Cal. 7L22

You are now the proud owner of a SEIKO KINETIC® Cal. 7L22. For best results, please read the instructions in this booklet carefully before using your SEIKO KINETIC®. Please keep this manual handy for ready reference.

Sie sind jetzt stolzer Besitzer einer SEIKO KINETIC® Kal. 7L22. Lesen Sie diese Bedienungsanleitung vor der Verwendung Ihrer SEIKO KINETIC® aufmerksam durch, um die optimale Nutzung dieser Uhr zu gewährleisten. Heben Sie diese Bedienungsanleitung gut auf, um jederzeit wieder nachlesen zu können.

Vous voici l'heureux propriétaire d'une montre SEIKO KINETIC® Cal. 7L22. Pour en obtenir de bonnes performances, veuillez lire attentivement les explications de ce mode d'emploi avant d'utiliser votre montre SEIKO KINETIC®. Conservez ce mode d'emploi pour toute référence ultérieure.

Grazie per aver acquistato questo orologio SEIKO KINETIC® Cal. 7L22. Per ottenerne i migliori risultati leggere attentamente le istruzioni di questo libretto prima di passare all'uso dell'orologio stesso. Tenere poi il manuale a portata di mano, per ogni eventuale futura, ulteriore consultazione.

Usted es ahora un orgulloso propietario de un Reloj SEIKO KINETIC® Cal. 7L22. Para los mejores resultados, por favor lea las instruciones de este librito cuidadosamente antes de utilizar su Reloj SEIKO KINETIC®. Le rogamos que guarde este conveniente manual para pronta referencia.

Você pode sentir-se orgulhoso de ter adquirido um SEIKO KINETIC® Cal. 7L22. Para obter dele os resultados máximos, solicitamos-lhe que, antes de usar o seu SEIKO KINETIC®, leia atentamente as instruções contidas neste opúsculo. E guarde este manual para referências futuras.

歡迎你購買精工 7L22 機型動力錶®。為了更好地使用精工動力錶®，請您在使用前詳細閱讀本說明手冊，並把說明手冊妥善保管，以備隨時用於參考。

CONTENTS

☆ *For the care of your watch, see "TO PRESERVE THE QUALITY OF YOUR WATCH" in the attached Worldwide Guarantee and Instruction Booklet.*

FEATURES

SEIKO KINETIC Cal. 7L22 is an analogue quartz watch equipped with an Automatic Generating System developed by SEIKO. It generates the electric energy to power the watch, utilizing the movement of the arm, and stores it in the KINETIC ELECTRICITY STORAGE UNIT (KINETIC E.S.U.), which requires no periodical replacement unlike conventional button-type batteries.

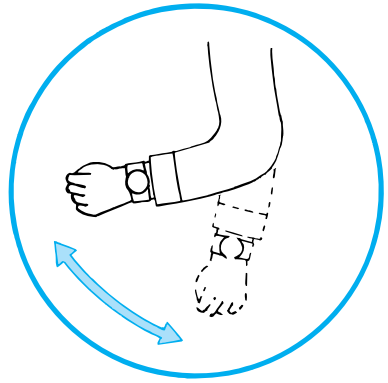
HOW TO CHARGE AND START THE WATCH

1 Swing the watch from side to side approximately 500 times.

* *Swing rhythmically at a rate of twice a second.*
* *500 swings will start the watch and the second hand will move at one-second intervals.*

2 Swing the watch approximately 200 times further to reserve one day of power.

3 Set the time/calendar and put on the watch.



POWER RESERVE IN YOUR SEIKO KINETIC WATCH

- The electric energy generated while the watch is worn on your wrist is stored in the KINETIC ELECTRICITY STORAGE UNIT (KINETIC E.S.U.). It is a power source completely different from conventional batteries for watches, and therefore, does not require any periodical replacement.
- The KINETIC E.S.U. is a clean and environmentally friendly power source.
- **Power reserve guidelines for the KINETIC E.S.U.**

  You can estimate the power reserve accumulated in the KINETIC E.S.U. from the manner in which you wear the watch.

  Wearing the watch continuously for 12 hours will accumulate approximately two additional days of power reserve.
  If you wear the watch every day for 12 hours for a month, for example, two additional months of power will be reserved.
- **Full charge**

  When the watch is fully charged, the watch will keep operating for approximately **5 months**. The duration of charge decreases gradually over time. The extent of decrease, however, varies depending on the environment and condition of use.
- **Precautions for those only wearing the watch occasionally**

  If you use the watch only occasionally, it is likely that you will find the watch running down when you decide to use it. Before wearing the watch, be sure to charge it sufficiently following the procedure in “HOW TO CHARGE AND START THE WATCH”.

