

## Setting Instructions for Movement Caliber E810

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#### 1. FEATURES

This watch is a solar-powered watch that contains a solar cell in its face that drives the watch by converting light energy into electrical energy. It is equipped with numerous functions including a full-auto calendar that changes the date automatically (day, month and year change automatically through February 28, 2100 including leap years), a daily alarm function that can be set based on a 24-hour clock, and a chronograph function that allows measurement of time in 1120 second units up to 59 minutes, 59.95 seconds.

#### 2. SPECIFICATIONS

Movement Caliber Number		E810			
Accuracy		Within +/- 15 seconds per month (when worn at normal temperatures of $5^{\circ}C$ to $35^{\circ}C/(41^{\circ}F$ to $95^{\circ}F$ )			
Operating temperature range		Watch operating temperature range:5°C +35°C (41°F to 95°F) Power save feature operating temperature range: 10°C to +35°C (14°F to 95°F)  Time correction operating temperature range: 5°C to +60°C (23°F to 140°F)			
	Time	24 Hours, Hours, Minutes and Seconds			
Display Calendar function  Additional Functions		Date display by a date wheel (with continuous advance function) Month display by second hand Year display by function hand (years elapsed from most recent leap year)  • Power Save Feature • Insufficient recharging warning device • Time setting warning feature • Overcharging prevention feature • Chronograph (60 minute measurement, 1/20 <sup>th</sup> second units			
		<ul> <li>Local time (time difference correction: 1 hour)</li> <li>Alarm (24hr clock, alarm monitor, alarm ON/OFF)</li> </ul>			
Continuous running times		Fully charged to stopped: Approximately 9 months (while operation of power save feature) 2-second interval movement to stopped: Roughly 5 days (roughly 2 days in the case the hands have been moved to switch the time when the insufficient charging warning feature is activated.)			
Battery		Eco Drive rechargeable Manganese Titanium battery. Not user replaceable			



#### BEFORE USING

This watch is a solar-powered watch. Before using this watch, expose its solar cell to light sufficiently to charge its rechargeable battery. If this watch has stopped running because of insufficient charge of this rechargeable battery, recharge this battery by exposing the solar cell to strong light such as the sunlight.

A rechargeable battery is used in this watch to store electrical energy. This rechargeable battery is a clean energy battery that does not contain mercury or other toxic substances. Once fully charged, the watch will continue to run for about 9 months without additional charging (when the power save feature is operating). This rechargeable battery is not a user replaceable item.

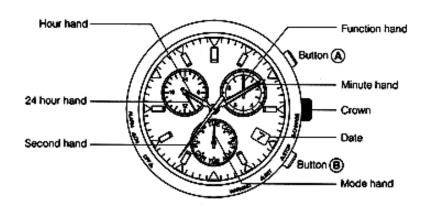
#### • Power Save Feature

When power generation stops as a result of light not shining on the solar cell during the time display or local time display, the second hand stops at the 12:00 position and only the hour and minute hands move to save power. When light once again begins to shine on the solar cell, the second hand advances rapidly to the current seconds and returns to moving at one second intervals. If light (several tens of luxes) does not shine on the solar cell for continuous 15 seconds (this period depends on the design, however) and the second hand comes to the 12:00 position, the watch enters the power save mode.

#### <How to Use This Solar-Powered Watch Properly>

To use this watch comfortably, make sure to recharge it before it stops running completely. Since there is no risk of overcharging (Overcharging Prevention Feature), it is recommended that the watch be recharged everyday.

#### 4. NAMES OF COMPONENTS

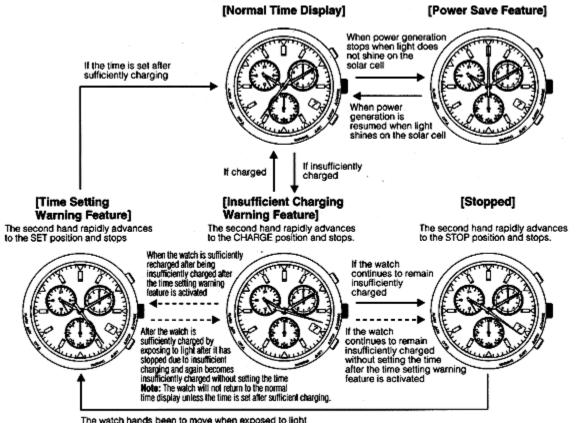




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#### 5. FUNCTIONS UNIQUE TO SOLAR-POWERED WATCHES

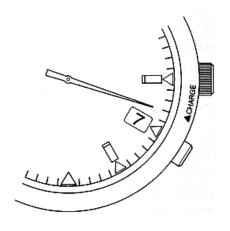
When the watch becomes insufficiently charged, the following warning features will be activated to inform the wearer that the watch is insufficiently charged.



