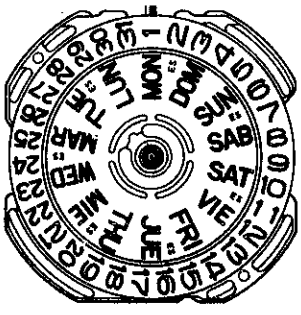
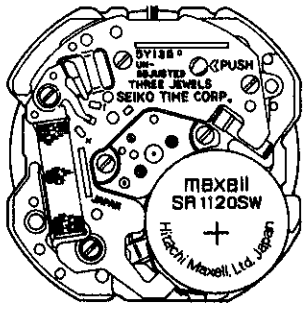
TECHNICAL GUIDE

CAL. 5Y01A
CAL. 5Y02A
CAL. 5Y13A

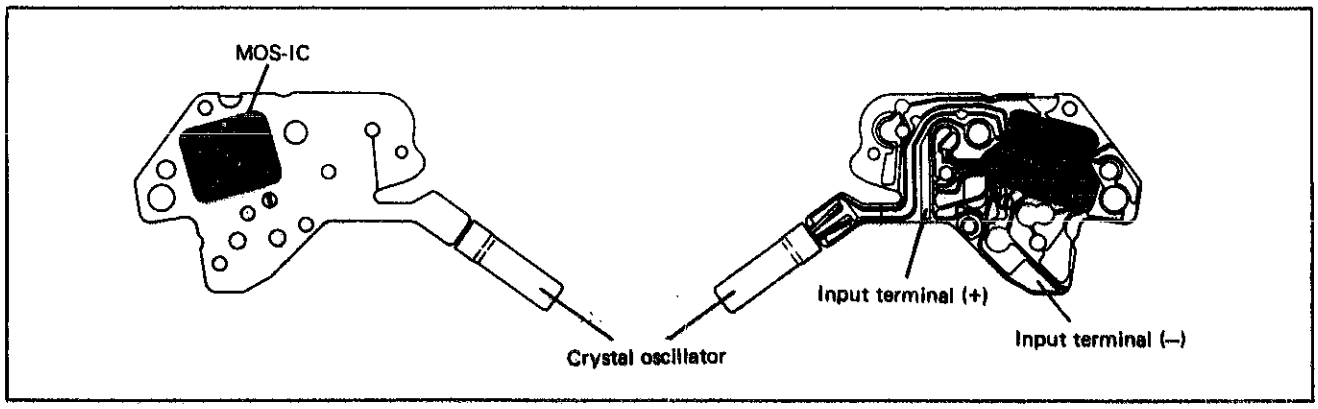




I. SPECIFICATIONS

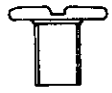
Item \ Cal. No.		5Y01A	5Y02A	5Y13A
Time indication		3 hands		
Driving system		Step motor (Load compensated driving pulse type)		
Additional mechanism		–	–	Day
		–	Date	
		–	Instant day and/or date setting device	
		Train wheel setting device		
		Electronic circuit reset switch		
Loss/gain		Monthly rate at normal temperature range: less than 15 seconds		
Movement size	Outside diameter	φ24.0 mm 21.0 mm between 6 o'clock and 12 o'clock sides 19.0 mm between 3 o'clock and 9 o'clock sides		φ26.4 mm 23.5 mm between 6 o'clock and 12 o'clock sides and between 3 o'clock and 9 o'clock sides
	Casing diameter	φ23.3 mm		φ25.6 mm
	Height	2.3 mm without battery	2.7 mm without battery	2.9 mm without battery
Regulation system		Rotary step switch		
Measuring gate by quartz tester		Use the 10-second gate.		
Battery		SEIKO (SEIZAIKEN) TR920SW, Maxell SR920SW, SONY EVEREADY 371		SEIKO (SEIZAIKEN) TR1120SW, Maxell SR1120SW, U.C.C. 381, SONY EVEREADY 381
		Battery life is approximately 3 years.		Battery life is approximately 5 years.
		Voltage: 1.55V		
Jewels		3 jewels		

II. STRUCTURE OF THE CIRCUIT BLOCK



III. DISASSEMBLING, REASSEMBLING, AND LUBRICATING

List of the screws used

Shape	Part No.	Part Name	Shape	Part No.	Part Name
	022 247	Train wheel bridge screw 2 pcs. Battery connection (+) screw 4 pcs. Battery connection (−) screw 1 pc. Setting lever spring screw 1 pc.		022 248	Date dial guard screw 3 pcs.

