [P]
- Animated 1 second bar graph

## FUNCTIONS MAP



## CURRENT TIME MODE

Press [ ST/STP ] button to toggle between Seconds Display and Date Display

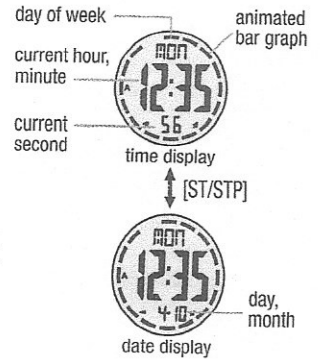
### Time Display

- 1st row displays: day of week
- 2nd row displays: hour - minute
- 3rd row displays: second
- Animated (1 second) - displays in the perimeter bar graph

### Date Display

- Day of week, hour, minute - display in the 1st and 2nd rows
- Numerical day, month - display in the 3rd row
- Animated (1 second) - displays in the perimeter bar graph

NOTE: Press and Hold [ ST/STP ] to toggle the date format between month - day and day - month



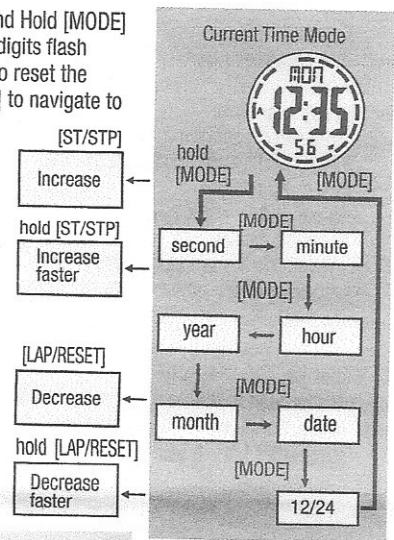
### To Set the Current Time Mode

- In the current time mode, Press and Hold [MODE] for 2 seconds until the "seconds" digits flash
- Press [ST/STP] or [LAP/RESET] to reset the seconds to zero; OR Press [MODE] to navigate to any setting you wish to change. See navigation chart at right
- When the setting you wish to change flashes, Press [ST/STP] to raise the value or [LAP/RESET] to lower the value

Note: If you Press and Hold the button, the rate of change is faster

- When 12 or 24 flashes, Press [ST/STP] or [LAP/RESET] to toggle between the 12 /24 hour format. Press [MODE] to confirm

NOTE: If NO INPUT for 1 minute during setup, the display will default to the Current Time Mode



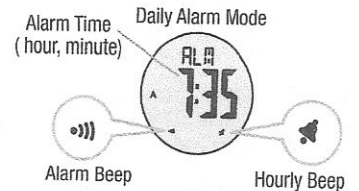
## DAILY ALARM MODE

When the daily alarm is ON, the watch will beep for 20 seconds at the assigned time.

When the hourly beep is ON, the watch will beep twice every hour on the hour

### Daily Alarm Display

Daily alarm setting ( hour - minute ) - displays in the 2nd row



### To Set the Daily Alarm Mode

- In the Daily Alarm Mode, Press and Hold [ MODE ] for 2 seconds until the "seconds" digits flash
- Press [ST/STP] or [LAP/RESET] to reset the seconds to zero; OR Press [MODE] to navigate to any setting you wish to change. See navigation chart at right
- When the setting you wish to change flashes, Press [ST/STP] to raise the value or [LAP/RESET] to lower the value

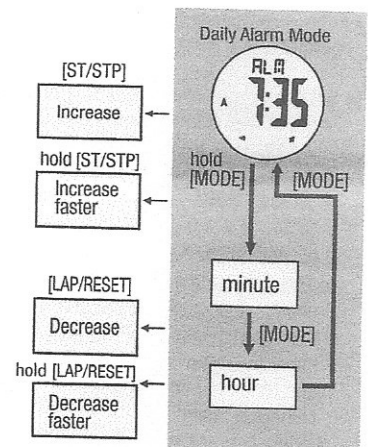
Note: If you Press and Hold the button, the rate of change is faster

