



**Seiko 2G28A,2G38A Movement Parts (1)**

*Compiled by EmmyWatch - <https://www.emmywatch.com>*

**SEIKO**

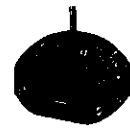
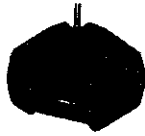
**QUARTZ**

**(Cal. 2G28A)  
(Cal. 2G38A)**

**EMMY WATCH**  
VINTAGE RESTORATIONS

**PARTS  
CATALOGUE**

# Cal. 2G28A, 2G38A



Cal. 2G28A

Cal. 2G38A



125 018



126 002



126 003



139 214



231 034



☆240 001



☆240 004



241 086



261 121



☆270 055



☆271 100



281 211



282 122



317 002



317 003



☆351 225



383 213



384 213



388 211



391 022



491 122



701 009



4000 211



4002 211



4146 010



4219 019



4219 211



4225 211



4239 023



4270 057



4270 211



4408 029



4408 213



4457 215



4457 217



☆SEIKO TR521SW



☆SEIKO TR527SW



012 037



012 464



012 468



012 490



012 799



012 820



017 596



017 669



017 672



032 034



032 035



032 036

2/1

# Cal. 2G28A, 2G38A

## Characteristics

	2G28A	2G38A
Casing diameter :	17.8 mm	15.1 mm
Maximum height :	3.0 mm	2.9 mm
Jewels :	2 j	
Frequency of quartz crystal oscillator :	32,768 Hz (Hz=Hertz . . . . Cycles per second)	
Driving system :	Step motor (2 poles)	
Regulation system :	Trimmer condenser	
Train wheel setting :	Electronic circuit reset switch, Battery life indicator	

PART NO.	PART NAME	PART NO.	PART NAME
125 018	Train wheel bridge	4408 213	Setting lever spring spacer
126 002	Additional train wheel bridge (Cal.2G28A)	4457 215	Circuit block cover (Cal.2G28A)
126 003	Additional train wheel bridge (Cal.2G38A)	4457 217	Circuit block cover (Cal.2G38A)
139 214	Lower bridge for third wheel	011 334	Upper hole jewel for step rotor
231 034	Third wheel & pinion	011 562	Lower hole jewel for step rotor
☆240 001	Small second wheel (Cal.2G28A)	012 037	Battery clamp screw
☆240 002	Small second wheel (Cal.2G28A)	012 464	Screw for lower bridge for third wheel
☆240 003	Small second wheel (Cal.2G28A)	012 468	Screw for additional train wheel bridge (A)
☆240 004	Small second wheel (Cal.2G38A)	012 490	Screw for additional train wheel bridge (B)
☆240 005	Small second wheel (Cal.2G38A)	012 490	Train wheel bridge screw
☆240 006	Small second wheel (Cal.2G38A)	012 490	Coil block screw
241 086	Fourth wheel & pinion	012 799	Circuit block screw
261 121	Minute wheel	012 820	Setting lever spring screw
☆270 055	Center minute wheel	017 596	Minute wheel pin
☆270 060		017 669	Tube for coil block
☆270 061		017 672	Tube for circuit block (B)
☆271 100		032 034	Tube for train wheel bridge (A)
☆271 101	Hour wheel	032 035	Tube for train wheel bridge (B)
☆271 102		032 036	Tube for circuit block (A)
☆271 103		☆SEIKO TR321SW	Silver (II) oxide battery (Cal.2G38A)
281 211	Setting wheel	☆SEIKO TR527SW	Silver (II) oxide battery (Cal.2G28A)
282 122	Clutch wheel	☆Maxell SR527SW	Silver oxide battery (Cal.2G28A)
317 002	Intermediate small second wheel (Cal.2G28A)	☆SONY EVEREADY 319	
317 003	Intermediate small second wheel (Cal.2G38A)		
☆351 079	Winding stem (Cal.2G28A)		
☆351 100	Winding stem (Cal.2G28A)		
☆351 225	Winding stem		
☆351 226			
☆351 227			
383 213	Setting lever		
384 213	Yoke		
388 211	Setting lever spring		
391 022	Train wheel setting lever		
491 122	Dial washer		
701 009	Fifth wheel & pinion		
4000 211	Circuit block		
4002 211	Coil block		
4146 010	Step rotor		
4219 019	Battery connection insulator (Cal.2G28A)		
4219 211	Battery connection insulator (Cal.2G38A)		
4225 211	Battery clamp		
4239 023	Rotor stator		
4270 057	Battery connection (-) (Cal.2G28A)		
4270 211	Battery connection (-) (Cal.2G38A)		
4408 029	Circuit block spacer		

