TECHNICAL GUIDE

SEIKO QUARTZ

CAL. 7430A CAL. 7431A CAL. 7439A





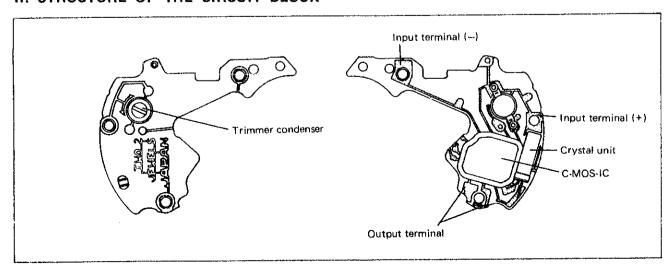
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1. SPECIFICATIONS

tem	Cal. No.	7430A	7431A	7439A	
Time indication		2 hands	3 hands	2 hands	
Additional mechanism				Date *	
		-		Instant date setting device	
		Train wheel setting device			
		Electronic circuit reset switch			
		_	Battery life indicator		
Loss	/gain	Loss/gain at normal Monthly rate: less			
Movement size	Outside diameter	φ22.4 mm (20.0 mm between 3 oʻclock and 9 oʻclock)		φ25.3 mm (21.7 mm between 3 o'clock and 9 o'clock, 22.0 mm between 6 o'clock and 12 o'clock)	
	Casing diameter	φ22.0 mm			
	Height	2.1 mm without battery		2.3 mm without battery	
Regulation system		Trimmer condenser			
Measuring gate by quartz tester		Any gate is available.			
Battery		SEIKO (SEIZAIKEN) TR721SW Battery life is approximately 3 years. Voltage: 1.55V			
Jewels		2 jewels			

II. STRUCTURE OF THE CIRCUIT BLOCK



III. DISASSEMBLING, REASSEMBLING AND LUBRICATING

Disassembling procedures Figs. : ① → ④3

Reassembling procedures Figs. : ④3 → ①

Lubricating: Types of oil

Oil quantity

Moebius A

Extremely small

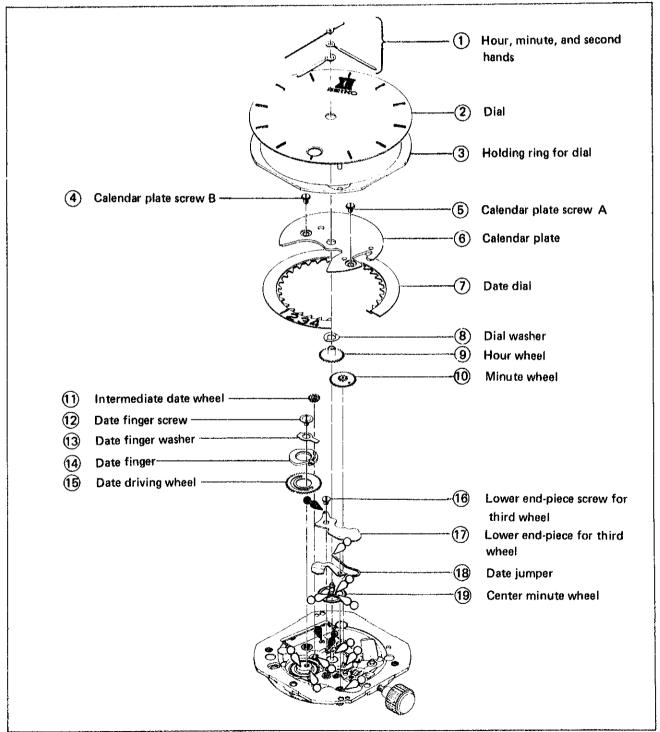
SEIKO Watch Oil S-6

Normal

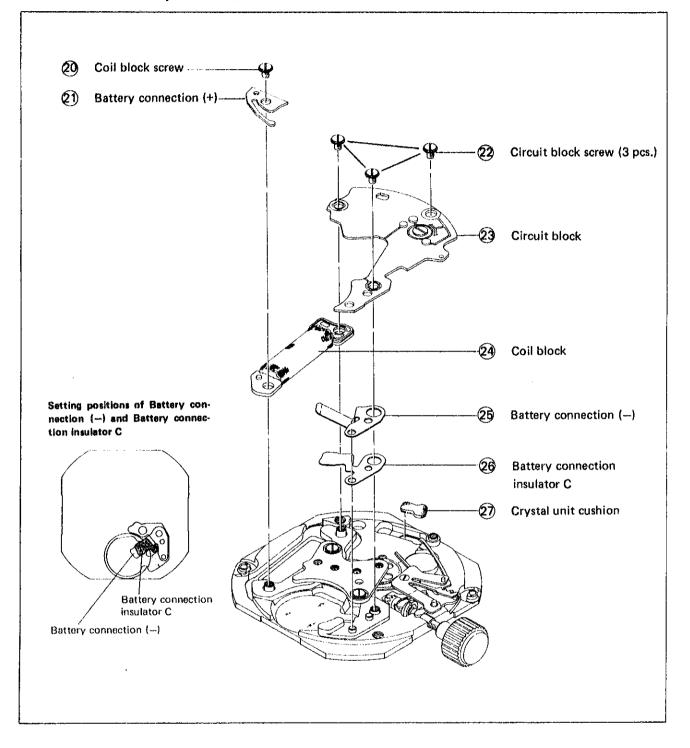
••• Liberal

• Use the movement holder S-666 for disassembling and reassembling.

