



# SEIKO

Cal. 7T36 – Manual

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English

## SEIKO ANALOGUE QUARTZ WITH ALARM, CHRONOGRAPH, DATE HAND AND MOON PHASE DISPLAY

Cal. 7T36

### FEATURES

The SEIKO Analogue Quartz Watch Cal. 7T36 is a multi-display watch featuring alarm and chronograph functions. It is also provided with a moon phase display.

#### ■ MAIN TIME DISPLAY

Hour and minute hands with a small second hand.

#### ■ CALENDAR

Date is indicated by date hand.

#### ■ MOON PHASE DISPLAY

The phases (waxing and waning) of the moon are displayed.

#### ■ ALARM

The alarm is set on a 12-hour basis with 2 small hands displaying the designated alarm time. It can be engaged by pulling out a crown and can be set simply by pressing a button.

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■ **STOPWATCH**

It can measure up to 30 minutes in 1/5 seconds.

■ **BATTERY LIFE INDICATOR**

The small second hand moves at two-second intervals when the battery needs to be replaced.

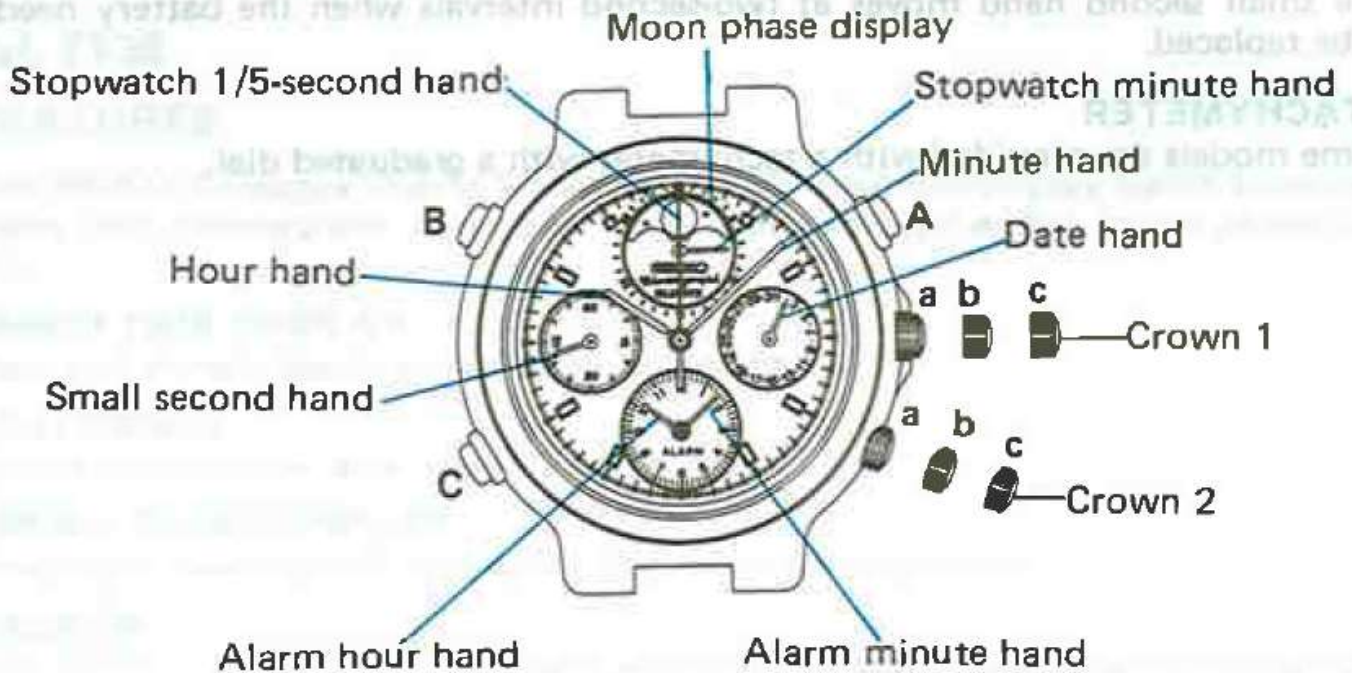
■ **TACHYMETER**

Some models are provided with a tachymeter with a graduated dial.



