


You are now the proud owner of a SEIKO KINETIC® Cal. 3M22/4M21/5M42/5M43. For best results, please read the instructions in this booklet carefully before using your SEIKO KINETIC®. Please keep this manual handy for ready reference.

Usted es ahora un honrado poseedor del SEIKO KINETIC® Cal. 3M22/4M21/5M42/5M43. Para obtener de él los mejores resultados, lea las instrucciones del presente folleto con cuidado antes del uso de su reloj SEIKO KINETIC®. Guarde este manual para fácil referencia.

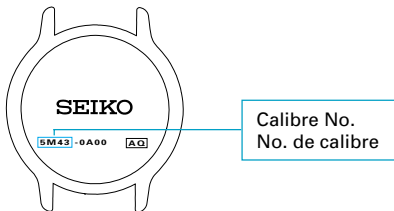


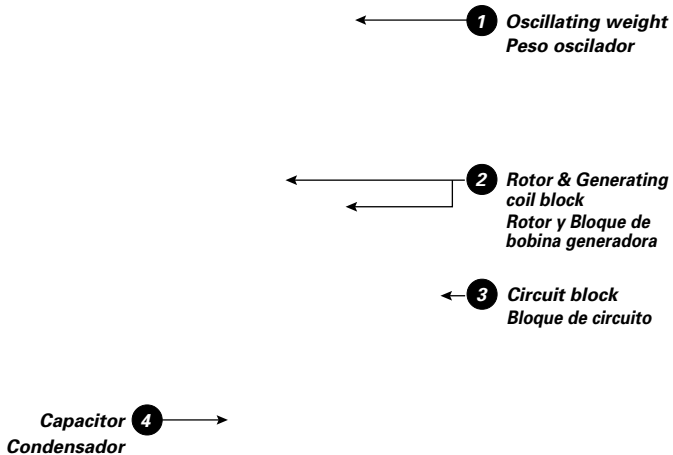
Calibre number of your watch

Please check the case back of your watch to find its calibre number inscribed on it. As illustrated below, the calibre number of your watch is the 4-digit number to the left of the hyphen mark. This booklet includes the instructions for the following watch calibre numbers: Cal. 3M22, 4M21, 5M42 and 5M43.

Número de calibre del reloj

Por favor, compruebe la parte posterior de la caja de su reloj para averiguar su número de calibre gravado en ella. Como ilustrado abajo, el número de calibre de su reloj es el número de 4 dígitos a la izquierda de la marca guión. Este librito incluye las instrucciones para los siguientes números de calibre del reloj: Cal. 3M22, 4M21, 5M42 y 5M43.





The AUTOMATIC POWER GENERATOR

Arm movement is the energy source which sets the oscillating weight in motion. This, in turn, causes the rotor to spin even faster than an F1 racing car engine. The result is an electric current which is produced by the coil. This is stored by the capacitor, which supplies the circuit block with power to drive the watch as needed.

EL GENERADOR AUTOMATICO DE ENERGIA

El movimiento del brazo es la fuente de energía que pone el peso oscilador en movimiento. Este, a su vez, hace que el rotor gire aun más rápidamente que un motor de un coche de carreras F1. El resultado es una corriente eléctrica producida por la bobina. Esta se almacena mediante el condensador, el cual suministra energía al bloque de circuito para excitar el reloj como sea necesario.

SEIKO KINETIC® is a revolutionary watch that has realized the long-cherished dream of a “perpetual energy source”.

Unlike mechanical watches or conventional quartz watches, it requires no windup springs or batteries. Instead, it utilizes the movement of the wearer as its power source.

SEIKO KINETIC® is the most sophisticated and prestigious new technological breakthrough in the history of watchmaking.