☆◇ Please see remarks on the reverse page.  
Part numbers in light letters are not shown in photos.

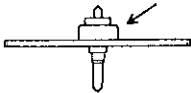


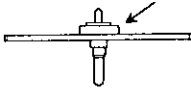
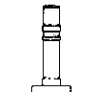

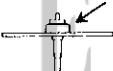

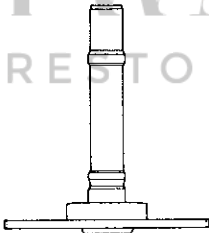

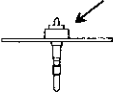
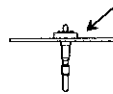

# Cal. 2G28A, 2G38A

## Remarks :

### Small second wheel, Center minute wheel, Hour wheel

There are four different types as specified below.

Combination :

	Small second wheel	Center minute wheel	Hour wheel
a.	 ☆240 001 (Cal.2G28A)	 ☆270 055	 ☆271 100
b.	 ☆240 004 (Cal.2G38A)	 ☆270 060	 ☆271 101
c.	  ☆240 002 (Cal.2G28A)    ☆240 005 (Cal.2G38A)	 ☆270 061	 ☆271 102
d.	  ☆240 003 (Cal.2G28A)    ☆240 006 (Cal.2G38A)		 ☆271 103

### Winding stem

- ☆351 079
- ☆351 100
- ☆351 225
- ☆351 226
- ☆351 227

Refer to the photograph on the front page.  
 If the combination of the winding stem and case is unknown, check the case number and refer to "SEIKO Quartz Casing Parts Catalogue" to choose a corresponding winding stem.

### Battery

- Cal.2G38A
- ☆SEIKO TR521SW
- Cal.2G28A
- ☆SEIKO TR527SW
- ☆Maxell SR527SW
- ☆SONY EVEREADY 319

The substitutive battery might be added to the applied battery in the future. In that case, please refer to separate "BATTERY LIST FOR SEIKO QUARTZ WATCHES".  
 Note that SEIKO battery is marked with "SEIZAIKEN" on its (+) side.

# TECHNICAL GUIDE

**SEIKO**  
QUARTZ

CAL. 2G28A  
CAL. 2G38A

## I. SPECIFICATIONS

Cal. No.		2G28A	2G38A
Item			
Time indication		3 hands (Hour, minute and small second hands)	
Additional mechanism		Train wheel setting device	
		Electronic circuit reset switch	
		Battery life indicator	
Loss/gain		Monthly rate at normal temperature range: less than 15 seconds	
Movement size	Outside diameter	18.4 mm between 6 o'clock and 12 o'clock sides 15.3 mm between 3 o'clock and 9 o'clock sides	15.5 mm between 6 o'clock and 12 o'clock sides 13.0 mm between 3 o'clock and 9 o'clock sides
	Casing diameter	φ17.8 mm	φ15.1 mm
	Height	3.0 mm	2.9 mm
Regulation system		Trimmer condenser	
Measuring gate by quartz tester		Any gate can be used.	
Battery		Battery life is approximately 3 years for SEIKO (SEIZAIKEN) TR527SW. Battery life is approximately 2 years for Maxell SR527SW. Voltage : 1.55V	SEIKO (SEIZAIKEN) TR521SW Battery life is approximately 2 years. Voltage : 1.55V
Jewels		2 jewels	

## II. DISASSEMBLING, REASSEMBLING, AND LUBRICATING

Disassembling procedures Figs.: ① → ③⑧

Reassembling procedures Figs.: Step 1 ①⑦ → ④

Step 2 ③⑧ → ①⑧

Step 3 ③ → ①

### Lubricating:

#### Types of oil

● Moebius A

○ SEIKO Watch Oil S-6

#### Oil quantity

○ Normal quantity

○ Extremely small

● Use the universal movement holder for disassembling and reassembling.

