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**Notice**  
 All repairs performed on this watch are to be performed at the CITIZEN. When desiring to have your watch repaired or inspected, please contact the Citizen Service Center either directly or through the store where you purchased your watch.  
 Proper maintenance can only be received in the country where your watch was purchased.

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## 1. Features

This watch is a solar-powered watch that incorporates a solar cell under its face that drives the watch by converting light energy into electrical energy. It is provided with the following features.

- (1) Chronograph function..... Capable of timing for up to 12 hours in 1/5-second units
- (2) Charge indicator function... Indicates the charged level of the secondary battery at one of four levels
- (3) Moon phase indicator

## 2. Before Using

To ensure that you can easily use the watch at any time, always try to store it in a bright location. Charge your watch periodically under direct sunlight or other light source while storing by exposing the solar cell (watch face) to light as described in section 9, “General References for Charging Times”. Once fully charged, the watch will continue to run for about 10 months without additional charging.

If the watch will not be used for an extended period of time, it is recommended that you charge it before storing until the charge indicator hand is pointing to at least level 3.

## 3. Cases Treated with Duratect

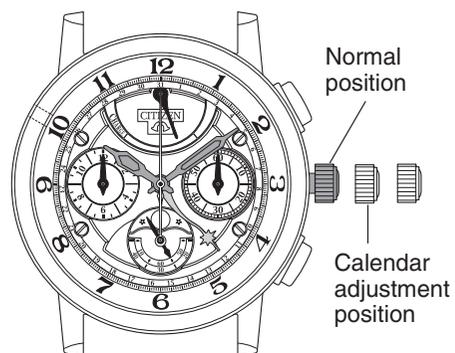
This product features a Duratect finish – Citizen’s exclusive surface hardening technology. The Duratect surface is about 5 times harder than stainless steel for providing superior wear resistance. This material protects the watch from scratches and maintains its natural attractiveness and luster for a long time. (Gold parts are excluded)

Note: Please note that the watch may become scratched when scratched with hard objects or subjected to strong impacts. In addition, this DURATECT coating is not provided on certain parts of the watch (namely, the back cover of the case and the band buckle).

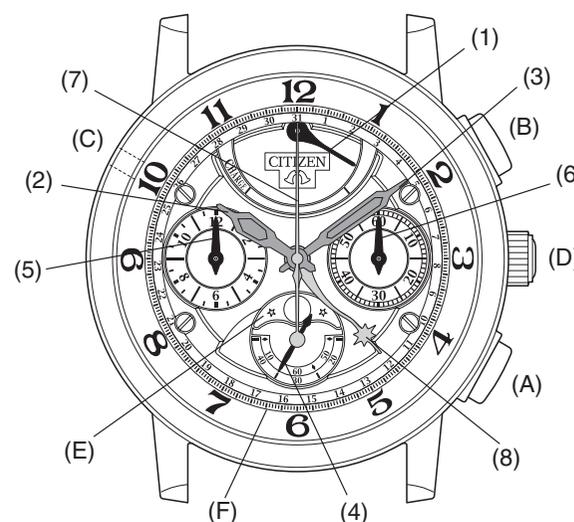
★Products that have been treated with DURATECT are stamped with the word, “Duratect”, on the back of the watch.

## 4. Operating the Crown

- If the crown of your watch is a **screw-lock**, first turn the crown counter-clockwise to loosen the screw locking mechanism before operating the crown. When you are finished operating the crown, return it to its normal position, and then turn the crown clockwise while pushing it in and tighten firmly. Be careful that the screw locking mechanism is tightened properly, as otherwise this could result in bending of the crown, incorrect time, or poor water resistance.
- After you have finished setting the time and performing other operations, be sure to push the crown back into its normal position (0 seconds position). If the crown is not pushed all the way in, it may stop at the calendar adjustment position. Using the watch with the crown in this position can cause the date to change inadvertently or damage the crown.