REMARKS ON THE KINETIC E.S.U.

- Do not pull the crown out to the second click with the intention of stopping the second hand just to save energy. By doing so, a large amount of current flows through the built-in IC. Therefore, pulling out the crown to the second click will not save energy but, in fact, consume more energy than usual.

⚠ CAUTION

Never install a silver oxide battery for conventional watches in place of the KINETIC E.S.U. The battery may burst, become very hot or catch fire. Even if the battery is installed, electricity will not be conducted.

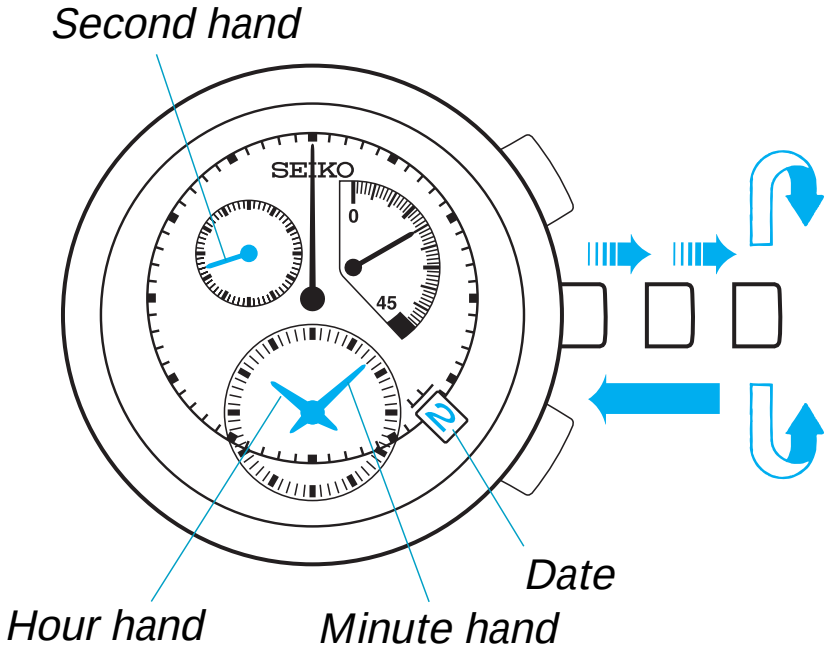
ENERGY DEPLETION FOREWARNING FUNCTION

- When the second hand starts moving at two-second intervals instead of the normal one-second intervals, the watch will run down in approximately 12 hours.

  * *If the second hand starts moving at two-second intervals while the stopwatch is in use, the watch will run down in approximately 45 minutes assuming the stopwatch remains in use. (Refer to "HOW TO CHARGE AND START THE WATCH".)*

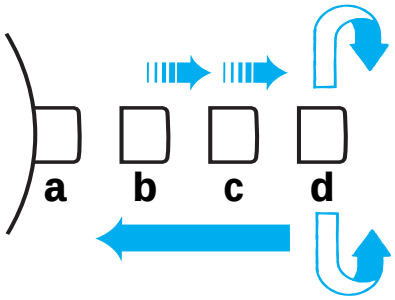
  In this case, swing the watch from side to side to sufficiently charge the KINETIC E.S.U.

TIME/CALENDAR SETTING



1. Pull out the crown to the first click and turn it counterclockwise to set the previous day's date.
2. Pull out the crown to the second click when the second hand is at the 12 o'clock position, and advance the hands by turning the crown counterclockwise to set the desired date.
3. Turn the hands to set the desired time.
4. Push back the crown completely in accordance with a time signal.

FOR MODELS WITH SCREW LOCK TYPE CROWN



a. Screwed-in position
b. Unscrewed position
c. First click
d. Second click

If your watch has a screw lock type crown, turn the crown counterclockwise to unscrew it, and then, pull it out.

