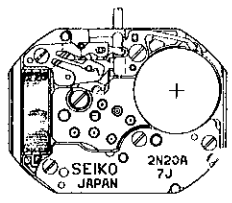
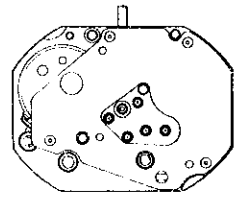
PARTS CATALOGUE/TECHNICAL GUIDE

Cal. 2N20A

[SPECIFICATIONS]

Item \ Cal. No.		2N20A
Movement		  (x 2.0)
Movement size	Outside diameter	11.0 mm between 3 o'clock and 9 o'clock sides 14.6 mm between 6 o'clock and 12 o'clock sides
	Casing diameter	14.2 mm
	Height	1.5 mm
Time indication		2 hands (Hand motion: 20-second step)
Driving system		Step motor (Fixed-width pulse system)
Additional mechanism		• Electronic circuit reset switch • Train wheel setting device
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 SR512SW, Maxell SR512SW Battery life is approximately 2 years. Voltage: 1.55V
Jewels		7 jewels

Disassembling procedures Figs.: (1) → (32)

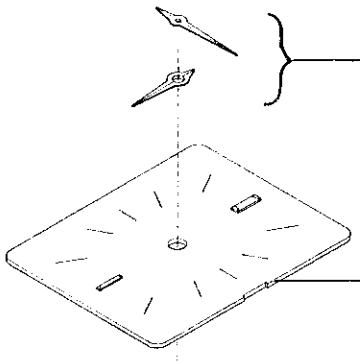
Reassembling procedures Figs.: (32) → (1)

Lubricating: Types of oil

- Moebius A
- SEIKO Watch Oil S-6

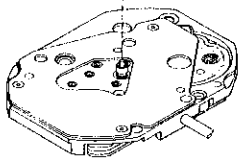
Oil quantity

- Normal quantity
- Extremely small



(1) Hour and minute hands

(2) Dial



Upper hole jewel for step rotor
011 587

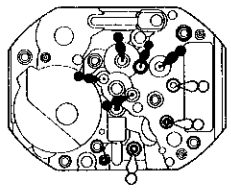
Upper hole jewel for fifth wheel
011 587

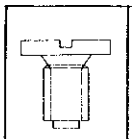
Upper hole jewel for third wheel
011 587

Upper hole jewel for center wheel
011 541

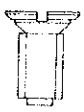
Upper hole jewel for minute wheel
011 588

Main plate – Lubricating

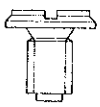




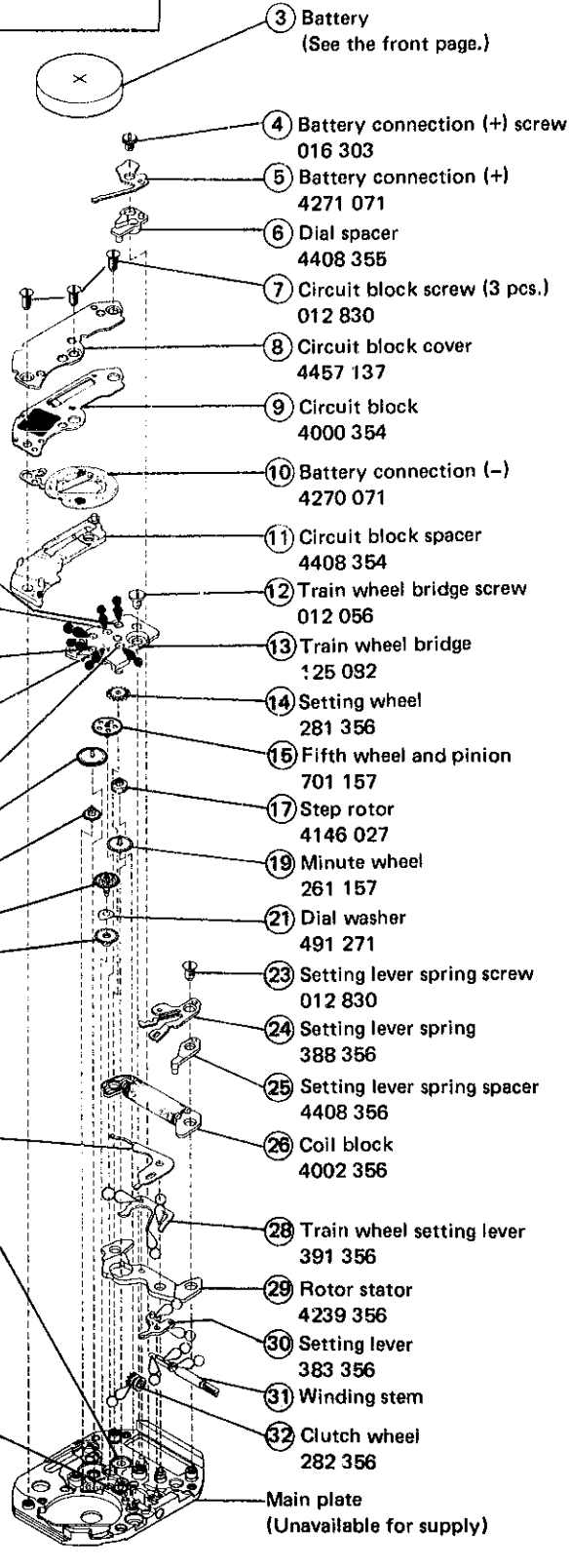
012 056
Train wheel bridge screw (1 pc.)