### To turn Daily Alarm ON/OFF

- Press [ ST/STP ] while in the Daily Alarm Mode
- When the icon ☺ appears, the Daily Alarm is ON

### To turn Hourly Beep ON/OFF

- Press [ LAP/RESET ] while in the Daily Alarm Mode
- When the icon 🔔 appears, the hourly beep is ON



## CHRONOGRAPH MODE:

### This watch is a stopwatch

- Measurement unit: 1/100th second
- Measuring capacity: 99 hours 59 minutes & 59.99 seconds
- The watch will measure elapsed time, lap time and display elapsed time without stopping measurement

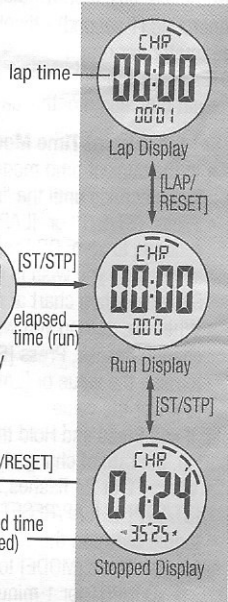
### Chronograph Display

- Running time (hour, minute) - displays in the 2nd row
- Running time (second, 1/100th second) - displays in the 3rd row
- Animated (1/100th of a second) - displays in the perimeter bar graph



### To Measure Elapsed Time

- In Zero Display, Press [ ST/STP ] once to start measurement - ( the digits will advance). Press [ ST/STP ] once again to stop - (digits will not advance) The elapsed time between the 1st Press [ ST/STP ] and the 2nd Press [ ST/STP ] will display



### To Display Lap Time

- With the chronograph active, Press [ LAP/RESET ] and the cumulative lap times will display
- Press [ LAP/RESET ] again to return to counting display

NOTE: When the lap time is displayed the elapsed time is still being measured in the background

### To Reset the Chronograph

- If you wish to record a new set of elapsed times, Press (when the chronograph has stopped) [ LAP/RESET ] to reset the chronograph

NOTE: If NO INPUT for 1 minute during the setup, the display will default to the Countdown Timer Mode

### To Use the Timer

- Once a target time has been set (expl. 15 min. ) Press [ ST/STP ] to start (digits will descend to zero). Press [ ST/STP ] again to terminate the countdown (digits will stop)
- Elapsed time will display through out the countdown

### To Reload the Timer

- Press (when the timer has stopped) [ LAP/RESET ] to reload the target time

### Alarm Sound

- The watch will beep once when it reaches 5, 4, 3, 2 and 1 seconds
- The watch will sound a long beep at zero.

NOTE: Press [ MODE ] to exit the Countdown Timer

## PACE MODE

Pace mode allows users to track their paces while performing advanced orienteering techniques in the wilderness. Users will match their hiking pace with the pacer function's audible beeps to maintain and track their speed and distances over unfamiliar terrain



- The rate can be set in a range from 40 beats per minute to 180 beats per minute in 5 beat increments

### Pace Display

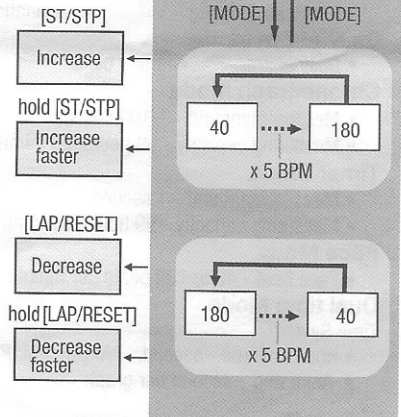
- The rate (beats per minute) - displays in the 2nd row

### To Use the Pace Feature

- Once a pace rate has been set (expl. 60 BPM), Press [ ST/STP ] to start the sound. Press [ ST/STP ] again to stop