Note: A minimum of 30 minutes are required for the watch to switch to the time setting warning feature display even after the watch is sufficiently exposed to light once the watch has stopped due to insufficient charging.

#### <Insufficient Charging Warning Feature>

Regardless of the display of the watch at the time, when the watch becomes insufficiently charged, the watch changes to the time display and the second hand moves to the CHARGE position to inform the wearer that it is insufficiently charged. After the second hand moves to the CHARGE position, the watch changes to the time display in the order of the 24-hour hand, hour hand, minute hand and date wheel (function hand). Although the watch continues to keep time accurately at this time, the watch stops after about 5 days have elapsed (roughly 2 days in the case the hands have been moved to switch the time when the insufficient charging warning feature is activated).



When this happens, charge the watch by exposing to light so that it returns to one-second-interval movement. However, since the time is incorrect when the watch is exposed to light and changes to the insufficient charging warning display after it has stopped due to insufficient charging, set the time after sufficiently charging the watch.

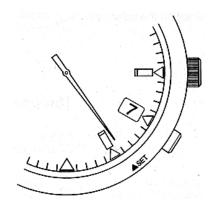


#### Notes:

- Chronograph measurement stops and the chronograph is reset even when measurement is in progress.
- The set time (time difference) is retained for the local time.
- The alarm will not sound even if it is set.
- Crown (mode switching) and button operations will not function.

#### <Time Setting Warning Feature>

When the watch is recharged by exposing to light after it has stopped, the second hand moves to the SET position to inform the wearer that the time is incorrect. Although the 24-hour hand, hour hand and minute hand will begin to move after the second hand moves to the SET position, since the time is incorrect, reset the time and date after sufficiently charging the watch.



#### Notes:

- Crown and button operations will not function except for time and calendar setting operations.
- When the crown is pulled out to position 2 (time correction position) in the time or date setting mode, the time setting warning feature is canceled. The second hand will remain stopped at the SET position unless the crown is pulled out to position 2 and the time is set.
- In the case the watch has stopped due to insufficient charging, a minimum of 30 minutes are required until the watch changes to the time setting warning display even if sufficiently exposed to light.

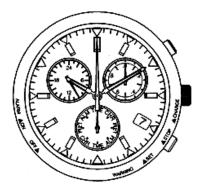
#### <Overcharging Prevention Feature>

The overcharging prevention feature is activated when the secondary battery is full charged so that it is not charged further.

#### <Power Save Feature>

When power is no longer generated as a result of light not shining on the solar cell when the watch is in the time/calendar mode or local time mode, the second hand moves to the 0 seconds position and stops to save power by reducing current consumption.

The 24-hour hand, hour hand and minute hand continue to keep the correct time even though the second hand is stopped. Furthermore, the calendar is corrected in coordination with the 24-hour hand, hour hand and minute hand.



During normal hand movement, when power generation is resumed after the second hand stops at the 0 seconds position, the second hand is rapidly advanced to the correct seconds and begins one-second interval movement. However, when the insufficient charging warning feature has been activated, the second hand moves to the CHARGE position and stops, and when the time setting warning feature has been activated, it moves to the SET position and stops. When the watch has stopped, the second hand moves to the STOP position and remains stopped.

Note: During the time the rechargeable battery is fully charged and the overcharging prevention feature is operating, the power save feature does not operate even when power generation is interrupted as a result of not exposing the solar cell to light. Similarly, the power save feature will also not operate when the secondary battery has temporarily become fully charged as a result of exposure to intense light.