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SEIKO KINETIC®

Cal. 3M22, 4M21, 5M42, 5M43

FEATURES

The SEIKO KINETIC® Cal. 3M22/4M21/5M42/5M43 is an analogue watch featuring an Automatic Power Generator newly developed by SEIKO. It generates the electrical energy to power the watch, utilizing the movement of the arm, and stores it in a capacitor. Therefore, the watch does not use a battery. The watch is also equipped with a power reserve indicator and an energy depletion forewarning function so that its constant operation can be assured.

■ TIME

Indicated by three hands

■ CALENDAR

Cal. 3M22/5M42 : Date is displayed in the calendar frame.

Cal. 5M43 : Date and day of the week are displayed in the calendar frame.

■ AUTOMATIC POWER GENERATOR

The Automatic Power Generator works as you move your arm while wearing the watch, thus generating the electrical energy to power the watch.

■ CAPACITOR

The watch is provided with a capacitor to store the electrical energy generated by the Automatic Power Generator.

Cal. 3M22/4M21 : When the watch is fully charged, the watch keeps operating for more than 3 days.

Cal. 5M42/5M43 : When the capacitor is fully charged, the watch keeps operating for more than 7 days.

■ POWER RESERVE INDICATOR

The current power reserve of the capacitor is indicated by the second hand at the press of a button.

■ ENERGY DEPLETION FOREWARNING FUNCTION

When the energy stored in the capacitor is reduced to an extremely low level, the second hand starts moving at two-second intervals to indicate that the capacitor needs recharging by swinging the watch from side to side.

■ INSTANT-START FUNCTION

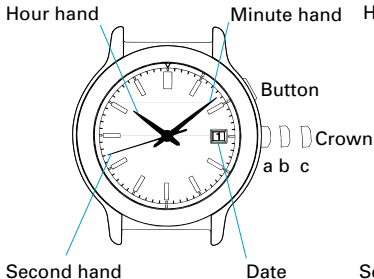
Even when the watch completely stops operating, swinging it several times can start the hands moving. For details, see page 20.

■ ROTATING BEZEL

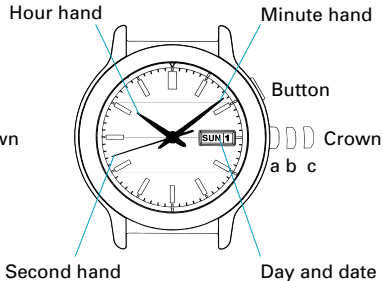
Up to 60 minutes of elapsed time can be shown.

DISPLAY AND CROWN OPERATION

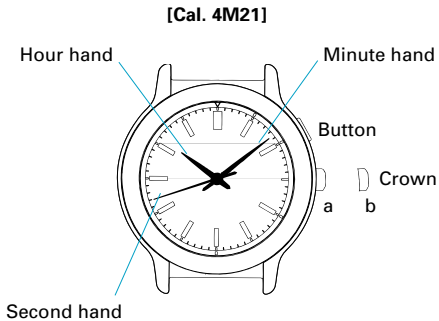
[Cal. 3M22/5M42]



[Cal. 5M43]



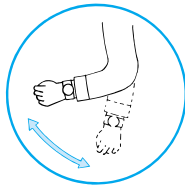
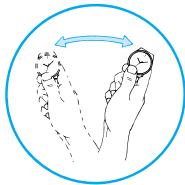
- (a) Normal position : Free
- (b) First click:
- Clockwise : Date setting
 - Counterclockwise : Day setting (Cal. 5M43)
- (c) Second click : Time setting



- (a) Normal position : Free
- (b) Extended position : Time setting

HOW TO CHARGE AND START THE WATCH

When using the watch for the first time after it is purchased, be sure to charge the capacitor sufficiently by swinging the watch from side to side, and then put it on.