**DISPLAY AND CROWN OPERATION**

There are three buttons and two crowns as shown in the illustration below.

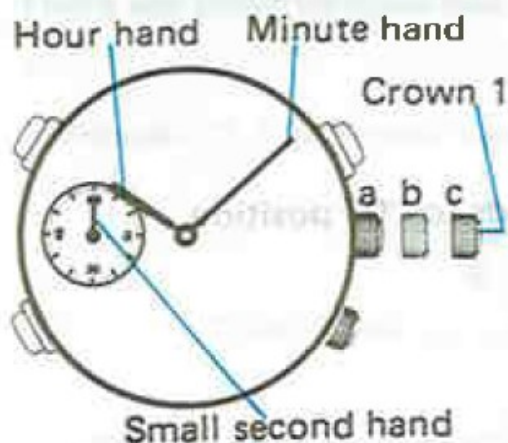


**Crown 1**

- (a) Normal position : Free  
 (b) First click :  
     Clockwise : Date setting  
     Counterclockwise : Moon phase setting  
 (c) Second click : Main time setting  
                     Adjusting the stopwatch hands to "0" position

**Crown 2**

- (a) Normal position : Stopwatch mode  
                           Alarm disengagement  
 (b) First click : Stopwatch mode  
                     Alarm engagement/alarm setting  
 (c) Second click : Stopwatch mode  
                     Alarm hour and minute hands setting

**TIME SETTING**

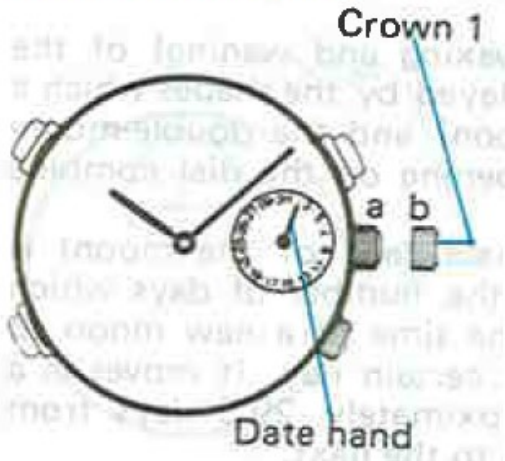
- (a) Normal position  
 (b) First click  
 (c) Second click

1. Pull out crown "1" all the way to the second click when the small second hand is at the 12 o'clock position.
2. Turn crown "1" counterclockwise to set the hour and minute hands to the desired time.
3. Push crown "1" back in to the normal position in accordance with a time signal.

**Notes:**

1. When setting the hour hand, check that AM/PM is correctly set. The watch is so designed that the date changes once in 24 hours. Turn the hands past the 12 o'clock marker to determine whether the watch is set for the A.M. or P.M. period. If the date changes, the time is set for the A.M. period. If the date does not change, the time is set for the P.M. period.
2. When setting the minute hand, advance it 4 to 5 minutes ahead of the desired time and then turn it back to the exact minute.

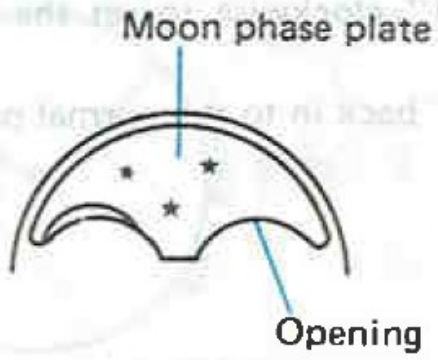
# DATE SETTING



1. Pull out crown "1" to the first click.
2. Turn crown "1" clockwise to set the desired date.
3. Push crown "1" back in to the normal position.

(a) Normal position  
(b) First click

# MOON PHASE DISPLAY

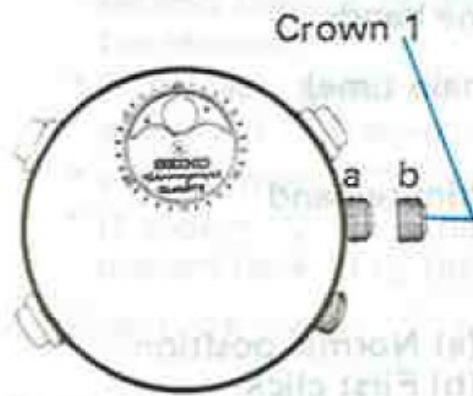


- The phases (waxing and waning) of the moon are displayed by the shapes which a circle (the moon) and the double-mountain-shaped opening on the dial combine to form.
- The moon phase (age of the moon) is expressed by the number of days which elapse from the time of a new moon to the noon of a certain day. It moves in a cycle of approximately 29.5 days from one new moon to the next.

