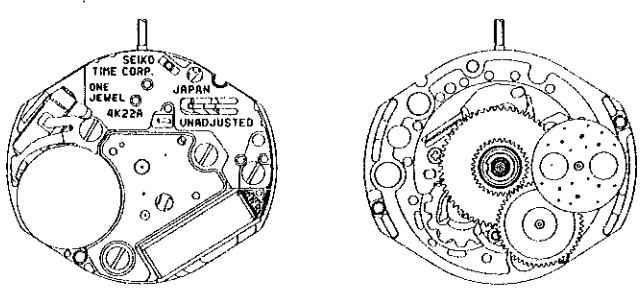


PARTS CATALOGUE/ TECHNICAL GUIDE

Cal. 4K22A

[SPECIFICATIONS]

Cal. No.		4K22A
Item		
Movement		 <p style="text-align: right;">(x 2.0)</p>
Movement size	Outside diameter	17.6 mm between 6 o'clock and 12 o'clock sides 15.3 mm between 3 o'clock and 9 o'clock sides
	Casing diameter	φ17.1 mm
	Height	3.7 mm
Time indication		3 hands
Driving system		Step motor (Load compensated driving pulse type)
Additional mechanism		<ul style="list-style-type: none"> • Moon phase display • Instant moon phase setting device • Train wheel setting device • Electronic circuit reset switch
Loss/gain		Monthly rate at normal temperature range: less than 15 seconds
Regulation system		Nil
Measuring gate by quartz tester		Use 10-second gate.
Battery		SEIKO SR621SW, Maxell SR621SW, SONY SR621SW, EVEREADY 364 Battery life is approximately 2 years. Voltage: 1.55V
Jewels		1 jewel

HATTORI SEIKO CO., LTD.