#### GENERAL REFERENCE FOR CHARGING TIMES

The time required for recharging varies according to the model of the watch (color of the dial, etc.). The following times are shown below to serve only as a reference.

Recharging time refers to the amount of time the watch is continuously exposed to light.

**Charge Rates from Indoor Light Source** 

Indoors, Office		Fluorescent at 6" Distance			
(500 lux)			Incandescent at 20" Distance (3000 lux)		
One Day	One Second	Full	One Day	One Second	Full
<u>Use</u>	<u>Step</u>	<u>Charge</u>	<u>Use</u>	<u>Step</u>	<u>Charge</u>
2.5 Hours	48 Hours	338 Hours	11 Minutes	7 Hours	43 Hours

**Charge Rates from Outdoor Light Source** 

Outdoors Cloudy (10,000 lux)		Outdoors Bright Sun (100,000 lux)			
One Day	One Second	Full	One Day	One Second	Full
Use	<u>Step</u>	<u>Charge</u>	<u>Use</u>	<u>Step</u>	<u>Charge</u>
5 Minutes	2.5 Hours	12 Hours	1.5 Minutes	1 Hours	4 Hours

Full recharging time: Time required for recharging the watch from the stopped state to fully charged.

Charging time for 1 day of operation: Time required for recharging the watch to run for 1 day at 1-second interval movement.

#### 7. NOTES REGARDING HANDLING OF THIS WATCH

#### <Try to keep the watch charged at all times.>

Please note that if you wear long sleeves, the watch can easily become insufficiently charged as a result of it being concealed and unable to be exposed to light. When you take the watch off, try to place it in as bright a location as possible to ensure that it always keeps the correct time.

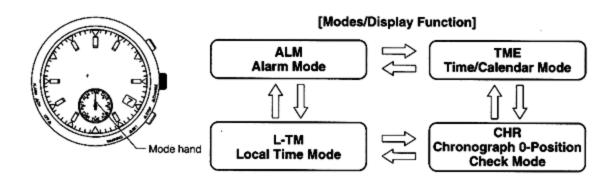


#### /!\ CAUTION Charging Precautions

- Avoid recharging at high temperatures (over about 60'C/140'F) since this may result in damage to the watch during recharging. Examples: Charging the watch in close proximity to an incandescent lamp, halogen lamp or other light source that can easily reach high temperatures, charging the watch in a location that reaches high temperatures such as on a car dashboard.
- When charging the watch with an incandescent lamp, always make sure the watch is at least 50cm (20in.) away from the lamp so that it does not reach excessively high temperatures during charging.

#### 8. SWITCHING THE MODE (DISPLAY FUNCTION)

This watch is equipped with four modes consisting of time/calendar, chronograph, local time and alarm. Since the mode changes when the crown is turned, the current mode can be confirmed with the mode hand.



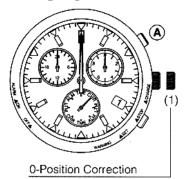
#### 9. HAND O-POSITION CHECK AND CORRECTION

Before using this watch, check that the functions of the watch operate properly by performing the following procedure.

**O-Position:** This refers to the base position of each hand that enables the watch to function properly.

#### [0-Position Check]

- 1. Turn, the crown to switch the watch to the chronograph [CHR] mode.
- 2. Pull the crown out to Position 1 to check the 0-position (function hand and date wheel correction mode.) Confirm that the 24-hour hand, hour hand, minute hand, second hand and function hand rapidly advance to the 0 position, and the date wheel displays " 1 ".



0 Positions of each Hand (Base Positions)

**24-hour hand:** 24:00

Hour hand, minute hand: 00:00

Second hand: 00 seconds

Function hand: 0 position (12:00 position)

Date wheel: 1st

Perform the "0-Position Correction" when
the hands and date wheel are not at the

positions indicated above

#### [0-Position Correction]

#### O-Position Correction of Function Hand and Date Wheel:

- 1. Pull the crown out to Position 1 in the chronograph [CHR] mode to correct the function hand and date wheel.
- 2. Click (turn) the crown to the left to align the date wheel.
- (1) Clicking the crown once causes the function hand to make four revolutions and the date to be corrected by one day.
- (2) Turning the crown rapidly (clicking continuously two or more times) causes the function hand to advance continuously. When stopping the functions hand, click the crown once to the right or left. When the function hand is not stopped manually, it stops automatically after advancing 31 days.