012 830
Circuit block screw (3 pcs.)
Setting lever spring screw (1 pc.)



016 303
Battery connection (+) screw (1 pc.)



(3) Battery
(See the front page.)

(4) Battery connection (+) screw
016 303

(5) Battery connection (+)
4271 071

(6) Dial spacer
4408 355

(7) Circuit block screw (3 pcs.)
012 830

(8) Circuit block cover
4457 137

(9) Circuit block
4000 354

(10) Battery connection (–)
4270 071

(11) Circuit block spacer
4408 354

(12) Train wheel bridge screw
012 056

(13) Train wheel bridge
125 092

(14) Setting wheel
281 356

(15) Fifth wheel and pinion
701 157

(16) Fourth wheel and pinion
241 157

(17) Step rotor
4146 027

(18) Third wheel and pinion
231 157

(19) Minute wheel
261 157

(20) Center minute wheel

(21) Dial washer
491 271

(22) Hour wheel

(23) Setting lever spring screw
012 830

(24) Setting lever spring
388 356

(25) Setting lever spring spacer
4408 356

(26) Coil block
4002 356

(27) Yoke
384 356

(28) Train wheel setting lever
391 356

Lower hole jewel for step rotor
011 562

(29) Rotor stator
4239 356

(30) Setting lever
383 356

(31) Winding stem

(32) Clutch wheel
282 356

Lower hole jewel for center wheel
011 737

Main plate
(Unavailable for supply)

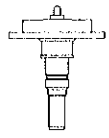
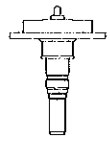
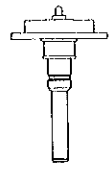
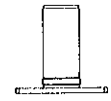
○ ⇨ Please see the remarks on the following pages.

Remarks:

(20) Center minute wheel

(22) Hour wheel

Combination:

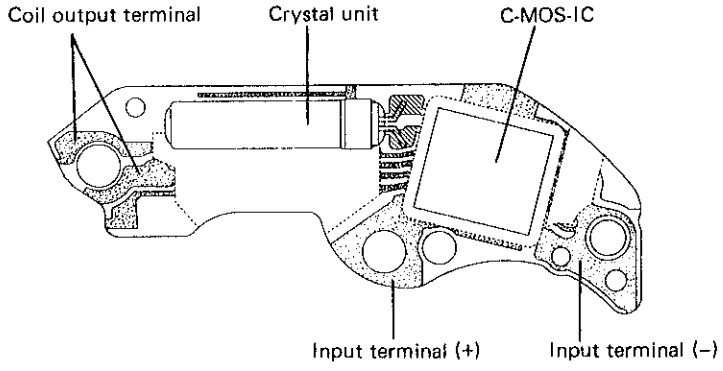
Type	Center minute wheel	Hour wheel
a	 270 157	 271 157
b	 270 338	 271 338
c	 270 159	 271 159

(31) Winding stem 351 106 / 351 107 / 351 108 / 351 109

The type of winding stem is determined based on the design of 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. 2N20A.
- For the repairing, checking and measuring procedures, refer to the "TECHNICAL GUIDE, GENERAL INSTRUCTION".

