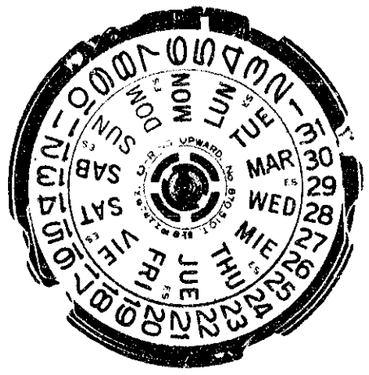
TECHNICAL GUIDE

SEIKO

QUARTZ

CAL. 7549A, 7548A



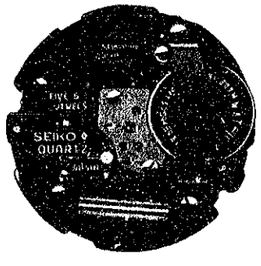
CONTENTS

I. Specifications

Calibre No. / Water resistance	7549A	7548A
Case	600m, 300m	150m
Time indication	3-hand time indication (hour, minute & second)	
Additional mechanism	Calendar display (day & date) Bilingual changeover system for the day of the week Instant day & date setting device Electronic circuit reset switch Second setting device (Stops at every second) Battery life indicator	
Crystal oscillator	32,768Hz (Hz = Herz . . . . . cycle per second)	
Loss/gain	Loss/gain at normal temperature: Monthly rate: less than 15 seconds (Annual rate : less than 3 minutes)	
Casing diameter	ϕ27.0mm	
Height	4.6mm without battery	
Operational temperature range	−10°C ~ +60°C (14°F ~ 140°F)	
Driving system	Step motor system (2 poles)	
Regulation system	Trimmer condenser	
Battery power	Silver oxide battery (U.C.C. 301) Battery life is approximately 3 years. Voltage: 1.5V	
Jewels	5 jewels	

- These crystal diver's watches of Cals. 7549A and 7548A ensure, as the diver's watch, the integral performance of water resistance, heat resistance, antimagnetism, shock proofness, etc. just in the same manner as the conventional ones.
- They also are provided with the movement of high quality, which is powered for a long period of time by the long life battery and equipped with the battery life indicator, both of which enable them to be used long with high reliability free from care.

Movement



Circuit side

Movement

Date dial side

II. Battery change and periodic check system

Trouble with a diver's watch may endanger the life of the diver. Therefore, to show when the battery must be replaced, series 75 diver's watches are inscribed on the case back as shown in the right illustration with the expected time (month and year) for the first battery replacement and in addition the time when the periodic check (refer to page 32) is necessary for safety assurance. Replace the battery of the diver's watch, which is received within the period marked with " ● " on the case back showing the expected time for battery replacement, with a new one and further have it subjected to the periodic check.

Punch a new mark or make some noticeable inscription at the position which corresponds to three years after the battery change and the periodic check are completed.

[Example]
When the battery change and the periodic check are performed during April to June, 1981 as shown in the right illustration, inscribe "●" mark on the position corresponding to April to June, 1984 to return the watch to the user.
For details refer to page 32.

Each mark of the scale represents three months.

" ● " mark showing the expected time for battery replacement (A place inscribed differs according to individual watches.)

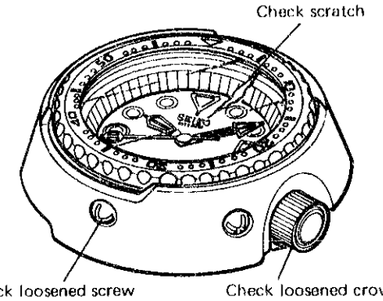
" ● " mark showing the expected time for the next battery replacement.

III. Disassembling, reassembling and lubricating of the case

- **Remarks for repair**

From the characteristic point of view of diver's watches, be sure to follow the notes below when the watch is repaired.

(1) Repair the watch in a room without dust and lint, and with low humidity.
(2) Be sure to check that the hands move smoothly.
(3) Be sure to check if there are any glass defect and loosened screws.
(4) After repair, conduct the water resistant test. We recommend to use "Bergeon 5395 (testing capacity, 0—50 Atm.)" for water resistant test.
(5) Be sure to check that the strap is fixed to the case-band correctly. (Push pin, buckle.)

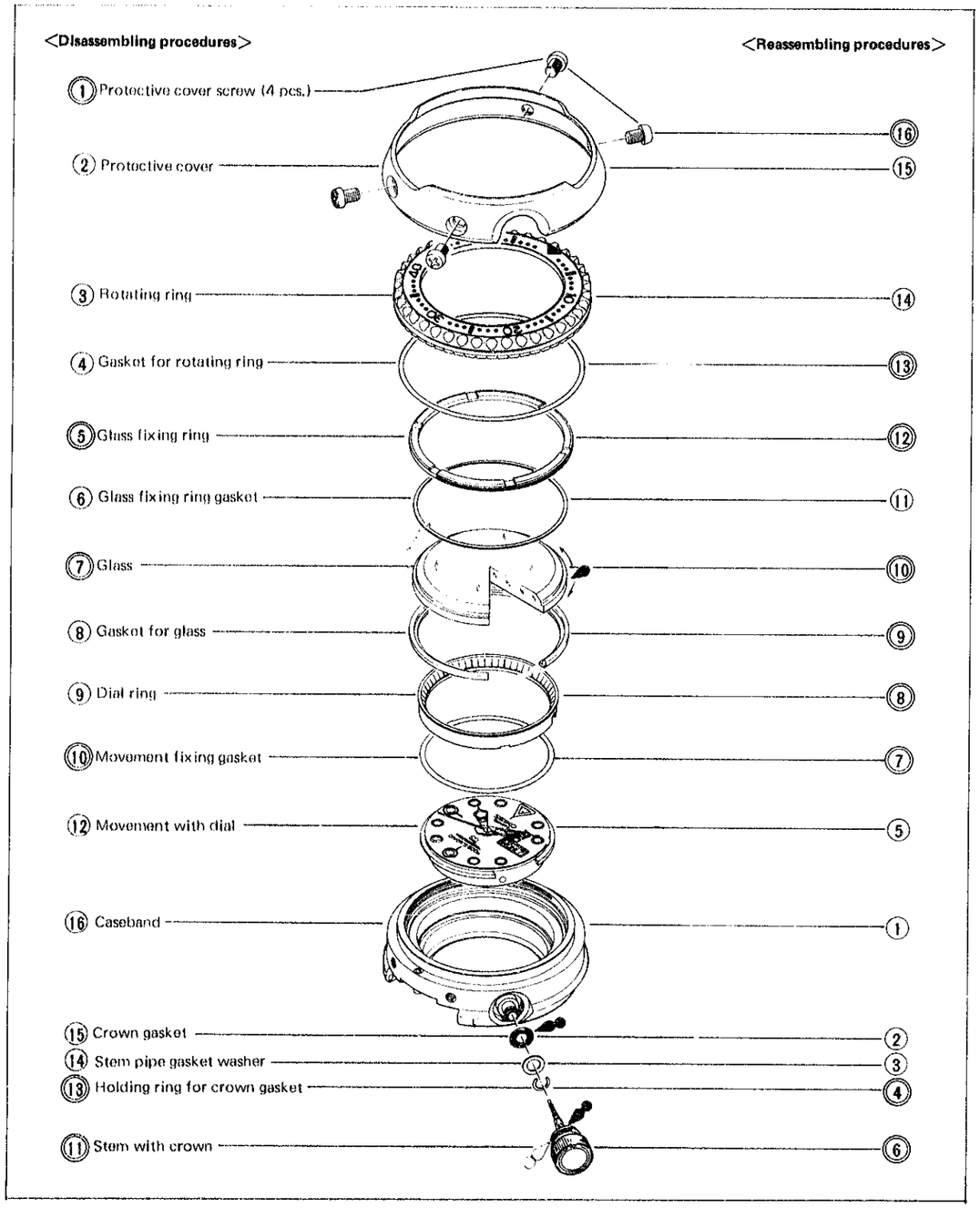


1. Cal. 7549, 600m diver's watch

The remarks for disassembling and reassembling of the parts numbered within the double circles are given in the next and following pages.

- **Lubricating marks**

Types of oil	Oil quantity
Silicone grease (500,000 c.s.)	Liberal quantity
SEIKO Watch Oil, S-6	Normal quantity
	Extremely small quantity



1-1 Remarks for Disassembling

More screws are used for this type of cases in comparison with other ones. In handling the threaded portion, be sure to check if there is any scratch and defect.

(1) Protective cover screw (4 pcs.)

Remove the protective cover screws with the Phillips head screwdriver.

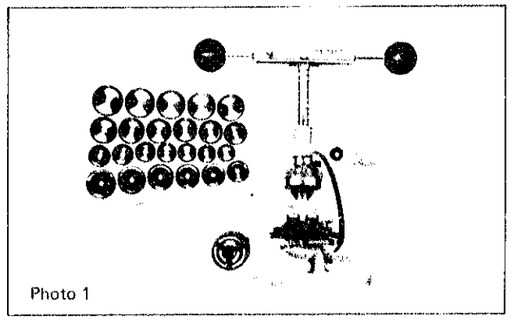


Photo 1

(5) Glass fixing ring

Remove the glass fixing ring with the casing instrument S-20. (Photo 1)

(7) Glass

Remove the glass with the suction pad. Absolutely never scratch or stain the back surface of the glass as it is specially coated. If there is any stain, wipe it off with a soft, clean cloth.
Clean dust and lint off with a soft brush. (Photo 2)

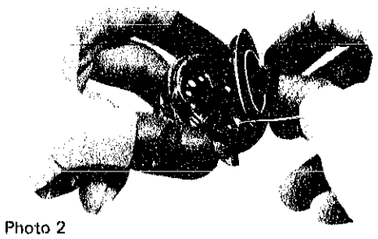
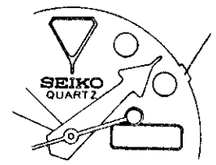


Photo 2

(10) Movement fixing gasket

Remove the movement fixing gasket by using the probe from the position of the protrusion of the dial at the 2 o'clock position. (Photo 3)



(Fig. *)

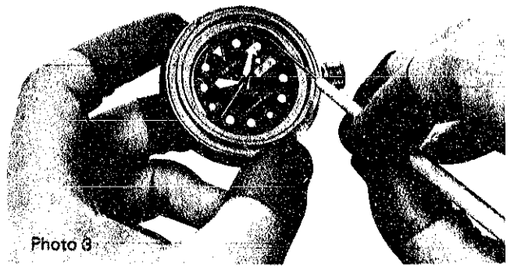


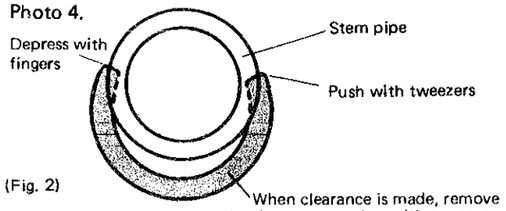
Photo 3

(11) Stem with crown

Remove the stem with crown by pushing the lever for unlocking stem.
Although the stem is of joint construction handle it usually one block.

