EMMYWATCH

VINTAGE RESTORATIONS

Citizen 2500A,2510A Movement Parts (1)

Compiled by EmmyWatch - https://www.emmywatch.com

TECHNICAL INFORMATION

CITIZEN QUARTZ

Cal. No. 25※※

CITIZEN

ENGLISH

Contents

§1. FEATURES

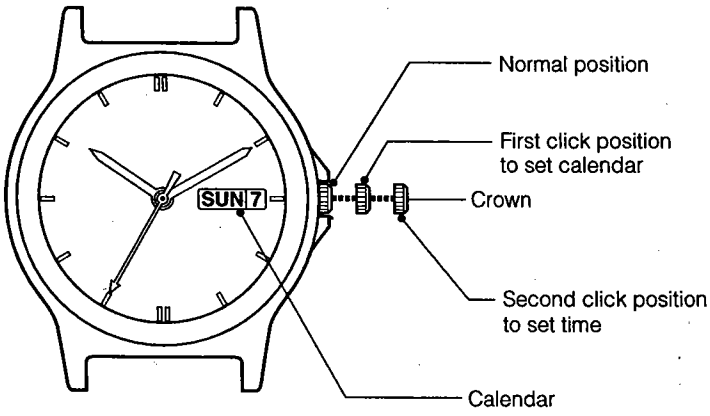
These are long-life and thin analog quartz watches for men.

- **CAL. 2500-00A:** Three-hand watch with date and day indicator for men. Battery life is 5 years.
- **CAL. 2510-00A:** Three-hand watch with date indicator for men. Battery life is 5 years.
- **CAL. 2530-00A:** Three-hand watch for men. Battery life is 5 years.
- **CAL. 2560-00A:** Three-hand watch with date indicator for men. Battery life is 10 years.

§2. SPECIFICATIONS

Caliber No.		**2500A**	**2510A**	**2530A**	**2560A**
Type		Analog Quartz Watch			
Module size (mm)		21.5 x ø23.7 mm			
		2.89t	2.66t	2.23t	3.99t
Accuracy (at normal temperature)		±20 sec/month (5°C/41°F ~ 35°C/95°F)			
Oscillation frequency		32.768 Hz			
IC		C/MOS-LSI 1 unit			
Operating temperature range		−10°C ~ +60°C (14°F ~ 140°F)			
Converter		2-pole step motor			
Time adjustment		D.F.C. (No adjustment terminals for market use)			
Measurement gate		10 sec			
Indicating method		Three hands "Hour, minute, and second (1-second interval movement)"			
Additional functions	Date (With quick setting mechanism)	Installed	Installed	Not Installed	Installed
	Day of week (with quick setting mechanism	Installed	Not Installed	Not Installed	Not Installed
	Second hand stopping mechanism	Installed	Installed	Installed	Installed
	Power saving switch	Installed	Installed	Installed	Installed
Battery	Part No	280-31	280-31	230-31	280-207
	Battery code	SR920SW	SR920SW	SR920SW	CR2012
	Life	Approx. 5 years	Approx. 5 years	Approx. 5 years	Approx. 10 years

§3. HOW TO SET TIME AND CALENDAR



Setting the time

1. Pull out the crown to the second click position so that the second hands will stop at 0 second.
   * If the calendar is not installed, pull the crown to the first click position.
2. Turn the crown to set the time.
3. Return the crown to the normal position to a time signal.

Setting the calendar

* When the calendar is installed

1. Pull out the crown to the first click position.
2. Turn the crown to the left to set the calendar.
   * If the function to indicate the day of the week is installed, turn the crown to the right to set the day of the week.

- After setting the calendar return the crown to the normal position.