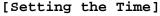
The 12:00 position immediately after the date changes to the "1st" in the 0 position of the function hand. After correcting the date wheel to the "31st" by turning the crown, press button (A) to finely correct the function hand so that the function hand is aligned at the 0 position after the date wheel changes to the "1st".



#### O-Position Correction of 24-Hour Hand, Hour Hand, Minute Hand and Second Hand:

- 1. Pull the crown out to Position 2 in the chronograph [CHR] mode to correct each hand.
- 2. Pressing button (A) causes the second hand to be corrected by one second at a time each time it is pressed. Continuously pressing button (A) causes the second hand to advance rapidly.
- 3. Clicking the crown allows correction of the 24-hour hand, hour hand and minute hand.
  - (1) Clicking the crown once to the right causes the hour and minute hands to move clockwise.
  - (2) Clicking the crown once to the left causes the hour and minute hands to move counter-clockwise.
    - Turning the crown rapidly (clocking continuously two or more times) causes the hands to advance rapidly. When stopping the hands, click the crown once to the right or left. When the hands are not stopped manually, they stop automatically after being corrected by 12 hours.

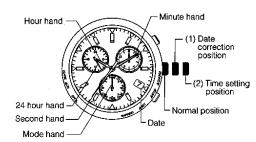
#### 10. SETTING THE TIME AND DATE



- Turn the crown and align the mode hand at the time/calendar [TME] mode.
- 2. When the crown is pulled out to Position 2 (time setting position), the second hand rapidly advances to the 0 seconds position and stops

Note: When the second hand does not stop Second hand does not stop at the O seconds position, reset the base position in the "O-Position Correction Mode"

Note: If the crown is pulled out to Position 2 when the date is changing, the date wheel and function hand stop at the time, and are then advanced by the remaining amount after the second hand is rapidly advanced to the 0 seconds position.

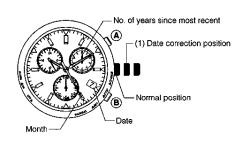




- 3. Click (turn) the crown to set the time.
- (1) Clicking the crown once to the right causes the 24-hour hand, hour hand and minute hand to move in the clockwise direction.
- (2) Clicking the crown once to the left causes the 24-hour hand, hour hand and minute hand to move in the counter-clockwise direction.
  - Turning the crown rapidly (continuously clicking two or more times) causes the hands to advance rapidly. When stopping the hands, click the crown once to the right or left. When the hands are not stopped manually, they stop automatically after being corrected by 12 hours.
- 4. Return the crown to the normal position in synchronization with a telephone time signal or other time service.

#### [Setting the Date]

The calendar function of this watch is a full-auto calendar that changes the year, month and date automatically, including leap years.



- Turn the crown to switch the watch to the time/calendar (TME) mode.
- When the crown is pulled out to Position 1 (date correction position), the second hand rapidly advances to the month display position stored in memory, while the function hand moves to the year display position (number of years elapsed since the most recent leap year), after which both stop.

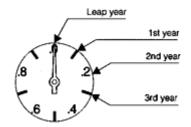
Note: If the crown is pulled out to Position 1 when the date is changing, the second hand advances rapidly after the date changes

- 3. Click (turn) the crown to the left to set the date.
  - Clicking the crown once to the left causes the function hand to make four revolutions and the date to be corrected by one day.
  - Turning the crown rapidly (continuously clicking two or more times) causes the hand to advance continuously. When stopping the hand, click the crown once to the right or left. When the hand is not stopped manually, it stops automatically after being advanced 31 days.
- 4. Pressing button (A) allows correction of the year (number of years elapsed since the most recent leap year.

Press button (A) and align the function hand at the position corresponding to the year (number of years elapsed since the most recent leap year).