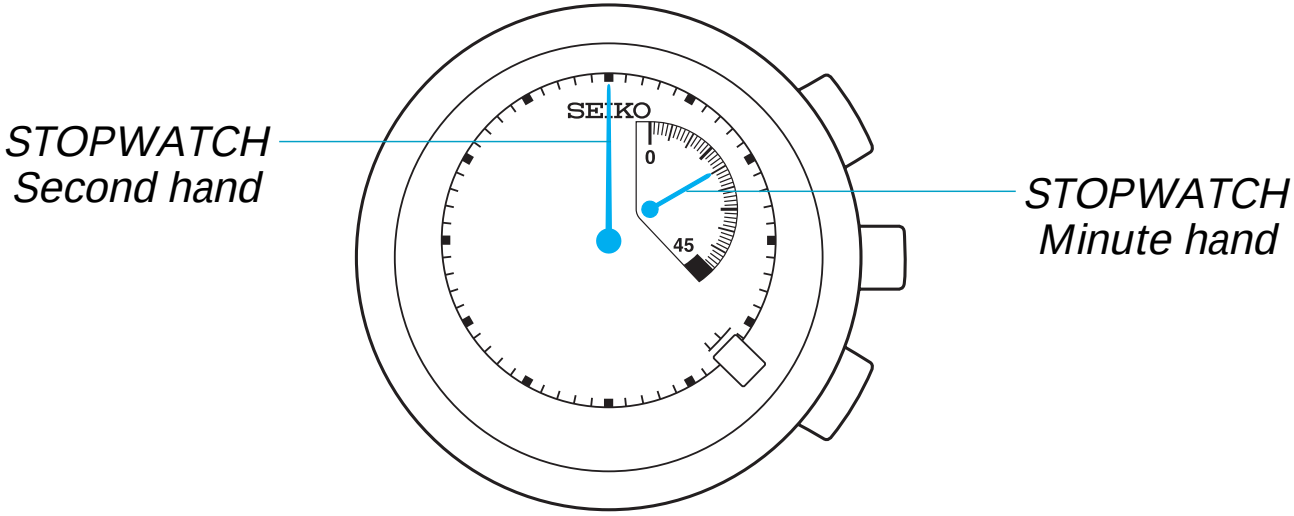
After using the crown, push it back in to the unscrewed position.
Screw in the crown completely by turning it clockwise while pressing it.

STOPWATCH

- The stopwatch can measure up to 45 minutes in 1/5 second increments.
- The measured time is indicated by two STOPWATCH hands that move independently of the hands for time indication.
- After 48 minutes, the stopwatch will stop automatically.

TIPS ON READING THE HANDS

- The STOPWATCH second hand turns a full circle in 60 seconds.
- The STOPWATCH minute hand moves in one-minute increments up to 45 minutes. It moves accordingly as the STOPWATCH second hand moves. Please note that the measured time may be misread if you only see the time shown by the STOPWATCH minute hand.



Ex.) 9 minutes 58 seconds

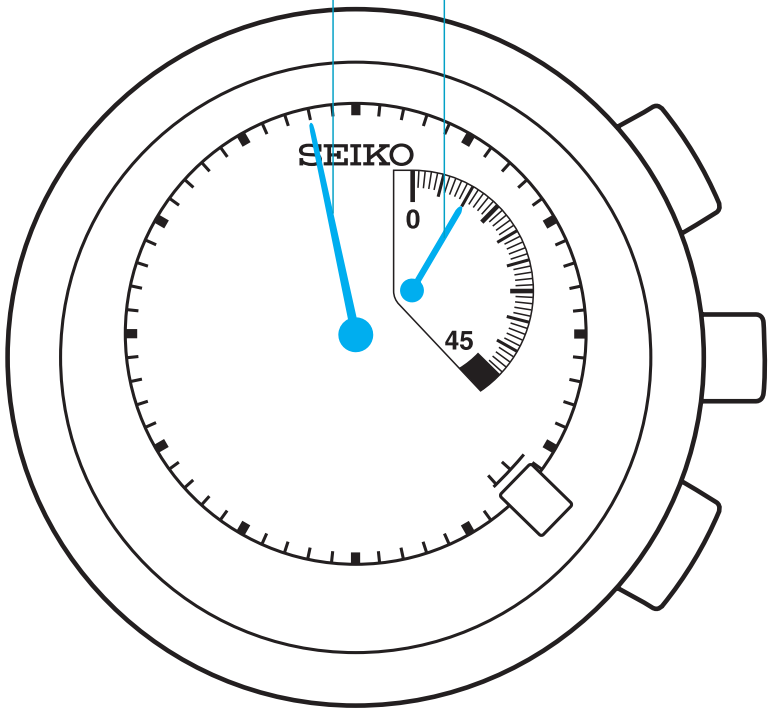
Be careful not to misread 9 minutes 58 seconds as 10 minutes 58 seconds even if the STOPWATCH minute hand is close to the 10 minutes position.

◆ ***STOPWATCH second hand reading:***

The STOPWATCH second hand almost points to “58”.

◆ ***STOPWATCH minute hand reading:***

The STOPWATCH minute hand almost points to “10” but should be read as “9”.



