



## Setting Guide for Eco Drive Movement Caliber B740 / B741

**Contents** (click on a topic)

1. Outline
2. Specifications
3. About Solar Powered Watches
4. Handling the Watch
  - a) Name of Parts
  - b) Warning Functions of This Solar Powered Watch
  - c) Time Required for Charging
  - d) Special Care for This Solar Powered Watch
  - e) Switching Between Modes
  - f) Adjusting the Time and Date (Time Mode)
  - g) Diving Mode
  - h) Chronograph Mode
  - i) Measure Against Possible Problems
  - j) Setting Function Hand at '0' Position
  - k) All Reset / Adjusting Hand Position
5. Relationship Between Charge Level Indication and Running Period of Watch
6. Note on the Eco Drive Manganese Titanium Rechargeable Battery
7. Precautions for Diving
8. Care of your Watch





## 1. OUTLINE

This watch is an analog solar powered diver's watch into which an electronic depth meter and chronograph function and chronograph function are built. The solar power generation function transforms solar energy into electrical energy to run the watch.

- Since solar energy is used as the power source of this watch, it has no need of regular replacement of the battery unlike the general diver's watches using the mercury cell, etc. (Solar power function)
- The built-in depth meter function automatically measures the depth in diving with the watch worn on the wrist. (Depth meter function)
- The maximum depth in diving is automatically memorized. (Maximum depth memorizing function)
- The chronograph function measures the time in units of one second for 50 minutes at maximum.

## 2. SPECIFICATIONS

Movement Caliber NO.	B740M / B741 M
Type	Analog solar power watch
Watch Accuracy (At normal temperature)	±15 sec/month (5'C-35OC/41"F-95"F)
Depth gauge accuracy	At depth of 1 to 1 0m/5.0 to 25.0ft: within ± 1 m/±5.0ft At depth of 1 to 1 to 50m/27.5 to 125.0ft: within ±2m/±7.5ft On the condition that the water temperature is constant and error in reading is excluded. Temperature range for guaranteed accuracy: +10'C to 40'C/50'F to 104OF Depth gauge accuracy is influenced by changes in surrounding temperature.
Operating temperature	-10C to +60OC/14F to 40F
Display functions	Time Hour, Minute, Second, 24-hour, Charge level Calendar Date Chronograph Minute, Second (50-minute system) Depth gauge 1 m to 50m/5ft to 1 25ft Reading in units of 1m/5ft Depth less than 1 m/5ft is indicated as 0m/0ft. Depth more than 50m/1 25ft is indicated as over-zone
Maximum depth to be memorized	1 m to 50m/5ft to 1 25ft
Additional functions	* Charge level indication function * Insufficient charge warning indication a Stop warning function * Time reset warning function
Continuous operating time	* From full charge to stopping: Approx. 2 months * From full charge to <b>NG</b> indication: Approx. 1 month * Form insufficient charge warning to stopping: Approx. 2 days
Additional Comments	Movement Caliber B740: Depth indication in meters Movement Caliber B741: Depth indication in feet





### 3. SOLAR-POWERED WATCH

When the watch is used for diving (about two hours a week), it will run for about one month (until NG is indicated).

An Eco Drive Rechargeable battery is used in this watch to store electrical energy. If the rechargeable battery is fully charged once, the watch will continue running for about two months.

#### <How to use this watch properly>

It is recommended that you recharge the battery everyday.

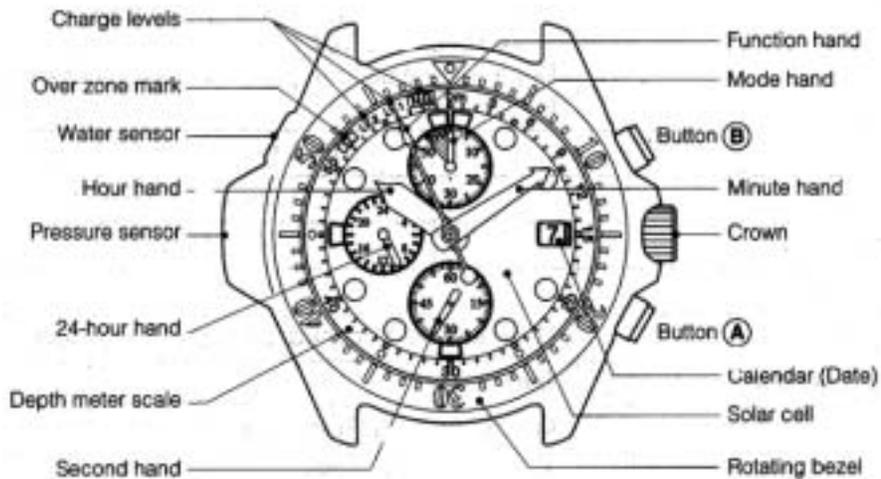
To insure that this watch demonstrates its depth meter function and chronograph function besides the timekeeping function, always keep it sufficiently charged. If the battery is not sufficiently charged or the battery power is very low, the depth meter function and chronograph function cannot be activated.

The battery of this watch is protected from overcharge.

\* For recharging the battery, expose the solar cell (the face of the watch) to light.

### 4. USING THIS WATCH

#### A. Name of Parts



**Charge levels** Charge level of the battery (battery power) is indicated as follows (LV.1, LV.2, NG) by the function hand. These guidelines indicate whether the depth meter function is usable or not.

**Over-zone mark** When the diving depth exceeds 50 meters (125 feet) or there is something abnormal in the depth meter function, the function hand points to the over- zone mark.

**Depth meter scale** The diving depth is indicated by the function hand on this depth meter scale.

**Pressure sensor** Measures the depth by sensing the water pressure.

**Water sensor** When the water sensor gets wet, the watch is automatically shifted to the diving mode.

**Rotating bezel** The diver can know the elapsed time of diving by using this rotating bezel.

**Solar cell** Electric energy necessary for running the watch is generated by this solar cell when it is exposed to enough light for charging the battery.





## B. Warning Function of this Solar Powered Watch

With decline of the battery power of this watch, its warning function is activated to change the indication.

**[Normal indication (Time mode)]**

Function hand: Points at LV.2, LV.1 or NG.