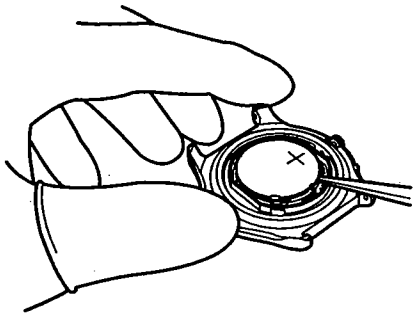
* Do not set the calendar during the following period.

- Watch with function to indicate date .....9:00 PM ~ 1:00 AM
- Watch with function to indicate date and day of the week.....9:00 PM ~ 4:30 AM

If the calendar is set in this period, it may not cange on the next day. If it is required to set the calendar in this period, move the hands out of this period temporarily and set the calendar, then set the time again.

§4. HOW TO REMOVE AND SET LITHIUM BATTERY (CAL. 2560)

[Removal procedure of battery]



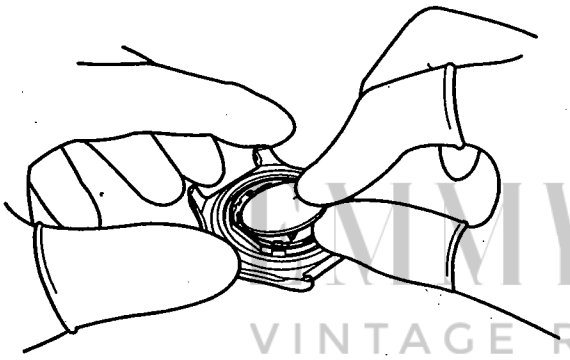
1. Insert tweezers in the space at the base of the battery strap at the 2-o'clock position.
   - At this time, hold down the 6-o'clock position of the battery to prevent it from flying out.

Precaution

When inserting the tweezers, take care not to break the "battery insulator" by pressing the tweezers too strongly.

2. Pressing in the tweezers lightly, lift up the battery.

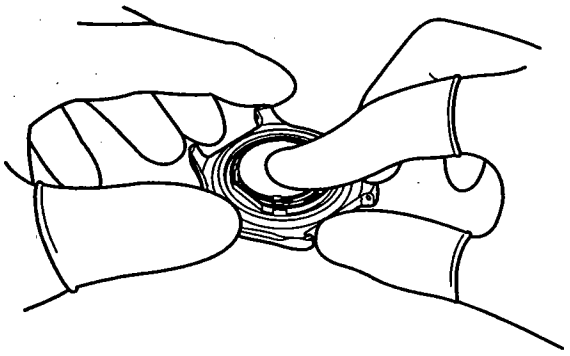
[Setting method of battery]



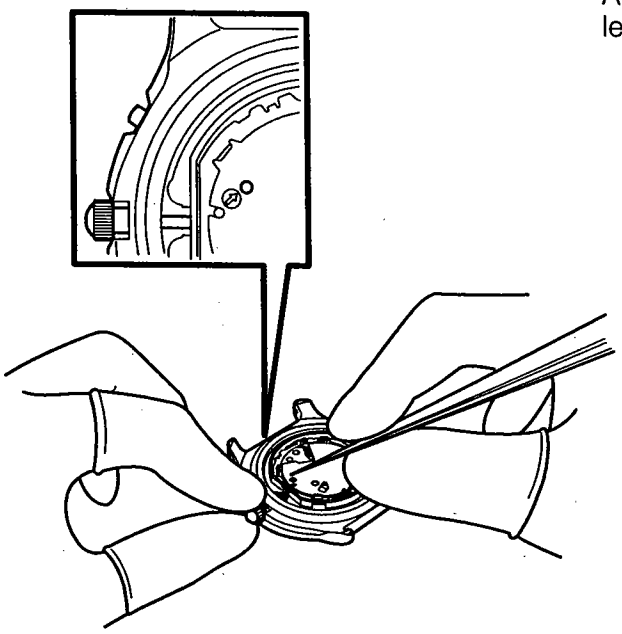
1. Putting the battery to the side of the spring part of the battery strap at the 2-o'clock position, set it under the battery strap.
2. Pressing the battery in the 12-o'clock direction, set it to the module.
3. Pressing the top (9-o'clock position) of the battery, push it in the spring parts at the 4-o'clock and 8-o'clock positions and the strap at the 6-o'clock position.