I. STRUCTURE OF THE CIRCUIT BLOCK



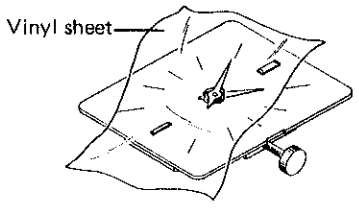
II. REMARKS ON DISASSEMBLING AND REASSEMBLING

Use the universal movement holder for disassembling and reassembling.

① Hands

- **How to remove**

There are some models that defy using conventional hand removers owing to a little clearance between the dial and the hands.
In this case, follow the steps below.

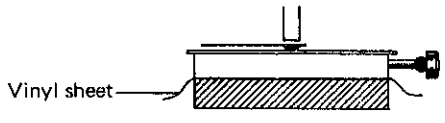


1. Prepare a vinyl sheet and make a small hole in the center of it. (Using a vinyl bag for spare parts is recommended.)
2. Set the vinyl sheet on the dial so that the minute hand comes out through the hole of the vinyl sheet.
3. Holding one end of the vinyl sheet with finger, pull the other end up to disassemble the minute hand.

Disassemble the hour hand, following the same procedure.

- **Remarks on installing**

When installing the hands, place the movement directly on a flat metal plate or the like.

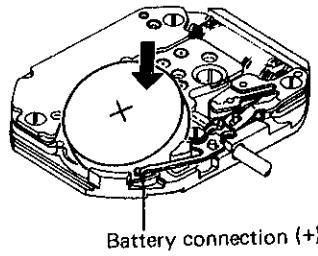


③ Battery

- **How to install**

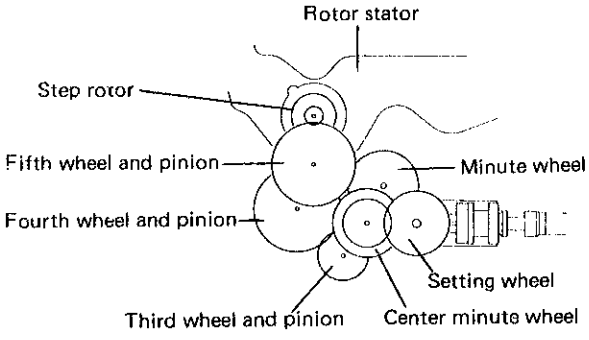
Insert a battery aslant first on the battery connection (+) side, and then press in the other side (train wheel bridge side).

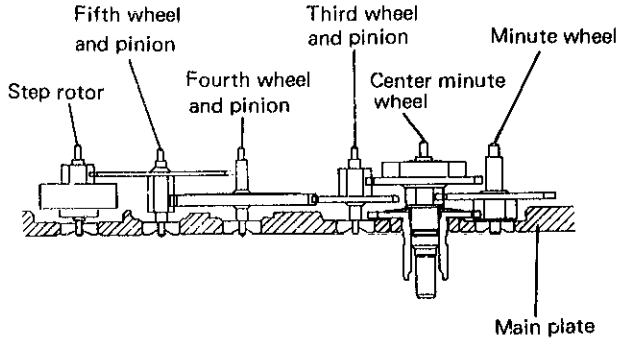
Note:
Be careful not to press the battery hard, since it may deform the antimagnetic shield plate or lift up the dial.