**[Insufficient charge warning indication]**

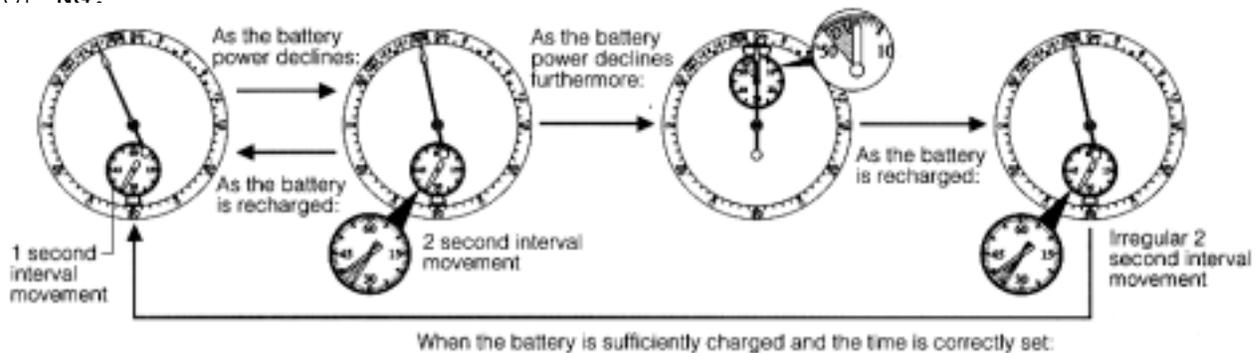
Function hand: Points at NG

**[Stop warning indication]**

Function hand: Points at "0"  
Mode hand: Points at "0".

**[Time reset warning indication]**

Function hand: Points at NG,



### Charge Level Indication

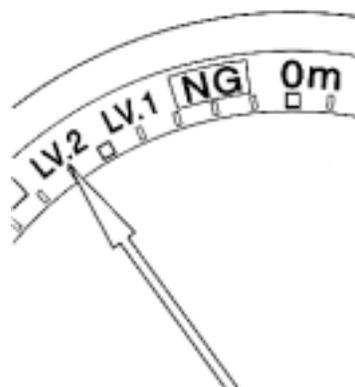
The function hand indicates the charge level as follows (LV.1, LV.2 and NG) to let the user know whether the watch can be used for diving or not. In the diving mode, consumption of battery power is considerably increased because the pressure and water sensors are actuated. Before using this watch for diving, charge the battery sufficiently and confirm the charging level which is indicated by the function hand.



**<When the function hand points at LV.1 (at 56- seconds' position)>**

The watch is securing battery power enough for sports diving at the depth of 20m (66ft) or so for about an hour.

- However, when the function hand points at LV.1 as a result of charging the battery after it was once depleted (after the status that the function hand indicated NG), be sure to charge the battery with a lighting of 3000 lux (20 cm under a fluorescent lamp) for at least 10 minutes before diving.
- If diving continues for more than one hour, pay careful attention to the indication of the function hand, because the indication may change to NG from LV.1 during the diving and the watch may discontinue measuring the depth.



**<When the function hand points at "LV.2" (54 seconds)>**

The battery is almost fully charged. Accordingly, the watch can be used reliably for diving.





**<When the function hand points at "NG" (58 seconds)>**

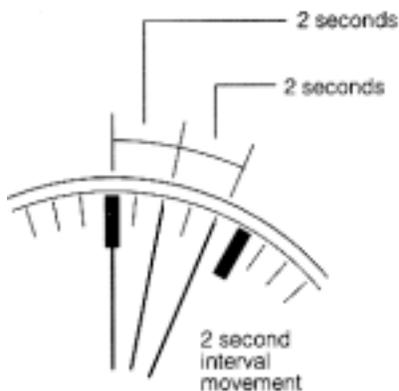
The watch will not shift to the diving mode because of insufficient charging. When the watch is in this status, it cannot be used for diving because its depth meter function won't be activated.

If the function hand points to "NG" during a dive, immediately stop using relying on the watch for depth measurement.

**! CAUTION**

- # Use the indication of the charge level as a reference only.
  - # If the watch is exposed to strong light for charging the battery, the function hand may temporarily indicate "LV.1" or "LV.2" despite insufficient charging. If the function hand goes to "LV.1" or "LV.2" from "NG" position in a short time, you need to pay careful attention to charging conditions.
- It is recommended that you keep the battery sufficiently charged all the time but especially before using the watch for diving. Always check the indication of charge level carefully just before diving. (For details of charging time, refer to "C. Time Required for Charging".)

**Insufficient charge warning function**



Insufficient charge warning indication -  
Made hand: DV position, Function hand: NG position-

Whenever the battery power becomes insufficient for operation, the watch is automatically shifted to the Time mode regardless of the currently set mode and the second hand goes for 2-second interval movement. (insufficient charge warning indication)

If the watch is left in this condition without recharging for another two days, the watch will stop.

- If the watch falls into such condition, the time measurement will be discontinued in the chronograph mode.
- While the watch is falling into the insufficient charge warning indication, all button operations are ineffective except the maximum depth operation.

Since the watch continues accurate indication of the date and time even in the insufficient charge warning indication, the watch will recover normal operation if it is exposed to light sufficient for charging the battery. For using the watch the watch for diving, sufficiently charge the battery until the function hand indicates "LV.1" or "LV.2" on the charge level.





## Stop warning function

### Stop warning indication

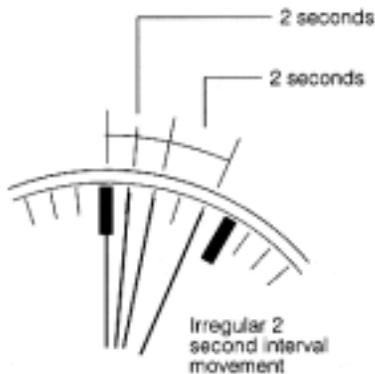
- Mode hand: "0" position, Function hand: "0" position -

If the watch is left in the insufficient charge warning indication for two days, both the mode hand and function hand will move to "0" position respectively, If the watch falls into this condition, it indicates that the watch has stopped operation completely. (Stop warning indication)

**\* All functions of the watch are inactivated in this indication.**

When the rechargeable battery is charges in this condition, the watch restarts operation as it is switched to the time reset warning indication

## Time reset warning function



**Time reset warning Indication - Mode hand: DV position, Function hand: NG position -**

With progress in charging the battery as the watch is exposed to light, the watch starts running but shows incorrect time. In this condition the second hand moves irregularly every two seconds to show that the time is incorrect. (Time reset warning indication)

To change the watch to time mode, reset the watch correctly after fully charging the rechargeable battery.