### 1. Hour and minute hands ~ Center minute wheel

Ex.: Cal. 2G28A

#### ③ Dial

##### ● How to remove

Insert the tip of a screwdriver gently into the notch between the dial and the additional train wheel bridge, and remove the dial by prying it up from both ends.

##### ● How to set

Put the dial legs (2 legs) into the holes of the additional train wheel bridge and set the dial so that there is no clearance between the dial and the additional train wheel bridge.

The ends of the dial legs are fixed in the ②③ Circuit block spacer and the ③⑥ Setting lever spring spacer respectively.

#### ⑥ Additional train wheel bridge

##### Remarks on reassembling

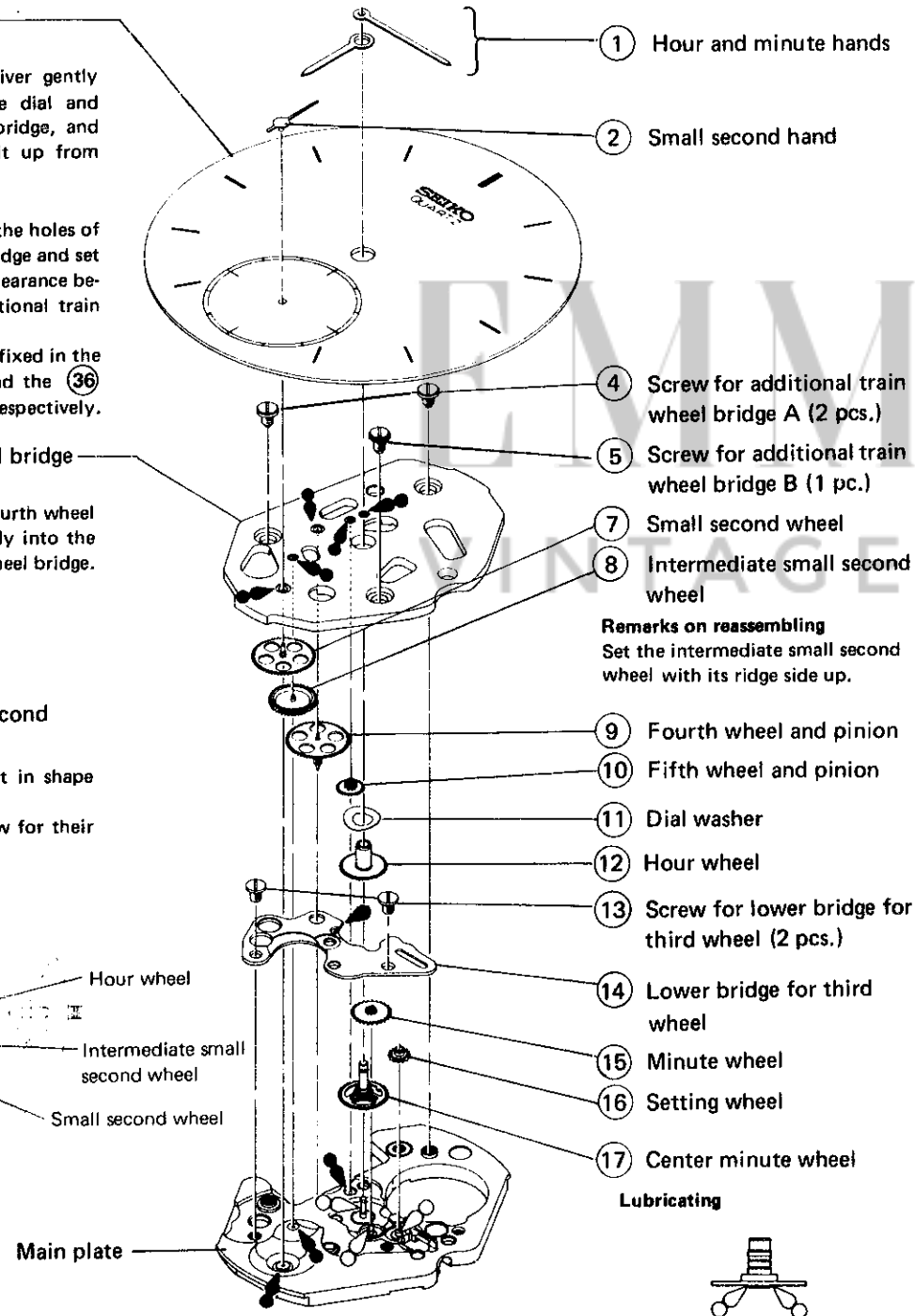
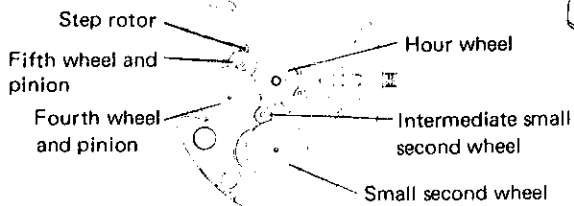
Check that the pivot of the fourth wheel and pinion is inserted correctly into the bush of the additional train wheel bridge.