## 5. Names of Components



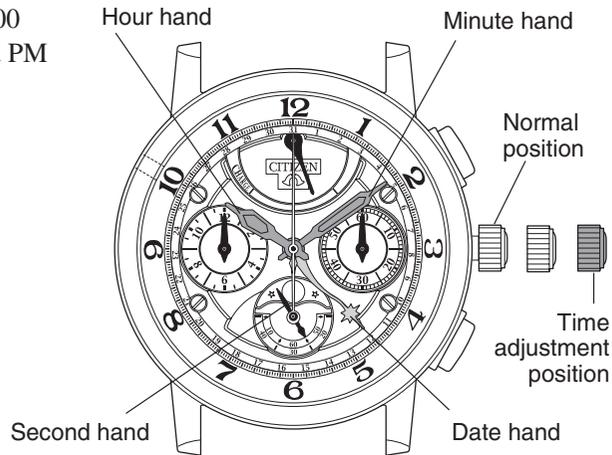
1.	Charge indicator hand
2.	Hour hand
3.	Minute hand
4.	Second hand
5.	Chronograph hour hand
6.	Chronograph minute hand
7.	Chronograph second hand
8.	Date hand
A.	Button (A) (reset)
B.	Button (B) (start/stop)
C.	Button (C)
D.	Crown
E.	Moon phase
F.	Chronograph index

☆ The illustrations shown in this manual may differ from the actual watch you have purchased.

## 6. Setting the Time and Date

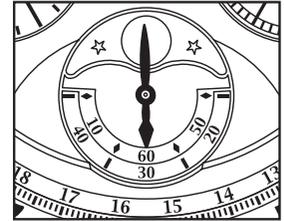
### <Procedure for Setting the Time>

1. Pull out the crown to the time adjustment position (second click).
2. Turn the crown to set the time.
  - The date hand changes at 12:00 AM. Pay attention to AM and PM when setting the time.
3. Return the crown to the normal position (0 position).



### [Helpful Hint for Accurately Setting the Time]

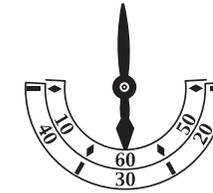
- \* When the second hand reaches the 60-second position, pull the crown out to the second click position.
- \* Turn the crown to set the time.
- \* Advance the minute hand 4 to 5 minutes past the correct time, and then adjust it to the correct time by moving it back.
- \* The time can then be set accurately by returning the crown to the normal position in synchronization with a time signal.



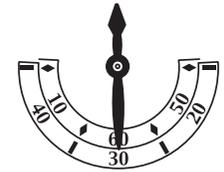
60-second position

### <Reading the seconds>

- \* The short end of the second hand points to the inner semi-circle to indicate 45 seconds to 15 seconds, and the long end of the second hand points to the outer semi-circle to indicate 15 seconds to 45 seconds.



Indicator for the short end of the second hand 45 to 15 seconds

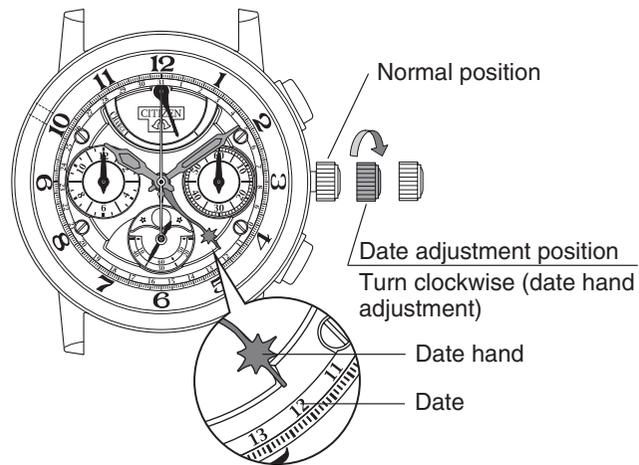


Indicator for the long end of the second hand 15 to 45 seconds

### <Procedure for Setting the Date>

- This watch is not equipped with an automated calendar, but is displayed based on a 31 day cycle. After months with less than 31 days (months having 30 days and February), use the crown to set the watch to the first day of the next month.

