

Cal. V157, V158

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You are now the proud owner of a SEIKO Solar Diver's Watch Cal. V157/V158. For best results, please read the instructions in this booklet carefully before using your SEIKO Solar Diver's Watch. Please keep this manual handy for ready reference.

Sie sind jetzt stolzer Besitzer einer SEIKO Solar Taucheruhr Cal. V157/V158. Um Ihre Uhr bestmöglich zu nutzen, lesen Sie bitte die Hinweise in dieser Broschüre aufmerksam, bevor Sie Ihre SEIKO Solar Taucheruhr benutzen. Bitte halten Sie diese Anleitung griffbereit, damit Sie jederzeit nachschlagen können.

Vous êtes maintenant l'heureux propriétaire d'une montre de plongée solaire SEIKO Cal. V157/V158. Pour en obtenir d'excellents résultats, veuillez lire attentivement ces instructions avant d'utiliser la montre. Conservez ce manuel pour vous y référer en cas de besoin.

Grazie di aver acquistato questo orologio SEIKO Solar per immersioni Cal. V157/V158. Per poter utilizzare l'orologio al massimo delle sue prestazioni leggere attentamente questo manuale di istruzioni prima di passare all'uso dell'orologio stesso, e conservarlo poi per qualsiasi eventuale futura consultazione.

Muchas gracias por su acertada compra del Reloj de Buceo Solar SEIKO Cal. V157/158. Para obtener el óptimo resultado, lea detenidamente las instrucciones de este folleto antes del uso su Reloj de Buceo Solar SEIKO. Guarde este manual en un lugar seguro para la consulta posterior.

Agora pode sentir-se orgulhoso de possuir um Relógio do Mergulhador Solar SEIKO Cal. V157/V158. Para obter os melhores resultados, leia atentamente as instruções contidas neste opúsculo antes de utilizar o relógio. Conserve este manual para consultas futuras.

Вы стали гордым обладателем часов SEIKO для дайвинга на солнечной батарее калибра V157/V158. Чтобы использовать часы оптимальным образом, внимательно прочитайте эту инструкцию, прежде чем приступать к пользованию. Сохраните эту брошюру, чтобы обратиться к ней в случае необходимости.

歡迎購買精工V157/V158機型太陽能潛水錶。為了能更有效地使用本錶，請在使用之前，仔細地閱讀本手冊內的各項說明，並將手冊妥善保管，以備今後參考。



WARNING

- Do not attempt to dive using this watch unless you have been properly trained in diving. For your safety, please abide by the rules of diving.
- Do not use the watch for saturation diving using helium gas.
- Before diving, make sure that the watch operates normally.



CAUTION

- Please read and observe the instructions described in this booklet to ensure the proper functioning of your diver's watch.
- Do not operate the crown when the watch is wet or in water.
- Do not operate the buttons when the watch is wet or in water.
- Avoid hitting the watch against hard objects such as rocks.



WARNING notes indicate any condition or practice which, if not strictly observed, could result in severe personal injury or possible death.



CAUTION notes indicate any condition or practice which, if not strictly observed, may result in personal injury or property damage.

PRECAUTIONS ON USING THE WATCH FOR DIVING

BEFORE DIVING, MAKE SURE THAT THE WATCH OPERATES NORMALLY AND BE SURE TO OBSERVE THE PRECAUTIONS DESCRIBED BELOW.

BEFORE DIVING

- Do not use the watch for saturation diving using helium gas.
- To measure the elapsed time while you are underwater, always use the rotating bezel.
- Check that:
 - the second hand is moving at one-second intervals.
 - the crown is locked tightly in place.
 - the buttons are locked tightly in place.
 - there are no visible cracks in the crystal or the watch band.
 - the strap or bracelet is securely fastened to the watch case.
 - the buckle keeps the strap or bracelet firmly secured to the wrist.
 - the rotating bezel turns counterclockwise smoothly (the rotation must not be too loose or too tight) and the "⌚" mark aligns with the minute hand.
 - the time and calendar are appropriately set.

If there are any malfunctions, we recommend that you contact an AUTHORIZED SEIKO SERVICE CENTER.

WHILE DIVING

- Do not operate the crown and the buttons when the watch is wet or in water.