Precaution

Before pushing in the battery, check that it is securely set to the side of the spring part of the battery strap and under the battery strap.



§5. HOW TO REMOVE SETTING STEM (CAL. 2560)



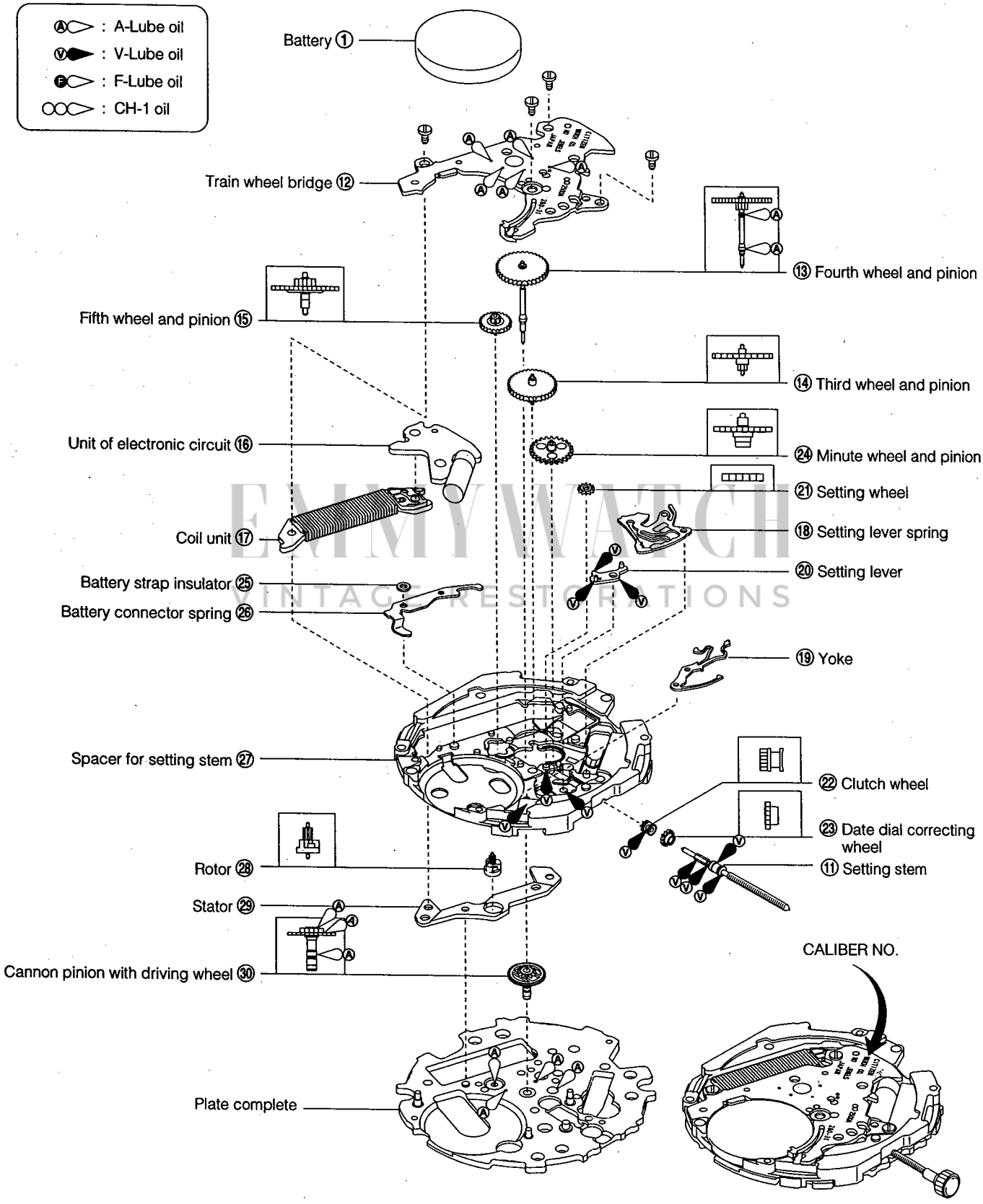
After removing the battery, lightly press the setting lever and remove the setting stem.