STOPWATCH OPERATION

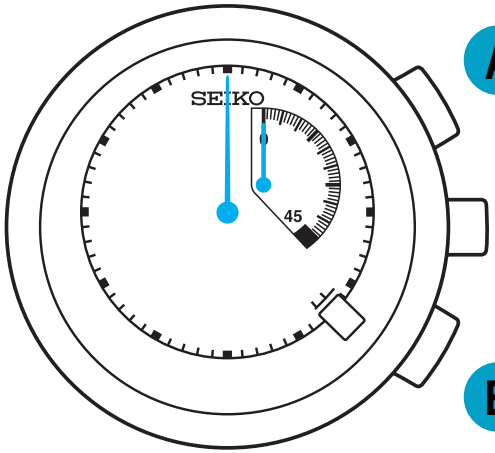
- **Before using the stopwatch, be sure to reset the STOPWATCH hands to “0” position.**

1) Check that the watch is operating normally.

   * *If the watch has stopped completely or if the second hand is moving at two-second intervals, charge the watch sufficiently. (See “HOW TO CHARGE AND START THE WATCH”)*

2) Press button B to reset the STOPWATCH hands to “0” position.

   * *When using the stopwatch for the first time after the watch has been charged to start operation, be sure to reset the stopwatch even if the STOPWATCH hands are at “0” position.*



A START/ STOP

B RESET

Standard measurement

A ▶ A ▶ B

START STOP RESET

Accumulated elapsed time measurement

A ▶ A ▶ A • • • • ▶ A ▶ B

START STOP RESTART STOP RESET

* *Restart and stop of the stopwatch can be repeated by pressing button A.*
* *Be careful not to press button B by mistake while the stopwatch is measuring.*
* *Do not press buttons A and B at the same time, nor press one of the two buttons while keeping the other pressed.*

TACHYMETER
(for models with tachymeter scale)

To measure the hourly average speed of a vehicle

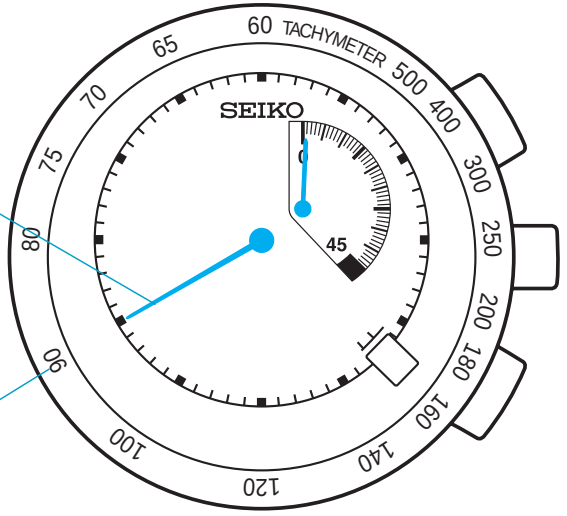
1 Use the stopwatch to determine how many seconds it takes to go 1 km or 1 mile.

2 Tachymeter scale indicated by STOPWATCH second hand gives the average speed per hour.

Ex. 1

STOPWATCH second hand: 40 seconds

Tachymeter scale: "90"



"90" (tachymeter scale figure) x 1 (km or mile) = 90 km/h or mph

* *Tachymeter scale can be used only when the time required is less than 60 seconds.*

Ex. 2: If the measuring distance is extended to 2 km or miles or shortened to 0.5 km or miles and STOPWATCH second hand indicates "90" on tachymeter scale:

"90" (tachymeter scale figure) x 2 (km or mile) = 180 km/h or mph

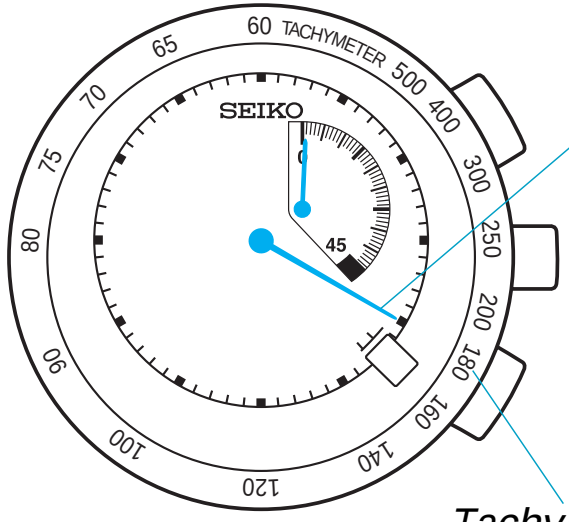
"90" (tachymeter scale figure) x 0.5 (km or mile) = 45 km/h or mph