PARTS CATALOGUE

Cal. 4K22A

Disassembling procedures Figs.: ① → ④⑩

Reassembling procedures Figs.: ④⑩ → ①

Lubricating: Types of oil

● Moebius A

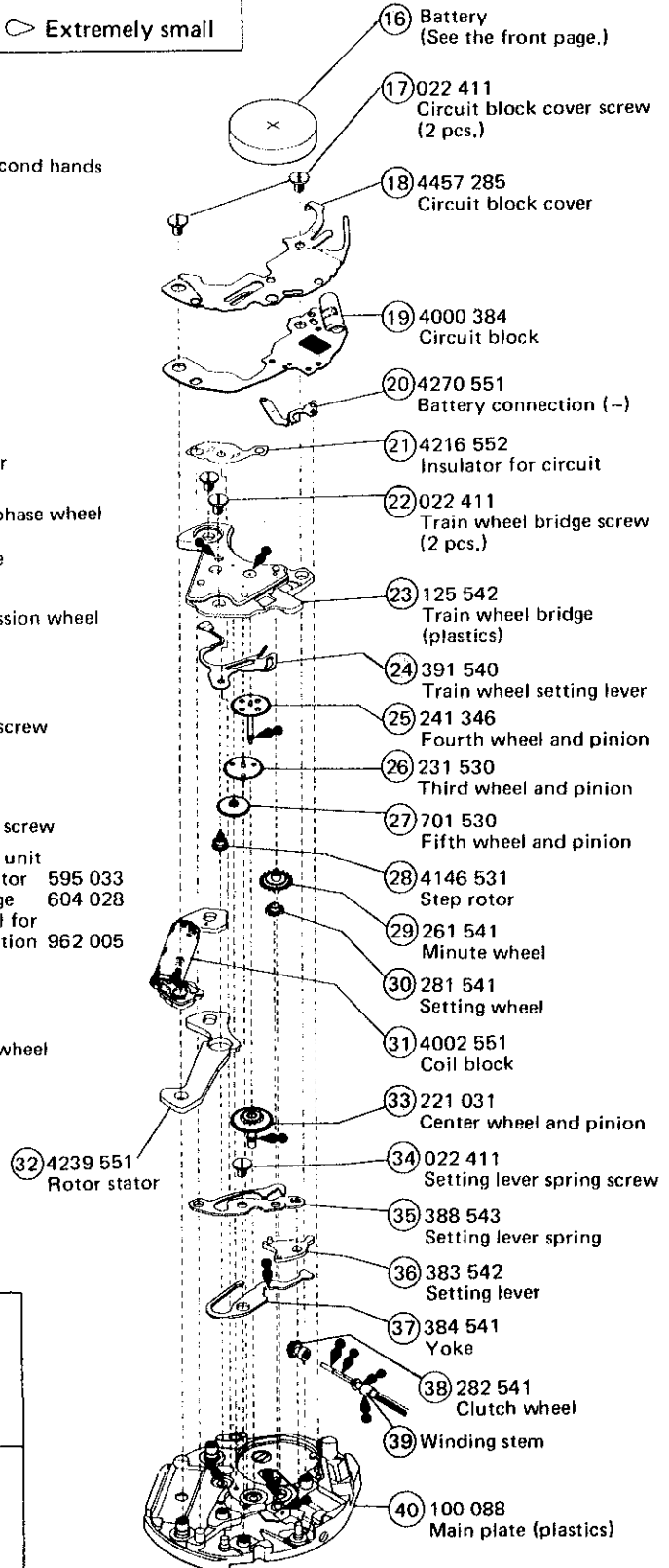
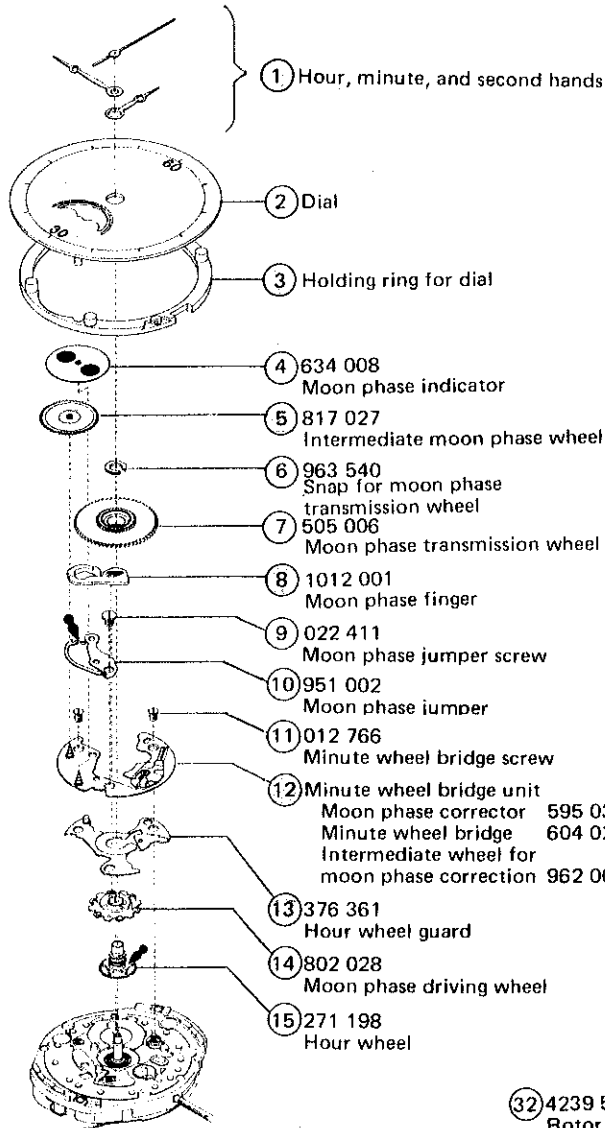
○ SEIKO Watch Oil S-6



Oil quantity

○ Normal quantity

○ Extremely small

○ ⇨ Please see the remarks on the following pages.



	022 411 ● Moon phase jumper screw (1 pc.) ● Circuit block cover screw (2 pcs.) ● Train wheel bridge screw (2 pcs.) ● Setting lever spring screw (1 pc.)
	012 766 ● Minute wheel bridge screw (2 pcs.) (Both Phillips head and slotted head screws can be used.)

Remarks:

③ Holding ring for dial 884 160

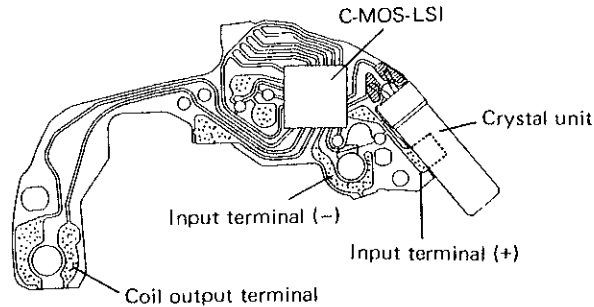
The type of holding ring for dial is determined based on the design of cases. Check the case number and refer to "SEIKO Casing Parts Catalogue" to choose a corresponding holding ring for dial.

③⑨ Winding stem 351 546

The type of winding stem is determined based on cases. Check the case number and refer to "SEIKO Casing Parts Catalogue" to choose a corresponding winding stem.