### To set the Pace

- In the Pace Mode, Press and Hold [ MODE ] for 2 seconds until the "beat rate" digits flash
- Press [ ST/STP ] to raise the value or [ LAP/RESET ] to lower the value. Note: If you Press and Hold the button, the rate of change is faster
- When the rate is set, Press [ MODE ] to confirm



## COUNTDOWN TIMER MODE

### This watch is a countdown timer

- Measurement unit: 1 second
- Measuring capacity: 99 hours 59 minutes & 59 seconds
- The watch will descend from the target time to zero

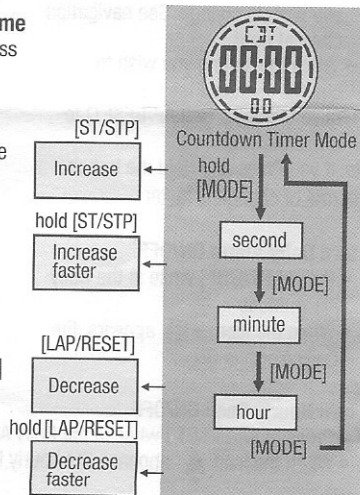
### Countdown Timer Display

- The running time (hour, minute) - displays in the 2nd row
- The running time (seconds) - displays in the 3rd row
- Animated (1 second) - displays in the perimeter bar graph



### To Set the Countdown Timer Target Time

- In the Countdown Timer Mode, Press and Hold [ MODE ] for 2 seconds until the "seconds" digits flash
- Press [ MODE ] to navigate to the setting that you wish to change. See navigation chart at right
- When the setting you wish to change flashes, Press [ ST/STP ] to raise the value or [ LAP/RESET ] to lower the value. Note: If you Press and Hold the button, the rate of change is faster
- When the hour is set, Press [ MODE ] to confirm



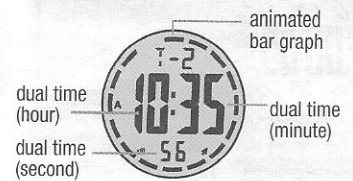
NOTE: If NO INPUT for 1 minute during setup, display will default to Pace Mode

## DUAL TIME MODE

This watch is a dual time piece. Dual time is synchronized with current time

### Dual Time Display

- Dual time (hour, minute) - displays in the 2nd row
- Dual time (seconds) - displays in the 3rd row
- Animated (1 second) - displays in the perimeter bar graph



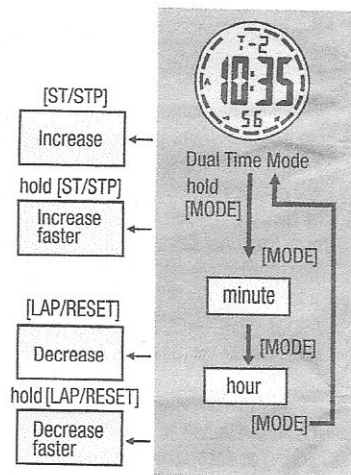
Dual Time Mode

## DUAL TIME MODE

### To Set the Dual Time Mode

- In Dual Time Mode, Press and Hold [MODE] for 2 seconds until the "minutes" digits flash
- Press [MODE] to navigate to the setting that you wish to change. See navigation chart at right
- When the setting you wish to change flashes, Press [ST/STP] to raise the value or [LAP/RESET] to lower the value
- Note: If you Press and Hold the button, the rate of change is faster
- When the hour is set, Press [MODE] to confirm and return to the Dual Time Mode

NOTE: If NO INPUT for 1 minute during the setup, the display will default to the Dual Time Mode



## COMPASS MODE

This watch is a digital compass that provides directions, bearings and Magnetic North Pole location

Caution: Accurate readings will be compromised when used near magnetic fields, mobile phones, speakers, motors, electrical appliances and inside a moving vehicle or a ferroconcrete building

Watch may need to be calibrated for declination

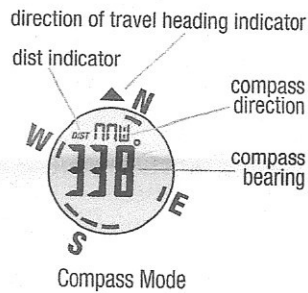
Perform calibration when:

- first time of use
- **DIST** is flashing
- Declination has changed
- Battery has been changed

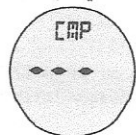
### Compass Display

To access, press [LAP/RESET] when in current time mode.