1. Pull the crown out to the first click position (date adjustment position).
2. Turn the crown **clockwise** to move the date hand and set the date. (Turning the crown counter-clockwise adjusts the moon phase.)



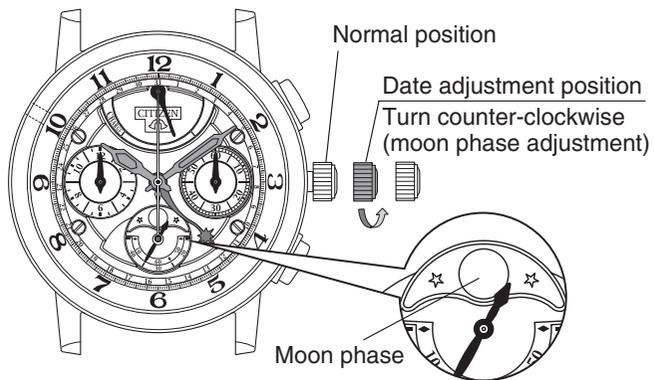
- Do not attempt to set the date from about 9:00 PM to 1:00 AM. If the date is set during this time period, the date may not change the following day.
3. After the date is set, return the crown to the normal position.
- \* The date hand changes automatically at around 12:00 AM. If the date changes at around 12:00 PM, advance the time by 12 hours, and readjust the date.

### <Procedure for Setting the Moon Phase>

- The moon phase indicator shows the phases of the moon, and is not intended to depict the actual shape of the moon. Use it as a reference for the moon phase.

1. Pull the crown out to the first click position (date adjustment position).
2. Adjust to the current moon phase by turning the crown **counter-clockwise**. (Turning the crown clockwise adjusts the date.)

- Check the moon phase for that day in the newspaper or other source, and then adjust the moon mark by referring to “Viewing the Moon Phase” on the next page.



### [Helpful Hint for Accurately Setting the Moon Phase]

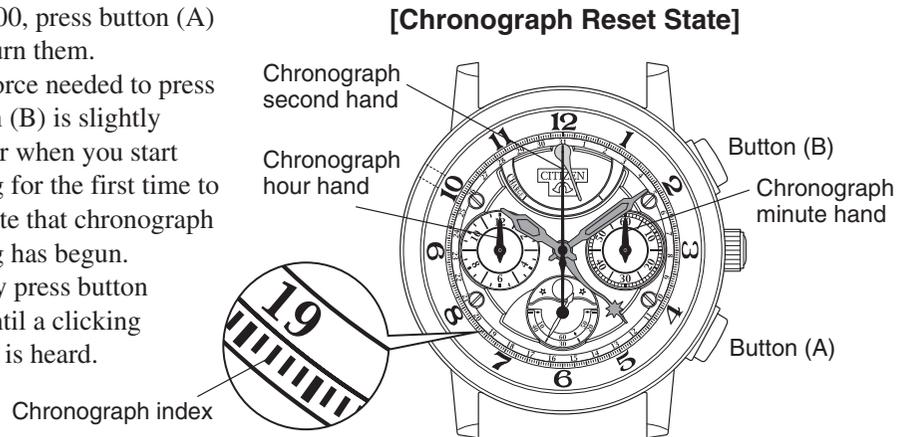
A more accurate adjustment can be made by setting at times of a new moon (the moon mark is not visible: Day 0) or full moon (moon is at the 12:00 position: Day 15).

### Viewing the Moon Phase (indicator example)

New moon Day 0 (Spring tide)	Quarter moon Around Day 7 (Neap tide)	Full moon Around Day 15 (Spring tide)	Last quarter moon Around Day 22 (Neap tide)