Interpretation of Year/Position of Function Hand\*

Leap year.....0 minutes position 1 year after most recent leap year.....6 minutes position 2 years after most recent leap year.....12 minutes position 3 years after most recent leap year.....18 minutes position



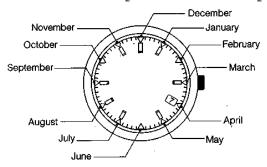
Quick Reference Table for No. of Years Since Most Recent Leap Year:

Year Years elapsed		Year	Elapsed years	
2000	Leap year	2004	Leap year	
2001	1st year	2005	1st year	
2002	2nd year	2006	2nd year	
2003	3rd year	2007	3rd year	





5. Pressing button (B) allows correction of the month. Press (B) and align the second hand at the position corresponding to the month.



# \*Interpretation of Month/Position of Second Hand\*

January: 1:00

February: 2:00 position

:

December: 12:00 position

6. Return the crown to the normal position after setting the date. The watch will resume keeping time once the second hand catches up to the current seconds.

#### <When the Calendar has been Set to a Non-Existent Date>

When the crown is returned to the normal position from the date correction mode, the watch switches to the 1st day of the following month.

Example: February 29, 30 or 31 in an ordinary year

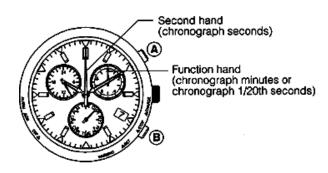
-▶ March 1

February 30 or 31 in a leap year

#### -▶ March 1

#### 11. USING THE CHRONOGRAPH

The chronograph is able to measure time up to a maximum of 59 minutes 59.95 seconds in 1/20th second units, after which it resets to 0 seconds.



## [Explanation of Hands During Chronograph Measurement]

When the crown is turned and the mode hand is set to the chronograph [CHR] mode, the second Hand and function hand are rapidly advanced to (chronograph minutes or the 0 position and the watch enters the chronograph mode.

#### Second hand:

Switches to the chronograph second hand. The second hand advances rapidly and makes one revolution only when starting at 0 seconds, after which it moves in 1-second increments to measure chronograph seconds.

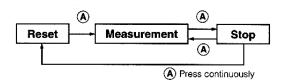
#### Function Hand

Switches to either chronograph minutes or chronograph 1/20th seconds. The function hand moves in one-minute increments to measure chronograph minutes. When button (B) is pressed when the chronograph is stopped, the function hand switches to 1/20th seconds display during time button (B) is pressed.

#### Note: 24 hour hand, Hour hand, minute hand, date wheel:

- Continue to display the current time when the watch has been switched from the time/calendar mode.
- Continues to display local time when the watch has been switched from the local time mode.
- Continues to display the alarm set time when the watch has been switched from the alarm mode.

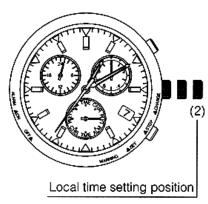
#### [Chronograph Measurement]



- 1. Turn the crown to set the mode hand to the chronograph [CHR] mode.
- 2. Press button (A) to start and stop the chronograph. A confirmation tone is heard whenever button (A) is pressed.
- 3. Continuously pressing button (A) when the chronograph is stopped causes the chronograph second hand and chronograph minute hand to be reset to the 0 position

#### 12. SETTING LOCAL TIME

The local time function allows the time in a different time zone to be set separately from the current time. Local time is set by performing a time difference correction in 1-hour units based on the current time (time of the time mode/TME). The minute and second hands move in coordination with the current time.



#### [Time Difference Correction Procedure]

- 1. Turn the crown to set the mode hand to the local time [L-TM] mode.
- 2. Pull out the crown to Position 2 (local time setting position).
- Click the crown to the right or left to correct the time difference.
  - When the crown is clicked to the right, the hour hand moves by I hour in the clockwise direction.
  - When the crown is clicked to the left, the hour hand moves by 1 hour in the counter-clockwise direction.

**Note:** The hour hand is not advanced rapidly even if the crown is continuously clicked two or more times. Perform correction accurately I hour at a time. Furthermore, the range of time difference correction is  $\pm\ 23$  hours based on the current time.

4. Always make sure to return the crown to the normal position after correcting the time difference.

Note: If the hour hand passes 12:00 AM (midnight) during correction, the date is advanced by I day following completion of hand movement. If the time difference is corrected in the counter-clockwise direction and the hour hand passes back over 12:00 AM, although the date is corrected following completion of hand movement, since the date is corrected by 30 days in the clockwise direction, it takes about 2-3 minutes for the date to be corrected. Pay attention to AM and PM when correcting time difference.