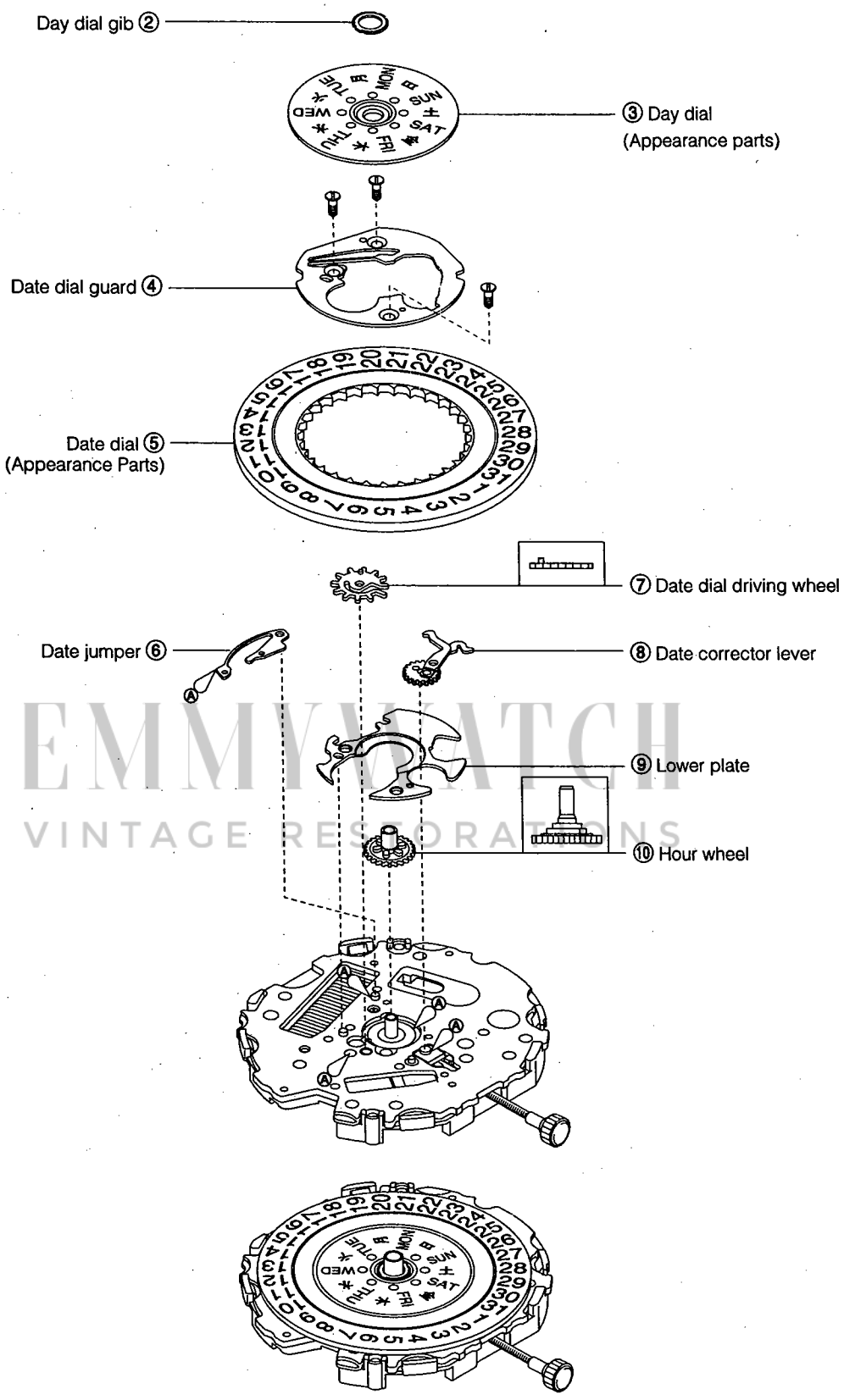
§6. DISASSEMBLY AND ASSEMBLY OF THE MODULE