(13) Holding ring for crown gasket

Remove the holding ring for crown gasket as shown in Photo 4.



(Fig. 2)

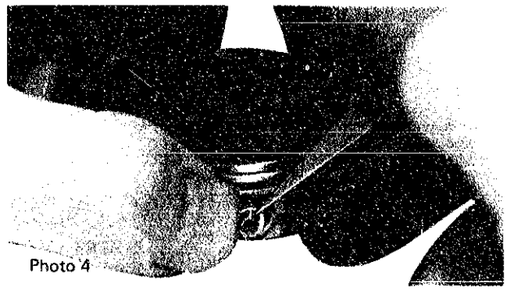


Photo 4

1-2 Remarks for Reassembling

Dry the parts completely before reassembling, and reassemble the watch in a room with low humidity.

④ Holding ring for crown gasket

After reassembling correct the spread of the holding ring for crown gasket by tightening it with the tweezers at their middle. (Photo 5)

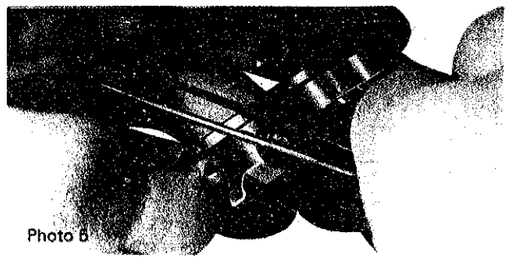
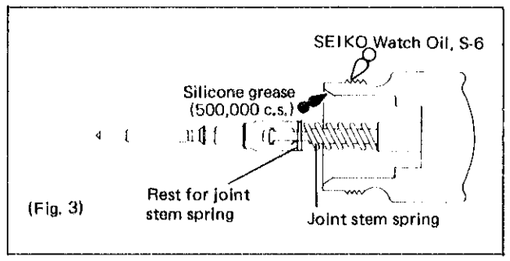


Photo 5

⑥ Stem with crown

- Lubricate each portion in Fig. 3 so as to get the entire circumference evenly lubricated.
- When the joint stem is disassembled, reassemble it as shown in Photo 6.



(Fig. 3)

⑦ Movement fixing gasket

- Set the movement fixing gasket securely so that it is inserted under the protrusion of the dial (2 o'clock position).
- Do not apply silicone grease (500,000 c.s.).

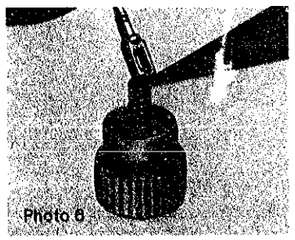
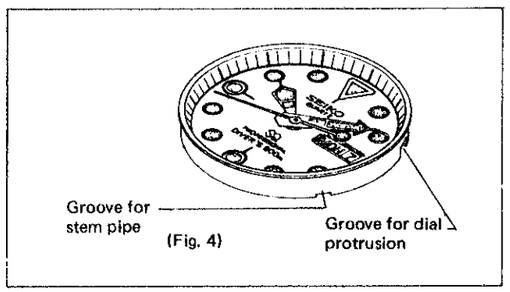


Photo 6

⑧ Dial ring

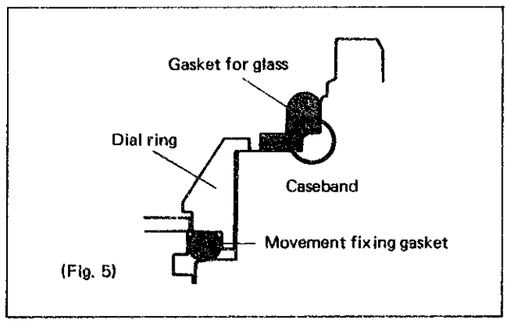
Fit the groove for the dial protrusion to the position of the dial protrusion to set the dial ring. (Fig. 4)



(Fig. 4)

⑨ Gasket for glass

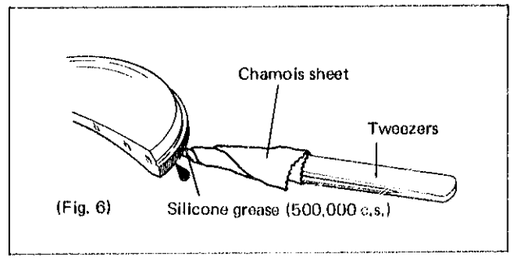
- When replacing the gasket for glass, make sure that it will be placed in the position correctly. Check the place marked with ○ as shown in Fig. 5.
- Do not apply silicone grease (500,000 c.s.)



(Fig. 5)

⑩ Glass

- Apply silicone grease (500,000 c.s.) slightly to the entire circumference indicated by the oblique lines in Fig. 6 with the tweezers bound with chamois sheet moistened with silicone grease (500,000 c.s.) (Wipe off excessive silicone grease (500,000 c.s.) with the chamois sheet. Otherwise, it will run into the dial ring to stain.)
- Place the glass stably by pushing it horizontally right from the above.
  While pushing the glass, be sure that the gasket for glass is placed in the position correctly. (Photo 7)



(Fig. 6)

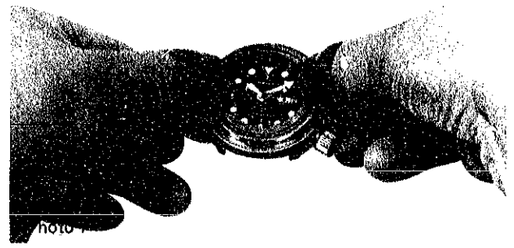


Photo 7

⑫ Glass fixing ring

First, tighten the glass fixing ring with fingers and retighten it with the casing instrument S-20.
(If S-20 is used from the start, the threads are damaged.)

⑬ Gasket for rotating ring

Put fingers in the gasket and turn it to expand evenly, and place it inside the rotating ring firmly. (Photo 8)

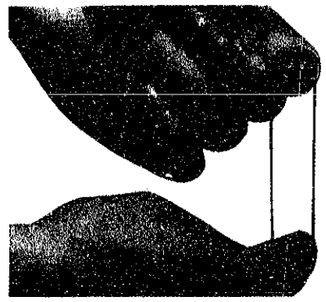
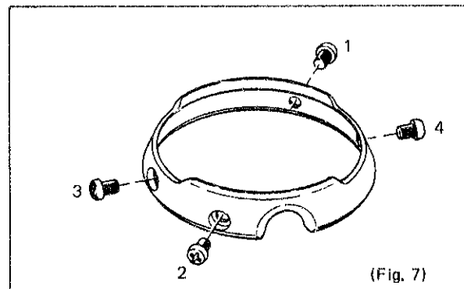


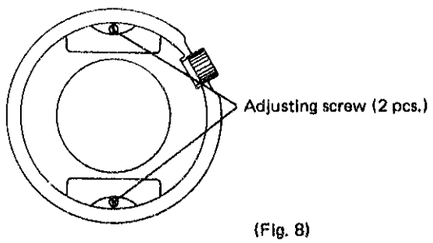
Photo 8

⑯ Protective cover screw

- After lightly clamping the protective cover screws at four positions, tighten them diagonally so that the case cover cannot be inclined to one side. (Fig. 7)
  (The numbers in the illustration show an example of tightening procedures.)
- Check the rotation of the rotating ring after completion of reassembling.
  If the rotating ring does not rotate smoothly, apply silicone grease (500,000 c.s.) to the gasket for rotating ring or replace it with a new one and if it rotates too smoothly, replace the gasket for rotating ring with a new one.
  If the click does not sound proper, adjust it by turning two adjusting screws. (Fig. 8)



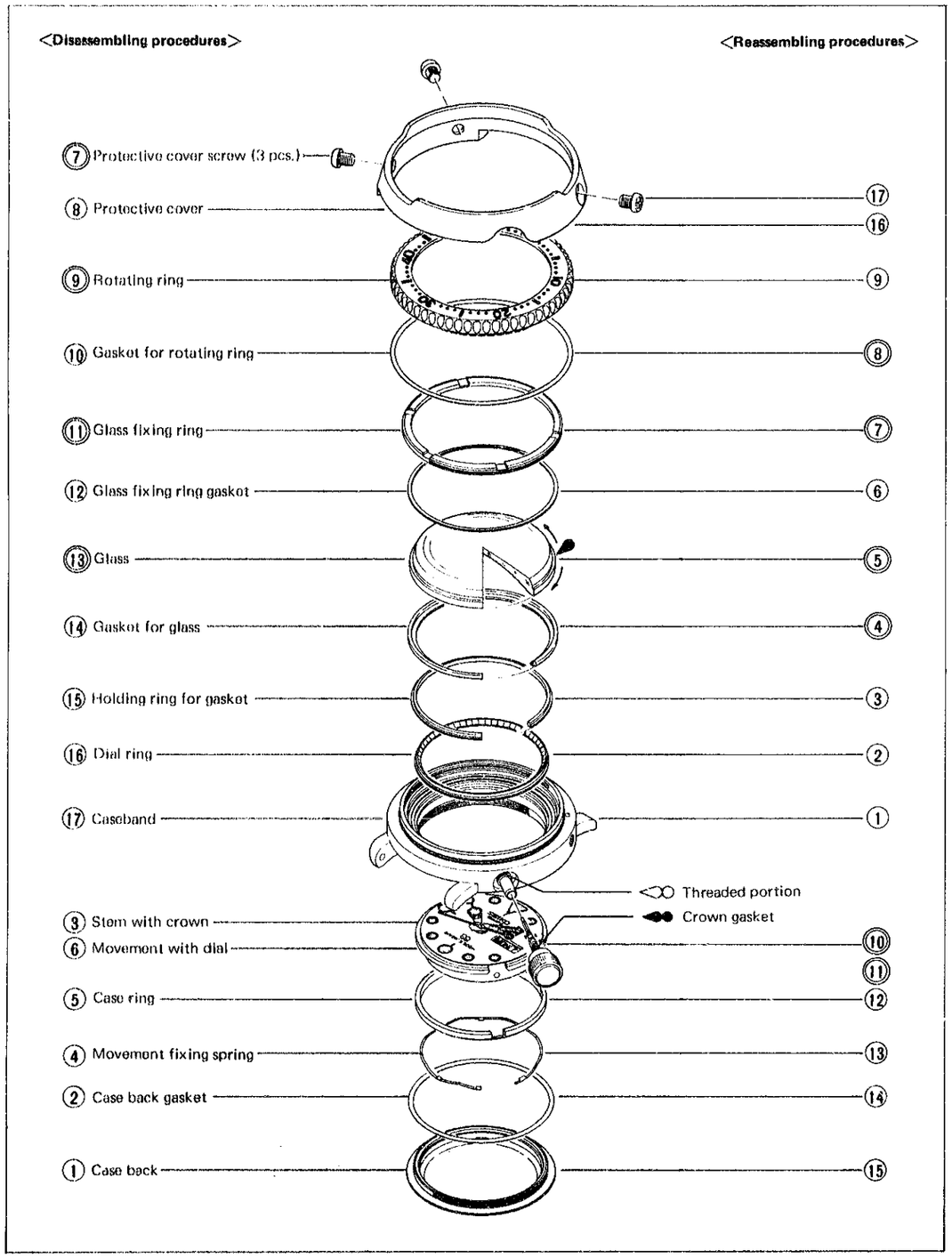
(Fig. 7)