- Take care not to hit the watch against hard objects such as rocks.
- Bezel rotation may become slightly stiffer underwater. This is not a malfunction.

AFTER DIVING

- Rinse the watch in fresh water after diving and wash out all seawater, soil, sand, etc.
- Wipe the watch thoroughly dry to prevent possible rust on the case after cleaning the watch in fresh water.

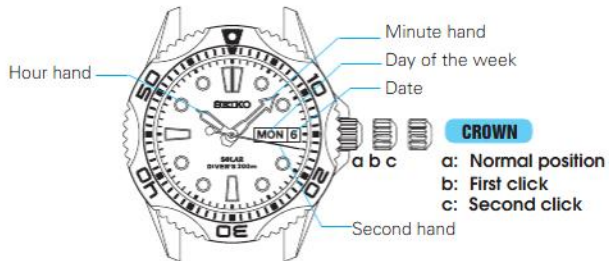
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☆ For the care of your watch, see "TO PRESERVE THE QUALITY OF YOUR WATCH" in the attached Worldwide Guarantee and Instruction Booklet.

SEIKO CAL. V157/V158

■ TIME/CALENDAR



HOW TO CHARGE AND START THE WATCH

- When you start the watch or when the energy in the rechargeable battery is reduced to an extremely low level, charge it sufficiently by exposing the watch to light.
- **Instant-start function:**
When the watch is exposed to sunlight or strong artificial light (of more than 1,000 lux), it will start operating immediately with the second hand moving at 2-second intervals.



- 1 Expose the watch to sunlight or strong artificial light.
 - * When the watch has stopped operating, the second hand will start moving at 2-second intervals.
- 2 Keep the watch exposed to the light until the second hand moves at 1-second intervals.
- 3 When the watch is charged after it has completely stopped, set the date, day and time before wearing the watch.
 - * See "GUIDELINE OF CHARGING TIME/ACCURACY".

NOTES:

- 1 When the instant-start function is activated after the watch is exposed to light, the second hand starts moving at 2-second intervals immediately, but the energy stored in the rechargeable battery is not sufficient. If the watch is turned away from the light, it may stop operating.
- 2 It is not necessary to charge the watch fully. It is important, however, to charge the watch sufficiently, especially in case of initial charge.


CAUTION
Caution for charging

- When charging the watch, do not place it too close to a photoflash light, spotlight, incandescent light or other light sources as the watch temperature will become extremely high, causing damage to the parts inside the watch.
- When exposing the watch to sunlight to charge it, do not leave it on the dashboard of a car, etc. for a long time, as the watch temperature becomes extremely high.
- While charging the watch, make sure the watch temperature does not exceed 60 °C.

SCREW DOWN CROWN

- Your watch has a screw down crown to prevent accidental operation and help maintain water-resistant quality.
- To use the crown, it is necessary to unlock the crown first before pulling it out, and it is important to securely screw the crown in after each use.

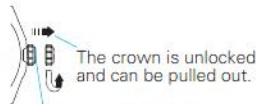
HOW TO OPERATE THE SCREW DOWN CROWN

The crown must be securely locked in the case except when you use it to set the watch.

<How to unlock the crown>

Turn the crown counterclockwise to unscrew it.

The crown is released and projected outward from its original position.



The crown is locked.

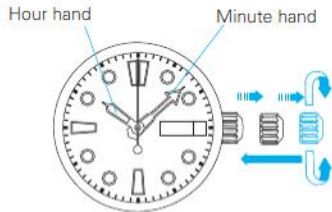
<How to lock the crown>

Turn the crown clockwise while pressing it to the case until it is screwed all the way in and locked.



1. Before diving, make sure that the crown is locked tightly in place.
2. Do not operate the crown when the watch is wet or in water.
3. When screwing the crown in, ensure that the crown is correctly aligned and turn it gently. If it is hard to turn, unscrew it first, and then rewind it. Do not screw it in by force as it may damage the thread of the screw or the case.

SETTING THE TIME



CROWN

Unscrew and pull out to second click when the second hand is at the 12 o'clock position.

Turn to set the hour and minute hands.

Push back into normal position in accordance with a time signal.

