

Technical Letter

BOOK NO. 536M

TIDEWATCH

FEATURES

1. Hour, minute and second hands
2. Date
3. Tide cycle (tide stage) hand
4. Moon Phase indicator
5. Spring (maximum) and Neap (minimum) tide range hand

ABOUT YOUR BULOVA TIDE WATCH AND TIDES

A. TIDE CYCLES – are caused by the Moon's (and to a lesser degree, the Sun's) gravitational pull on the Earth's oceans.

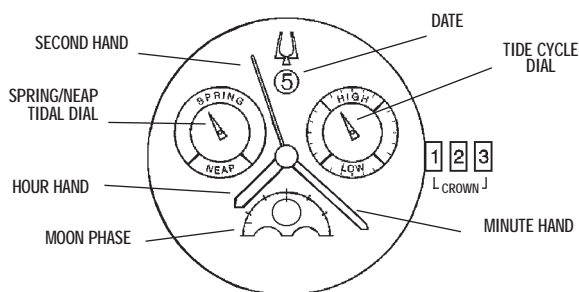
These cycles are shown on the small dial on the right side of the watch. It will indicate the occurrence of High Tide, Low Tide and stages in between. This watch will show the average daily time advance for the tide (approx. 50/2-minutes per day). Local tides can vary slightly from this average, particularly during "Neap" tide conditions. In addition, tides are often affected by other conditions such as wind direction or storms.

B. MOON PHASES – Since it is the Moon that has the greatest effect on tides, the Phases of the Moon are also indicated on this watch, above the six o'clock position on the watch dial. Full Moon, New Moon (No visible Moon), and phases in between are indicated. Tidal ranges (the difference between High and Low) are greatest at the periods of the Full Moon and the New Moon.

C. SPRING (maximum) and **NEAP** (minimum) tide range is a lesser known aspect of tidal phenomena.

1. When the Moon and the Sun are pulling on the Earth in line with each other, their gravitational pulls work together. The resulting "Spring" tide range is larger than average – a greater difference between High tide and Low tide.
2. When the Moon and the Sun are pulling at right angles to each other (relative to the earth), their gravitational pulls work against each other, resulting in a "Neap" tide – the difference between High and Low tide is less than average. These "Spring" and "Neap" tides are indicated on the small dial located on the left side of the watch.

PLEASE NOTE: THIS WATCH IS **NOT** TO BE USED AS AN INSTRUMENT FOR NAVIGATIONAL PURPOSES. IT IS RECOMMENDED FOR RECREATIONAL USE ONLY.



This diagram above displays the features as they appear on your watch. Use it as a reference when reading the following instructions.

Important: The functions of this watch must be set up in the following sequence:

- I. Moon phase and Tide range (both are synchronized with each other).
- II. Hands
- III. Date
- IV. Tide cycle

Please refer to the instructions below (and the previous diagram) for setting each function.

I. SETTING THE MOON PHASE INDICATOR AND THE TIDE RANGE

The Moon phase indicator (at bottom of dial) and the Tide range hand (left side) are permanently synchronized. It is not necessary to set the Tide range, **Only** the Moon phase. We recommend that you do **not** set the Moon phase dial between 12 o'clock mid-night and 9 o'clock in the morning to avoid having to move the hands backwards to set the time - This could cause the Moon phase to advance prematurely on that day.

To set this function, proceed as follows:

1. Refer to a moon phase chart, easily obtained from: Marine sources, frequently from newspapers, or from various web-sites through a search engine. Note the date of the full moon.
2. Note the "markers" on the top outer edge of the Moon phase indicator, numbered from "0" to "29". Note also, the "marker" on the edge of the Moon symbol. When the marker on the Moon symbol lines up with the "15" marker (centered in window) it is the date of the full moon (See diagram).
3. The "Moon" will advance one mark for each 24 hours and take 29 days to complete the cycle to the next full Moon.
4. To set the Moon, pull the crown out to position "3" as shown in the above diagram.
5. Turn the crown toward you to move the hands clockwise – the moon will advance once at approximately 8 AM.
6. Continue to advance the Moon until it is set to the desired marker. This may take a while, but it only needs to be done during this initial setting procedure.

II. SETTING THE HANDS

1. Keep the Crown out to position "3".
2. Turn the crown to move the hands forward until the correct time is set. **If you are setting to PM time, do not forget to go past 12 o'clock once more.**

III. SETTING THE DATE

1. Pull or push the crown to position "2" as shown on the diagram above.
2. Turn the crown away from you (clockwise) until the correct date appears. Do **not** set the date between the hours of 9 PM and 1 AM – the date may not change for that midnight, and then the date will be one day behind. It would then be necessary to advance the date, one number, on the next day.

IV. SETTING THE TIDE CYCLE DIAL

1. Refer to the above diagram to locate the Tide Cycle dial on the right.
2. **MAKE SURE** your watch has been set to the correct time and date as above.
3. Refer to a **Tide Chart** for your local area and determine the time of High or Low tide for your current date.
4. Pull or push the crown out to position "2".
5. Turn the crown toward you (counter-clockwise) to set the tide hand. Each "marker" on this dial represents one half hour.
For Example:
High tide is at 1 PM – Your time now is 3 PM – Set the hand at four marks past high tide on the dial (Two hours past High tide).
6. Push the crown back in, to position "1".

Please Note – Once this function set for your local tide, it applies **only** to your local tide – until it is reset to a different tide reference. It is also preferable to set this function around the time of the Full Moon or the New Moon, as tidal variations during those periods will be minimal.