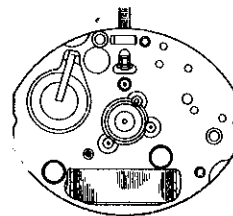
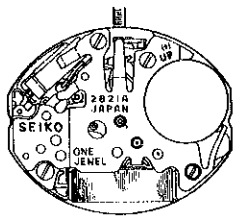


PARTS CATALOGUE

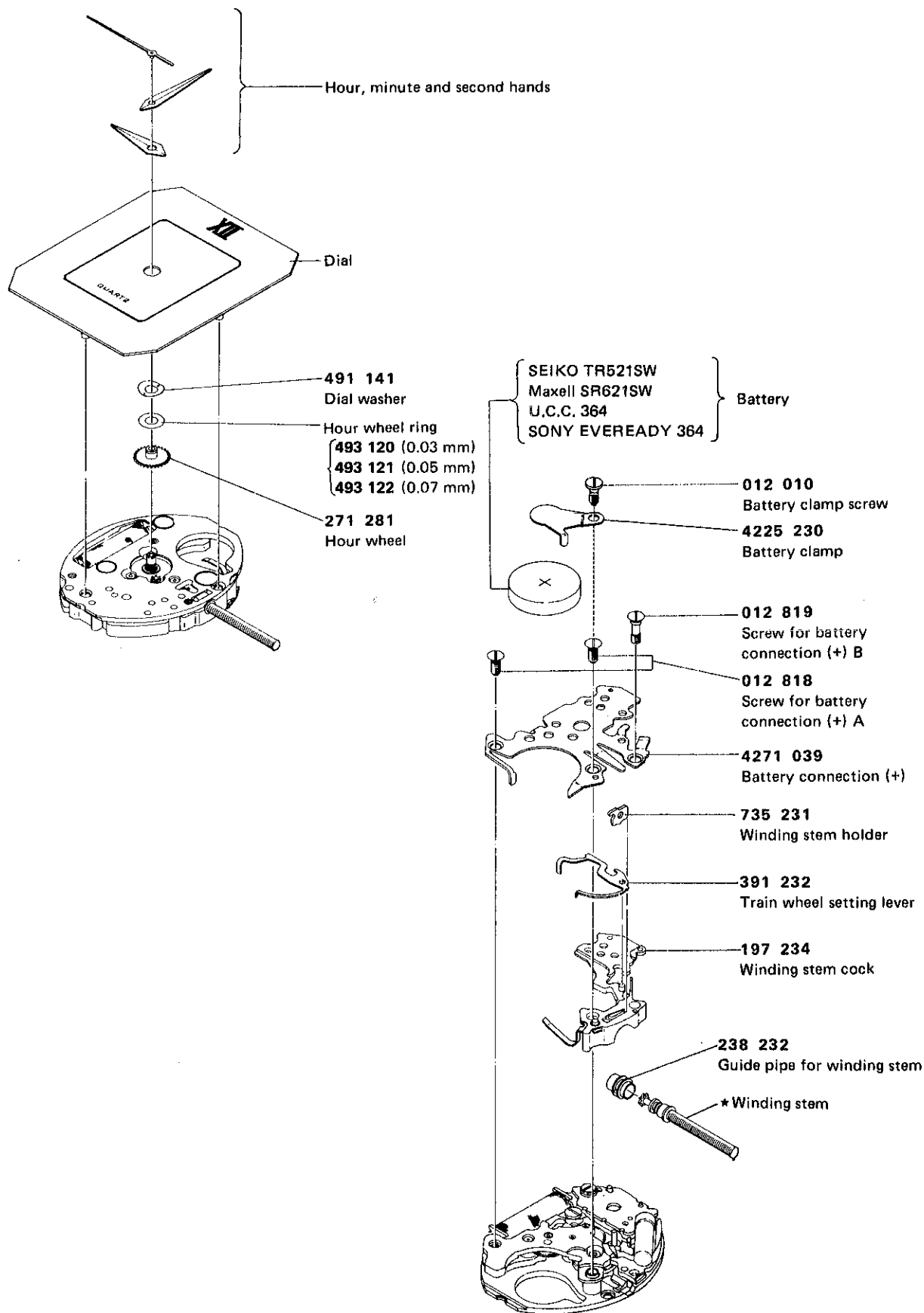
Cal.2B21A

Cal.2B21A (1j)