Cal. No.	Disassembling/Reassembling procedures
5Y01A	① — ② ——— *Dial washer ——— ⑨ — ⑩ ——— ⑫ through ㉟
5Y02A	① — ② ——— ⑥ — ⑦ — ⑧ — ⑨ — ⑩ — ⑪ — ⑫ through ㉟
5Y13A	① — ② — ③ — ④ — ⑤ — ⑥ — ⑦ — ⑧ — ⑨ — ⑩ — ⑪ — ⑫ through ㉟

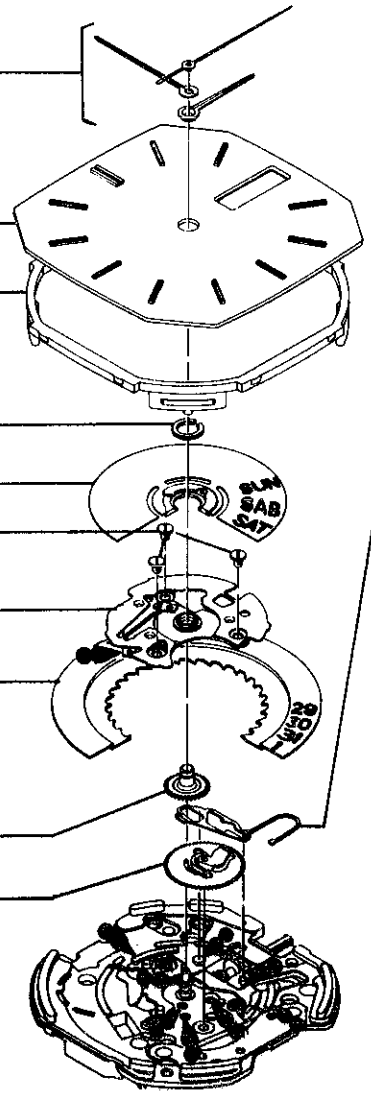
- Use the universal movement holder for disassembling and reassembling.

Lubricating: **Types of oil**

- ●● Moebius A, Normal quantity
- ∞ SEIKO Watch Oil S-6, Normal quantity

1. Hour, minute, and second hands ~ Date driving wheel

ex. Cal. 5Y13A



① Hour, minute, and second hands

② Dial

③ Holding ring for dial

Some models have the case ring instead of the holding ring for dial.

④ Snap for day star with dial disk

⑤ Day star with dial disk

⑥ Date dial guard screw (3 pcs.)

⑦ Date dial guard

⑧ Date dial

*Dial washer

Cal. 5Y01A watches are equipped with the dial washer.

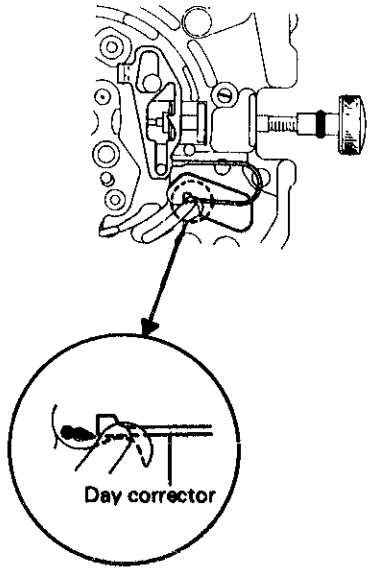
⑨ Hour wheel

⑪ Date driving wheel

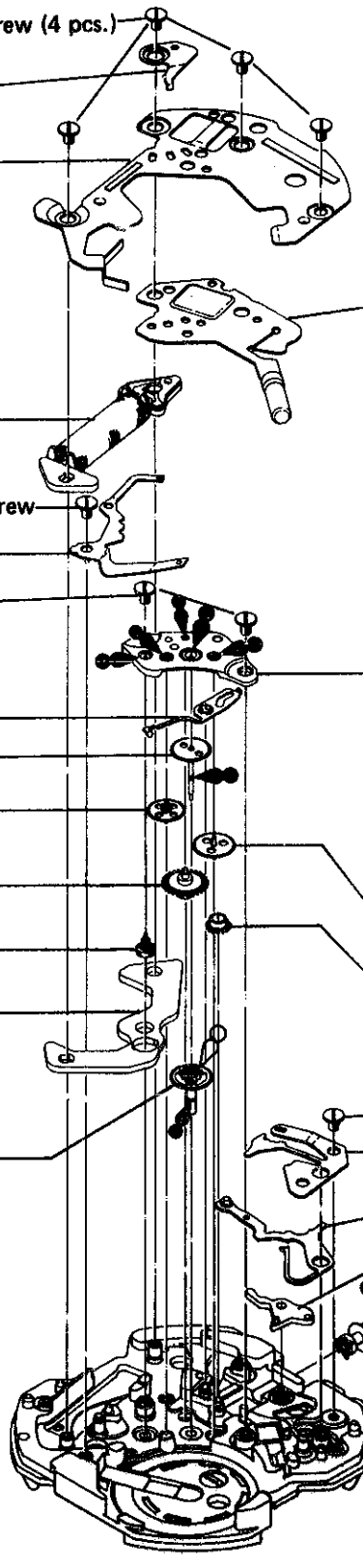
⑩ Day corrector

Remarks on reassembling

Place the tip of the spring against the level beneath the plastic portion of the main plate as shown in the illustration below.