• The illustration below will be helpful to you in reading the moon phase. It is intended to show the age of the moon only and not the exact shapes of the moon.

Age of the moon	0 (New Moon)	7	15 (Full Moon)	22
Moon phase				

## MOON PHASE SETTING



1. Pull out crown "1" to the first click.
2. Turn crown "1" counterclockwise until the moon peers slightly over the left mountain.
3. Turn crown "1" to set the desired age of the moon, counting the number of steps of the moon phase plate.
4. Push crown "1" back in to the normal position.

(a) Normal position

(b) First click

**Note:** Refer to the newspaper for the day's age of the moon. Round off any fractions. (For example: 24.4 → 24; 7.3 → 7)

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## ALARM

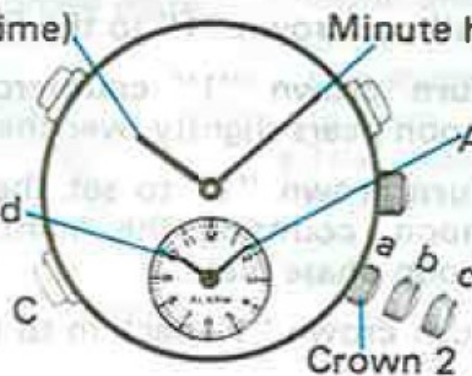
The alarm time is set on a 12-hour basis and indicated by the alarm hour and minute hands that move independently of the main time hands.

Hour hand (main time)

Minute hand (main time)

Alarm minute hand

Alarm hour hand



(a) Normal position

(b) First click

(c) Second click

### Alarm setting

1. Pull out crown "2" all the way to the second click. There is a warning beep for one second and the alarm hands stop on the spot.
2. Turn crown "2" clockwise and counterclockwise to set the alarm hands to the time that the main time hands indicate.  
\* When setting the alarm minute hand, advance it 4 to 5 minutes ahead of the desired time and then turn it back to the exact minute.
3. Push back crown "2" all the way in to the normal position. Then, pull it out again to the first click, and press "C" repeatedly to set the desired alarm

time.

- \* By pushing back crown "2" in to the normal position when the small second hand is at the 12 o'clock position, the alarm can be set exactly to the second.
- \* With each press of "C", the alarm hands move one minute. They move quickly if "C" is kept pressed.
- \* When crown "2" is set to the first click, a confirmation sound beeps.
- \* If crown "2" is pulled out to the first click within one minute after being pushed back in to the normal position, the alarm sounds.

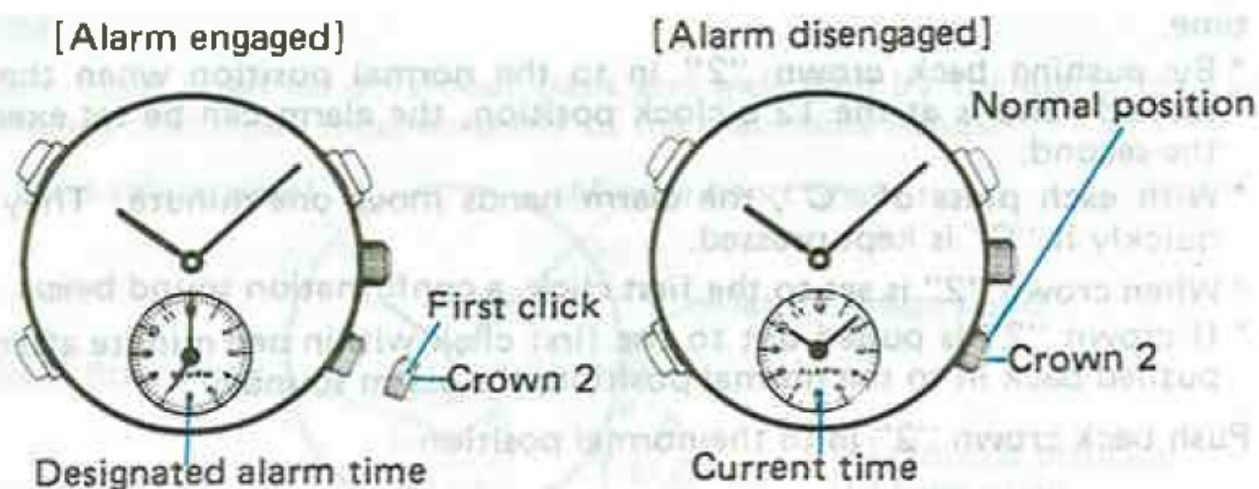
4. Push back crown "2" in to the normal position.