If the rechargeable battery is sufficiently charged but the watch has not been reset to the correct time, the second hand continues to go irregularly every two seconds

## Overcharge prevention function

This watch has an overcharge prevention function. When the secondary battery is fully charged, this function is activated to protect the battery from overcharge by cutting of power supply. This function relieves you from worry about overcharge.





## C. Time Required for Charging

Since time required for recharging the battery varies according to model (depending on the dial color, etc.), refer to the following table as a rough guideline for charging the rechargeable battery.

Illuminance (lux)	Environment	Time required for charging		
		Charging time for one-day operation	Charging time required to make the second hand move normally from the watch stop status.	Charging time required for fully charging
500	Under indoor lighting	2 hours	16 hours	134 hours
1000	60-70cm (24-28in.) under a fluorescent light (30W)	50 minutes	6 hours 30 minutes	57 hours
3000	20cm (8in.) under a fluorescent light (30W)	16 minutes	2 hours 30 minutes	18 hours
10000	Cloudy outdoor	4 minutes	1 hour	5 hours
100000	Under bright sunlight in summer	2 minutes	45 minutes	2 hours 30 minutes

Charging time required for fully charging:

Time required for fully charging the battery, starting from the state that the watch has stopped operation (in the stop warning indication).

Charging time for one-day operation:

Time required for charging the battery enough for running the watch for one day, starting from the state that the second hand normally goes every second.

**(Note)** For using the watch for diving (one-hour diving a day), time required for charging must be extended 1.5 times as long as the time appearing in the table.

## D. Special Care for this Solar Powered Watch

**<Always take care to charge the battery of the watch. >**

\* Mind that the battery power is likely to decline if you wear a jacket or a long sleeve shirt, because the watch is usually shaded by such clothes and the battery is insufficiently charged as a result.

\* Try to put the watch in a well-lit place, as far as circumstances permit, when you take it off. If you do, the watch will continue normal running.

- **Notes on charging** -

\* Avoid charging in a hot place where the ambient temperature is +60°C/140°F or more, because an extreme rise in temperature may cause a breakdown of the watch.

Examples: Charging near a hot light source such as an incandescent lamp, halogen lamp, etc. Charging in a place that easily becomes hot such as on a car dashboard, etc.

- When the watch is exposed to an incandescent lamp for charging, carefully keep the watch 50 cm (20 in.) or more apart from it so as not to get the watch hot.





- Note on handling the Eco Drive rechargeable battery -

- \* The user should not remove the rechargeable battery from the watch. If you remove the battery from the watch for unavoidable reasons, be sure to keep it outside the reach of a child to prevent him/her from swallowing it.
- \* If a child swallows the rechargeable battery by mistake, immediately consult a doctor for treatment.

- Use the specified Eco Drive Rechargeable battery only -

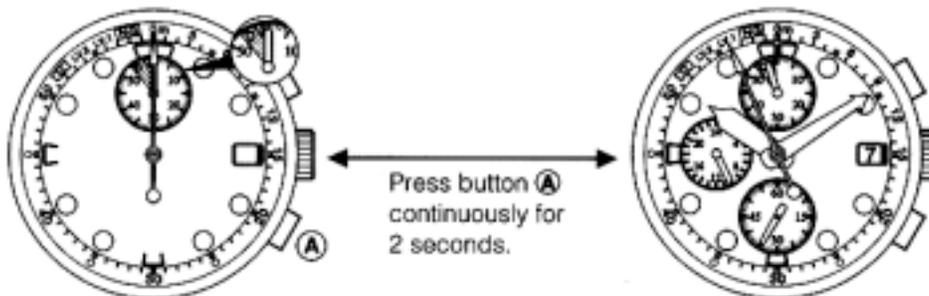
- \* Never use any battery other than the specified rechargeable battery. This watch is so designed that it does not run with any battery other than the specified secondary battery. However, if another battery such as a silver oxide for example, is forcibly set in the watch and it is charged, the battery will not only be overcharged, but may burst. This will result in damage the watch and injure the user and other people. To repeat the warning, use the specified rechargeable battery only without fail whenever the rechargeable battery needs replacement.

**E. Switching Between Modes**

- \* Each time button (A) is pressed for two seconds, the mode is switched from the time mode to the chronograph mode and vice versa.
- If the water sensor gets wet while the watch is in time mode, even from accidental splashing, the mode is switched over to the diving mode. However, this mode shift is not performed when the function hand indicates "NG" on the charge level index.

<Chronograph mode>

<Time mode>

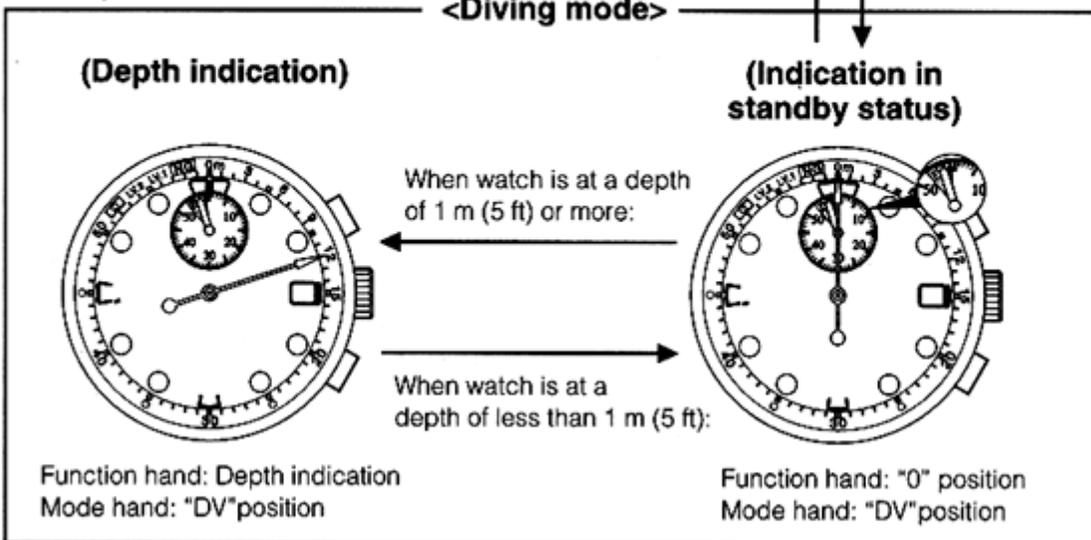


Function hand "0" position  
Mode Hand: "0" position

Function hand: "Charge level index" position  
Mode hand: "DV" position

When button (A) is pressed for 2 second as function hand indicates "0 m" (0 ft) in depth, or function hand continuously points at "0 m" (0 ft) in depth for 10 seconds after depth measurement is complete:

When the water sensor gets wet:



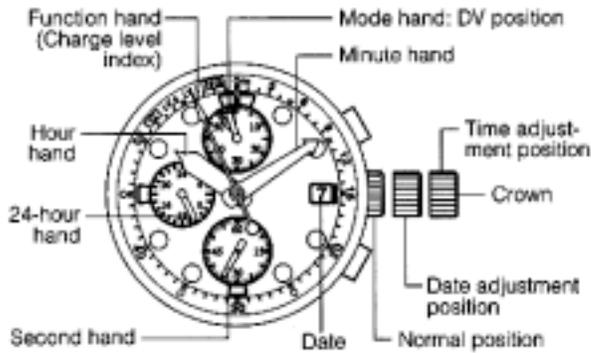
Function hand: Depth indication  
Mode hand: "DV" position

Function hand: "0" position  
Mode hand: "DV" position





## F. Adjusting Time and Date (Time mode)



The watch shows time and date in the Time mode.

Time (shown by hour, minute, second and 24-hour hands) and date can be checked any time regardless of the mode.

Besides time and date, the function hand indicates the battery power at three levels.

### How to adjust time

Time can be adjusted in the Time mode.

1. After turning the crown counterclockwise to unscrew it, pull the crown out to the time adjustment position (the second click stop position), the second hand will stop running.
2. Set the watch for the correct time by turning the crown.
3. Press the- crown in to the normal position and the watch (second hand) starts running.
4. Turn the crown clockwise to screw it tightly against the case.

When the crown is pulled to the time adjustment position, the function hand points at the "0" second position. If the function hand does not point at the "0" second position, correct the hand position referring to section "J. Setting Function Hand at "0" Position.

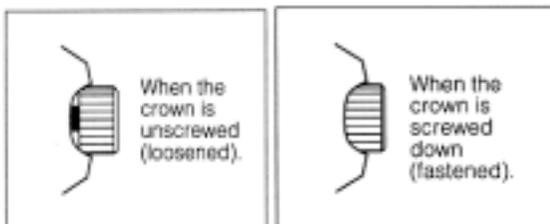
### How to adjust date

1. After turning the crown counterclockwise to unscrew it, pull the crown out to the date adjustment position (the first click stop position).
2. Set the watch for the correct date by turning the crown.
3. Press the crown in to the normal position.
4. Turn the crown clockwise to screw it tightly against the case.

**Note:** If date is adjusted when the watch shows a time between 9:00 PM and 1:00 am, the watch may not advance the date indication the next morning.

### <Note on operation of the crown>

- # The crown of this watch is designed to be screwed down onto the case to secure the water-resistance of the watch.
- # For pulling out the crown for adjustment, unscrew it to get it loose first.
- # After adjustment with the crown, press it in to the normal position and then screw it down without fail.
- # Do not operate any button while the crown is being pulled out. If a button is operated in such the status, it may cause some change in the indication or disorder of some hand(s).



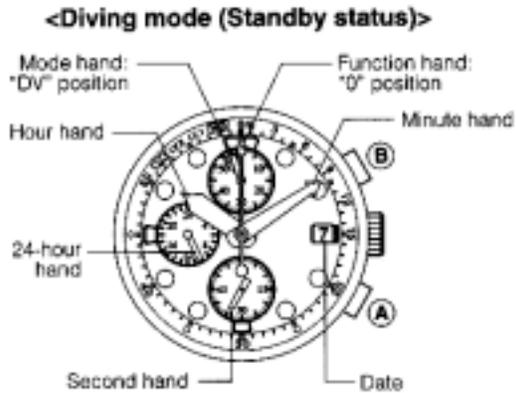
Do not pull out or turn the crown when the watch gets wet or is in the water. Otherwise, the watch loses water-resistance and the inside of the watch gets wet.





## G. Diving Mode

When the watch is immersed in the water, while it is set in the Time mode and the battery is charged enough for diving, the water sensor senses the water and switches the watch to Diving mode to measure the depth. In the Diving mode, the watch automatically memorizes the maximum depth of the last dive and the user can recall it after the dive.



\* If the function hand and mode hand don't point to their respectively specified positions (mode hand: "DV" position, function hand: "O" position) when the watch enters the Diving mode (standby status), adjust the hand positions referring to section "1. Measures against possible problems".

### <Depth indication>

Indication range: 0 to 50 m (0 to 125 ft) deep (measured every second)  
 Indication unit: 1 m/5 ft (Decimals of five and above in the first decimal place are rounded up and anything under five in the first decimal place is rounded down.)

Depth less than 1 m/5 ft is indicated as 1 m/0 ft.)

### <Manner to read depth indication>

When the watch reaches the depth of 1 m/5 ft or more in diving, it starts measuring the depth. In diving, the indication by the function hand represents the depth.

- \* When the depth is less than 1 m/5 ft, the function hand indicates 0-m/0 ft.
- \* When the depth exceeds 50 m (1 25 ft), the function hand stops at the over-zone mark (52-seconds position) to show that the depth is out of the indication range. As the diver ascends in the water and the depth is less than 50 m (1 25 ft), the watch again indicates the depth.

### <How to cancel the Diving mode>

- (1) Press button (A) for 2 seconds after diving or in the water where it is less than 1 m (5 ft) deep (depth indication: 0-m/0 ft). The Diving mode is canceled and the watch returns to the Time mode.
- (2) When the watch is left for 10 minutes after diving or in the water where it is less than 1m (5 ft) deep (depth indication: 0 m/0 ft), the watch automatically returns to the Time mode with cancellation of the Diving mode. If the watch is again immersed in the water 1 m (5-ft) or more deep within 10 minutes after the last dive, the new dive is regarded as a continuation of the last dive and the watch continues to measure depth.

### \* Wet detection error indication

If the diving standby mode (water sensor is in action) continues for 1 hour or more, the function hand points at the over-zone mark.  
 If the watch remains in this status for a long time, refer to section "1. Measures against possible problems".





### <How to recall the memorized maximum depth>

(1) Press button **(B)** in the Time mode or Diving mode (when depth indication is 0 m/Oft). The function hand indicates the memorized maximum depth.

