

7A28



TO PRESERVE THE QUALITY OF YOUR WATCH

Your watch contains a highly precise electronic circuit and crystal oscillator, and to maintain its high accuracy, you should not subject it to violent shocks or extreme temperatures.

WATER RESISTANCE

Regular water resistant watches: These watches are designed and manufactured to withstand accidental contact with water such as splashes or rain, but should not be worn while swimming or diving.

Sports 100 watches: These watches are suitable for swimming and skin diving but not for scuba diving. We recommend that you wear a SEIKO Diver's watch for scuba diving.

When the watch gets wet, wipe it dry completely. If it is exposed to sea water, rinse it in fresh water and then wipe it dry completely. Do not operate the crown and buttons when the watch is wet.

Have your SEIKO watch checked periodically by an AUTHORIZED SEIKO DEALER to be sure that the case, crown, buttons, gasket and crystal seal remain intact.

BATTERY LIFE INDICATOR (indicated by second hand)

The battery needs to be replaced when you see the real second hand moving in two second intervals instead of the normal one second interval. However, the watch will remain accurate during this period.

BATTERY CHANGE

The miniature battery (U.C.C. 394 or Maxell SR936SW) 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 life of the battery comes to its end, be sure to replace the battery as soon as possible to prevent any possible malfunction. When replacing the battery, we recommend that you contact an AUTHORIZED SEIKO DEALER.

Note: When the stopwatch is used for 3 hours a day operating the center second hand as the real second hand for 24 hours a day, the battery should last approximately 2 years.

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SEIKO ANALOGUE QUARTZ WATCH WITH CHRONOGRAPH

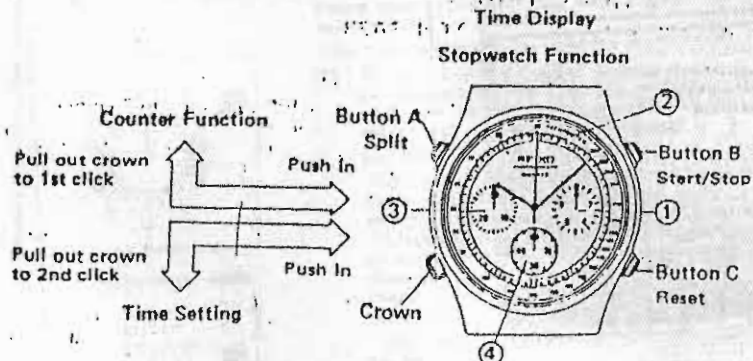
Cal. 7A28 and SPORTS 100 Cal. 7A28

CHARACTERISTICS

1. Time indication: Hour, minutes and seconds.
2. Stopwatch function: Minutes, seconds and 5/100 second up to 30 minutes.
3. Counter function: Three different types of counting scales are available.
4. Tachymeter: Some models are provided with the graduated dial of the tachymeter. If your watch is provided with the graduated dial, it can indicate the average speed of a vehicle or the hourly operation efficiency of a factory, etc.
5. Battery life indicator: The second hand moves at two-second intervals when the battery life nears its end.
6. Water resistant: When "WATER RESISTANT" is shown on the back of your watch case, the watch has been water tested to a pressure of 3 atmospheres (water pressure at a 30-meter or 100-foot depth). When "SPORTS 100" is shown on the panel cover and "WATER RESISTANT" is shown on the back of your watch case, the watch has been water tested to a pressure of 10 atmospheres (water pressure at a 100-meter or 300-foot depth).
Note: For details, refer to "WATER RESISTANCE" on page 14 in "TO PRESERVE THE QUALITY OF YOUR WATCH".
7. Battery: Use a miniature battery, U.C.C. 394 or Maxell SR936SW.

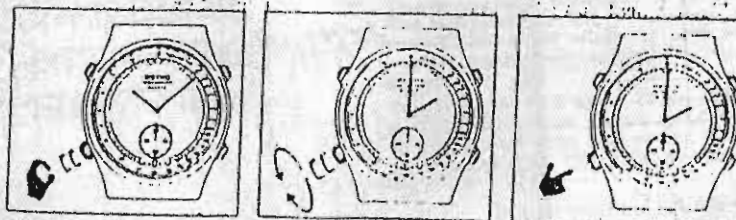
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CROWN AND BUTTONS OPERATION



- ① Stopwatch 5/100 second hand
- ② Stopwatch/center second hand
- ③ Stopwatch minute hand
- ④ Real second hand