⑬ ~ ㉒ Train wheel bridge

- **Setting position**

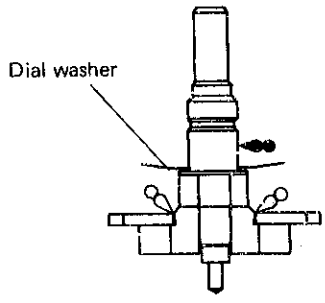




Notes:

- **Lubricating the center minute wheel**

Apply SEIKO Watch Oil S-6 to three positions equally spaced on the circumference of the center minute wheel.
Lubricate the center minute wheel with Moebius A after installing the dial washer.

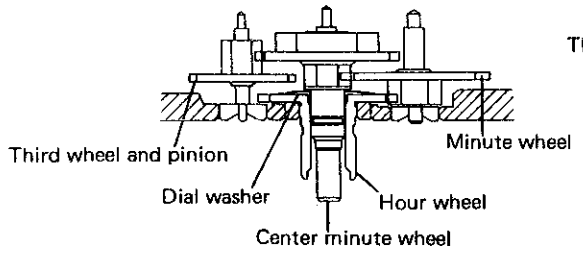


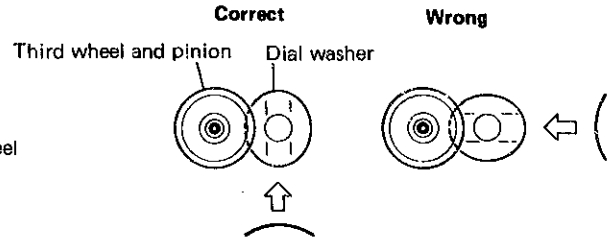
- **Installing the center minute wheel ~ the hour wheel**

First set the dial washer and the hour wheel to the center minute wheel, and then install them together onto the main plate. This will facilitate the work.

- **Installing the third wheel and pinion and the minute wheel**

When installing the third wheel and pinion, set the dial washer so that its bent portion comes under the teeth of the third wheel and pinion.
When installing the minute wheel, be careful not to deform the dial washer.





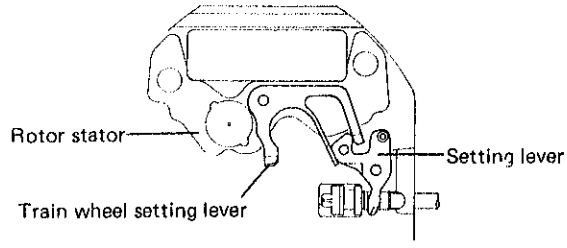
- **Setting wheel**

The setting wheel has no distinction between the front and the back.
Lubricate the tube for setting wheel after setting it to the setting wheel.

㉓ ~ ㉜ Setting mechanism

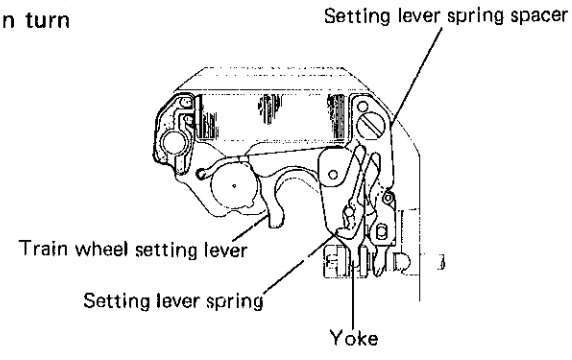
- **Setting position of the setting lever and the train wheel setting lever**

Note:
The setting lever and the train wheel setting lever have elasticity. If there is any clearance between them when they are installed, replace the train wheel setting lever with a new one.



- **Setting position of the setting mechanism**

Note:
Do not operate the winding stem before tightening the train wheel bridge screw. Otherwise, the tube for train wheel setting lever may come off the train wheel setting lever, which in turn will lead to malfunction.



III. VALUE CHECKING

- Coil block resistance

  2.0KΩ ~ 2.4KΩ

- Current consumption

  For the whole of the movement: less than 0.3μA
  For the circuit block only : less than 0.2μA

Note:

Since this is a 2-hand caliber with its minute hand moving at 20-second intervals, refer to "MEASURING METHOD" in the "TECHNICAL GUIDE, GENERAL INSTRUCTIONS" for its measuring procedure.