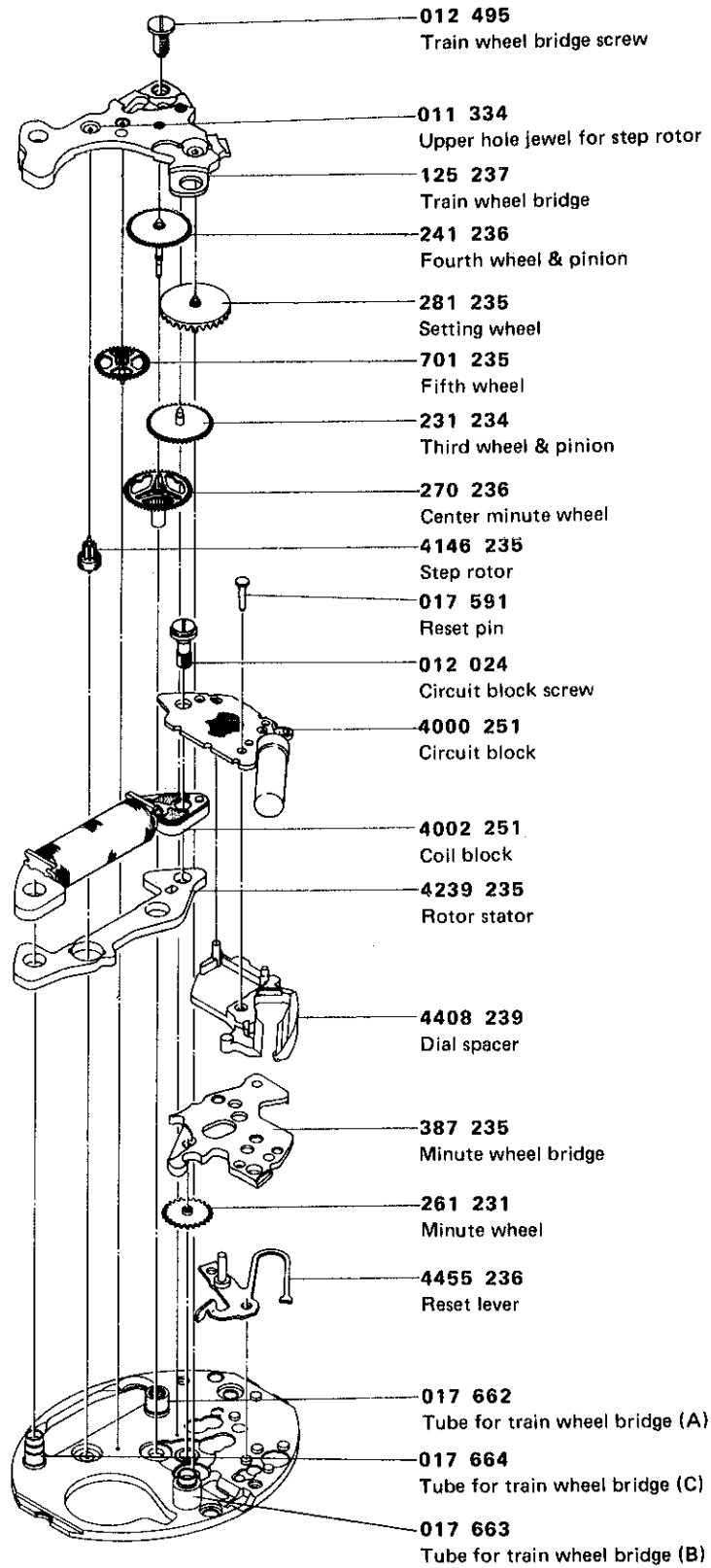
HATTORI SEIKO CO., LTD.