(Fig. 8)

2. Cal. 7549, 300m diver's watch

The remarks for disassembling and reassembling of the parts numbered within the double circles are given in the next and following pages.



2-1 Remarks for Disassembling

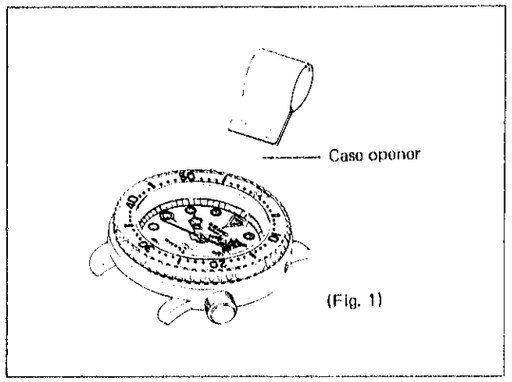
More screws are used for this type of cases in comparison with other ones. In handling the threaded portion, be sure to check if there is any scratch and defect.

⑦ Protective cover screw (3 pcs.)

Remove the protective cover screws with the Phillips head screwdriver.

⑨ Rotating ring

Put the edge of the case opener into the opening notch of the rotating ring. (Fig. 1)



(Fig. 1)

⑪ Glass fixing ring

Remove the glass fixing ring with the casing instrument S-20. (Photo 1)

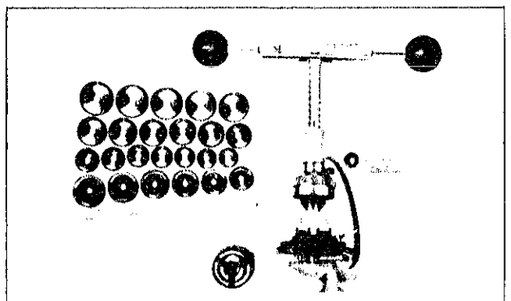


Photo 1

⑬ Glass

Remove the glass by pushing it from inside.

The back surface of the glass is specially coated and therefore remove the glass by pushing it with fingercot on a finger or by using chamois sheet so as not to scratch and stain the surface.

If there is any stain, wipe it off with a soft, clean cloth. Clean dust and lint off with a brush. (Photo 2)

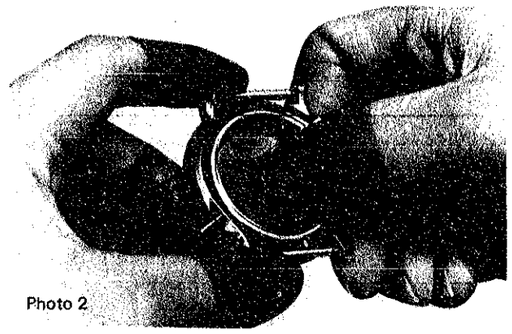


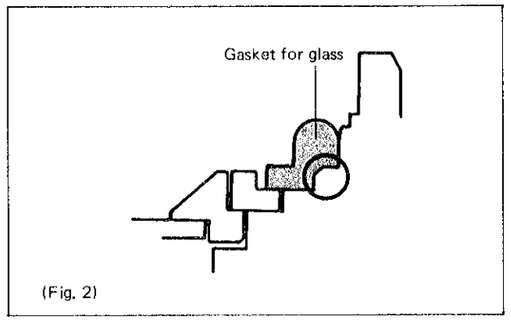
Photo 2

2-2 Remarks for Reassembling

Dry the parts completely before reassembling, and reassemble the watch in a room with low humidity.

④ Gasket for glass

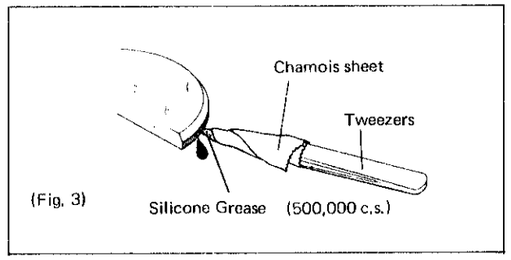
- When replacing the gasket for glass, make sure that it will be placed in the position correctly. Check the place marked with ○ as shown in Fig. 2.
- Do not apply silicone grease (500,000 c.s.).



(Fig. 2)

⑤ Glass

- Apply silicone grease (500,000 c.s.) slightly to the entire circumference indicated by the oblique lines in Fig. 3 with the tweezers bound with chamois sheet moistened with silicone grease (500,000 c.s.). (Wipe off excessive silicone grease (500,000 c.s.) with the chamois sheet. Otherwise, it will run into the dial ring to stain.)
- Place the glass stably by pushing it horizontally right from the above. While pushing the glass, be sure that the gasket for glass is placed in the position correctly. (Photo 3)



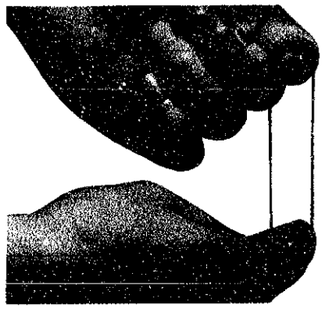
(Fig. 3)

⑦ Glass fixing ring

First, tighten the glass fixing ring with fingers and retighten it with the casing instrument S-20. (If S-20 is used from the start, the threads are damaged.)

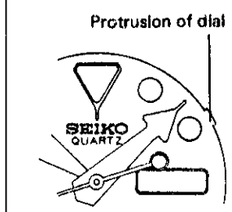
⑧ Gasket for rotating ring

Put fingers in the gasket and turn it to expand evenly, and place it inside the rotating ring firmly. (Photo 4)

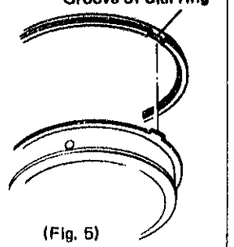


⑩ Movement with dial

Fit the protrusion of the dial to the groove of the dial ring for reassembling. (Figs. 4, 5)



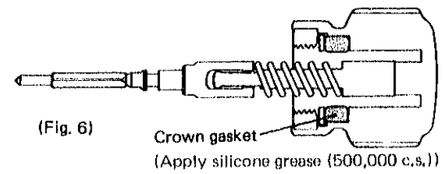
(Fig. 4)



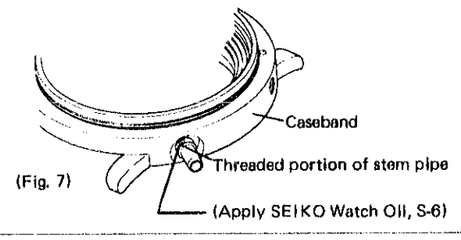
(Fig. 5)

⑪ Stem with crown

- After lubricating each portion indicated in the illustration, assemble the stem with crown slowly so that the stem and the gasket may not be damaged. (Figs. 6, 7)
- Reassemble the disassembled joint stem as shown in Photo 5.



(Fig. 6)



(Fig. 7)