To measure the hourly rate of operation

1 Use the stopwatch to measure the time required to complete 1 job.

2 Tachymeter scale indicated by STOPWATCH second hand gives the average number of jobs accomplished per hour.

Ex. 1



STOPWATCH second hand: 20 seconds

Tachymeter scale: "180"

"180" (tachymeter scale figure) x 1 job
= 180 jobs/hour

Ex. 2: If 15 jobs are completed in 20 seconds:

"180" (tachymeter scale figure) x 15 jobs = 2700 jobs/hour

NOTES FOR USING THE WATCH

HOW TO CHARGE AND START THE WATCH

- To charge the KINETIC E.S.U. efficiently, swing the watch from side to side rhythmically at a rate of twice a second, making an arc of about 20 cm.
- No additional benefit is obtained by swinging the watch more quickly or with greater vigor.
- When the watch is swung, the oscillating weight in the generating system rotates to drive the mechanism. As it rotates, it gives out a sound, which is not a malfunction.
- If you find the second hand moving at two-second intervals after swinging the watch approximately 500 times, swing it further until the second hand moves at the normal one-second intervals.
- The watch is equipped with a system to prevent overcharge. Even if it is further swung after being fully charged, no malfunction will result.
- It is not necessary to charge the watch fully, as it is charged automatically while it is worn on your wrist.
- Wear the watch daily for at least 10 hours.
- Even if the watch is worn on your arm, it will not be charged while your arm is not in motion.

POWER RESERVE IN YOUR SEIKO KINETIC WATCH

- **Precaution on see-through case-back models:**
  If your watch has a glass case back, do not expose the case back to strong light such as direct sunlight or an incandescent light at close range, as this may temporarily increase the power consumption of the watch circuit, thus reducing the power reserve in the KINETIC E.S.U. This condition, however, will be corrected when the case back is turned away from the light.

ENERGY DEPLETION FOREWARNING FUNCTION

- The watch remains accurate even while the second hand is moving at two-second intervals.
- If the stopwatch continues to be used after the second hand starts moving at two-second intervals, the movement of the stopwatch hands may become unstable immediately before the watch stops completely.

TIME/CALENDAR SETTING

- Do not set the date between 9:00 p.m. and 1:00 a.m. Otherwise, it may not change properly. If it is necessary to set the date during that time period, pull out the crown to the second click and turn it counterclockwise to advance the time ahead of 1:00 a.m., and push the crown to the first click to set the date and then reset the correct time.
- When setting the hour hand, check that AM/PM is correctly set. The watch is so designed that the calendar 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.
- 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.
- When setting the time, make sure that the second hand is moving at one-second intervals.
- It is necessary to adjust the date at the end of February and 30-day months.
  In this case, pull out the crown to the first click and turn it counterclockwise until the desired date appears.

STOPWATCH

- You may feel that the buttons of the watch are harder to press compared with those of conventional watches. This is due to the special construction needed for the stopwatch function, and, therefore, is not a malfunction.
- While the stopwatch is being used, the watch consumes 5 to 6 times the amount of energy required by time indication alone. Before using the stopwatch, therefore, make sure that the watch is charged sufficiently.
- If the stopwatch continues to be used while the second hand is moving at two-second intervals, the watch will run down within 45 minutes.
- After operating for 48 minutes, the stopwatch will stop automatically. If the stopwatch minute hand stops at the position over 45 minutes indicator, reset the stopwatch before next use.
- While the stopwatch is measuring, pressing button B will reset the stopwatch. Be careful not to press button B by mistake.
- Do not press buttons A and B at the same time, nor press one of the two buttons while keeping the other pressed. Otherwise, a malfunction will result.

SPECIFICATIONS

1	Frequency of crystal oscillator	32,768 Hz (Hz = Hertz … Cycles per second)
2	Loss/gain (monthly rate)	Less than 15 seconds (worn on the wrist 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, 2 pieces
5	Display system	
	Time	Hour, minute and second hands
	Date	Displayed in numerals.
	Stopwatch	Minute and 1/5 second hands The stopwatch measures up to 45 minutes in 1/5 second increments.
6	Additional function	Energy depletion forewarning function and overcharge prevention function
7	Duration of charge	
	Full charge	Approximately 5 months (if the stopwatch is used for 45minutes per day)
	After the second hand starts moving at two-second intervals	Approximately 12 hours (if the stopwatch is not used)
8	KINETIC electricity storage unit	Button type, 1 piece
9	IC (Integrated Circuit)	C-MOS-IC, 1 piece
10	Generating system	Miniature AC generator

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