Disassembly procedure: ① → ㉚
Assembly procedure: ㉚ → ①

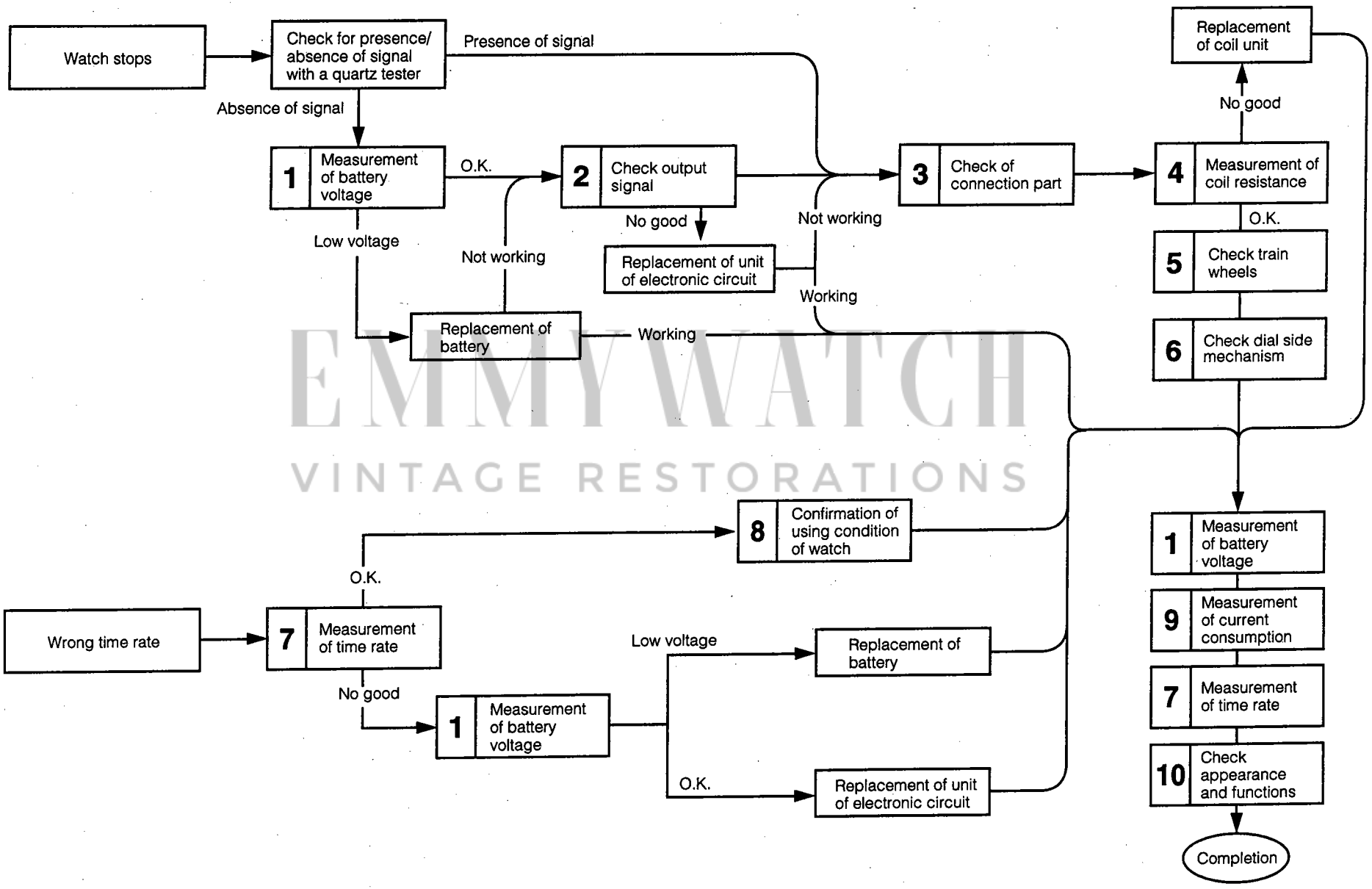
● Lubrication mark