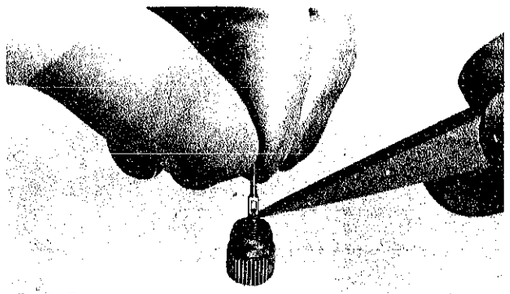
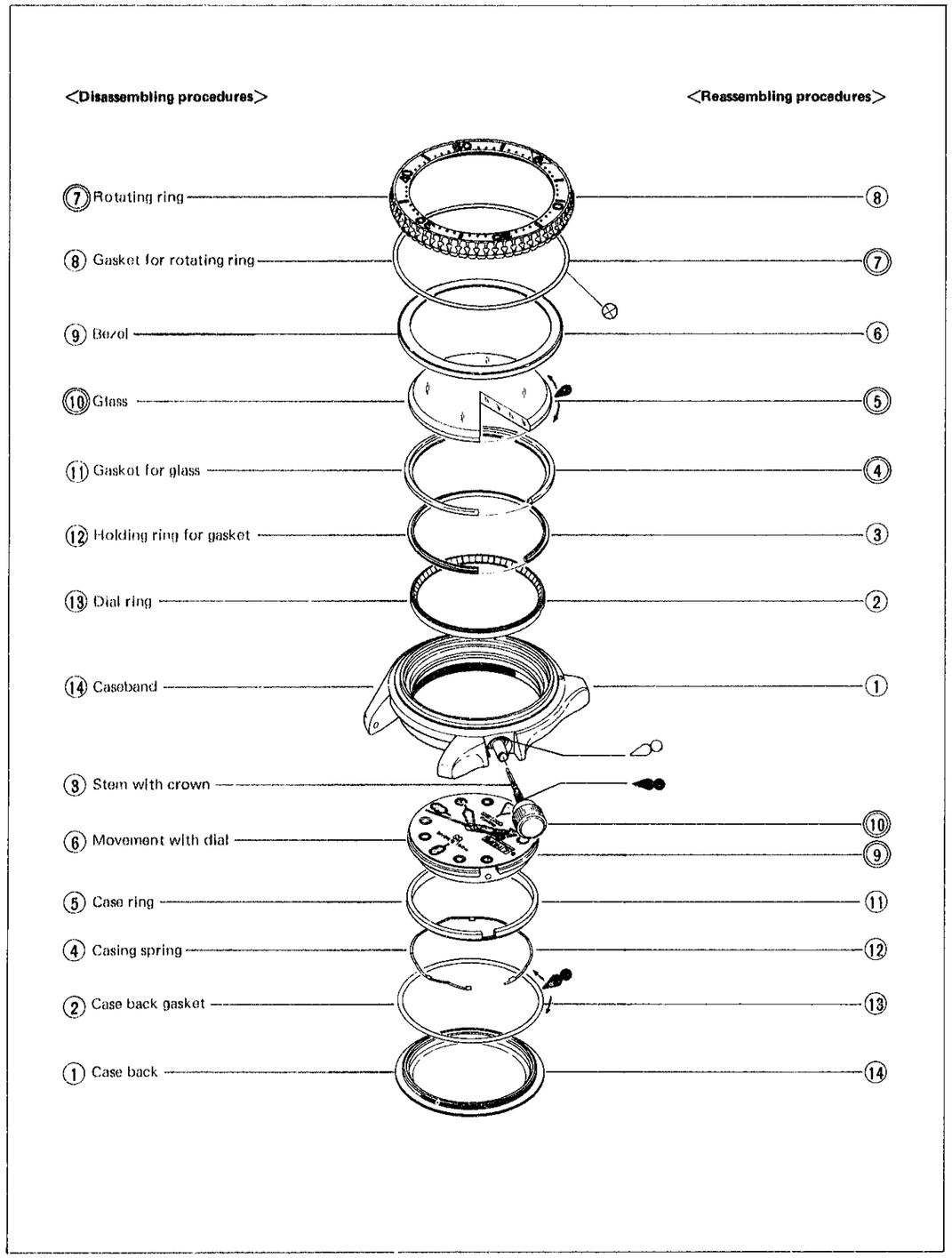


Photo 5

- After the reassembling is completed, check the rotation of the rotating ring.
  If the rotating ring does not rotate smoothly, apply silicone grease (500,000 c.s.) to the gasket for rotating ring or replace it with a new one and if it rotates too smoothly, replace the gasket for rotating ring with a new one.

3. Cal. 7548, 150m diver's watch

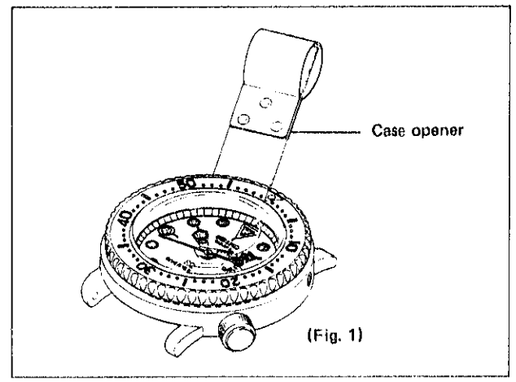
The remarks for disassembling and reassembling of the parts numbered within the double circles are given in the next and following pages.



3-1 Remarks for Disassembling

⑦ Rotating ring

Put the case opener into the opening notch of the rotating ring to remove. (Fig. 1)



(Fig. 1)

⑩ Glass

After removing the bezel from the opening notch by using the case opener, push the glass from inside to remove.

The back surface of the glass is specially coated and therefore remove the glass by pushing it with fingercot on a finger or by using chamois sheet so as not to scratch or stain the surface.

If there is any stain, wipe it off with a soft, clean cloth. Clean dust and lint with a brush. (Photo 1)

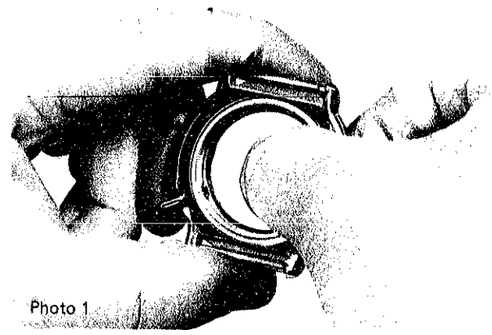


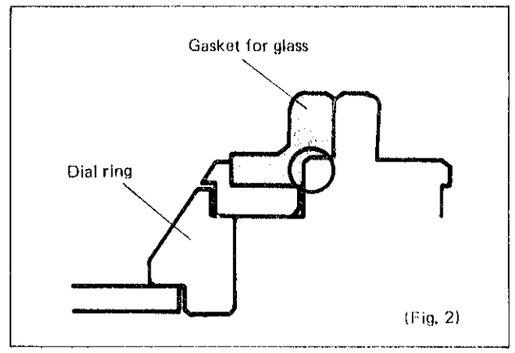
Photo 1

3-2 Remarks for Reassembling

Dry the parts completely before reassembling, and reassemble the watch in a room with low humidity.

④ Gasket for glass

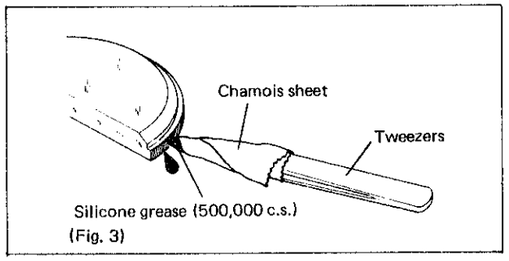
- When replacing the gasket for glass, make sure that it will be placed in the position correctly. Check the place marked with ○ as shown in Fig. 2.
- Do not apply silicone grease (500,000 c.s.).



(Fig. 2)

⑤ **Glass**

- Apply silicone grease slightly to the entire circumference indicated by the oblique lines in Fig. 3 with the tweezers bound with chamois sheet moistened with silicone grease (500,000 c.s.). (Wipe off excessive silicone grease (500,000 c.s.) with the chamois sheet. Otherwise, it will run into the dial ring to stain.)
- Place the glass stably by pushing it horizontally right from the above. While pushing the glass, be sure that the gasket for glass is placed in the position correctly. (Photo 2)



(Fig. 3)

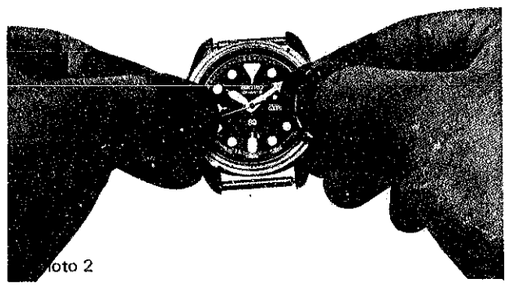


Photo 2

⑦ **Gasket for rotating ring**

Put fingers in the gasket and turn it to expand evenly, and place it inside the rotating ring firmly. (Photo 3)

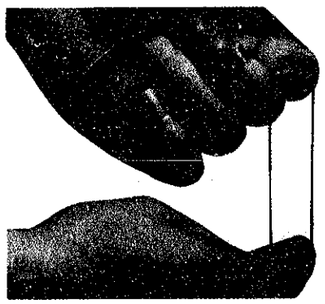
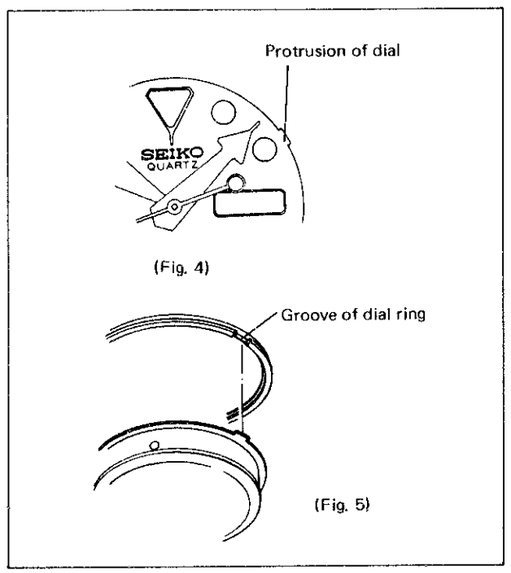


Photo 3

⑨ **Movement with dial**

Fit the protrusion of the dial to the groove of the dial ring for reassembling. (Figs. 4, 5)

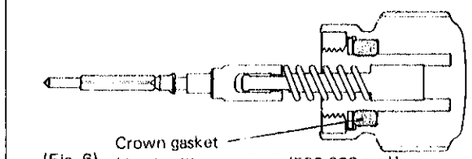


(Fig. 4)

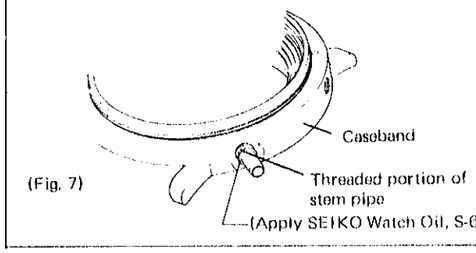
(Fig. 5)

⑩ **Stem with crown**

After lubricating each portion indicated in the illustration, assemble the stem with crown slowly so that the crown gasket may not be damaged. (Figs. 6, 7)



(Fig. 6)



(Fig. 7)

- Reassemble the disassembled joint stem as shown in Photo 4.

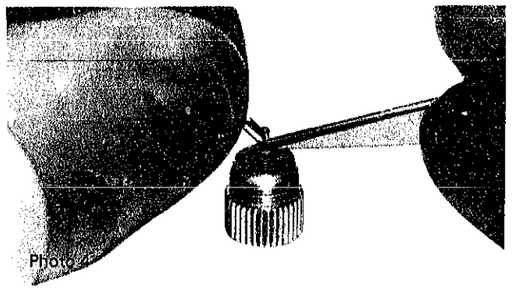


Photo 4

- After the reassembling is completed, check the rotation of the rotating ring.
  If the rotating ring does not rotate smoothly, apply silicone grease (500,000 c.s.) to the gasket for rotating ring or replace it with a new one and if it rotates too smoothly, replace the gasket for rotating ring with a new one.