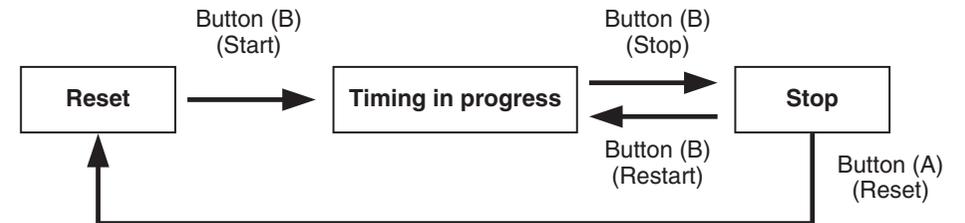
## 7. Using the Chronograph

- \* The chronograph is capable of timing and displaying the time for up to 12 hours in 1/5 second units. The chronograph stops automatically when 12 hours have elapsed.
- \* When starting timing, first check that each of the chronograph hands has returned to 12:00. If the hands are not at 12:00, press button (A) to return them.
- \* The force needed to press button (B) is slightly greater when you start timing for the first time to indicate that chronograph timing has begun. Firmly press button (B) until a clicking sound is heard.



### <Timing Procedure>

1. Press button (A) to reset the chronograph, and then press button (B) to start timing. Press button (B) again to stop timing.
  - Timing starts or stops each time button (B) is pressed.
2. Press button (A) to reset the chronograph to 0 seconds after it has been stopped.
  - The chronograph is not reset if button (A) is pressed while timing is in progress. To reset the time, first press button (B) to stop timing, and then press button (A).



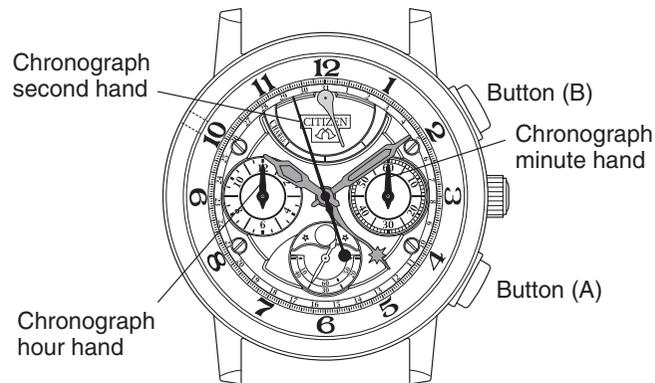
### <When Resuming after Timing for 12 Hours>

- When timing has continued for 12 hours, timing is stopped automatically, and each of the chronograph hands stops at the 12:00 position. In this case, be sure to reset the chronograph before additional timing since it is not reset to zero at this time.

### <Reset Procedure>

1. Press button (B) to stop the chronograph.
  2. Press button (A) to reset the chronograph.
- This resets the chronograph after 12 hours of timing. Timing can be resumed by pressing button (B).

**[State when Chronograph Second Hand has not been Properly Reset]**



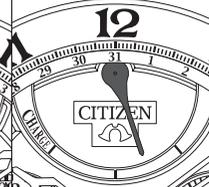
### [Notes]

- \* **Do not subject the watch to strong impacts while timing is in progress.**
  - The chronograph hands may occasionally be shifted out of position if the watch is subjected to a strong impact either while timing is in progress or after the chronograph has stopped automatically after reaching 12 hours. In this case, use the above procedure to reset the chronograph.

## 8. Viewing the Charge Indicator

- The charge indicator uses four levels to provide a general indication of the current charge level of the secondary battery.
- The charge indicator hand points to the center of each level.
- The charge indicator only provides a rough estimate of the battery level. You can refer to this level when using your watch. It is recommended that the watch normally be charged to at least level 2 when using.
- The duration of a level after the watch is fully charged varies based on chronograph use.

[Viewing the Secondary Battery Charge Indicator]

Level	CHARGE	Level 1	Level 2	Level 3
Indicated charge level				
Remaining charge (reference value)	About 6 days Level at which low charge warning feature is activated	About 6 days to 6 months Level at which watch is somewhat low charged (promptly charge the watch to level 3)	About 6 months to 9 months Level at which watch can be used without worrying about charging	About 9 months to 10 months Level at which watch is fully charged

**[Note]**

When the charge indicator hand points to “CHARGE”, there is very little charge left in the secondary battery and the second hand moves in 2-second intervals. The secondary battery will run out of power in about 6 days, and the watch will stop. Be sure to charge the watch before it reaches this state.

## 9. General Reference for Charging Times

The charging time varies according to the watch model (including the color of the dial). The following times are intended as a general reference only.