- Compass direction - displays in 1st row
- Compass bearing - displays in 2nd row
- Animated cardinal points - display in perimeter bar graph



1 minute ↓ any button except [LIGHT]



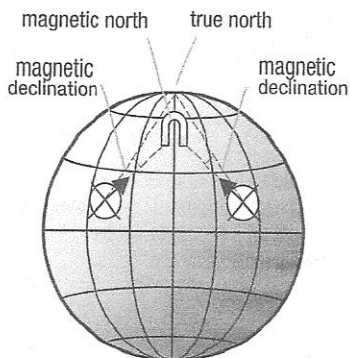
Compass Stand-by Mode

### Compass Standby Mode

- To extend battery life, watch will switch to standby mode if there is NO INPUT for 1 minute when in compass mode
- Press any button except [LIGHT] to exit standby mode

## MAGNETIC DECLINATION

The Magnetic sensor in the compass is attracted by the magnetism of the Earth and therefore, always points to the constantly shifting Magnetic North. There is another "North Pole." True North is static and located geographically about 800 miles north of the magnetic pole. Maps and directions usually are based on True North. Magnetic declination is the angle between True North and Magnetic North. The amount of declination at any given point depends on the location of that point.

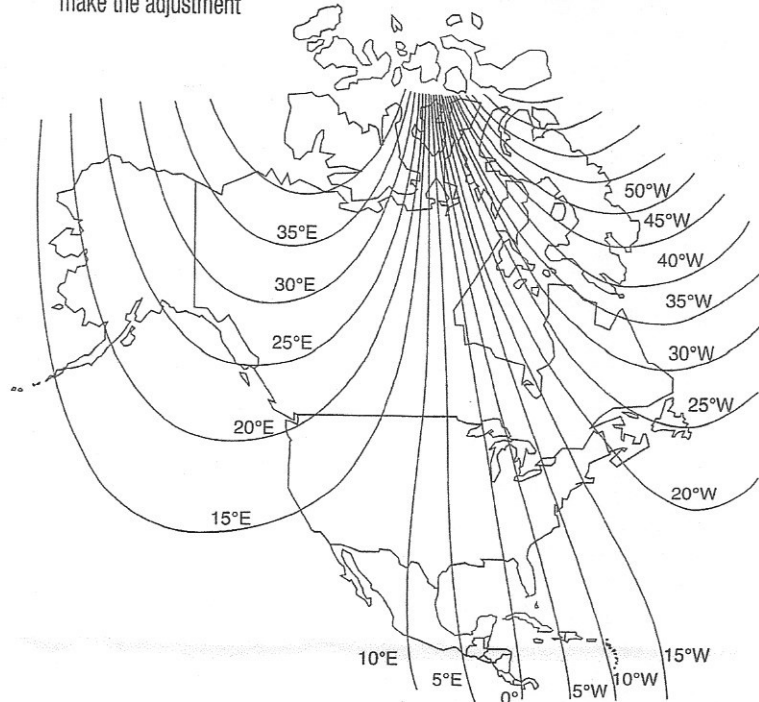


on the continent. Where True and Magnetic North are in the same direction, the declination is zero. At any point west of that line, your compass needle will point east of True North. This is called "Easterly Declination." At any point east of that zero line, your compass needle will point west of True North. This is called "Westerly Declination"