IV. DISASSEMBLING, REASSEMBLING AND LUBRICATING OF THE MOVEMENT

1. How to disassemble, reassemble and lubricate the movement

- **Disassembling and reassembling**

Disassembling procedures; **Figs.** ① → ㊽

Reassembling procedures; **Figs.** ㊽ → ①

- **Lubricating**

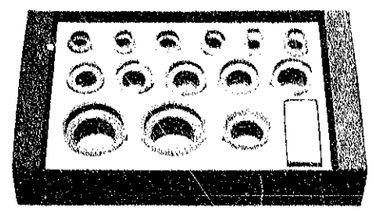
The following marks shown in the illustrations for disassembling and reassembling indicate the types of oil, quantity of oil, and portions to be lubricated. Be sure to lubricate according to the marks.

Types of oil		Quantity of oil	
●	Moebius A	⊂⊂⊂⊃	Liberal quantity
⊂⊃	SEIKO Watch Oil, S-6	⊂⊂⊃	Normal quantity
		⊂⊃	Extremely small quantity

Never lubricate the portions marked ⊗ .

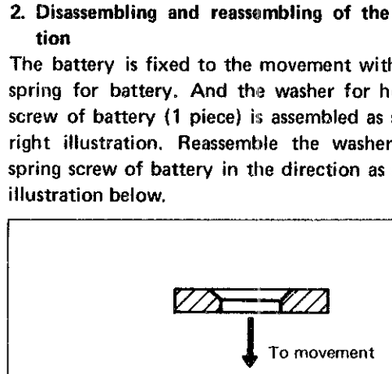
- **After-sale servicing instruments and materials**

Movement holder: The movement holder for Cal. 61 series of SEIKO movement holder set, S-680 is available.

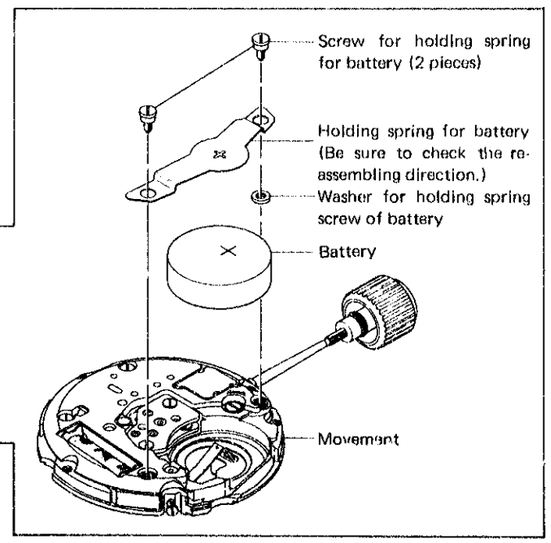


2. Disassembling and reassembling of the battery portion

The battery is fixed to the movement with the holding spring for battery. And the washer for holding spring screw of battery (1 piece) is assembled as shown in the right illustration. Reassemble the washer for holding spring screw of battery in the direction as shown in the illustration below.

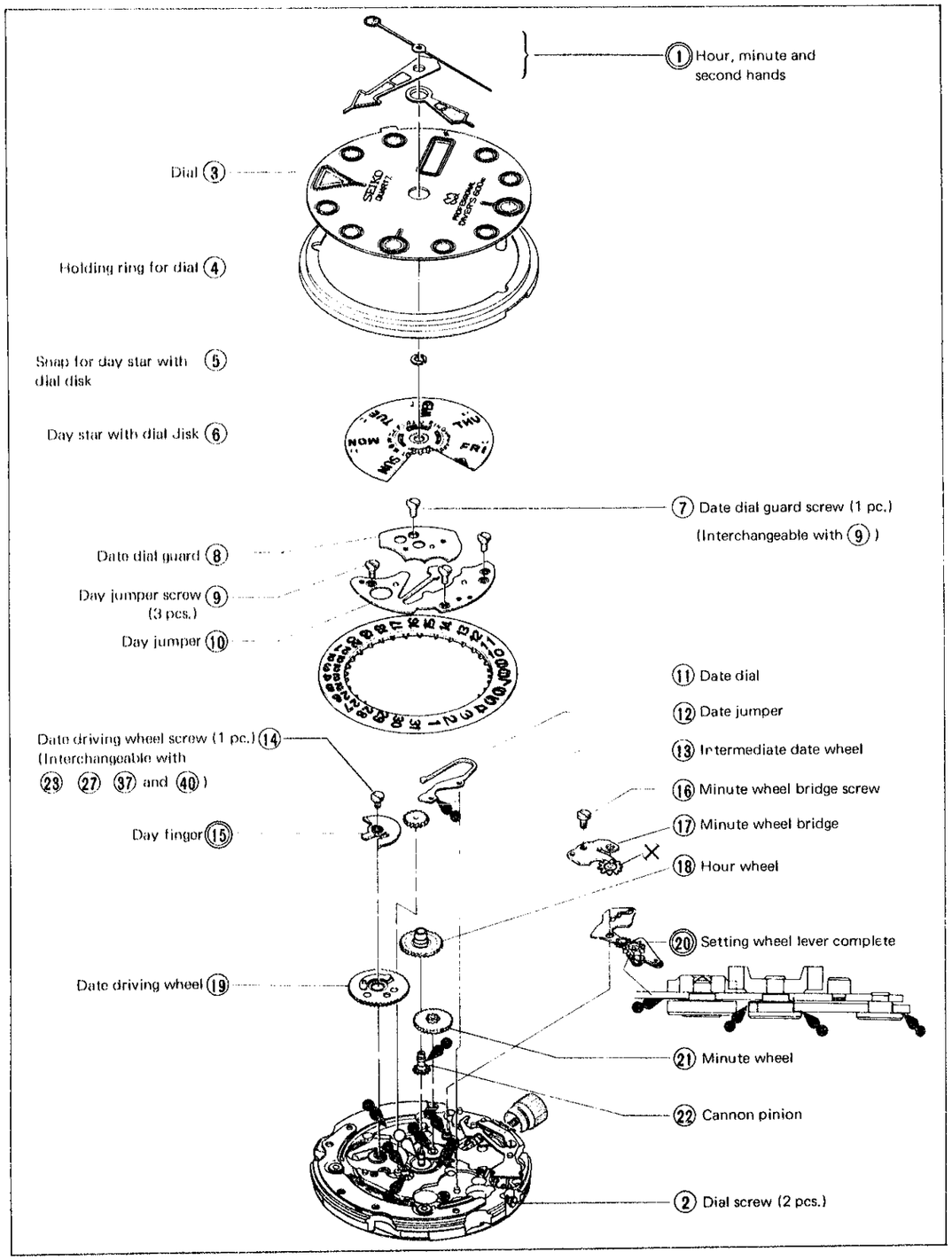


The two screws for holding spring for battery also serve as the circuit block screws.



3. Disassembling, reassembling and lubricating of the calendar mechanism

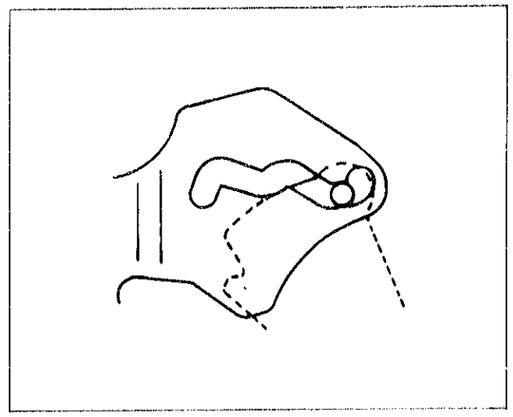
The remarks for the parts numbered within the double circles are given in the next and following pages. Disassemble and reassemble according to the remarks.



Remarks for disassembling and reassembling

① Hour, minute and second hands

- Pull out the crown to the second click position for disassembling and reassembling.
- Be sure to assemble the second hand exactly on the second mark
  (Either odd or even second marks will do.)