1. Swing the watch from side to side rhythmically at a rate of twice a second in the same manner as you would swing a mechanical automatic winding watch.
2. After the watch is swung about 100 times, the second hand starts moving at one-second intervals.
* There will be about **3 hours (Cal. 3M22/4M21) / 6 hours (Cal. 5M42/5M43)** of power reserve available.
3. Swing the watch further about **400 times (Cal. 3M22/4M21) / 300 to 400 times (Cal. 5M42/5M43)**.

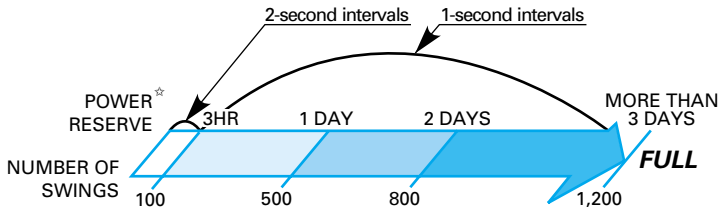
- * There will be about **1 day (Cal. 3M22/4M21) / 2 days (Cal. 5M42/5M43)** of power available.
 - * It is not necessary to charge the capacitor fully before you wear the watch. While the watch is on your arm, the Automatic Power Generator will ensure constant operation.
4. Set the time and calendar, and put on the watch.
- * We recommend that the watch be worn 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.

Notes:

1. To charge the capacitor efficiently, swing the watch from side to side, making an arc of about 20 cm.
2. No additional benefit is obtained by swinging the watch more quickly or with greater vigor.
3. When the watch is swung, the oscillating weight in the generating system rotates to drive the mechanism. As it rotates, it gives out sound, which is not a malfunction.
4. Provided with an instant-start function, the watch may start operating after it is swung several times. For details, see "INSTANT-START FUNCTION" on page 20.

NUMBER OF SWINGS AND POWER RESERVE

• Cal. 3M22/4M21

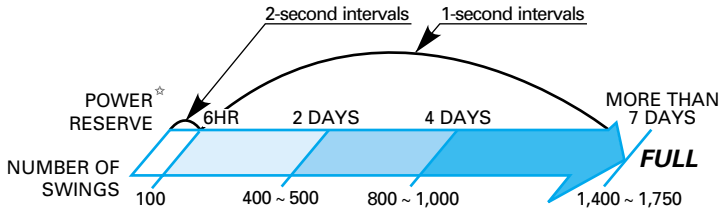


☆ The illustration above provides a general guideline of the relationship between the power reserve and the number of swings, which may vary slightly.

1. When the watch stops completely, 100 swings will start the watch and the second hand will move at one-second intervals. There will be about 3 hours of power reserve available.
2. An additional 400 swings, 500 swings in total, will reserve up to 1 day of power.
3. Another 300 swings, 800 swings in total, will reserve up to 2 days of power.
4. An additional 400 swings, 1,200 swings in total, will reserve more than 3 days of power.

* The watch is equipped with a system to prevent overcharge. Even if it is further swung after being fully charged, no malfunction will result.

• Cal. 5M42/5M43



☆ The illustration above provides a general guideline of the relationship between the power reserve and the number of swings, which may vary slightly.

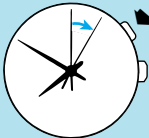
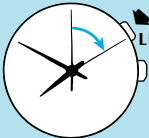
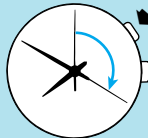
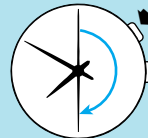
1. When the watch stops completely, 100 swings will start the watch and the second hand will move at one-second intervals. There will be about 6 hours of power reserve available.
2. An additional 300 to 400 swings, 400 to 500 swings in total, will reserve up to 2 days of power.

3. Another 400 to 500 swings, 800 to 1,000 swings in total, will reserve up to 4 days of power.
4. An additional 600 to 750 swings, 1,400 to 1,750 swings in total, will reserve more than 7 days of power, and fully charge the capacitor.
 - * The watch is equipped with a system to prevent overcharge. Even if it is further swung after being fully charged, no malfunction will result.