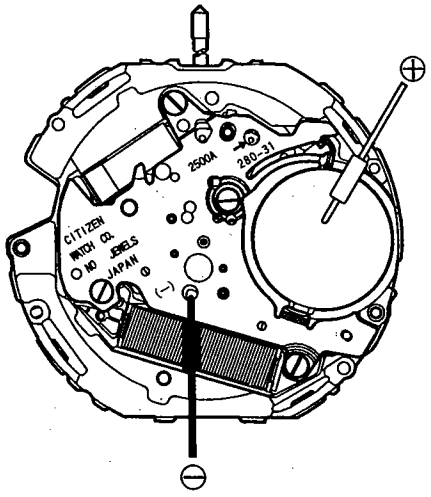
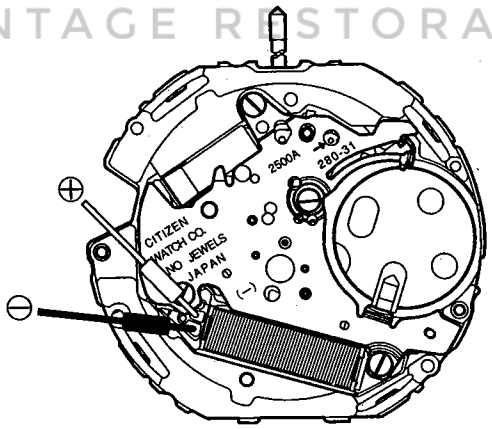
Ⓐ : A-Lube oil
Ⓥ : V-Lube oil
Ⓕ : F-Lube oil
CH-1 oil