### Alarm engagement/disengagement

- To engage the alarm, pull out crown "2" to the first click. The alarm hands indicate the designated alarm time:
- \* The alarm rings at the designated time for 20 seconds. To stop it manually, press "A", "B" or "C", or push back crown "2" in to the normal position.
- \* The alarm sounds differently when the alarm and stopwatch are used simultaneously.
- When crown "2" is at the normal position, the alarm is disengaged, and the alarm hands indicate the current time.

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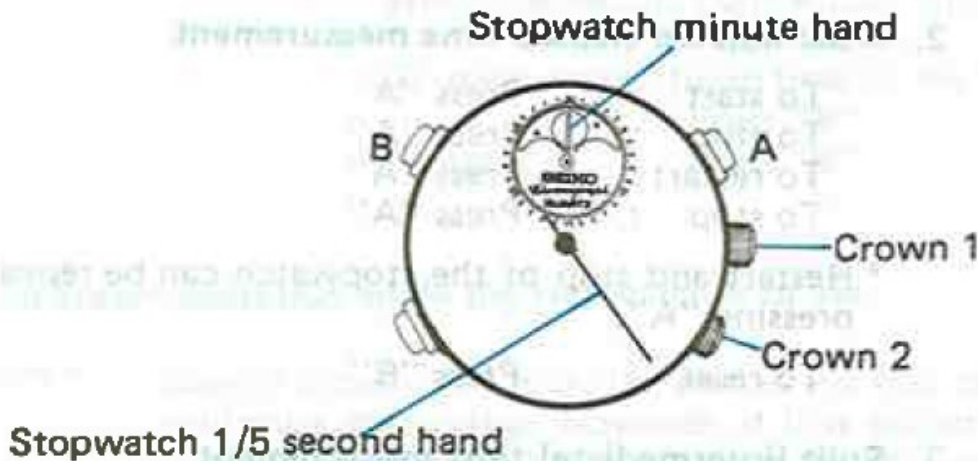
English



**Note:** Please note, if crown "2" is pulled out to the second click, the designated alarm time is canceled with a warning beep. In that case, set the alarm hour and minute hands to the main time again, push crown "2" back in to the normal position, and then, pull it out to the first click and set the desired alarm time again. However, if crown "2" is pushed back in to the normal position before the warning beep stops, the designated alarm time will not be canceled.

# STOPWATCH

The stopwatch can measure up to 30 minutes in 1/5 seconds. After 30 minutes, it will start counting again from "0" repeatedly up to 6 hours.



## Before using the stopwatch

- Be sure to check that crown "1" is set at the normal position.
- Press "B" to reset the stopwatch hands to "0" position.
  - \* If the hands do not return to "0" position, pull out crown "1" all the way to the second click and press "A" and "B" to reset the hands.  
(For details, refer to "ADJUSTING THE HAND POSITION".)

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### 1. Standard measurement

To start : Press "A"  
To stop : Press "A"  
To reset : Press "B"

### 2. Accumulated elapsed time measurement

To start : Press "A"  
To stop : Press "A"  
To restart : Press "A"  
To stop : Press "A"

\* Restart and stop of the stopwatch can be repeated by pressing "A".

To reset : Press "B"

### 3. Split (intermediate) time measurement

To start : Press "A"  
To measure split time : Press "B"  
To release split time : Press "B"

\* Measurement and release of the split time can be repeated by pressing "B".