POWER RESERVE INDICATOR

The current power reserve of the capacitor can be checked instantly by using the power reserve indicator function.

1. Press the button at the 2 o'clock position. The second hand moves quickly and stops.
2. The number of seconds that the second hand advances indicates the power reserve in the capacitor. (See the table on the next page)
3. Please note that after the power reserve is checked, the second hand will resume normal movement again after the indicated 5, 10, 20 or 30 seconds have elapsed.
 - ☆ The power reserve indicator provides a general guideline of the duration within which the watch keeps operating without needing to be charged. Actual power reserve may differ slightly from the amounts shown in the table.
4. If the watch needs recharging, swing it sufficiently.

QUICK MOVEMENT OF THE SECOND HAND		5 seconds	10 seconds	20 seconds	30 seconds*
					
POWER RESERVE ☆	3M22/ 4M21	Between 3 and 24 hours of power reserve	Between 1 and 2 days of power reserve	Between 2 and 3 days of power reserve	Between 3 and 7 days (Cal. 3M22) / 3 and 4 days (Cal. 4M21) of power reserve
	5M42/ 5M43	Between 6 and 48 hours of power reserve	Between 2 and 4 days of power reserve	Between 4 and 7 days of power reserve	Between 7 and 14 days of power reserve

* Full charge of the capacitor

When the second hand advances 30 seconds at a press of the button, the capacitor is fully charged and the watch will keep operating for more than **3 days (Cal. 3M22/ 4M21) / 7 days (Cal. 5M42/5M43)**. It can continue operating for a maximum of **7 days (Cal. 3M22) / 4 days (4M21) / 14 days (Cal. 5M42/5M43)** without recharging the capacitor.

Notes:

1. To allow easy reading of the second hand, we recommend that the button be pressed when the second hand is at the 12 o'clock position. When the second hand points to "LO", the capacitor has a power reserve of between **1 and 2 days (Cal. 3M22/4M21) / 2 and 4 days (Cal. 5M42/5M43)**.
2. You can immediately press the button again to recheck the power reserve one more time. To do so a third time, however, wait until the second hand resumes normal movement before pressing the button again.
3. When the second hand moves at two-second intervals, the power reserve is very low and the indicator does not function. See the next section, which explains the Energy Depletion Forewarning Function.
4. Immediately after the watch is swung to charge the capacitor, the second hand may not properly indicate the power reserve. Please check after putting the watch on your wrist.
5. **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 capacitor.
This condition, however, will be corrected when the case back is turned away from the light.

ENERGY DEPLETION FOREWARNING FUNCTION

When the energy stored in the capacitor is reduced to an extremely low level, the second hand starts moving at two-second intervals instead of the normal one-second intervals, indicating that the watch needs recharging and will run down in approximately **3 hours (Cal. 3M22/4M21) / 6 hours (Cal. 5M42/5M43)**.

If you find the second hand moving at two-second intervals, therefore, be sure to swing the watch from side to side to charge the capacitor sufficiently before using it.

Note: The watch remains accurate even while the second hand is moving at two second intervals.

INSTANT-START FUNCTION

This function is very useful when a watch has been stopped for a long time and you need to get it started quickly with only a few swings.

This function is available as long as:

- 1) the watch previously had more than **2 days (Cal. 3M22/4M21) / 4 days (Cal. 5M42/5M43)** of power reserve before it stopped.
- 2) it has been left untouched for 1 to 4 weeks.

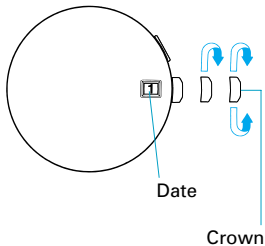
*** After you swing the watch several times and note that the hands are moving, be sure to put it on your wrist so that it will be charged further until the second hand is moving at one-second intervals.**

Note: If the second hand continues moving at two-second intervals after the watch is put on your wrist, swing it from side to side until the second hand starts moving at one-second intervals, and then, put in on your wrist.