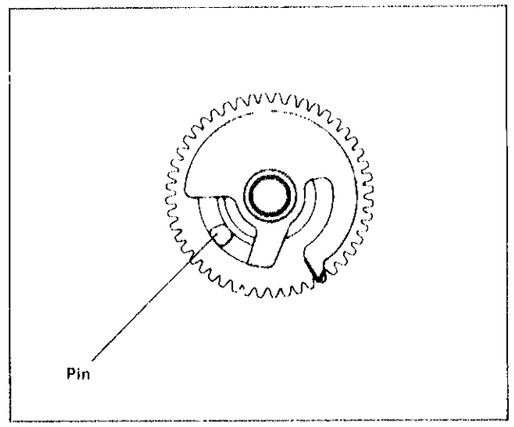
Remarks for reassembling

⑳ Setting wheel lever complete

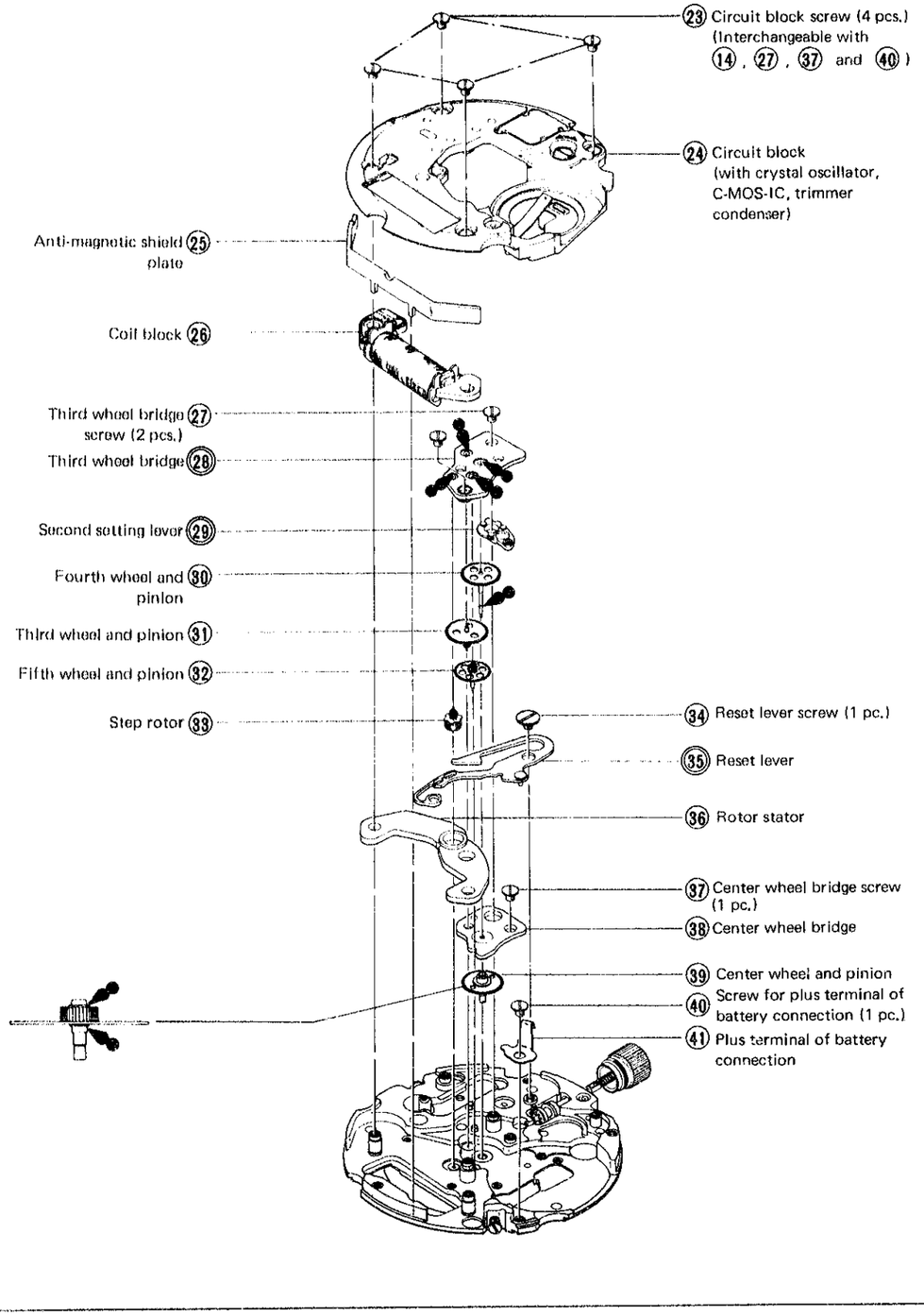
Reassemble so that the groove of the setting wheel lever complete holds the setting lever axle.

⑮ Day finger

Reassemble so that the pin of the date driving wheel is positioned as shown in the illustration on the right.



4. Disassembling, reassembling and lubricating of the circuit block, coil block and gear train



Remarks for disassembling

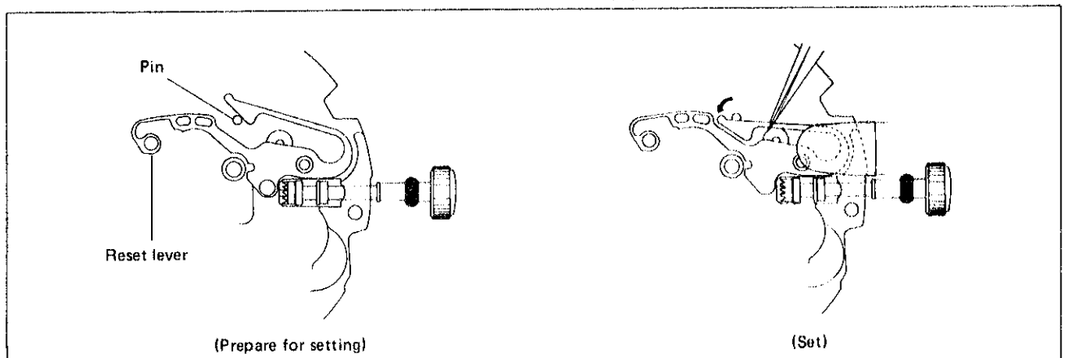
Disassemble with the crown in the normal position.

Remarks for reassembling

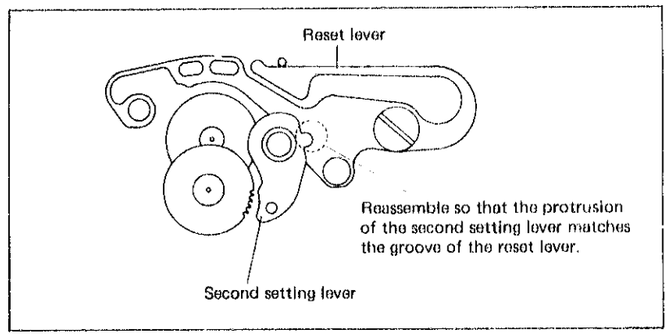
㉟ Reset lever

Reassemble with the crown in the second click position.

Depress the crown back into the normal position after the reset lever is set.

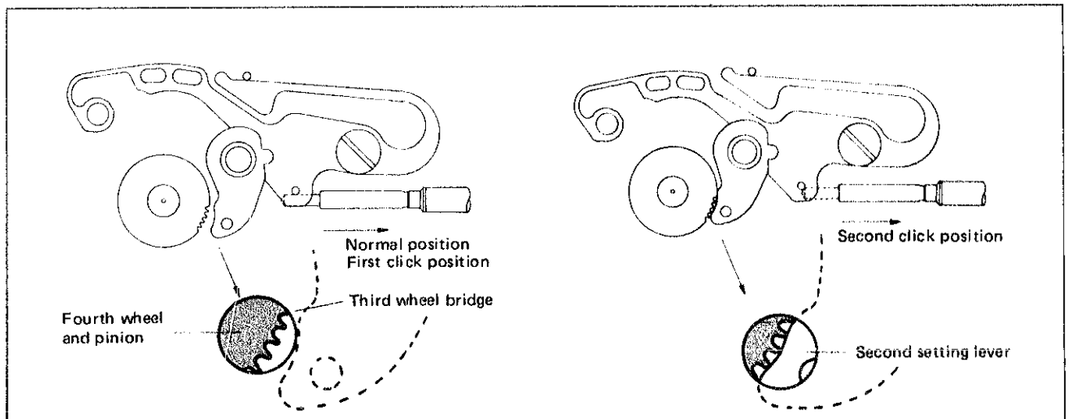


㉙ Second setting lever



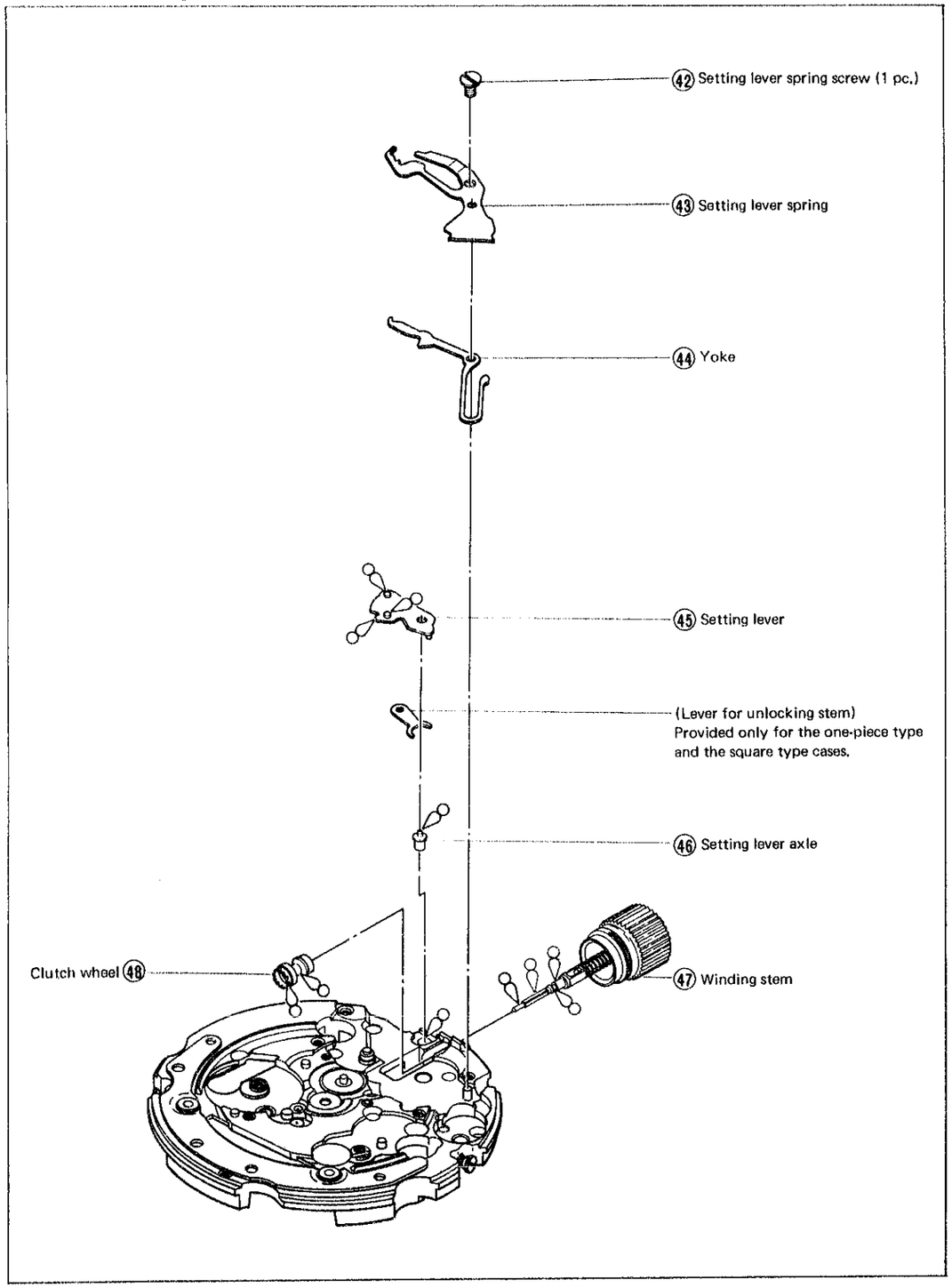
㉘ Third wheel bridge

After reassembling the third wheel bridge, check to see if the fourth wheel and pinion is set correctly when the crown is in the second click position.