(2) To cancel the maximum depth indication, press button **(B)** again.

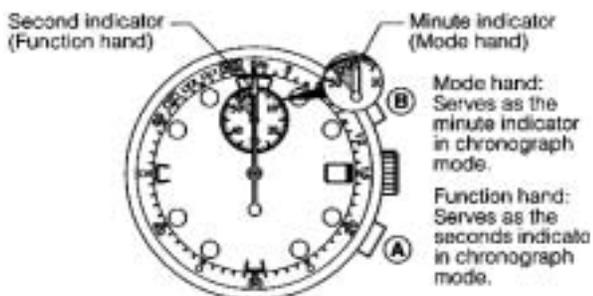
\*Indication of the memorized maximum depth continues for 30 seconds and is automatically canceled after that.

- ## The memory of the maximum depth of the last dive is held until the watch is used in the next dive.
- ## If the maximum depth in diving is less than 1 m (5 ft), it is not memorized. On the other hand, if the maximum depth exceeds 50 m (125 ft) it is memorized as an over-zone depth.
- ## When the watch is used in diving for the first time, it occasionally shows data stored during inspection prior to shipment.

## H. Chronograph Mode

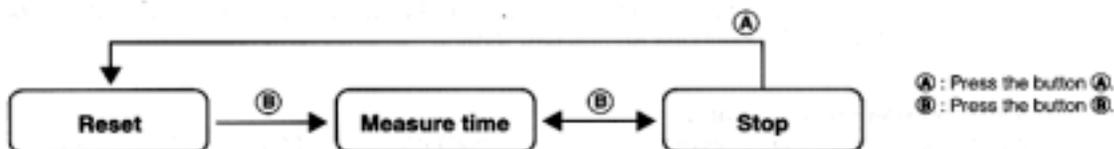
The chronograph function enables this watch to measure time in units of 1 second for a maximum of 49 minutes 59 seconds. When it has reached 50 minutes, since a time measurement was started, the chronograph stops measuring time and the hands move to the reset position.

<Chronograph indication - Reset position -> \* If the watch is left in reset status in the chronograph mode for 3 minutes, it automatically switches to the Time mode.



### <How to measure time>

- (1) In the Time mode, press and hold button **(A)** for 2 seconds or more to switch the watch to the Chronograph mode. As a result, both the function hand and mode hand quickly go to their respective "0" positions and then stop.
- (2) Each time button **(B)** is pressed, both the hands start and stop alternately.
- (3) If button **(A)** is pressed while both the hands are stopped, the chronograph switches to the reset status.



\* The watch cannot be switched to the Chronograph mode from the Diving mode.

\* If the function hand or/and mode hand do not reset to their respective "0" positions when the watch enters the Chronograph mode or the chronograph is reset, adjust the hand(s) to the "0" position referring to section "1. Measures Against Possible Problems".

\* The mode cannot be changed while the time is being measured in the Chronograph mode. If the mode is changed while in the stop-state of the Chronograph mode, then indication is cleared.





## 1. Measures Against Possible Problems

If the solar powered watch is insufficiently charged or its battery power is considerably consumed, the watch functions are limited to a certain range and the watch warns the user of its status by various means such as abnormal indications.

To avoid such a power failure, always keep the battery sufficiently charged.

**\* One of the hands is out of the correct position.**

If a strong shock or static electricity is given to the watch by careless handling, the hands may show an incorrect indication.

- Adjust the function hand (chronograph second indicator) when it is out of the "0" position (the mode hand functions normally) in the following conditions referring to section "J. Setting Function Hand at "0" Position".
  - 1) When the watch is in the reset status of the Chronograph mode
  - 2) When the watch is set to the time adjustment mode (the crown is pulled to the second click stop position)
  - 3) When the watch is in the diving mode (standby status).
- In the case the function hand and/or the mode hand are out of their respective "0" position in other modes, adjust the hand(s) referring to section "K. All Reset/Adjusting Hand Position".

**\* The second hand jumps 2 seconds every 2 seconds.**

Note this as the insufficient charge warning that warns the user of a decline in battery power. If it occurs, immediately recharge the battery sufficiently.

\* For details, refer to section "B. Warning Functions of this Solar Powered Watch".

**\* The second hand moves irregularly every 2 seconds.**

Note this as the time setting warning that warns of incorrect time indication caused by a temporary stoppage of the watch. In such a case, sufficiently charge the battery, and then set the watch for the correct time.

\* For details, refer to section "B. Warning Functions of this Solar Powered Watch".

**\* The modes cannot be switched.**

If the battery power drops, the modes cannot be switched under the following conditions.

- \* When the function hand points to "NG", the watch cannot be switched over to the Diving mode even if the water sensor gets wet.
- \* When the watch is in the insufficient charge warning status, the mode cannot be switched over to the Chronograph mode.  
In such a case, sufficiently charge the battery.
- \* For details, refer to "B. Warning Functions of this Solar Powered Watch".

**\* The watch does not switch to the Time mode from the Diving mode (depth indication mode).**

When the user is at high altitudes or is on an airplane flight, the watch may unexpectedly be shifted to the Diving mode because of a sharp change in the atmospheric pressure (pressure change equivalent to the depth of 1 m/5 ft). If it occurs, the watch may fail to switch from the Diving mode after the user goes back to the ground level, because the depth meter function didn't reset the depth indication to "0 m (0 ft)". In addition to the aforementioned case, the watch may enter the Diving mode because perspiration or other moisture activates the water sensor.

If the depth indication is less than 4 m (15 ft), press button **(A)** for 2 seconds or more to switch to the Time mode. If the depth indication is more than 4 m (15 ft), adjust the watch according to section "K. All Reset/Adjusting Hand Position".





## K. All Reset / Adjusting Hand Position

\* The function hand continues to indicate the over-zone mark.

If the water sensor gets dirty or wet, it is activated even when the watch is not wet and the wet detection error indication (the function hand points to the over-zone mark) appears.

In case the watch falls into this status, carefully clean the water sensor part and wipe out moisture completely.

\* If careful cleaning results in failure in recovering the watch from the above-mentioned status, it is possible that the pressure sensor is faulty. In that case, immediately stop using the watch and consult the Citizen Service Center.