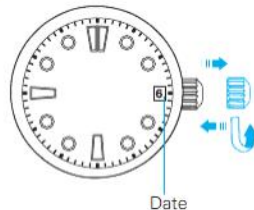
Screw all the way in until it is locked.

1. Once the crown is pulled out to the second click, be sure to check and adjust the time.
2. When setting the hour hand, be sure to check that AM/PM is correctly set. The watch is designed so that the date changes once in 24 hours.
3. When setting the minute hand, first advance it 4 to 5 minutes ahead of the desired time and then turn it back to the exact minute.

SETTING THE CALENDAR

● Models with date

- Before setting the date, be sure to set the main time.



CROWN

Unscrew and pull out to first click.

Turn counterclockwise to set the date.

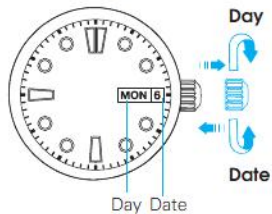
Push back into normal position.

Screw all the way in until it is locked.

1. It is necessary to adjust the date at the end of February and 30-day months.
2. Do not set the date between 9:00 p.m. and 1:00 a.m. Otherwise, the date may not change properly.

● Models with day and date

- Before setting the day and date, be sure to set the main time.




CROWN

- ▼ Unscrew and pull out to first click.
- ▼ Turn clockwise to set the day of the week.
- ▼ Turn counterclockwise to set the date.
- ▼ Push back into normal position.
- ▼ Screw all the way in until it is locked.

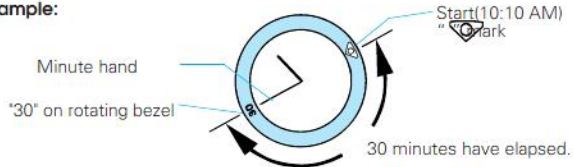
1. It is necessary to adjust the date at the end of February and 30-day months.
2. Do not set the date between 9:00 p.m. and 1:00 a.m. Otherwise, the date may not change properly.

ROTATING BEZEL

The rotating bezel can show the elapsed time up to 60 minutes. By setting it before diving, you can know how many minutes you are underwater.

- To prevent accidental rotation, the rotating bezel is so designed that rotation becomes harder in water. Also for safety's sake, it rotates only counterclockwise, so that the time measured is never shorter than the actual elapsed time.
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:



Bezel rotation may become slightly stiffer underwater. This is not a malfunction.

GUIDELINE OF CHARGING TIME/ACCURACY

Environment/Lightsource (lux)	V157/V158		
	A (minutes)	B (hours)	C (hours)
General offices/ Fluorescent light (700)	110	25	-
30W20cm/ Fluorescent light (3000)	30	6	120
Cloudy weather/Sunlight (10000)	10	2	35
Fair weather/Sunlight (100000)	2	0.4	9
Expected life per charge from full charge to stoppage	10 months		
Loss/gain (monthly rate)	Less than 15 seconds when the watch is worn on your wrist at a normal temperature range (5 °C to 35 °C)		
Operational temperature range	-10 °C to 60 °C		

- A:** Time to charge 1 day of power
B: Time required for steady operation
C: Time required for full charge

❖ The above table provides only a general guideline.

- ◆ The watch operates while charging electricity by converting light received on the dial to electrical energy. It cannot properly operate unless the remaining energy is sufficient. Place or store the watch in a location receiving light etc., to sufficiently charge electricity.
 - When the watch is stopped or the second hand starts moving at 2-second intervals (for models with a second hand), charge the watch by exposing it to light.
 - The time required for charging the watch varies depending on the calibres. Check the calibre of your watch engraved on the back cover.
 - It is recommended that the watch be charged for as long as the charging time "B" to assure the stable movement of the watch.

ENERGY DEPLETION FOREWARNING FUNCTION

- If your watch has a second hand, when the energy stored in the rechargeable battery is reduced to an extremely low level, the second hand starts moving at 2-second intervals instead of the normal 1-second intervals. The watch remains accurate even while the second hand is moving at 2-second intervals.
- In that case, recharge the watch as soon as possible by exposing it to light. Otherwise, the watch may stop operating in about 3 days. (For recharging the watch, see "HOW TO CHARGE AND START THE WATCH".)