REMARKS ON THE RESERVE POWER OF THE CAPACITOR

- As the watch is powered by the electrical energy stored in the capacitor, it uses no battery.
- Even while the second hand is stopped by pulling out the crown all the way, current continues being consumed by the built-in IC. Please note, therefore, that, while the watch is not in use, pulling out the crown all the way will not save the energy stored in the capacitor.

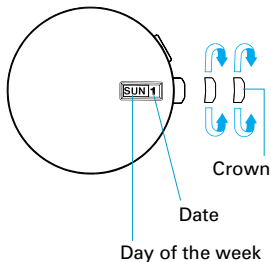
DATE SETTING – Cal. 3M22/5M42



1. Pull out the crown to the first click.
If the crown is of the screw lock type, unscrew the crown by turning it counterclockwise, and then pull it out to the first click.
2. Turn the crown clockwise until the previous day's date appears.
3. Pull out the crown to the second click, and advance the hour and minute hands until the desired date appears.
4. Push the crown back in to the normal position. If the crown is of the screw lock type, screw it in completely by turning it clockwise while pressing it.

Note: Do not set the date between 9:00 p.m. and 1:00 a.m. Otherwise, the date may not change properly. If it is necessary to set the date during that time period, first change the time to any time outside it, set the date and then reset the correct time.

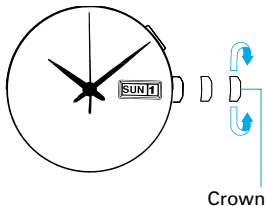
DATE AND DAY SETTING – Cal. 5M43



1. Pull out the crown to the first click.
If the crown is of the screw lock type, unscrew the crown by turning it counterclockwise, and then pull it out to the first click.
2. Turn the crown clockwise until the previous day's date appears.
3. Turn the crown counterclockwise until the previous day of the week appears.
4. Pull out the crown to the second click, and advance the hour and minute hands until the desired date and day appear.
5. Push the crown back in to the normal position. If the crown is of the screw lock type, screw it in completely by turning it clockwise while pressing it.

Note: Do not set the date and day between 9:00 p.m. and 3:00 a.m. Otherwise, the date and day may not change properly. If it is necessary to set the date and day during that time period, first change the time to any time outside it, set the date and day and then reset the correct time.

TIME SETTING – 3M22/5M42/5M43

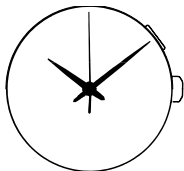


1. Pull out the crown all the way to the second click when the second hand is at the 12 o'clock position. If the crown is of the screw lock type, unscrew the crown by turning it counterclockwise, and then pull it out to the second click.
2. Turn the crown to set the hour and minute hands to the desired time.
3. Push the crown back in to the normal position in accordance with a time signal.
If the crown is of the screw lock type, screw it in completely by turning it clockwise while pressing it.

Notes:

1. 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 calendar changes, the time is set for the A.M. period. If the calendar 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.

TIME SETTING – 4M21




1. Pull out the crown when the second hand is at the 12 o'clock position.
If the crown is of the screw lock type, unscrew the crown by turning it counterclockwise, and then pull it out.
2. Turn the crown to set the hour and minute hands to the desired time.
3. Push the crown back in to the normal position in accordance with a time signal.
If the crown is of the screw lock type, screw it in completely by turning it clockwise while pressing it.

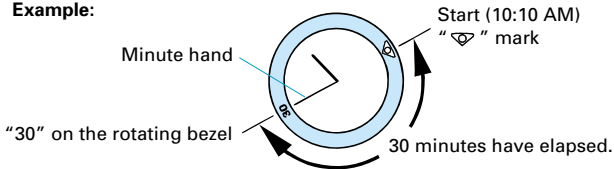
Note: When setting the minute hand, advance it 4 to 5 minutes ahead of the desired time and then turn it back to the exact minute.