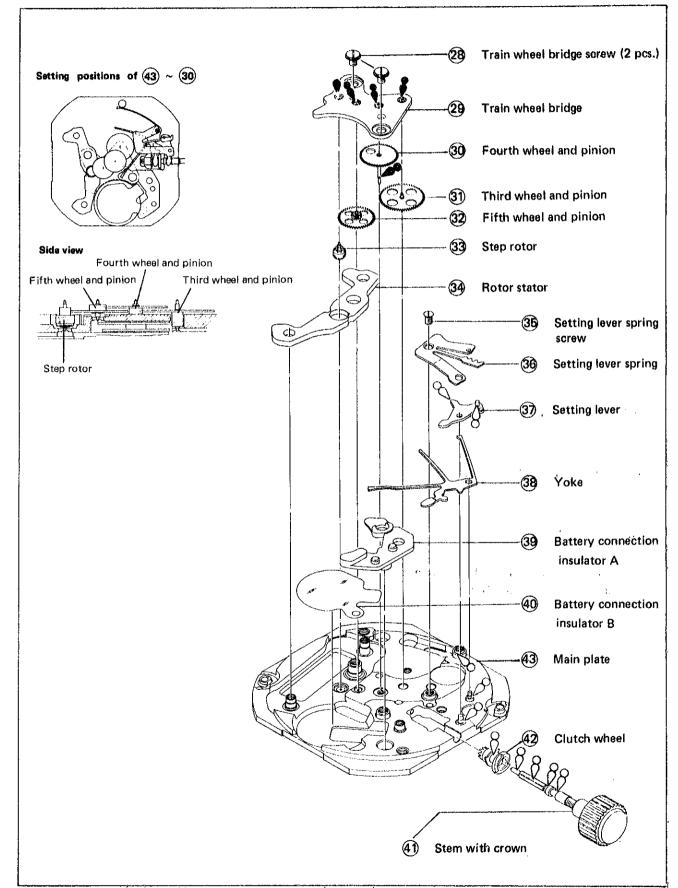
1. Hour, minute, and second hands \sim center minute wheel



2. Coil block screw ~ crystal unit cushion



3. Train wheel bridge screw \simeq stem with crown



IV. CHECKING AND ADJUSTMENT

• The explanation here is particularly for the points of Cal. 7430A, 7431A, and 7439A. Refer to the "SEIKO QUARTZ TECHNICAL GUIDE, GENERAL INSTRUCTION" for analogue watches for details.

Procedure CHECK OUTPUT SIGNAL Use the electro-magnetic detection microphone. Result: Any gate of the quartz tester is available. Normal: Input indicator blinks every second. Defective: Input indicator does not blink every second. **CHECK HAND SETTING CONDITION** CHECK BATTERY VOLTAGE Result: Set up the volt-ohm meter. Range to be used: DC 3V Normal: More than 1.5V Defective: Less than 1.5V CHECK BATTERY CONDUCTIVITY CHECK CIRCUIT BLOCK CONDUCTIVITY CHECK COIL BLOCK Set up the volt-ohm-meter, and be sure to make a zero-ohm adjustment. Range to be used: OHMS x 100 Result: Normal: $2.7K\Omega \sim 3.7K\Omega$ Γ Less than 2.7K Ω Defective (Short circuit) - More than 3.7KΩ (Broken wire) Replace the coil block with a new one. CHECK GEAR TRAIN MECHANISM CHECK SETTING MECHANISM

Procedure

CHECK RESET AND TRAIN WHEEL SETTING CONDITIONS

1. Check the reset portion of the yoke. [For the model with calendar]

• Crown at the normal and the first click positions

Result:

Normal: The reset portion is outside the groove.

Groove on the main plate Reset portion.

Defective: The reset portion is inside the groove.

Replace the yoke with a new one.

· Crown at the second click position

First click position

Normal: The reset portion is inside the groove.

Defective: The reset portion is outside the groove.

Replace the yoke with a new one.

[For the model without calendar]

• Crown at the normal position

Normal: The reset portion is on the circumference

of the groove.

Defective: The reset portion is inside the groove.