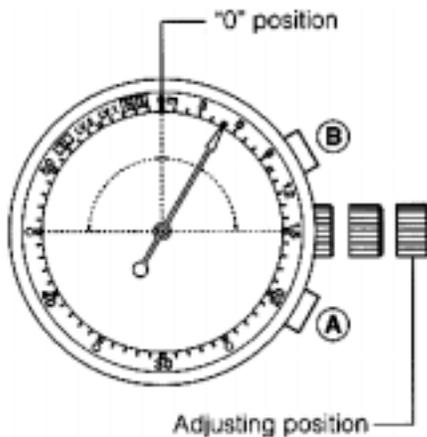
\* The watch malfunctions otherwise or shows abnormal reading.

If a strong shock or static electricity is given to the watch, the watch may come into abnormal running that is out of explanation of this instruction manual.

If the watch falls into such a status, adjust it following the instructions of "K. All Reset/Adjusting Hand Position".

## J. Setting Function Hand at "0" Position

Within +/- 15 graduations  
before/after the "0" point.



1. Set the watch to the Time mode or Chronograph mode.  
Turn the crown to loosen it and pull it out to the second click stop position.
2. Press button (A) or (B) to set the function hand to the "0" position.
3. Press the crown in to the normal position and turn it until it is tightly screwed against the case.

## The aforementioned procedure is effective only when the hand is located within  $\pm 15$  graduations before/after the "0" point. When the hand is located outside the adjustable range, correct the "0" position of the hand referring to section "K. All Reset/Adjusting Hand Position".

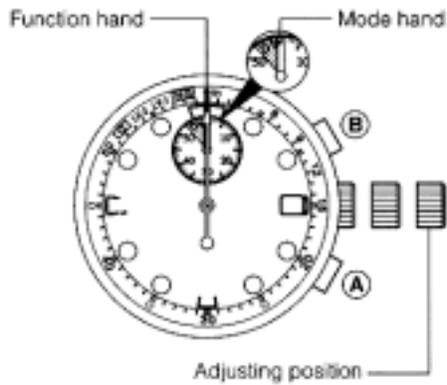
## If the watch has been left without any operation for 3 minutes or longer as the crown is pulled to the second click stop position, the function hand does not move regardless of button operation. If the watch falls into such the condition, press the crown into the normal position and make a fresh start to adjust the hand position.

## Before unscrewing and pulling out the crown, make sure that the crown is not wet.

## Automatic time correction function

If it takes 4 minutes or less to adjust the position of the function hand in the Chronograph mode, the watch automatically sets the hour, minute and second hands for the correct time immediately after the adjustment by the automatic time correction function. Therefore, if adjustment is finished within 4 minutes, the watch has no need of manual time correction. However, if the crown is turned during adjustment, the watch will not indicating a correct time. If adjustment is not complete within 4 minutes, you will need to not only adjust the "0" position of the second indicator (function hand) in the Chronograph mode but also to set the correct time.





1. Unscrew the crown and pull it out to the second click stop position.
2. Press buttons (A) and (B) simultaneously. If the function hand moves slightly, the watch is reset in whole.
3. Press button (A) or (B) to set the function and mode hands to their respective "0" positions.  
 Button (A): For adjustment Counterclockwise.  
 Button (B): For adjustment clockwise.  
 \*The function hand and the mode hand move interlocking with each other.
4. Correct the time indication by

5. Press the crown in to the normal position and screw it down tightly against the case.

As the crown is pressed into the normal position, the watch returns to the Time mode and starts running.

- \* After the watch is reset, the function hand points at "NG" position regardless of remaining battery power. Approximately 1 hour after resetting, the function hand will indicate the charge level. (While the function hand is indicating "NG", the watch cannot be switched to the Diving mode)
- \* If the ALL RESET/ADJUSTING HAND POSITION fails in clearing away the trouble, consult the Citizen Service Center about the trouble.

## 5.RELATIONSHIP BETWEEN CHARGE LEVEL INDICATION AND RUNNING PERIOD OF WATCH

[LV2 on the charge level indicator (function hand) indicates that charging is completed. (The rechargeable battery is at full charge)]

The charge level indication (function hand) indicates the charge level of the battery with three marks of LV.1, LV.2, and NG.

The relationship between these levels and the running period of the watch is shown below. After the battery is fully charged, LV.1 is indicated for about one month in which the watch can be used for diving.

If the battery is fully charged, function hand indicates LV.2. In several hours - one day after charging is stopped, the scale indicates LV.1 again. (The time when LV.2 changes to LV.1 after the battery is fully charged depends on the intensity of the light used for charging and the length time taken to charge the battery fully.)

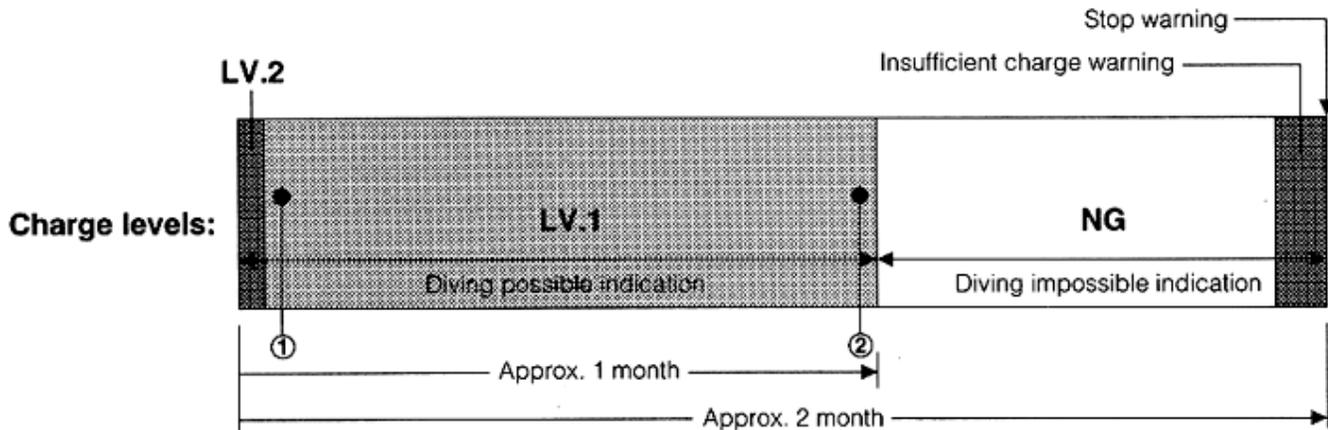
Then, function hand keeps indicating LV.1, then indicates NG to inform that the watch cannot be used for diving.