To stop : Press "A"  
To reset : Press "B"

#### 4. Measurement of two competitors

- To start : Press "A"
- To measure the finish time of the first competitor:  
Press "B"
- When the second competitor finishes:  
Press "A"
- To measure the finish time of the second competitor:  
Press "B"
- To reset : Press "B"

#### Notes on crown operation while the stopwatch is in use.

- Crown "1" : Even if crown "1" is pulled out to the first click, the stopwatch continues measuring. However, if it is pulled out to the second click, the stopwatch hands are reset to "0" position.
- Crown "2" : The stopwatch continues measuring regardless of the position of crown "2".

\* When the stopwatch has been reset and "A" is pressed before the hand reaches "0" position, the stopwatch still starts counting time when "A" is pressed.

#### HOW TO USE THE TACHYMETER

(For the models with a tachymeter scale on the dial.)

- Use the tachymeter with the stopwatch.
- Stopwatch operation (Standard measurement)
- To start : Press "A"
  - To stop : Press "A"
  - To reset : Press "B"



The tachymeter can be used for the following purposes.

#### (1) To measure the hourly average speed of a vehicle

- Use the stopwatch to determine how many seconds it takes to go one kilometer (or one mile). The tachymeter scale indicated by the stopwatch second hand gives the average speed per hour.
- \* Please note that the tachymeter scale can be used only when the time required is less than 60 seconds. If it exceeds 60 seconds, shorten the measuring distance. (Refer to "Ex. 2" below.)





Ex. 1)

If it takes 40 seconds to go one kilometer (or one mile), the stopwatch second hand indicates "90" on the tachymeter scale. This means that the average speed of the vehicle is 90 kilometers (or miles) per hour.

$$90 \left( \begin{array}{l} \text{Tachymeter scale figure} \\ \text{at 40 seconds position} \end{array} \right) \times 1 \text{ (Kilometer or mile)} \\ = 90 \text{ Km/h (mph)}$$

Ex.2)

If the measuring distance is extended to 2 kilometers (or miles) or shortened to 0.5 kilometers (miles), multiply the figure on the tachymeter scale by 2 or 0.5, respectively. We recommend that you utilize the tachymeter in a rally, speedway or circuit race.

$$90 \left( \begin{array}{l} \text{Tachymeter scale figure} \\ \text{at 40 seconds position} \end{array} \right) \times 2 \text{ (Kilometers or miles)} \\ = 180 \text{ Km/h (mph)}$$

$$90 \left( \begin{array}{l} \text{Tachymeter scale figure} \\ \text{at 40 seconds position} \end{array} \right) \times 0.5 \text{ (Kilometers or miles)} \\ = 45 \text{ Km/h (mph)}$$

## (2) To measure the hourly rate of operation

The tachymeter is extremely useful in calculating factory operation efficiency or machine production amount.

Ex.1)

Use the stopwatch to measure the time required to complete one job.

If it takes 20 seconds, the stopwatch second hand indicates "180" on the tachymeter scale. This means that 180 jobs will be accomplished in our hour.

$$180 \left( \begin{array}{l} \text{Tachymeter scale figure} \\ \text{at 20 seconds position} \end{array} \right) \times 1 \text{ job} = 180 \text{ jobs}$$

Ex. 2)

Use the stopwatch to determine how many jobs are accomplished in a specific period of time.

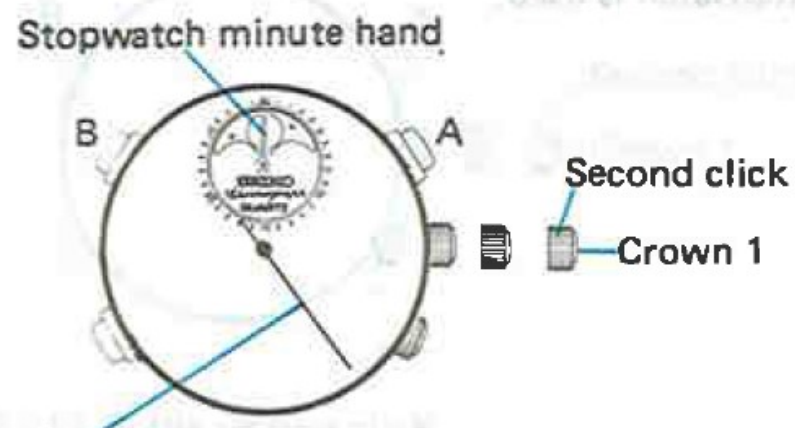
If 15 jobs are completed in 20 seconds, multiply "180", the figure on the tachymeter scale indicated by the stopwatch second hand, by 15. Thus, it is estimated that 2,700 jobs will be accomplished in one hour.