- The explanation here is only for the particular points of Cal. 4K22A.
- For repairing, checking and measuring procedures, refer to the "TECHNICAL GUIDE, GENERAL INSTRUCTIONS".

I. STRUCTURE OF THE CIRCUIT BLOCK

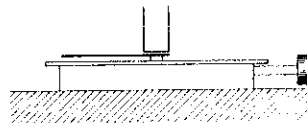


II. REMARKS ON DISASSEMBLING AND REASSEMBLING

Use the universal movement holder for disassembling and reassembling.

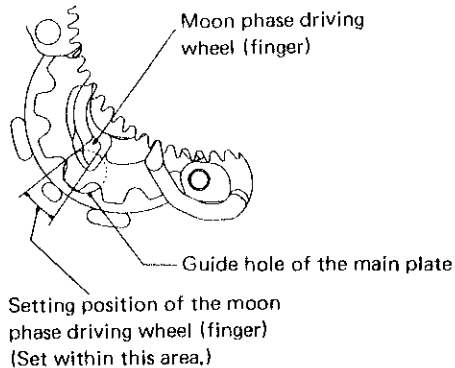
① Hands

- How to install



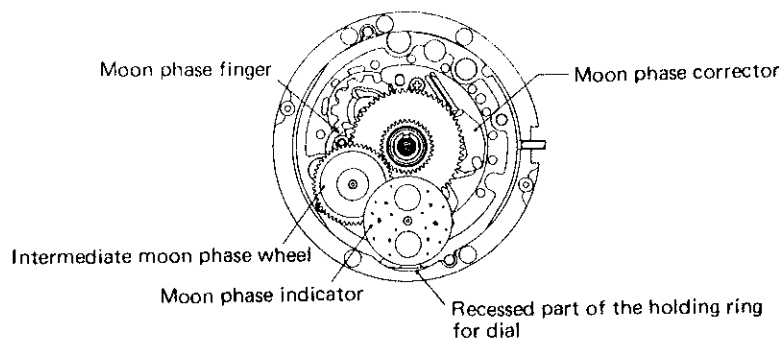
Since plastic main plate and train wheel bridge are used, place the movement directly on a flat metal plate or the like to install the hands.

In order that the moon phase indicator changes at a fixed time, first set the finger portion of the moon phase driving wheel to the guide hole of the main plate as shown in the illustration below, and then install the hour, minute and second hands at the 12 o'clock position.



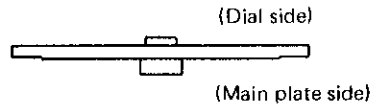
③ Holding ring for dial

A part of the holding ring for dial is recessed so that it will not touch the moon phase indicator.



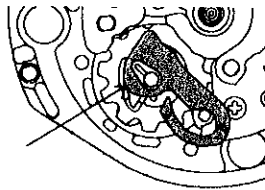
⑤ Intermediate moon phase wheel

Be careful not to set it upside down.



⑧ Moon phase finger

The moon phase finger is a plastic part with some elasticity in the contact with the moon phase driving wheel axle. Therefore, good care should be taken not to deform the moon phase finger when installing or removing it.



Insert a tip of tweezers or the like into the part indicated by the arrow in the illustration, and remove the moon phase finger.

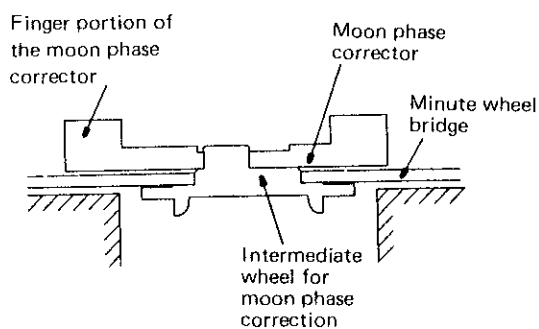
⑫ Minute wheel bridge unit

The minute wheel bridge unit is composed of the moon phase corrector, minute wheel bridge and intermediate wheel for moon phase correction.

The moon phase corrector is a plastic part, and therefore, be sure to follow the procedure below when disassembling or reassembling it. However, do not disassemble it unless necessary.

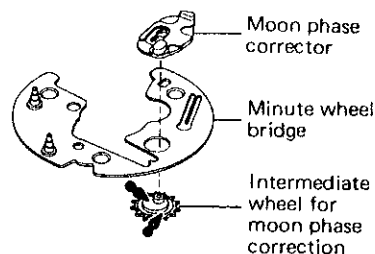
• How to disassemble

- (1) Loosen the minute wheel bridge screws (2 pcs.), and remove the whole of the minute wheel bridge unit.
- (2) Place the minute wheel bridge unit on the two metal plates placed side by side so that the intermediate wheel for moon phase correction lies between them.