### <Remark>

As explained above, LV.1 indicates the range from condition (1) that the battery is almost fully charged and the watch can be used for diving sufficiently to condition (9) that the watch can be used for at least "one diving about one hour long" and NG appears soon. Accordingly, the condition of LV.1 is explained as the condition that "the watch can be used for one diving about one hour long" on the instruction manual (explanation of the charge level indication), considering the safety and assuming the worst condition.



## 6. NOTE ON ECO DRIVE RECHARGEABLE BATTERY

The rechargeable battery used in this watch is a clean energy battery that incorporates no toxic substance such as mercury inside. The secondary battery has no need of periodical replacement because it is capable of repeated charging and discharging.

## 7. PRECAUTION FOR DIVING

Be sure you fully understand the precautions on use of this watch and how to use it in advance.

### <Before using this watch for diving>

- \* For using this watch as an auxiliary depth gauge, the user must not only receive general training and instructions in diving but also follow various rules.
- \* The user should not use this watch without a good knowledge and understanding of the proper way to handle and operate it and the precautions on it. If this watch is improperly used, it may result in malfunction or breakdown of the watch.

### <Regarding the depth meter function>

- \* Since the depth meter function of this watch **is not approved** as an official depth gauge, use this function as an auxiliary means to measure a depth.
- \* Read the depth meter indication of this watch as a rough guideline.





### <For safe diving>

- When diving, obey the rules of the buddy system\* every time.
  - For safety, it is advised that you enjoy sports diving in the depths around 20 m (60 ft).
  - Before diving with this watch, fully charge the battery without fail. When the battery is not sufficiently charged (the function hand points at "NG"), the depth meter function cannot be used. If battery power declines considerably during diving, the depth meter function to measure depth is discontinued.
  - After diving, take a good rest following safety rules. If you take a plane or move to a high place without a sufficient rest after diving, you may suffer from decompression sickness (caisson disease).
- \* Buddy system means that two divers pair with each other for safe diving

### <Circumstances that prohibit use of this watch in diving>

**DO NOT use this watch for diving under the following circumstances.**

- ⚡ When the function hand indicates "NG" on the charging level index.  
When the function hand indicates "NG" on the charging level, the watch will not measure the depth. If the function hand points at "NG" on the charging level during diving, immediately stop using the depth meter function of the watch since the watch discontinues depth measurement in this condition.
- ⚡ When the watch stops running or malfunctions. (Be careful not to knock the watch against hard things such as diving apparatus, rocks, etc.)
- ⚡ When the water temperature is out of the guaranteed range for measuring depth. The accuracy of the depth meter function is guaranteed under the condition that water temperature is between + 1 0'C and +40'C (50'F and 104'F).
- ⚡ For the purpose of knowing a risk of a behavior or situation.  
This watch is not designed to serve as a drowning prevention instrument or an emergency instrument.
- ⚡ In the environment filled with helium gas (saturated diving, etc.).  
Use of the watch in such conditions may cause failure or breakdown of the watch.

### <During diving>

- ⚡ Avoid quick ascending, otherwise you may suffer from submarine sickness or a functional disorder in some way. Whenever you ascend in water, carefully keep a safe speed.
- ⚡ Don't disturb any push buttons or the crown except button (B) (for knowing the memorized maximum depth) throughout the dive, otherwise the watch may fail in water-resistance.

### <After diving>

- ⚡ After confirming that the crown is screwed down tightly, wash out seawater, mud, sand, etc. sticking to the watch, with fresh water. Then, wipe off water and moisture with a dry soft cloth.
- ⚡ Neither remove the sensor cover nor pick at it with a sharp-point in order to remove particles of dust, etc. collected in the sensor. If the sensor part is packed with dust, etc., wash it out with fresh water. In case it is difficult to wash out dust, consult the nearest Authorized Citizen Service Center about the trouble.





**<Regarding diving at high altitudes or in fresh water>**

- ⚠ If you intend to use this watch for diving in a high place or in fresh water, be sure to have a special education in safe diving beforehand.
  
- ⚠ Don't use the depth meter function of this watch in a high place 4,000-m (13,120-ft) or more above sea level, because the watch gives incorrect measurement of depth in such a place.
  
- ⚠ This watch indicates a depth based on the specific gravity (1.025) of seawater. Therefore, if the watch is used in fresh water, the real depth is 2.5% less than the indication of the watch. Example: 20 m (65 ft) (indicated depth) x 1.025 = 20.5 m (67 ft) (real depth)

When the watch is shifted to the dive mode, the pressure sensor regards the ambient pressures as that on the sea level (0m/0ft in depth or altitude) If the watch is shifted to the dive mode in a high place, it regards the pressure on the surface of the water as that on seal level (0m/0ft in depth/altitude). In short, the watch always regards the surface of the water as that of sea level (0m/0ft) except in a place 4,000m (13,120ft) or more above sea level. Therefore you are advised **NOT TO** use the depth meter function of this watch at high altitudes for the reason that the watch will give inaccurate measurement in depth.



# PRECAUTIONS ABOUT CARE AND HANDLING OF WATCHES

## TEMPERATURE CARE

Avoid temperature extremes. Exposing your watch to high temperatures, such as placing it on the dashboard of a vehicle or use in a hot tub, may cause the watch to malfunction, shorten battery life or damage certain components. Leaving the watch in extreme cold temperatures may cause irregular timekeeping until the watch returns to normal operating temperature.

## SHOCK-RESISTANT

The watch may be worn while playing golf or other activities, but avoid severe shocks such as dropping it on a hard surface.

## MAGNETIC-RESISTANT

No problem should occur from using the watch around ordinary household electric appliances such as TV sets or stereos. Keep away from magnets.

## CHEMICAL/GAS RESISTANT

Do not expose the watch to chemicals or gases for long periods.

## WATCH CLEANING

Stains, waterspots and accumulated dirt on the case, crystal or band should be removed with a soft cloth to prevent damage and premature wear.

## HANDLING OF WATER-RESISTANT WATCHES

Although water-resistant watches are warranted, steps should be taken to avoid damage that may result from accidents or mishandling:

- Do not operate the crown or push-button in the water or while the watch is wet. Tighten screw lock crown completely.
- Should the watch become immersed in water, dry it off right away. If the watch comes in contact with salt water, be sure to rinse it thoroughly in warm fresh water to remove any trace of salt.
- If a watch is wet from cleaning or by accident, never store it in a closed container. It should be dried immediately or taken to a watchmaker or jeweler if moisture is inside the case to prevent damage from rust.
- Vital components necessary to resist the entrance of moisture deteriorate with time and use. Gaskets, crowns and other materials should be replaced every year or two to ensure

that water resistant quality remains at factory specifications.