HOW TO SET THE TIME

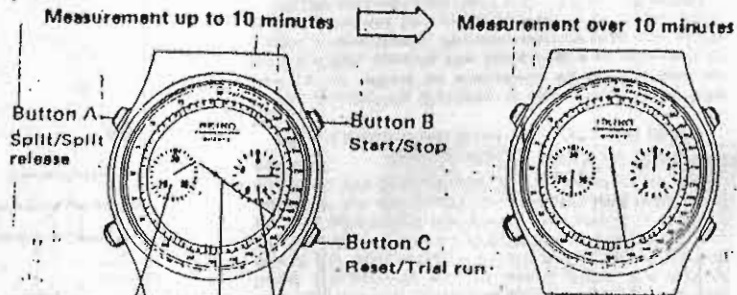


Pull out the crown as far as it goes to the second click when the real second hand is at the 60 position, and the second hand stops on the spot.

Turn the crown counter-clockwise to advance the hands, and clockwise to turn them back. When setting the minute advance the minute hand by 4 to 5 minutes and then turn it back to the desired position.

Push in the crown all the way to the normal position in accordance with the exact time. To use the center second hand (of stopwatch) for the watch time indication, depress button "B" the moment the real second hand gets to the 60 position. The center second hand (of stopwatch) will then begin to move as a normal second hand.

STOPWATCH FUNCTION



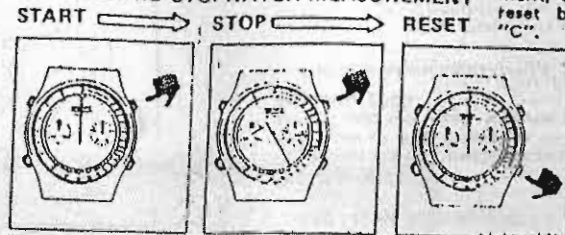
Stopwatch minute hand
Stopwatch 5/100 second hand
Stopwatch/center second hand

Although the 5/100 second hand stops at "0" position when the measurement time is over ten minutes, the watch continues measuring the elapsed time. In order to read the exact time elapsed after 10 minutes, depress button "A" (split) or button "B" (stop), and the time will be indicated by the second hand of the 5/100 dial.

HOW TO USE THE STOPWATCH

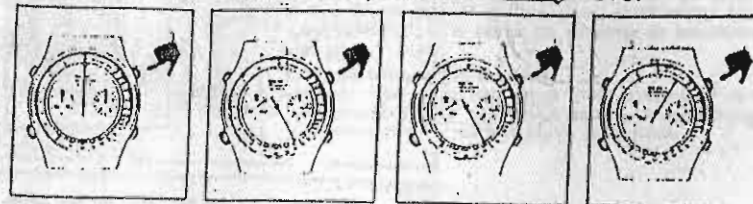
1. STANDARD STOPWATCH MEASUREMENT

In every stopwatch measurement, the stopwatch can be reset by depressing button "C".



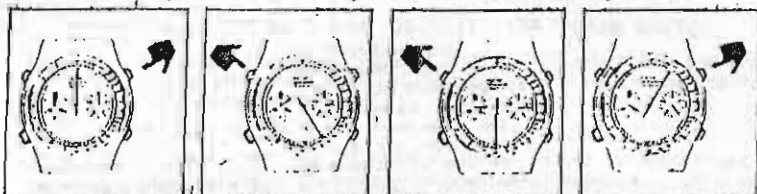
2. ACCUMULATED ELAPSED TIME MEASUREMENT

START → STOP → RESTART → STOP



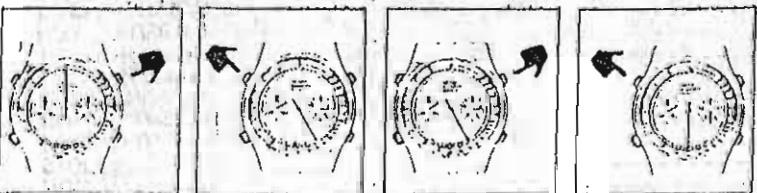
3. SPLIT TIME MEASUREMENT

START → SPLIT → SPLIT RELEASE → STOP



4. CONTINUOUS TIME MEASUREMENT OF TWO COMPETITORS

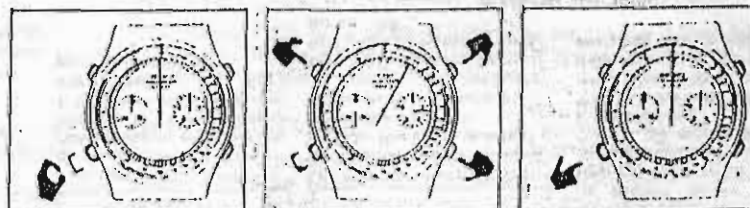
START → FINISH (1st competitor) → FINISH (2nd competitor) → READOUT



*The 5/100 second hand starts counting within a second after the split is released.