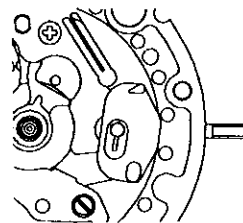
- (3) Lightly press the axle head of the intermediate wheel for moon phase correction with a tip of tweezers.

Lubricating:  Moebius A



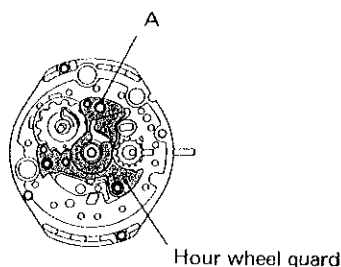
• **How to reassemble**

- (1) Install the intermediate wheel for moon phase correction and minute wheel bridge individually on to the movement.
- (2) Tighten the minute wheel bridge screw first.
- (3) Set the moon phase corrector to the axle of the intermediate wheel for moon phase correction. In doing so, lightly press the center part of the moon phase corrector.



⑬ **Hour wheel guard**

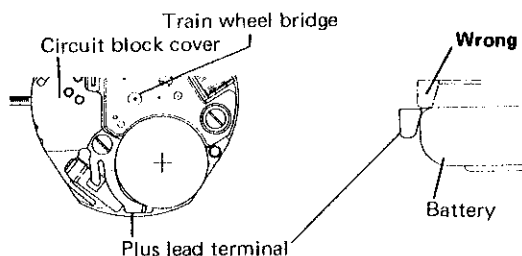
If the guide hole of the hour wheel guard is too tight for the guide axle of the movement when installing the hour wheel guard, press "A" portion in the illustration with tweezers.



⑮ **Battery**

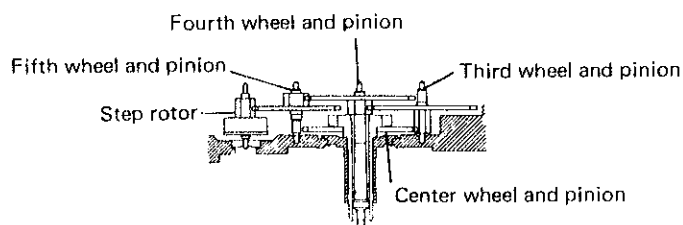
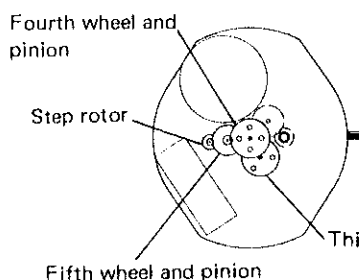
• **How to install**

When installing the battery, check that the plus lead terminal of the circuit block cover securely touches the side face of the battery.



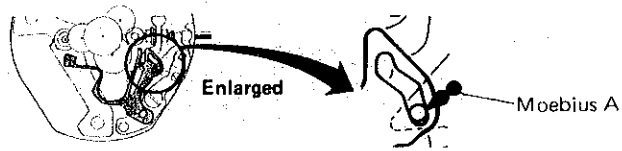
⑳ **Train wheel bridge**

• **Setting position**



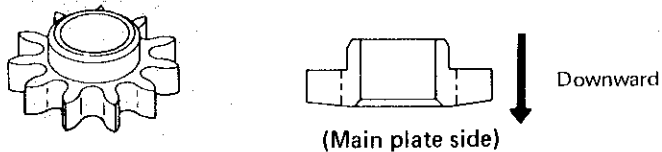
②④ Train wheel setting lever

- Setting position



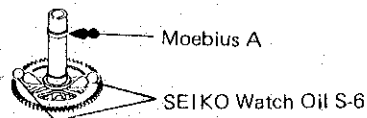
③⑩ Setting wheel

Take care not to install the setting wheel up side down.



③③ Center wheel and pinion

- Lubricating



III. VALUE CHECKING

- Coil block resistance

2.7K Ω ~ 4.1K Ω

- Current consumption

For the whole of the movement: less than 1.4 μ A
 For the circuit block alone : less than 0.4 μ A

Remarks:

- When the current consumption exceeds the standard value for the whole of the movement but less than the standard value for the circuit block alone, overhaul and clean the movement parts and then measure current consumption for the whole of the movement again. The driving pulse generated to compensate a heavy load that may apply on the gear train, etc. is considered to cause excessive current consumption for the whole of the movement.