2. Battery connection (+) screw ~ Clutch wheel



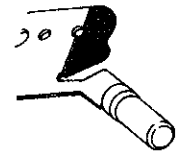
⑫ Battery connection (+) screw (4 pcs.)

⑬ Regulating switch lever

⑭ Battery connection (+)

⑮ Circuit block

- Handle the circuit block with care as it is thin.
- When setting the circuit block, bend down the small portion just right of the groove as shown in the illustration below.



⑯ Coil block

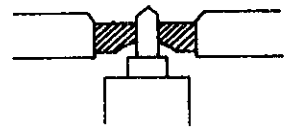
⑰ Battery connection (–) screw

⑱ Battery connection (–)

⑲ Train wheel bridge screw (2 pcs.)

⑳ Train wheel bridge

Remarks on reassembling
The hole jewel for step rotor is set upside down in the train wheel bridge to facilitate assembly of the step rotor.



㉑ Train wheel setting lever

㉒ Fourth wheel and pinion

㉓ Fifth wheel and pinion

㉕ Minute wheel

㉗ Step rotor

㉘ Rotor stator

㉙ Center wheel and pinion

㉔ Third wheel and pinion

㉖ Setting wheel

㉚ Setting lever spring screw

㉛ Setting lever spring

㉜ Yoke

㉝ Setting lever

㉞ Winding stem

㉟ Clutch wheel

Remarks on cleaning
Clean the main plate with Daifion or alcohol.

IV. CHECKING AND ADJUSTMENT

- The explanation here is only for the particular points of Cals. 5Y01A, 5Y02A, and 5Y13A. Refer to the "TECHNICAL GUIDE, GENERAL INSTRUCTION" for SEIKO Analogue Quartz for details.

Procedure

CHECK OUTPUT SIGNAL

Use the quartz tester.
Any gate of the quartz tester can be used.

Result:

Normal : Input indicator blinks every second.

Defective : Input indicator does not blink every second.

CHECK BATTERY VOLTAGE

Use the Digital Multi-Tester S-840A.
Range to be used: DC V

Result:

Normal : More than 1.57V

Defective : Less than 1.57V

CHECK COIL BLOCK

Use the Digital Multi-Tester S-840A.
Range to be used: Ω

Result:

Normal : 2.3KΩ ~ 2.8KΩ

Defective — Less than 2.3KΩ (Short circuit)
Defective — More than 2.8KΩ (Broken wire)

CHECK RESET AND TRAIN WHEEL SETTING CONDITION

1. Check to see if the second hand stops promptly when the crown is pulled out completely and if it starts promptly one second after the crown is pushed in back to the normal position.

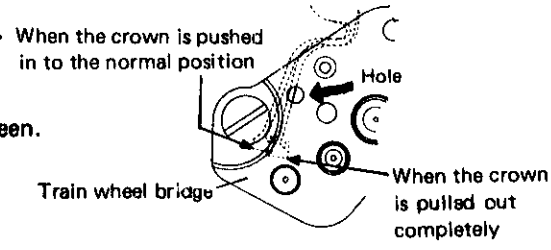
2. Check the position of the train wheel setting lever by looking through the hole of train wheel bridge.

   - **With the crown pulled out completely**

     The spring portion of train wheel setting lever can be seen.

   - **With the crown pushed in to the normal position**

     The spring portion of train wheel setting lever cannot be seen.



3. With the crown pulled out completely, check the output signal with the quartz tester.

Result:

Normal : Input indicator blinks.

Defective : Input indicator does not blink.

Procedure

CHECK ACCURACY

- Use the 10-second gate of the quartz tester.
- The rotary step switch regulates 0.52 sec./day/step.

CHECK CURRENT CONSUMPTION

Use the Digital Multi-Tester S-840A.
Range to be used: μA

Result:

Normal : Less than 1.3μA

Defective : More than 1.3μA

- Be sure to protect the movement from light with black paper while measuring.
  Do not check current consumption under an incandescent lamp since strong light may cause a watch to consume excess current.
- Repeat resetting the circuit by pulling out the crown more than 3 times while keeping the probes applied to the battery and the battery connection (−), since it is necessary to check current consumption with the hands moving normally (the load compensated driving pulse system working normally).

All procedures of Disassembling, Reassembling, Lubricating, Checking and Adjustment are completed.