HOW TO USE THE COUNTER

The three hands of the stopwatch can be used as counter scales.



Pull out the crown to the first click.

The count number is indicated as shown in the table below by each depression of button "A", "B" or "C".

After using the counter, reset each hand by depressing the respective buttons and push in the crown all the way to the normal position.

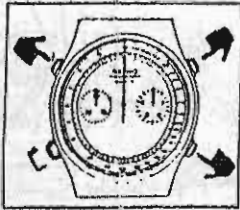
Button	Display	Count number
A	Stopwatch minute hand	Up to 30
B	Stopwatch 5/100 second hand	" 20
C	Stopwatch/center second hand	" 60

WHEN THE STOPWATCH HANDS ARE NOT RESET TO "0"

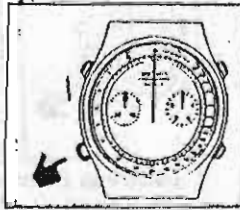
When the stopwatch hands are not reset to "0" position by depressing button "C" after use of the counter, follow the procedures below to reset them to "0".



Pull out the crown to the first click when the stopwatch function is not activated.

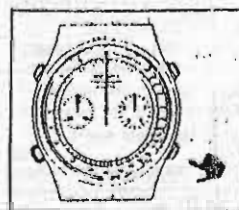


Reset each hand by depressing the corresponding button. Each depression of the button advances the hand one mark. However, each hand can be advanced rapidly by continuously depressing the corresponding button.



Push in the crown all the way to the normal position.

TRIAL RUN OF STOPWATCH HANDS MEASURING OF REMAINING TIME



The one round trial run of all stopwatch hands can be made by keeping button "C" depressed for 1 to 2 seconds with the crown pushed into the normal position.



Set the stopwatch hand for the desired amount of time in the same method as for the counter. After pushing the crown all the way, depress button "B" to start measuring the remaining time up to "00".

Example:



If there are 20 minutes left in the basketball game. Set the stopwatch minute hand to "10" as shown above and depress button "B". When the hand reaches "30", 20 minutes will have elapsed. The stopwatch second may also be used in this way to measure the remaining time in seconds.

HOW TO USE THE TACHYMETER

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

The tachymeter can be used for the following purposes:

- (1) To measure the hourly average speed of a vehicle on the basis of one kilometer (or mile). Determines with the stopwatch device how many seconds it takes to go one kilometer (or mile).

Ex. 1)

The tachymeter scale shown by the center second hand (stopwatch second hand) gives the average speed per hour using a maximum of 60 seconds as the standard. For instance, if it takes 40 seconds to go one kilometer (or mile), the second hand indicates 90 on the tachymeter scale. This means the speed of the automobile is 90 kilometers (or miles) per hour.

$$90 (40 \text{ seconds position}) \times 1 = 90 \text{ km/h (mph)}$$

Ex. 2)

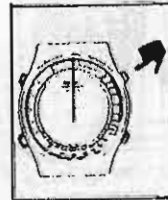
If the measuring distance is extended to two kilometers (or miles) or shortened to 500 meters (or half a mile), double the scale figure or reduce it to a half, respectively. We recommend that you apply the tachymeter in a rally, speedway or circuit race.

$$90 (40 \text{ seconds position}) \times 2 = 180 \text{ km/h (mph)}$$

$$90 (40 \text{ seconds position}) \times 0.5 = 45 \text{ km/h (mph)}$$



Tachymeter scale



- (2) To measure work accomplished in an hour. The tachymeter is extremely useful in calculating factory operation efficiency and measuring the machine production capacity.

Ex. 1)

For example, if it takes 20 seconds to complete one job, the center second hand (stopwatch second hand) indicates 180 on the tachymeter scale. This means that 180 jobs will be completed in one hour.

$$180 (20 \text{ seconds position}) \times 1 \text{ Job} = 180 \text{ Jobs per hour}$$

Ex. 2)

If 15 jobs are accomplished in 20 seconds, multiply the scale of 180 (showing 15 jobs in 20 seconds) by 15 and the work amount in one hour will be shown as 2700.

$$180 (20 \text{ seconds position}) \times 15 \text{ jobs} = 2700 \text{ jobs per hour}$$