\* Charging time refers to the amount of time that the watch is continuously exposed to light.

Illuminance (lx)	Environment	Charging time (estimated)			
		Charging time required for 1 day of operation	Charging time to level 1 (1-second interval movement) from stopped state	Charging time to level 2 from stopped state	Charging time to level 3 (fully charged) from stopped state
500	Inside an ordinary office	4 hours	45 hours	————	————
1,000	60-70 cm (24-28 in) under a fluorescent lamp (30 W)	2 hours	25 hours	————	————
3,000	20 cm (18 in) under a fluorescent lamp (30 W)	40 minutes	6.5 hours	130 hours	210 hours
10,000	Outdoors under a cloudy sky	12 minutes	2 hours	40 hours	70 hours
100,000	Outdoors in the summer, under direct sunlight	2 minutes	25 minutes	6 hours	10 hours

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

Full charging time: Time required to charge the watch from the stopped state to fully charged.

Level 1: Even if the watch is running at 1-second intervals, it is still not charged enough. Charge the watch at least to level 2.

# 10. Functions Unique to Solar-Powered Watches

[Normal Time Display]



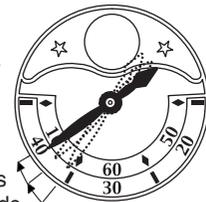
When the watch is not exposed to light and the charge becomes low

When the watch is charged by exposing it to light

[Low Charge Warning Display]



The second hand changes from 1-second interval movement, and the charge indicator hand points at "CHARGE".



2-second interval movement continues if the charge is low

2 seconds  
2 seconds

If the watch has changed from the normal time display to the low charge warning display, charge the watch until **the charge indicator hand reaches level 3** by exposing it to light as explained in section 9, "General Reference for Charging Times".

[Stopped]

All hands stop moving.



When the watch continues to run for about 6 days without charging

Do not set the time until after exposing the watch to light and charging it **until the charge indicator hand points to level 3 (the second hand returns to 1-second interval movement)**.  
[Note] When the clock has stopped, it will not start running immediately after it is exposed to light. A minimum of 10 minutes is required before the watch starts running again.

### **[Low Charge Warning Feature]**

This feature indicates that the charge is low by changing the movement of the second hand from 1-second to 2-second interval movement. When this occurs, promptly charge your watch. The chronograph will not operate in this state.

### **[Over Charge Prevention Feature]**

When light shines onto the watch dial and the secondary battery becomes fully charged, the over charge prevention feature is activated automatically to prevent further charging. This prevents any adverse effects on the secondary battery, timekeeping accuracy, functions, and performance of the watch due to the charge level.

## **11. Handling Precautions**

### **[Regularly Charge the Watch]**

Wearing clothes with long sleeves makes it difficult for the watch to get the necessary light, resulting in insufficient charging.

Be particularly aware of the need for regular charging during the winter.

### **CAUTION Charging Precautions**

- Overheating while charging can cause the watch exterior to become discolored, the watch to deform or the movement to be damaged.

Do not charge the watch in a high-temperature environment (about 60°C / 140°F or more).

Example:

- Charging close to incandescent lighting, halogen lamps, or other lighting sources that easily become hot.
- Charging on surfaces that can easily become hot, such as a car dashboard.

- When charging with incandescent lighting, halogen lamps, or other lighting sources that easily become hot, place the watch at least 50 cm (20 in) away from the source to avoid overheating.

### **WARNING Handling of Secondary Battery**

- Do not remove the secondary battery from the watch yourself, unless unavoidable.
- If you must remove the battery, store it out of reach of children to avoid accidental ingestion.
- If the secondary battery is ingested, consult a doctor immediately.
- If the secondary battery needs to be replaced, refer servicing to qualified service personnel.

## **12. Replacing the Secondary Battery**

The secondary battery does not need to be replaced regularly as with conventional silver oxide watches.