In Cal. 2G38A:

#### ⑦ Small second wheel

#### ⑧ Intermediate small second wheel

These two parts are different in shape from Cal. 2G28A. Refer to the illustration below for their arrangement.



##### Remarks on reassembling

Set the intermediate small second wheel with its ridge side up.

⑨ Fourth wheel and pinion

⑩ Fifth wheel and pinion

⑪ Dial washer

⑫ Hour wheel

⑬ Screw for lower bridge for third wheel (2 pcs.)

⑭ Lower bridge for third wheel

⑮ Minute wheel

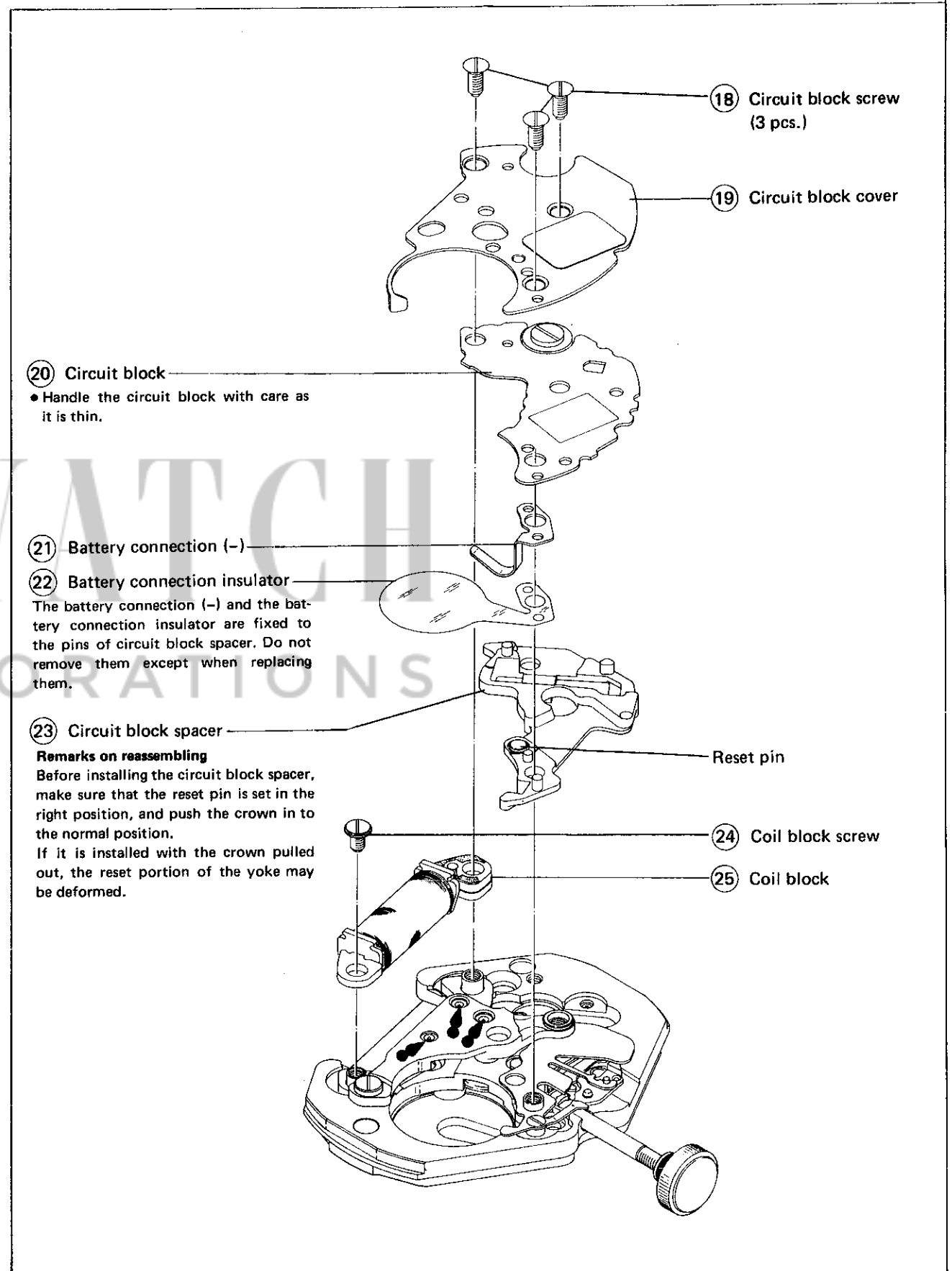
⑯ Setting wheel

⑰ Center minute wheel

##### Lubricating



### 2. Circuit block screw ~ Coil block



#### ㉑ Circuit block

● Handle the circuit block with care as it is thin.

#### ㉒ Battery connection (-)

#### ㉓ Battery connection insulator

The battery connection (-) and the battery connection insulator are fixed to the pins of circuit block spacer. Do not remove them except when replacing them.