Replace the yoke with a new one.

e Crown at the first click position Normal: The reset portion is inside the groove.

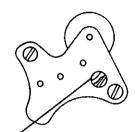
Defective: The reset portion is on the circumfer-

ence of the groove.

Replace the yoke with a new one.

Procedure

- 2. Check the train wheel setting portion.
 [For the model with calendar]
 - Crown at the normal and the first click positions



inspection hole on the train wheel bridge

• Crown at the second click position

Result:

Normal: Clearance between the reset portion and

the fourth wheel and pinion



Defective: No clearance

Replace the yoke with a new one.

Normal: No clearance between the reset portion and the fourth wheel and pinion



Defective: Clearance

Replace the yoke with a new one.

[For the model without calendar]

• Crown at the normal position

Normal: Clearance between the reset portion and the fourth wheel and pinion



Defective: No clearance

Replace the yoke with a new one.

• Crown at the first click position

Normal: No clearance between the reset portion

and the fourth wheel and pinion



Defective: Clearance

Replace the yoke with a new one.

Procedure

3. After reassembling, check to see if the second hand stops promptly when the crown is pulled out to the second click position and if it starts promptly one second after the crown is pushed in back to the first click or the normal position.

Reset condition can also be confirmed by the procedure CHECK OUTPUT SIGNAL.

Crown at the second click position: Does not blink every second.

Crown at the first click or the normal position: Blinks every second.

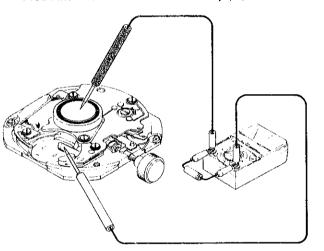
CHECK ACCURACY

CHECK CURRENT CONSUMPTION

Set up the volt-ohm-meter. Range to be used: DC 12μ A

Check current consumption for the whole of the movement.

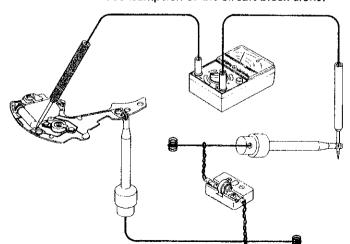
Probe red Battery connection (—)
Probe black Battery (—) surface



Result:

Normal: Less than $1.0 \mu A$ Defective: More than $1.0 \mu A^*$

* How to find defects when the current consumption is more than 1.0 μ A: Check current consumption of the circuit block alone.



Result:

Normal: Less than 0,3 μA

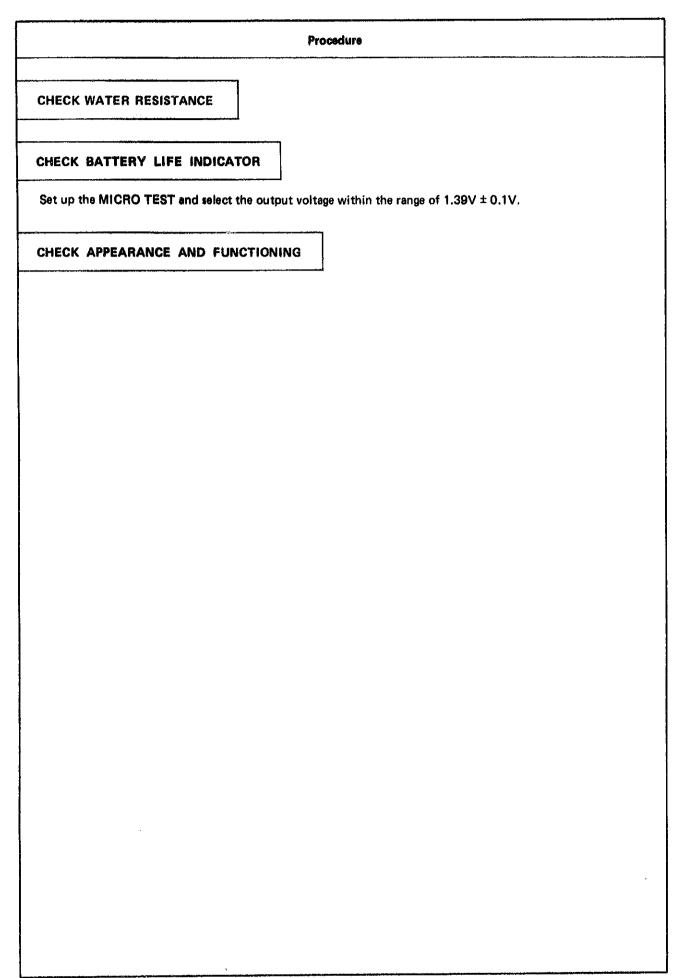
Check the gear train mecha-

nism.

Defective: More than $0.3 \mu A$

Replace the circuit block

with a new one.



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

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