$$180 \left( \begin{array}{l} \text{Tachymeter scale figure} \\ \text{at 20 seconds position} \end{array} \right) \times 15 \text{ jobs} = 2,700 \text{ jobs} \\ \text{per hour}$$



# ADJUSTING THE HAND POSITION

- If the stopwatch 1/5 second and minute hands will not return to the 12 o'clock position when the stopwatch is reset or when the battery is replaced with a new one, follow the procedure below to reset the hands to the 12 o'clock position.



## Stopwatch 1/5-second hand

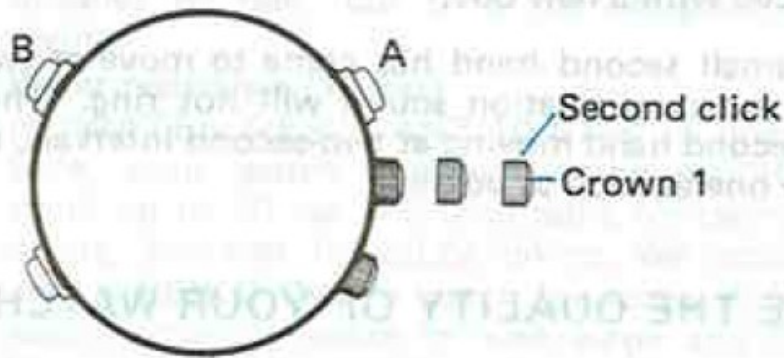
1. Pull out crown "1" to the second click.
2. Press "A" and "B" repeatedly but separately to reset the stopwatch minute hand and the stopwatch 1/5 second hand to the 12 o'clock position, respectively.
  - \* The hands move quickly if the respective buttons are kept pressed.
3. Push crown "1" back in to the normal position.

**Note:** When you adjust the stopwatch hands and set the main time at a time, set the main time first. If you adjust the hand position before main time setting, or if crown "1" is pushed back all the way into the normal position from the second click, the stopwatch 1/5-second hand may move from "0" position. However; it will properly point to "0" position when the stopwatch is used.



## RESETTING THE BUILT-IN IC

- In case any of the watch hands should move improperly, follow the procedure below to adjust the hand movement.



1. Pull out crown "1" to the second click.
2. Press "A" and "B" simultaneously.
3. Push back crown "1" in to the normal position. The built-in IC will be reset, and normal movement of the hands will return. Before using the watch again, be sure to set the main time and alarm hands to the desired time and adjust the position of the stopwatch hands following the procedure in "ADJUSTING THE HAND POSITION".

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## BATTERY LIFE INDICATOR

English

When the battery nears its end, the small second hand moves at two-second intervals instead of normal one-second intervals to indicate that the battery needs to be replaced with a new one.

**Note:** Once the small second hand has come to move at two-second intervals the alarm and confirmation sound will not ring. Therefore, if you see the small second hand moving at two-second intervals, replace the battery with a new one as soon as possible.

## TO PRESERVE THE QUALITY OF YOUR WATCH

### ■ WATER RESISTANCE



#### ● Non-water resistance

If "WATER RESISTANT" is not inscribed on the case back, your watch is not water resistant, and care should be taken not to get it wet as water may damage the movement. If the watch becomes wet, we suggest that you have it checked by an **AUTHORIZED SEIKO DEALER** or **SERVICE CENTER** to make sure that no water damage has occurred.



- **Water resistance (3 bar)**

If "WATER RESISTANT" is inscribed on the case back, your watch is designed and manufactured to withstand up to 3 bar such as accidental contact with water, for example, splashes or rain, but it is not designed for swimming or diving.