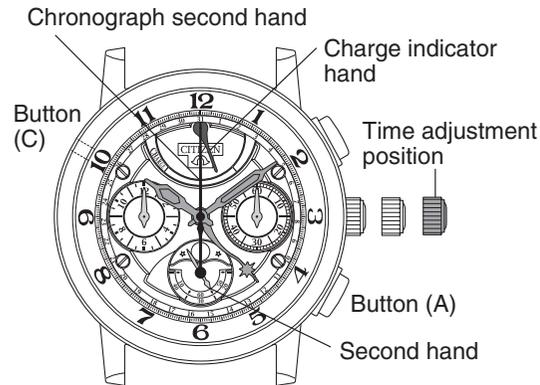
If the charge level does not reach Level 3 even when the watch is charged according to “9. General Reference for Charging Times”, consult the shop where you purchased the watch or Citizen Service Center.

## 13. All-Reset

- The watch may not display the time correctly if subjected to static electricity, magnets, strong impact, or other adverse effects. When this happens, perform the All-Reset procedure.
- Before performing the All-Reset procedure, be sure to charge the watch **until the charge indicator hand points to at least level 2** and the chronograph is in the reset state.

### [All-Reset Procedure]

1. When the second hand has reached the 60-second position, pull out to the crown to the time adjustment position (second click).
2. Press buttons (A) and (C) at the same time.
  - The charge indicator hand moves to level 3, and the watch automatically performs reference position alignment.



3. Return the crown to the normal position.
  - The charge indicator hand performs a demonstration movement (pendulum movement), and the second hand begins 1-second interval movement. The charge indicator hand points to level 2 or 3.
  - This completes the All-Reset procedure. Make the correct time and other settings using the respective procedures before using the watch. If the All-Reset procedure cannot be performed, send in your watch for repairs.

## 14. Precautions

### WARNING: Water-resistance performance

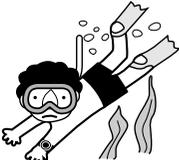
There are several types of water-resistant watches, as shown in the following table.

The unit "bar" is roughly equal to 1 atmosphere.

\* WATER RESIST(ANT) xx bar may also be indicated as W.R. xx bar.

Indication		Specifications
Dial	Case (case back)	
WATER RESIST or no indication	WATER RESIST(ANT)	Water-resistant to 3 atmospheres
WR 50 or WATER RESIST 50	WATER RESIST(ANT) 5 bar or WATER RESIST(ANT)	Water-resistant to 5 atmospheres
WR 100/200 or WATER RESIST 100/200	WATER RESIST(ANT) 10bar/20 bar or WATER RESIST(ANT)	Water-resistant to 10/20 atmospheres

For correct use within the design limits of the watch, confirm the level of water-resistance of your watch, as indicated on the dial and case, and consult the table.

Examples of use				
				
Minor exposure to water (washing face, rain, etc.)	Moderate exposure to water (washing, kitchen work, swimming, etc.)	Marine sports (skin diving)	Scuba diving (with air tank)	Operation of the crown or button with moisture visible
<b>OK</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
<b>OK</b>	<b>OK</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
<b>OK</b>	<b>OK</b>	<b>OK</b>	<b>NO</b>	<b>NO</b>

### **WARNING: Water-resistance performance**

- Water-resistance for daily use (to 3 atmospheres): This type of watch is water-resistant to minor exposure to water. For example, you may wear the watch while washing your face; however, it is not designed for use underwater.
- Upgraded water-resistance for daily use (to 5 atmospheres): This type of watch is water-resistant to moderate exposure to water. You may wear the watch while swimming; however, it is not designed for use while skin diving.
- Upgraded water-resistance for daily use (to 10/20 atmospheres): This type of watch may be used for skin diving; however, it is not designed for scuba or saturated diving using helium gas.

### **CAUTION**

- Be sure to use the watch with the crown pressed in (normal position). If your watch has a screw-lock type crown, be sure to tighten the crown completely.
- Do NOT operate the crown or button with wet fingers or when the watch is wet. Water may enter the watch and compromise water-resistance.
- If the watch is used in seawater, rinse with fresh water afterward and wipe with a dry cloth.
- If moisture has entered the watch, or if the inside of the crystal is fogged up and does not become clear within a day, immediately take the watch to your dealer or Citizen Service Center for repair. Leaving the watch in such a state will allow corrosion to form inside.