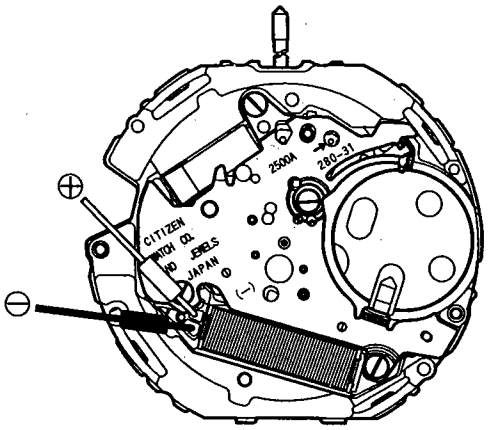


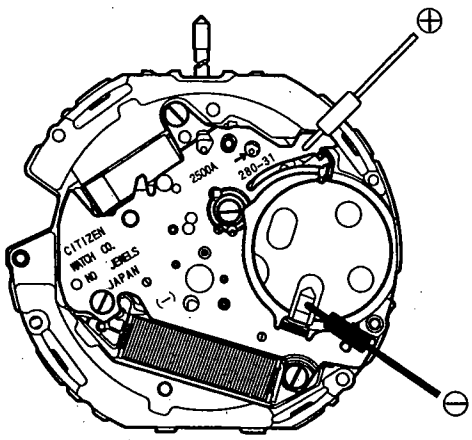


§7. TROUBLESHOOTING AND ADJUSTMENT



Check Items	How to Check	Results and Treatment
❶ Measurement of battery voltage	* Refer to Technical Manual, Basic Course: II-1-a for the setting procedure of the tester. <Tester range: D.C. 3.0V>  **<For CAL. 2560>** Measure the voltage the lithium battery after removing it. (Since the lithium battery is on the module, its voltage cannot be measured without removing it.)	Measure the voltage on the complete module. • **Over 1.5V** → Non-defective • **Under 1.5V** → Measure the battery separately Measurement of the separate battery • **Over 1.5V** → Check the connection parts • **Under 1.5V** → Replace the battery <Results and Treatment> • **Over 3.0V** → Non-defective • **Under 3.0V** → Replace the battery
❷ Check output signal	* Refer to Technical Manual, Basic Course: II-1-b for the setting procedure of the tester. <Tester range: D.C. 0.3V>  (The tester lead pins have no polarity) **<For CAL. 2560>** (Since the lithium battery is on the module, the output signal cannot be checked.)	The tester pointer swings over 0V at interval of 1 sec. → Non-detective The tester pointer does not swing. → Check the connection parts. The connections are normal. → Replace the unit of electronic circuit.
❸ Check connection parts	* Refer to Technical Manual, Basic Course: II-2-a. Check for looseness of screws, dust, stain, etc. a) If the fixing screw of the unit of electronic circuit is loosened, the drive signals may not be transferred. b) If dust or dirt stick to the pattern of the coil of electronic circuit unit, the current may not folow sufficiently.	

Check Items	How to Check	Results and Treatment
❹ Measurement of coil resistance	* Refer to Technical Manual, Basic Course: II-1-c for the setting procedure of the tester. <Tester range: R x 10Ω> • Remove the unit of electronic circuit when measuring the coil resistance.  (The tester lead pins have no polarity.) **<For CAL. 2560>** Remove the lithium battery before measuring the coil resistance.	**1.3 kΩ ~ 1.7 kΩ** → Non-defective Out of range of **1.3 kΩ ~ 1.7 kΩ** → Replace the coil unit
❺ Check train wheel	* Refer to Technical Manual, Basic Course: II-2-b. • Check the appropriate clearance of each wheel and rotor for dust.	
❻ Check dial side mechanism	* Refer to Technical Manual, Basic Course: II-2-c. • Confirm that all parts are not deformed and oil is supplied correctly. If the dial washer is deformed or scratched, the watch may move slowly or stop.	Hand is heavy → Supply oil (A-Lube) to the cannon pinion with driving wheel Deformed → Replace
❼ Measurement of time rate	* Refer to Technical Manual, Basic Course: II-2-d. Since this watch uses D.F.C. and has no control terminal, the time rate cannon be adjusted in the field. (Measurement is made in a 10 second-range.)	• The watch loses or gains substantial time. → Replace the unit of electronic circuit.
❽ Confirmation of using conditions of watch	* Refer to Technical Manual, Basic Course: II-2-e.	

Check Items	How to Check	Results and Treatment
❾ Measurement of current consumption	* Refer to Technical Manual, Basic Course: II-1-f for the setting procedure of the tester. <Tester range: DC 10 μA>  **Influence of light** Avoid measuring current consumption under an incandescent lamp or the direct rays of the sun, because it may cause the current value to increase. The light of a fluorescent lamp has no influence on the current value.	• Current consumption of the module **Under 0.9 μA** → Non-defective **Over 0.9 μA** → Measure the electronic circuit unit separately. • Measurement of the separate electronic circuit unit **Under 0.2 μA** → Non-defective **Over 0.2 μA** → Replace the electronic circuit unit. When the current consumption of the module shows a high value, but that of the separate electronic circuit unit is normal. → There may be a problem somewhere outside the circuit. Therefore, inspect the watch for stains, lubrication conditions and deformed parts, and remove the cause of the high load.
❿ Check appearance and functions	* Refer to Technical Manual, Basic Course: II-2-f.	