5. Disassembling, reassembling and lubricating of the setting mechanism

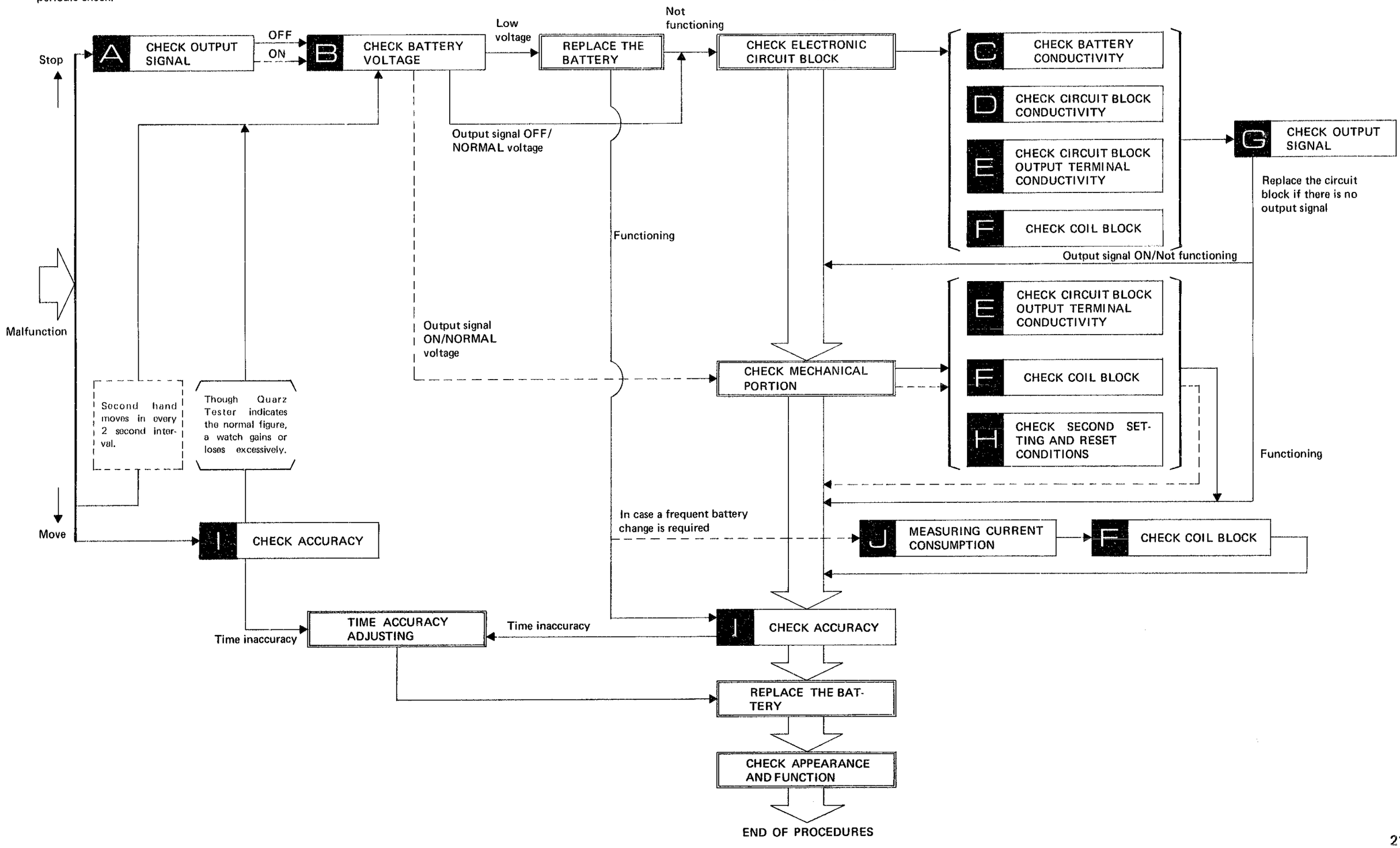
The parts in the setting mechanism are interchangeable with those of the Cal. 63 series.



1. Guide table for checking and adjustment

Repair the watch according to the following procedures at the ordinary repairs other than the periodic check.

When the second hand moves in 2 second intervals instead of the normal one second interval, check battery voltage and replace with provisional battery. The second hand moves in 2 second intervals when the battery life is coming to its end. The watch will, however, remain accurate while the second hand is moving in 2 second intervals.



2. Procedures for checking and adjustment

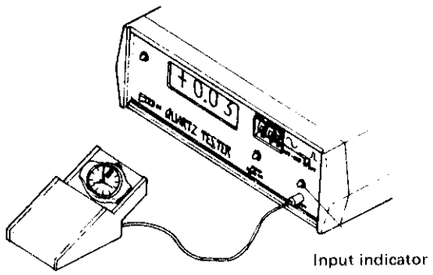
A CHECK OUTPUT SIGNAL

Procedures

Check output signal.

1. Set up the Quartz Tester
2. Checking

Check for blinking input indication light.



Input indicator

Note: The checking must be made when the crown is in the normal position.

Result

One-second blinking – – – – Normal

No one-second blinking – – – – Defective

Adjustment and Repair

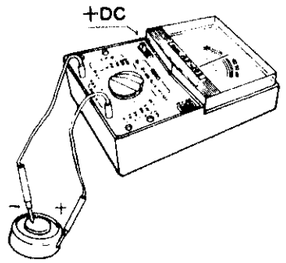
Proceed to B.

B CHECK BATTERY VOLTAGE

Procedures

Use the following procedures to check battery voltage.

1. Set up the Volt-ohm-meter
   Range to be used: [03V
2. Measuring
   - Probe Red (+) ..... Battery surface (+)
   - Probe Black (–) ..... Battery surface (–)



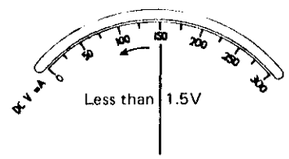
Note: When handling the battery, use non-metallic tweezers or fingercot.

When there is battery electrolyte leakage, refer to "HOW TO CHECK AND REPAIR WHEN THERE IS BATTERY ELECTROLYTE LEAKAGE" below for repairing.

Result

More than 1.5V – – – – – – – Normal

Less than 1.5V – – – – – – – Defective



Adjustment and Repair

Proceed to Check mechanical portion if one-second blinking is found.

Proceed to Check electronic circuit block if one-second blinking is not found.

Replace circuit block if the second hand moves in 2 second intervals.

Proceed to Replace the battery.

- If the watch functions after battery replacement, proceed to I.
- If the watch does not function, proceed to Check electronic circuit block.

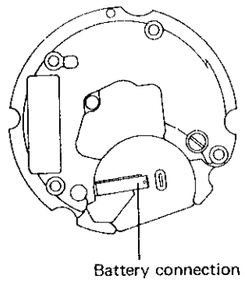
HOW TO CHECK AND REPAIR WHEN THERE IS BATTERY ELECTROLYTE LEAKAGE

1. Remove the movement from the case.
2. Disassemble the movement.
3. Wipe off battery electrolyte on the circuit block.

(1) Wipe off battery electrolyte with a cloth moistened with distilled water. (If distilled water is not available, use tap water.)

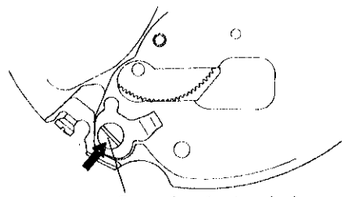
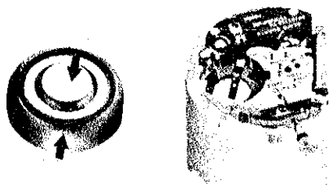
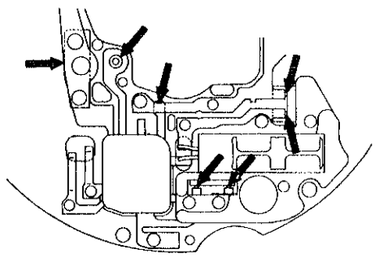
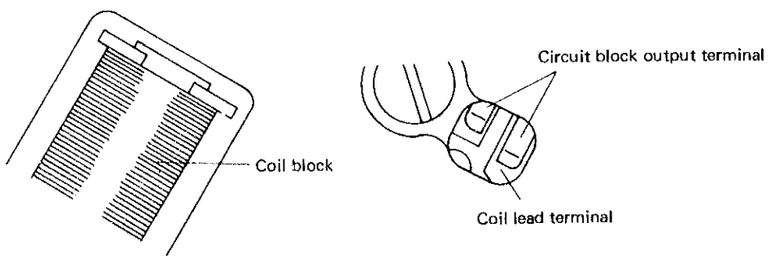
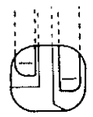
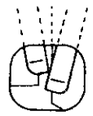
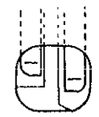
Note: Do not expose the trimmer condenser to water or alcohol. If it is exposed, there may be a change in its condenser capacity and eventually in the time accuracy.

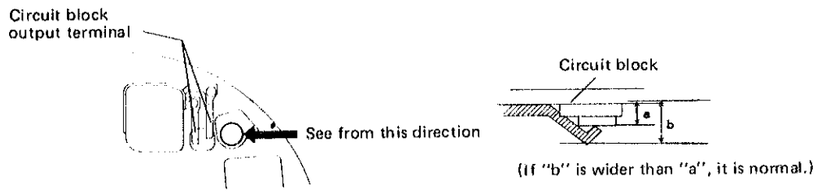
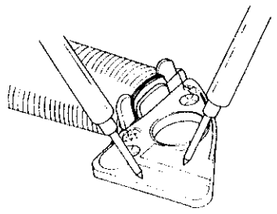
Be sure to wipe off battery electrolyte on the battery connection.


Battery connection

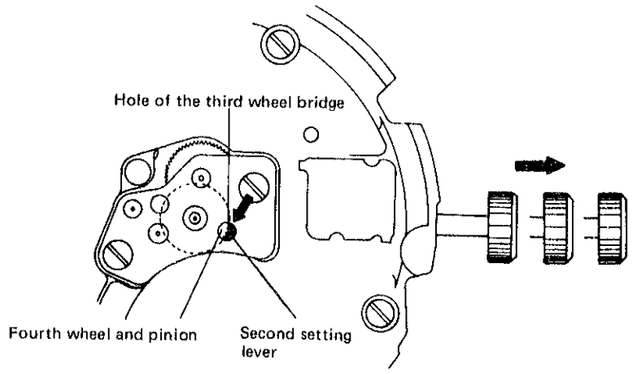
(2) Wipe them with a cloth moistened with alcohol. (If the cleaned portions remain wet with water, they will corrode with rust.)
(3) Dry with cool air by using a dryer.