- If seawater enters the watch, place the watch in a box or plastic bag and immediately take it in for repair. Otherwise, pressure inside the watch will increase, and parts (crystal, crown, buttons, etc.) may come off.

### **CAUTION: Keep your watch clean.**

- Leaving dust and dirt deposited between the case and crown may result in difficulty in pulling the crown out. Rotate the crown while in its normal position, from time to time, to loosen dust and dirt and then brush it off.
- Dust and dirt tend to be deposited in gaps in the back of the case or band. Deposited dust and dirt may cause corrosion and soil your clothing. Clean the watch occasionally.

### **Cleaning the Watch**

- Use a soft cloth to wipe off dirt, perspiration and water from the case and crystal.
- Use a soft, dry cloth to wipe off perspiration and dirt from the leather band.
- To clean a metal, plastic, or rubber watchband, wash away dirt with mild soap and water. Use a soft brush to remove dust and dirt jammed in the gaps in the metal band. If your watch is not water-resistant, take it to your dealer.

**NOTE:** Avoid using solvents (thinner, benzine, etc.), as they may damage the finish.

### **CAUTION: Operating environment**

- Use the watch within the operating-temperature range specified in the instruction manual. Using the watch where temperatures are outside the specified range, may result in deterioration of functions or even stoppage of the watch.
- Do NOT use the watch in places where it is exposed to high temperature, such as in a sauna. Doing so may result in a skin burn.
- Do NOT leave the watch in a place where it is exposed to high temperature, such as the glove compartment or dash-board of a car. Doing so may result in deterioration of the watch, such as deformation of plastic parts.
- Do NOT place the watch close to a magnet. Timekeeping will become inaccurate if you place the watch close to magnetic health equipment such as a magnetic necklace or a magnetic latch of a refrigerator door or handbag clasp or the earphone of a mobile phone. If this has occurred, move the watch away from the magnet and reset the time.
- Do NOT place the watch close to household appliances that generate static electricity. Timekeeping may become inaccurate if the watch is exposed to strong static electricity, such as is emitted from a TV screen.
- Do NOT subject the watch to a strong shock such as dropping it onto a hard floor.

- Avoid using the watch in an environment where it may be exposed to chemicals or corrosive gases. If solvents, such as thinner and benzine, or substances containing such solvents come in contact with the watch, discoloration, melting, cracking, etc. may result. If the watch comes in contact with mercury used in thermometers, the case, band or other parts may become discolored.

### **Periodical inspections**

Your watch needs inspection once in every two or three years for safety and long use. To keep your watch water-resistant, the packing needs to be replaced regularly. Other parts need to be inspected and replaced if necessary. Ask for Citizen genuine parts upon replacement.

## 15. Specifications

1. **Model:** 9800
2. **Type:** Analog solar-powered watch
3. **Timekeeping accuracy:** Within  $\pm 15$  seconds per month on average (when worn at normal temperatures of  $+5^{\circ}\text{C}$  to  $+35^{\circ}\text{C}$  /  $41^{\circ}\text{F}$  to  $95^{\circ}\text{F}$ )
4. **Crystal oscillator frequency:** 32,768 Hz
5. **Operating temperature range:**  $-10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  /  $14^{\circ}\text{F}$  to  $140^{\circ}\text{F}$
6. **Display functions:**
  - Time: Hours, minutes, seconds
  - Date: Date (hand display) and moon phase
7. **Additional functions:**
  - Chronograph (timing for up to 12 hours in 1/5 second units)
  - Charge indicator (4-level, fan-shaped indicator)
  - Low charge warning feature (2-second interval movement)
  - Over charge prevention feature

### 8. Continuous operating times:

- Time until watch stops without charging after a full charge: Approx. 10 months (The continuous operating time varies depending on the frequency of chronograph use.)
- Time from start of 2-second interval movement until watch stops: Approx. 6 days

### 9. Battery: Secondary battery, 1

\* These specifications are subject to change without notice for incorporating product improvements.