❖ TO PREVENT THE ENERGY DEPLETION

- When wearing the watch, make sure that the watch is not covered by clothing.
- When the watch is not in use, leave it in a bright place as long as possible.

NOTE ON POWER SUPPLY

- The battery used in this watch is a rechargeable battery, which is different from ordinary silver oxide batteries. Unlike other disposable batteries such as dry-cell batteries or button cells, this rechargeable battery can be used over and over again by repeating the cycles of discharging and recharging.
- The capacity or recharging efficiency of the rechargeable battery may gradually deteriorate for various reasons such as long-term use or usage conditions. Worn or contaminated mechanical parts or degraded oils may also shorten recharging cycles. If the efficiency of the rechargeable battery decreases, it is necessary to have the watch repaired.



CAUTION

- Do not remove the rechargeable battery yourself. Replacement of the rechargeable battery requires professional knowledge and skill. Please ask a watch retailer for replacement of the rechargeable battery.
- Installation of an ordinary silver oxide battery can generate heat that can cause bursting and ignition.

TO PRESERVE THE QUALITY OF YOUR WATCH

- Repair of divers watches requires special expertise and equipment. If you find that your diver's watch is malfunctioning, therefore, never attempt to repair it but immediately send it to a nearby SEIKO Service Center.

■ 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) may cause battery leakage or shorten the battery life. Do not leave your watch in very low temperatures below -10° C (+14° 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.

■ MAGNETISM



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

■ CARE OF CASE AND BRACELET



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

■ 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.

■ SHOCKS & VIBRATION



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

■ PERIODIC CHECK



It is recommended that the watch be checked once every 2 to 3 years by an AUTHORIZED SEIKO DEALER or SERVICE CENTER to ensure that the case, crown, 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, peel them off before using your watch.

LUMIBRITE™

LumiBrite is a luminous paint that is completely harmless to human beings and the natural environment, containing no noxious materials such as radioactive substances.

LumiBrite is a newly-developed luminous paint that absorbs the light energy of sunlight or artificial light in a short time and stores it to emit light in the dark.

For example, if exposed to a light of more than 500 lux for approximately 10 minutes, LumiBrite can emit light for 5 to 8 hours.

Please note, however, that, as LumiBrite emits the light it stores, the luminance level of the light decreases gradually over time. The duration of the emitted light may also differ slightly depending on such factors as the brightness of the place where the watch is exposed to light and the distance from the light source to the watch.

When you make a dive in dark water, LumiBrite may not emit light unless it has absorbed and stored light sufficiently.

Before diving, therefore, be sure to expose the watch to light under the conditions specified above, so that it fully absorbs and stores light energy. Otherwise, use the watch together with an underwater flashlight.

< Reference data on luminance >**(A) Sunlight**

[Fine weather]: 100,000 lux

[Cloudy weather]: 10,000 lux

(B) Indoor (Window side during daytime)

[Fine weather]: more than 3,000 lux

[Cloudy weather]: 1,000 to 3,000 lux

[Rainy weather]: less than 1,000 lux

(C) Lighting apparatus (40-watt daylight fluorescent light)

[Distance to the watch: 1 m]: 1,000 lux

[Distance to the watch: 3 m]: 500 lux (average room luminance)

[Distance to the watch: 4 m]: 250 lux

* "LUMIBRITE" is a trademark of SEIKO HOLDINGS CORPORATION.

SPECIFICATIONS

- | | | |
|---|---------------------------------------|---|
| 1 | Frequency of crystal oscillator | 32,768 Hz (Hz = Hertz ... Cycles per second) |
| 2 | Loss/gain (monthly rate) | ±15 seconds at normal temperature range
(5 °C to 35 °C/ 41 °F to 95 °F) |
| 3 | Operational temperature range | -10° C to +60° C (14° F to 140° F) |
| 4 | Driving system | Step motor |
| 5 | Power supply | Manganese titanium-lithium rechargeable battery |
| 6 | Additional function | Instant-start function, energy depletion forewarn-
ing function and overcharging prevention function |
| 7 | IC (Integrated Circuit) | C-MOS-IC, 1 piece |

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