- **Water resistance (10 bar)**

If "WATER RESISTANT 10 BAR" is inscribed on the case back, your watch is designed and manufactured to withstand up to 10 bar and is suitable for swimming and shallow diving, but not for scuba diving. We recommend that you wear a SEIKO Diver's watch for scuba diving. If used in sea water, rinse the watch in fresh water and dry it completely. Do not press any buttons or turn the crowns in water.



- **Water resistance (15 bar)**

If "WATER RESISTANT 15 BAR" is inscribed on the case back, your watch is designed and manufactured to withstand up to 15 bar and is suitable for swimming and shallow diving, but not for scuba diving. We recommend that you wear a SEIKO Diver's watch for scuba diving. If used in sea water, rinse the watch in fresh water and dry it completely. Do not press any buttons or turn the crowns in water.

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**NOTE:**

Pressure in bar is a test pressure and should not be considered as corresponding to actual diving depth since swimming movement tends to increase the pressure at a given depth. Care should also be taken on diving into water.



- **SHOCKS**

Light activities will not affect your watch. But, be careful not to drop your watch or hit it against hard surfaces as this may cause damage.



- **MAGNETISM**

Your watch will be adversely affected by strong magnetism. Keep it away from close contact with magnetic objects.

- **TEMPERATURES**

Your watch works with stable accuracy between a temperature range of 5°C and 35°C (41°F and 95°F).



- **High temperature**

Temperature over 60°C (140°F) may cause battery leakage or shorten the battery life.



#### ● Low temperature

Do not leave your watch in very low temperature below  $-10^{\circ}\text{C}$  ( $+14^{\circ}\text{F}$ ) for a long time, since the cold may cause a slight time loss or gain.

However, the above conditions will be corrected when the watch returns to normal temperature.



#### ■ CHEMICALS

Be careful not to expose the watch to solvents (such as alcohol and gasoline), mercury (i.e. from a broken thermometer), cosmetic spray, detergents, adhesives or paints. Otherwise, the case, bracelet, etc. may become discolored, deteriorated or damaged.



#### ■ PERIODIC CHECK

It is recommended that the watch be checked once every 2 to 3 years. Have your watch checked by an **AUTHORIZED SEIKO DEALER** or **SERVICE CENTER** to ensure that the case, buttons, crowns, gasket, and crystal seal remain intact.



#### ■ CARE OF CASE AND BRACELET

To prevent possible corrosion on the case and bracelet caused by dust and moisture, wipe them with a soft dry cloth.

## BATTERY CHANGE



The miniature battery which powers your watch should last approximately 2 years. However, because the battery is inserted at the factory, its actual life once in your possession may be less than the specified period. When the battery expires, be sure to replace it as soon as possible to prevent any possible malfunction. For battery replacement, we recommend that you contact an **AUTHORIZED SEIKO DEALER** and request **SEIKO SR927W** battery. However, if this battery is not available, then use a recognized battery, **Maxell SR927W**, **SONY SR927W** or **EVEREADY 399**.

**Note:** The battery life may be less than two years if the stopwatch is used more than 2 hours a day and/or the alarm more than 20 seconds a day.

## SPECIFICATIONS

1. Frequency of crystal oscillator . . . 32,768 Hz (Hz = Hertz . . . Cycles per second)

2. Loss/gain (monthly rate) . . . . . Less than 15 seconds at normal temperature range (5°C ~ 35°C) (41°F ~ 95°F)
3. Operational temperature range . . . -10°C ~ +60°C (14°F ~ 140°F)
4. Driving system . . . . . Step motor, 4 pieces
5. Display system
- Time . . . . . Three hands (Hour, minute and small second hands)
- Date . . . . . Indicated by date hand  
Date change: 22:30 ~ 0:00
- Moon phase . . . . . Displayed by moon phase dial  
Moon phase change: 2:30 ~ 4:00
- Alarm . . . . . Small hour and minute hands  
The alarm is set on a 12-hour basis.
- Stopwatch . . . . . Minute and 1/5-second hands  
The stopwatch can measure up to 30 minutes in 1/5 seconds.
6. Battery . . . . . SEIKO SR927W, 1 piece
7. IC (Integrated Circuit) . . . . . C-MOS-LSI

\* The specifications are subject to change without prior notice, for product improvement.