NOTE: The watch displays Westerly Declination as a negative number, example: -45

## MAGNETIC DECLINATION COMPENSATION

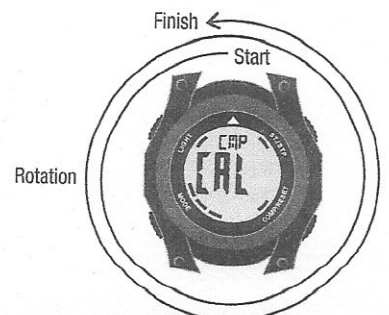
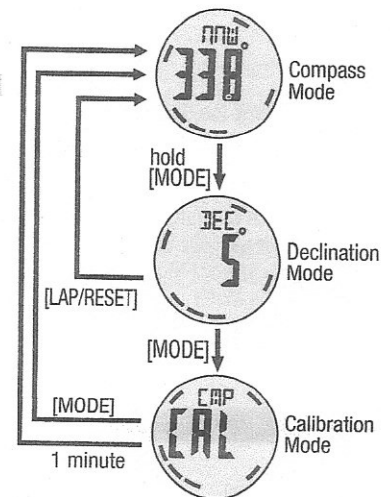
The watch will automatically make declination compensation. We have included a list of the declination angles of North America. In the Declination Setting Mode, input the closest angle and the watch will make the adjustment



## COMPASS CALIBRATION

### To Calibrate the Compass

- In the Compass Mode, Press and Hold [MODE] for 2 seconds. DEC will display in the 1st row and the digits will flash
- Press [ST/STP] to set desired declination angle (-90 to +90)
- Press [MODE] CAL will display and the north pole pointer will move
- Lay the watch on a level surface. Steadily rotate the watch counter-clockwise twice. Keep the pointer in the same direction through out the rotation
- Press [MODE] to confirm and return to Compass Mode

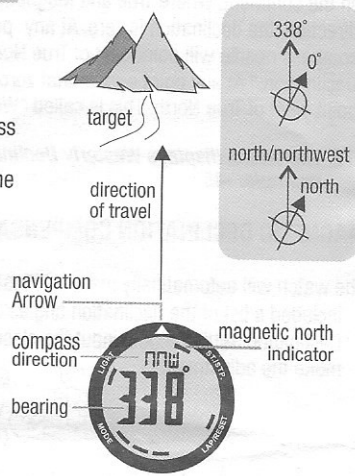


## TAKE A BEARING

### To Determine the Direction of Travel

- Turn the watch until the navigation arrow points to the direction of travel. Press [COMP/RESET] to enter Compass Mode
- The compass direction displays in the 1st row
- The bearing displays in the 2nd row
- The bar graph will indicate Magnetic North

**Important:** When taking a bearing, the watch MUST be parallel to the horizon or the data will be inaccurate

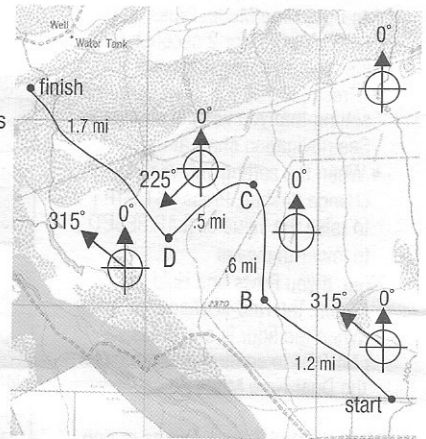


## FIND YOUR WAY

Use this watch and a protractor to keep to a trail

### Before Hiking

- Locate the distance between and location of the turning points of the trail on a map
  - Use a protractor to determine the bearing of each turn and mark the map. See right
- Start to B = 315° / 1.2 mi  
 B to C = 0° / .6mi  
 C to D = 225° / .5 mi  
 D to finish = 315° / 1.7 mi



### While Hiking

- Use the watch to find the bearing at each turn

## Limited Warranty

### What is covered?

Johnson Outdoors Gear LLC warrants your Tech4o® brand product to be free from defects in materials or workmanship and to perform accurately, for one (1) year from date of original purchase provided it has not been damaged by the causes described in the next paragraph.