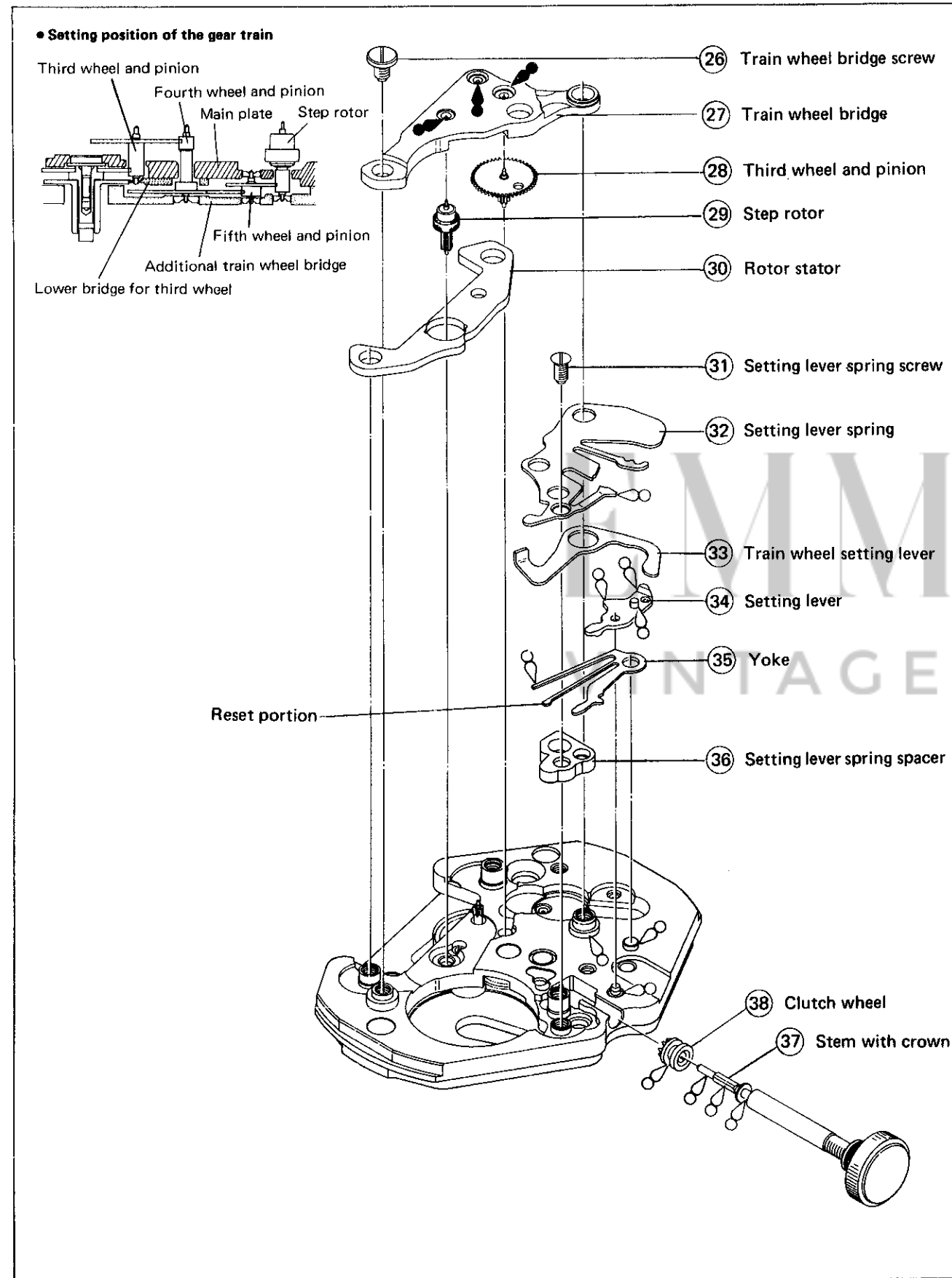
#### ㉔ Circuit block spacer

##### Remarks on reassembling

Before installing the circuit block spacer, make sure that the reset pin is set in the right position, and push the crown in to the normal position.

If it is installed with the crown pulled out, the reset portion of the yoke may be deformed.

### 3. Train wheel bridge screw ~ Clutch wheel



### List of the screws used

Shape	Part No.	Name	Shape	Part No.	Name
	012 799	Circuit block screw (3 pcs.)		012 820	Setting lever spring screw (1 pc.)
	012 490	Coil block screw (1 pc.) Train wheel bridge screw (1 pc.) Screw for additional train wheel bridge B (1 pc.)		012 464	Screw for lower bridge for third wheel (2 pcs.)
				012 468	Screw for additional train wheel bridge A (2 pcs.)

### III. CHECKING AND ADJUSTMENT

- The explanation here is only for the particular points of Cals. 2G28A and 2G38A. Refer to the "TECHNICAL GUIDE, SEIKO QUARTZ, Cal. 2C20A and Cal. 2C21A" and the "TECHNICAL GUIDE, GENERAL INSTRUCTION" for SEIKO Analogue Quartz for details.

Procedure	
CHECK COIL BLOCK	<p><b>Result:</b> Normal : 2.6K<math>\Omega</math> ~ 3.3K<math>\Omega</math> Defective — Less than 2.6K<math>\Omega</math> (Short circuit) More than 3.3K<math>\Omega</math> (Broken wire) Replace the coil block with a new one.</p>
CHECK CURRENT CONSUMPTION	<p><b>Result:</b> Normal : Less than 0.9<math>\mu</math>A Defective: More than 0.9<math>\mu</math>A</p>

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