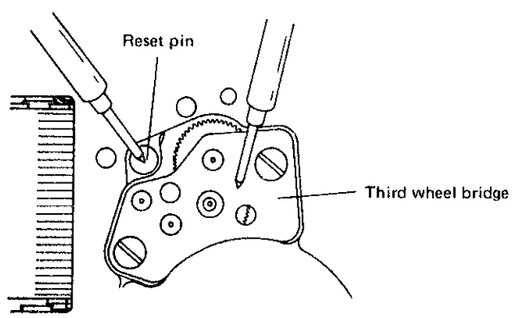
4. Wipe off battery electrolyte on the other parts by following the procedures on page 16.
5. Reassemble the movement. (Replace the battery with a new one.)
6. Check to see if the time setting functions and the current consumption are normal.

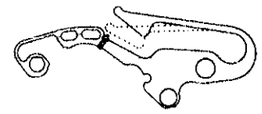
	Procedures	Result	Adjustment and Repair
C CHECK BATTERY CONDUCTIVITY	Check to see if the battery current flow to the circuit is normal. 1. Check to see if the screw for plus terminal of battery connection is tightened firmly when the circuit block is disassembled.  Screw for plus terminal of battery connection 2. Check for any foreign matter on the connecting portions of the battery, the plus terminal of battery connection and the battery connection. 	No loosened screw — Normal Loosened screw — Defective Uncontaminated — Normal Contaminated — Defective	Proceed to C 2. Retighten the screw. Proceed to D. Wipe off any foreign matter. Note: Be careful not to bend the plus terminal of battery connection and the battery connection.
D CHECK CIRCUIT BLOCK CONDUCTIVITY	Check for any short circuit and defective conductivity of the conductive portions of the circuit block. Disassemble the circuit block and check conductivity of the arrow-marked portions by using a microscope. 	No short circuit or defective conductivity — Normal Short circuit and defective conductivity — Defective	Proceed to E. Replace the circuit block with a new one.
E CHECK CIRCUIT BLOCK OUTPUT TERMINAL CONDUCTIVITY	1. Check the contacting portions of the circuit block output terminal and the coil block. 1 Check to see if there is no short circuit of the circuit block output terminal by viewing through the hole of the circuit block.  Coil block Circuit block output terminal Coil lead terminal	Circuit block output terminal  Short circuit 	Proceed to E 1 2. Correct the bend of the circuit block output terminal by using tweezers. 

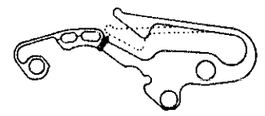
	Procedures	Result	Adjustment and Repair
E CHECK CIRCUIT BLOCK OUTPUT TERMINAL CONDUCTIVITY	2 Disassemble the circuit block and check to see if the circuit block output terminal is positioned as shown in the illustration below.  (If "b" is wider than "a", it is normal.) 2. Check for any contamination on the circuit block output terminal and the coil lead terminal. 	 →	E 2.
		 →	Correct the bend of the circuit block output terminal by using tweezers. 
		Uncontaminated — Normal →	Proceed to F.
		Contaminated — Defective →	Wipe off any foreign matter.
F CHECK COIL BLOCK	Check for broken coil wire and short circuit of the coil block after disassembling the circuit block. 1. Set up the Volt-ohm-meter Range to be used: OHMS R x 100 2. Checking Apply the probes of the Volt-ohm-meter to the coil lead terminal as shown in the illustration on the right. 	Pointer of the Volt-ohm-meter swings →	Proceed to G if the electronic circuit block must be checked. Proceed to H if the mechanical portion must be checked.
		Broken coil wire (Pointer of the Volt-ohm-meter hardly swings) Short circuit (Pointer of the Volt-ohm-meter swings excessively) →	Replace the coil block with a new one.
G CHECK OUTPUT SIGNAL	Check for output signal. 1. Set up the Quartz Tester 2. Checking Follow the same procedures as in A.	One-second blinking — Functioning →	Proceed to I.
		One-second blinking — Not functioning →	Proceed to Check mechanical portion H.
		No one-second blinking →	Replace the circuit block with a new one.

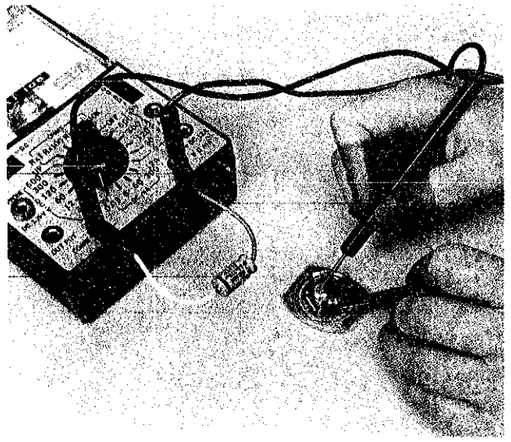
Procedures	Result	Adjustment and Repair
Check the second setting lever condition and reset condition. 1. Check to see if the second setting lever functions correctly. 1 Check to see if there is clearance between the second setting lever and the fourth wheel and pinion when the crown is in the normal and the first click positions. Also, check to see if the second setting lever touches the fourth wheel and pinion when the crown is in the second click position. (Check through the hole of the third wheel bridge by using a microscope.)	Functions — Normal →	Proceed to H 2.
	Does not function — Defective →	• Correct the bend of the spring of the reset lever if there is any. (If it is impossible to correct, replace the reset lever with a new one.)
		• Replace the second setting lever with a new one if it is damaged.
2. Check the reset condition after the circuit block and the battery are reassembled. (1) Check to see if the second hand stops immediately when the crown is pulled out completely and if it starts promptly one second after the crown is pushed in to the normal position. (2) Check to see if the conductivity between the reset pin and the main plate is normal when the crown is pulled out completely.	Stops completely and starts moving after one second — Normal →	Proceed to I.
	Does not stop or moves irregularly — Defective →	Proceed to H 2.
1 Set up the Volt-ohm-meter Range to be used: OHMS R x 1 Note: Be careful not to use the range other than R x 1. The circuit might be damaged if another range is used.		
2 Checking Measure the resistance by applying one of the probes of the Volt-ohm-meter to the third wheel bridge and the other probe to the reset pin.	Less than 10Ω — Normal →	Replace the circuit block with a new one.
	More than 10Ω — Defective →	Correct the bend of the reset lever or replace it with a new one.









	Procedures	Result	Adjustment and Repair
I CHECK ACCURACY	Check gain and loss of time. 1 Set up the Quartz Tester 2 Checking Check using the same procedures as in A.	Normal →	Follow the procedures shown on page 17.
		Defective →	Proceed to Time accuracy adjusting.
J MEASURING CURRENT CONSUMPTION	In case a frequent battery change is required, a current consumption test is recommended. Use the following procedures. 1 Set up the Volt-ohm-meter • Range to be used: DC 0.03mA or 12μA • Set up the condenser of 200 ~ 500μF as shown in the photo. 2 Measurement • Place the battery on the third wheel bridge with its minus side up. Probe Red (+) ..... Battery connection Probe Black (–) ..... Battery surface (–)  Note: Be sure to measure with the crown of the watch in the pushed in position. • Be careful that the battery does not touch the reset pin when measuring.	Less than 2.5μA - - - - - - - Normal →	Proceed to I.
		More than 2.5μA - - - - - - - Defective →	Proceed to F. When the coil block is found normal, replace the circuit block with a new one.
		Remarks: There might be a slight difference in the measured value depending upon the type of volt-ohm-meter. When judging the circuit block condition, be sure to take this into consideration.	
			All procedures of Disassembling, Reassembling, Checking and Adjustment are completed.

VI. Periodic check procedures

" ● " mark showing the expected time for battery replacement

[Example]
The mark in the left illustration shows that the battery must be replaced during April to June, 1981.

Replace the battery of the watch only, which is received within the period marked with " ● " on the case back showing the expected time of battery replacement, with a new one and have it subjected to the periodic check in accordance with the procedures shown below.

Reception → **Battery change** → **Check movement** → Normal → **Check functioning** → Normal

Conduct the whole checks below:

Check movement

1. **Check the movement for dust and lint and oil condition**
   (Check the movement with particular care to the gear train by using a microscope.)
2. **Check BLD operational voltage**
   (Check the maximum voltage at which BLD starts functioning by using the Micro Test. Standard value 1.4 ~ 1.5V: normal)
3. **Check the operational turn-off voltage**
   (Check the minimum voltage at which the watch keeps functioning correctly by using the Micro Test. Standard value 1.15V or less: normal)
4. **Check the value of current consumption**
   (Refer to page 30. Standard value 2.5μA or less: normal)

Check functioning

1. Check the movement of the hands.
2. Check setting function.
3. Check reset and regulation functions.
4. Check date & day setting function.

If any malfunctions are found in the above checks, check the gear train and setting parts to replace the abnormal parts with new ones.

If any defects and malfunctions are found;

In case of 1 : **Clean and lubricate the movement partially.**

In case of 2 : **Replace the current block with a new one**

In case of 3, 4 : **Clean and lubricate the gear train, and if further malfunctioins are found, replace the circuit block with a new one.**

Note: The following measuring instruments are necessary to perform the periodic check.
1. Microscope
2. Micro Test
3. Quartz Tester
4. Bergeon 5395 (testing capacity, 0-50 Atm.)

Normal → **Check accuracy** → Normal → **Check appearance of casing parts** → Normal → **Assembly and check performance** → Normal → **End of procedures**

(If any malfunction is found, make accuracy adjustment.)

Check appearance of casing parts

Check if each part has scratches and breaks, etc. In this case, be sure to replace the gaskets and push pins with new ones.
(The crown gaskets for 150m and 300m diver's watches, assembled all together with the crown, are not required to be replaced, if no malfunction is found.)

Assembly and check performance

1. **Check appearance and functions**
   [Check the operation of the crown, the rotating ring (refer to page 6).]
2. **Water resistant test**
   [Use "Bergeon 5395 (testing capacity, 0–50 Atm.)."]

In the checks, be sure to inscribe " ● " mark on the case back showing the expected time of the next battery replacement. (Punch a mark or make a noticeable inscription.)

[Example]
Mark the position corresponding to April to June, 1984.