ROTATING BEZEL [For the models with rotating bezel]

The rotating bezel can show up to 60 minutes of elapsed time. By setting it before you start, you can know how many minutes have elapsed.

- For models in which the rotating bezel rotates only counterclockwise, the time measured is never shorter than the actual elapsed time if the bezel is turned by accident.
 - * For some models, the rotating bezel rotates both clockwise and counterclockwise.
- 1. Turn the rotating bezel to align its “” mark with the minute hand.
 - * The rotating bezel rotates with clicks. With each click, it turns half a minute.
- 2. To know the elapsed time, read the number on the rotating bezel that the minute hand points to.

Example:



TO PRESERVE THE QUALITY OF YOUR WATCH

■ WATER RESISTANCE

Indication on case back	Condition of use	Accidental contact with water such as rain and splashes	Swimming, yachting and taking a shower	Taking a bath and shallow diving	Scuba diving** and saturation diving
	Degree of water resistance*				
No indication	Non-water resistant	No	No	No	No
WATER RESISTANT	3 bar	Yes	No	No	No
WATER RESISTANT 5 BAR	5 bar	Yes	Yes	No	No
WATER RESISTANT 10/15/20 BAR	10/15/20 bar	Yes	Yes	Yes	No

● Non-water resistant



- If the watch becomes wet, have it checked by an AUTHORIZED SEIKO DEALER or SERVICE CENTER.

● Water resistant 5/10/15/20 bar



- Before using in water, be sure the crown is pushed in completely.
- Do not operate the crown and button when the watch is wet or in water.



If used in sea water, rinse the watch in fresh water and dry it completely.

- When taking a shower with a water resistant 5 bar watch, or taking a bath with a water resistant 10, 15 or 20 bar watch, be sure to observe the following:
 - * Do not operate the crown or push the button when the watch is wet with soapy water or shampoo.
 - * If the watch is left in warm water, a slight time loss or gain may be caused. This condition, however, will be corrected when the watch returns to normal temperature.

** 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.*

*** We recommend that you wear a SEIKO Diver's Watch for scuba diving.*

■ TEMPERATURES



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

Temperatures over 60°C (140°F) or below -10°C (+14°F) may cause a slight time loss or gain or shorten the duration within which the watch keeps operating. However, the above conditions will be corrected when the watch returns to normal temperature.

■ SHOCKS & VIBRATION



Be careful not to drop your watch or hit it against hard surfaces.

■ MAGNETISM



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

■ CHEMICALS



Be careful not to expose the watch to solvents, mercury, cosmetic spray, detergents, adhesives or paints. Otherwise, the case, bracelet, etc. may become discolored, deteriorated or damaged.

■ CARE OF CASE AND BRACELET



To prevent possible rusting of the case and bracelet, wipe them periodically with a soft dry cloth.

■ 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, crown, button, gasket and crystal seal remain intact.

■ PRECAUTION REGARDING CASE BACK PROTECTIVE FILM



If your watch has a protective film and/or a sticker on the case back, be sure to peel them off before using your watch.

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 |
| 5. Time and calendar indication | |
| Time indication | 3 hands (hour, minute and second hands) |
| Date indication
(Cal. 3M22/5M42/5M43) | Displayed in the calendar frame |
| Day indication (Cal. 5M43) | Displayed in the calendar frame |
| 6. Additional function | Power reserve indicator, energy depletion forewarning function, instant-start function and overcharge prevention function. |
| 7. Duration of charge | |
| Full charge (Cal. 3M22/4M21) | More than 3 days |
| Full charge (Cal. 5M42/5M43) | More than 7 days |
| 8. Capacitor | Button type capacitor, 1 piece |
| 9. IC (Integrated Circuit) | C-MOS-IC, 1 piece |

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