## CARE FOR METAL BRACELETS

To extend the life and maintain the good appearance of the metal watch bracelet, the following recommendations are given:

- Be aware that since the watch and bracelet is worn next to the skin, it collects dust and perspiration and becomes soiled if not cleaned regularly. This is particularly true of the inner parts of the links or mesh of the bracelet.
- Soil and rust, when present in a bracelet, are dissolved by perspiration and can cause staining of cuffs and irritation of the skin in some instances.
- Heavy perspiration should be wiped off the watch and bracelet with a soft dry cloth. The bracelet should be cleaned occasionally by using an old toothbrush and warm soapy water after which the soap is thoroughly rinsed with clear water and the bracelet dried completely. The foregoing manner of cleaning should not be done if the watch is not water-resistant but should instead be done by your jeweler.

## CARE FOR STRAPS

### LEATHER

- Heavy perspiration, if not removed from a leather strap, can wash out the natural oils and cause the leather to become dry and deteriorate. Any moisture should be blotted with a soft dry cloth or paper towel and the strap allowed to dry naturally.
- Salt residue and soil can be removed from the leather by cleaning with a dampened soft cloth and mild soap or saddle soap.
- Occasionally, the inside surface of the strap should be cleaned by using a soft cloth dampened with alcohol.
- The strap should always be worn a little loosely (one finger space between wrist and strap) to allow air to circulate thus causing any moisture to evaporate.

### RUBBER

- Rubber straps should be washed frequently with mild soap and warm water using a soft brush.
- Thorough cleaning, using the same method, should especially be done after use in salt water.
- Solvents, oils, perspiration, tanning lotion and salt can cause rubber to deteriorate if not removed.

Marking on the Dial	Marking on the Caseback	 Face washing, splashes, sweat, raindrops, etc.	 Swimming	 Skin diving (diving without air tanks)	 Scuba diving (diving with air tanks)	Water-resistant characteristics
NONE	NONE	NO	NO	NO	NO	Non water-resistant watch and must be kept away from water.
NONE	WATER RESIST	OK	NO	NO	NO	An ordinary water-resistant watch and can withstand splashes, sweat, rain-drops and etc. for daily life use.
WR100M WR10bar WR150M	WATER RESIST	OK	OK	OK	NO	For frequent use with water. It is not specially designed for scuba diving.
WR200M	WATER RESIST	OK	OK	OK	OK	For skin and scuba diving. Usable up to the respective indicated depths.

See instruction book for further information



The water-resistant quality of our timepieces is offered in varying degrees depending on the model. This ranges from non-water resistant models to those suitable for SCUBA diving. Water resistance of our timepieces is measured in BAR or Barometric Pressure. Each BAR of pressure is equal to 14.5 pounds per square inch of pressure.

Water resistance is measured when the watch is at a static, or motionless state. As the watch is moved in water, such as from the motion of swimming, pressure is added from velocity. While you may be swimming in a pool at surface level, the watch may be experiencing forces equal to that of 100 feet of water pressure (3 BAR). Diving into a pool can cause forces on the watch to exceed those pressures. As such, you should always allow a margin of safety when exposing your watch to moisture. Never "push the limit" of the degree of water resistance of your timepiece.

A primary factor to keep in mind about water resistance is that periodic maintenance is needed to maintain original factory specifications for water resistance. When a watch is new, it meets specifications for water resistance as indicated on the case back. However, as the watch ages, the gaskets that seal the watch become dry and brittle, diminishing its water resistant quality. Exposure to environments such as chlorinated pools, salt water or soaps from showering can accelerate drying of the gaskets. We recommend that the gaskets be changed at least every 18 to 24 months to maintain the water resistant quality of your timepiece. If the watch is frequently exposed to chlorinated pools, soaps salt water, etc., we recommend that the gaskets be changed on a yearly basis.

From time to time, you may notice condensation that appears then goes away after a short period of time. This is a normal occurrence and happens primarily from sudden temperature changes. When there are sudden temperature changes such as entering a cool building from the hot out of doors, or jumping into pool on a hot day the watch may fog. Conversely, if you go to the cold outdoors from a warm building, fogging may occur. As long as the fogging clears in a short period of time, there is no need for concern.

Be sure the crown is completely pushed in prior to any contact with moisture. If your model is equipped with a screw down crown, be sure it is properly seated against the case. Do not operate the crown or any push button when the watch is wet as this may allow the entrance of moisture. If at anytime, you notice moisture in your timepiece that does not clear in a short period of time, you should send your timepiece as soon as possible to the nearest Authorized Service Center for inspection.

You can determine the level of water resistance of our watches from the markings on your case-back. Additionally, models that are water resistant to 100 or 200 meters have an indication on the dial as well. The case-backs and dials are normally marked as follows:

**The case back has no indication of water resistance**

This indicates the watch is a non water-resistant model and is not designed for contact with moisture at all. Caution should be exercised to avoid any contact with moisture, such as when washing your hands or from a rainstorm.

**"Water Resist"**

This watch is designed to withstand water from accidental splashing, such as from washing your hands or rain. Any submersion into water may result in the entrance of moisture.

**"Water Resist 10BAR" or "W.R. 10BAR", Dial marked "WR100"**

This watch is designed to withstand water pressure up to 333 feet. This includes water exposure from accidental splashing and rain, but also from showering, swimming in a pool and snorkeling. Be sure to rinse the watch with fresh water after exposure to a chlorinated pool, salt water, soaps, etc. After rinsing with fresh water, be sure to dry the exterior with a soft cloth.

**"Water Resist 20BAR" or "W.R. 20BAR", Dial marked "WR200"**

This watch is designed to withstand water pressure up to 666 feet. This includes all exposure to water up to and including recreational SCUBA diving. Be sure to rinse the watch with fresh water after exposure to a chlorinated pool, salt water, soaps, etc. After rinsing with fresh water, be sure to dry the exterior with a soft cloth.

**Special Note about Jacuzzis and Hot Tubs**

The various components used in the manufacture and assembly of your watch expand at various rates. This results in a loss of the sealing capabilities of gaskets, which may allow moisture to enter. In addition, heat from these sources can cause deformation of certain materials leading to mechanical failures. For these reasons, you should remove your watch before entering a hot tub or Jacuzzi.