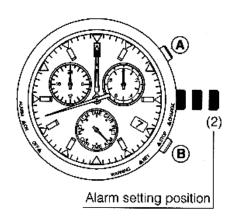
**Note:** When returning the time difference to original setting, return the hour hand in the direction opposite that when the time difference was corrected.



## $\blacksquare$

#### 13. USING THE ALARM

The alarm function uses a 24-hour clock. Once the alarm has been set, the alarm sounds for 15 seconds when the set time is reached once a day. The time at which the alarm sounds applies to the time (TME) mode, and cannot be set based on the local time (L-TM).



## [Setting the Alarm Time]

- 1. Turn the crown and set the mode hand to the alarm [ALM] mode.
  - Second hand: Moves rapidly to the ON or OFF position.
  - 24-hour hand, hour hand, and minute hand: Move the previously set alarm time.
  - Function hand: Stops at the O position.
- 2. Pull out the crown to Position 2 (alarm setting position).
  - The alarm setting is turned ON automatically.
- 3. Click (turn) the crown to set the alarm time.  $\phantom{a}$
- (1) Clicking once to the right causes the hour and minute hands to move clockwise.
  - (2) Clicking once to the left causes the hour and minute hands to move counter-clockwise.
    - Turning the crown rapidly (continuously clicking two or more times) causes the hands to advance rapidly. When stopping the hands click the crown once to the right or left. When the hands are not stopped manually, they stop automatically after being corrected by 12 hours.
    - Set the alarm while making sure not to mistake AM and PM by referring to the 24 hour hand.
- 4. Return the crown to the normal position after setting the alarm time.

#### [Switching alarm ON and OFF]

The alarm is switched ON and OFF each time button (A) is pressed when the crown is pulled out to Position 1 or Position 2 in the alarm mode.

#### [Alarm Tone Monitor]

When button (A) is pressed with the crown in the normal position in the alarm mode, the alarm tone sounds for as long as button (A) is pressed.

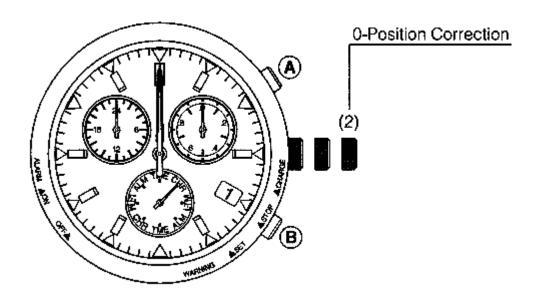
#### [Stopping the Alarm Tone]

Press either button (A) or (B) to stop the alarm tone while it is sounding.



#### 14. ALL RESET

This watch may not function properly as a result of being subjected to the effects of static electricity or strong impact and so forth. When this happens, set the hands of the watch to their respective base positions according to the following procedure after performing the all-reset procedure.



When performing the all-reset procedure, first make sure that the watch is fully charged and the second hand is moving in one-second increments. If the all-reset procedure is performed when the watch is insufficiently charged, it may not function properly or remain stopped following the all-reset procedure.

- 1. Turn the crown to set the mode hand to the chronograph [CHR] mode.
- 2. Pull out the crown to Position 2 (0-position correction mode). Each of the hands and date wheel moves to their respective 0 positions stored in memory and then stop.
- 3. Press buttons (A) and (B) simultaneously and then release.
  - Following a confirmation tone, each of the hands perform a demonstration movement in the order of the function hand, 24 hour hand, hour hand, minute hand and second hand to indicate that the all-reset procedure is finished.

#### Note:

Following the all-reset procedure, make sure to properly reset each mode after performing 0-position correction for each hand before using the watch. The watch will remain stopped and not run unless 0-position correction is performed.

# 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	ОК	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	ок	ОК	ОК	NO	For frequent use with water. It is not specially designed for scuba diving.
WR200M	WATER RESIST	ок	ОК	ОК	ОК	For skin and scuba diving. Usable up to the respective indicated depths.

See instruction book for further information



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#### Water Resistance

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.