### What is not covered?

Normal wear and tear, damage due to misuse, alteration, accidents, abuse, improper maintenance and non-compliance with written instructions and precautions are not covered by this warranty. Watches & Electronic instruments are water resistant, they are not waterproof. Damage resulting from excessive exposure to water, heat or cold is not covered under this warranty. The replaceable battery is not covered under the warranty.

THERE ARE NO OTHER EXPRESS WARRANTIES BEYOND THE TERMS OF THIS LIMITED WARRANTY. IN NO EVENT SHALL JOHNSON OUTDOORS GEAR LLC BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some states do not allow exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you.

### How to obtain warranty service.

Should a defect covered by this warranty appear in your product, call our Consumer Service Department toll-free at 1.800.572.8822 for return authorization and instructions. (You must pay the cost of returning the unit to us). If the product is found to be defective in material or workmanship, we shall, at our option, either repair or replace it without charge, and will pay the cost of return shipment to you.

### How State law relates to this warranty:

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Technical Assistance: [www.tech4o.com](http://www.tech4o.com)



### Contact Us:

U.S.A.: Johnson Outdoors Gear LLC  
 625 Conklin Road, PO Box 966 Binghamton, New York 13902  
 Phone: 607.779.2222 Toll Free: 1.800.572.8822

Canada: Johnson Outdoors Canada Inc.  
 4180 Harvester Road Burlington, Ontario Canada L7L 6B6  
 Phone: 905.634.0023 Toll Free: 1.800.263.6390

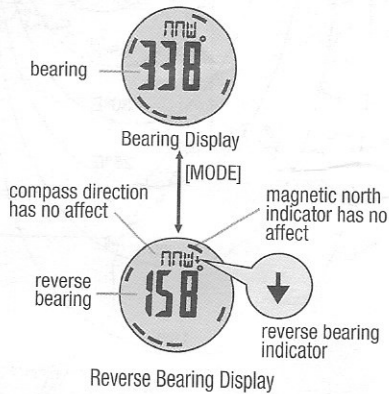
Europe: Nigor Net BV  
 Kabelweg 100 1014 BC Amsterdam  
 Phone: +31 (0)20-5818550  
 Web: [www.tech4o.eu](http://www.tech4o.eu) E-mail: [info@nigor.net](mailto:info@nigor.net)

## TAKE A REVERSE BEARING

This watch will also display the opposite direction (180°) of a bearing. A reverse bearing is used to accurately backtrack your direction or determine you location on a map

### To determine a Backward Bearing

- In Compass Mode, Press [MODE] to toggle between forward and reverse bearings. The icon "↓" displays for Reverse Bearing
- The watch will automatically return to forward bearing after being changed to Standby Mode or Current Time Mode

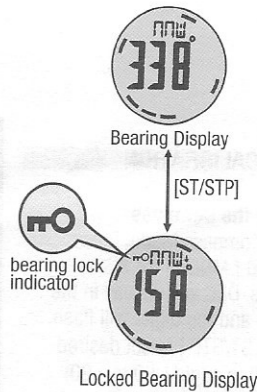


## LOCK A BEARING

This watch will provide a "compass lock" function to secure an important bearing. When the "LO" is displayed, the compass reading will not change

### To Lock / Unlock the Compass

- When in Compass Mode, Press [ST/STP] to toggle between lock and unlock
- The watch will automatically return to unlock after being changed to Standby Mode or Current Time Mode



## FIND YOUR LOCATION

Use this watch with the reverse bearing feature, a map and protractor, to determine your current position

### To Find Your Current Position

- Locate two distant, identifiable landmarks. See diagram at right
- Find each landmark's location on the map
- Use the watch to determine the reverse bearing of each landmark
- With a protractor, draw a line down each reverse bearing onto the map
- Your current position is the intersection of these two lines