Cal.2B21A



★ ⇨ Please see remarks on the last page.










Cal.2B21A



Remarks:

Winding stem

*354235 The type of winding stem is determined based on the design of cases and dials.
Check the case number and refer to **"SEIKO Quartz Casing Parts Catalogue"** to choose a corresponding winding stem.

 012 010	Battery clamp screw	 017 591	Reset pin
 012 024	Circuit block screw	 017 662	Tube for train wheel bridge (A)
 012 495	Train wheel bridge screw	 017 663	Tube for train wheel bridge (B)
 012 818	Screw for battery connection (+) (A)	 017 664	Tube for train wheel bridge (C)
 012 819	Screw for battery connection (+) (B)		

TECHNICAL GUIDE

SEIKO

QUARTZ

CAL. 2B21A

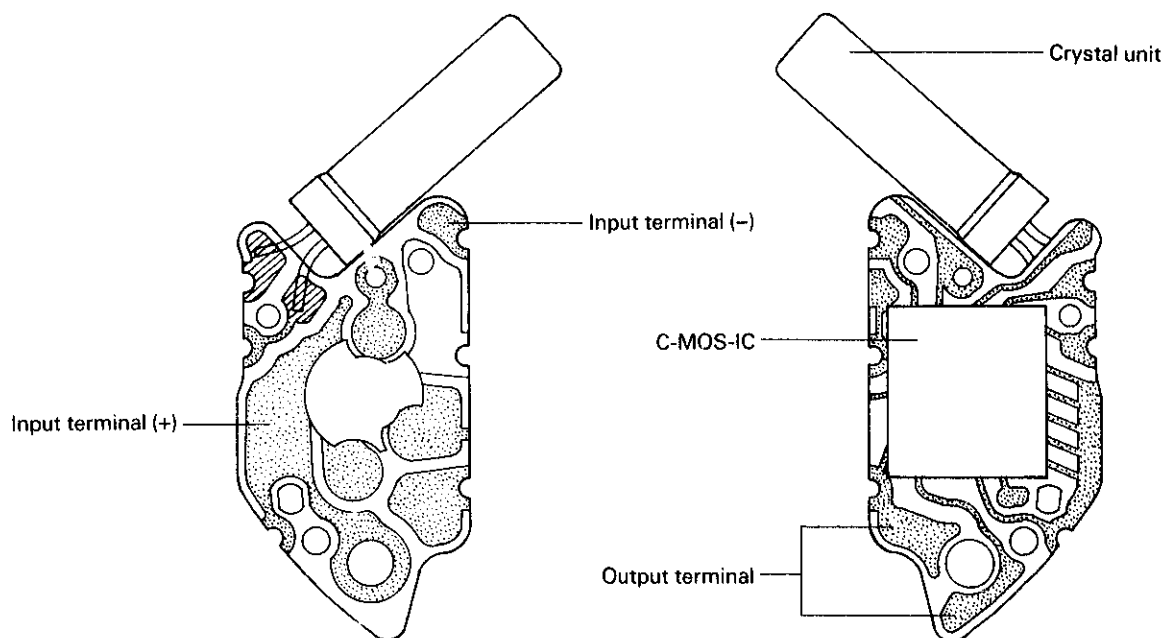
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I. SPECIFICATIONS

Item	Cal. No.	2B21A
Indication system		3 hands
Additional mechanism		Electronic reset switch Second setting device
Loss/gain		Monthly rate: Less than 20 seconds at normal temperature range
Size of main plate		15.5 mm (6H - 12H) × 13.0 mm (3H - 9H)
Casing diameter		15.1 mm
Height		2.4 mm (including battery)
Quartz Tester measuring gate		10-second gate
Battery		SEIZAIKEN TR521SW, MAXELL SR521SW, SONY EVEREADY 379 Voltage: 1.55V Battery life: Approx. 2 years
Jewels		1 jewel

II. STRUCTURE OF CIRCUIT BLOCK







III. DISASSEMBLING, REASSEMBLING AND LUBRICATING

Disassembling procedures: Figs ① ~ ③③

Reassembling procedures: Figs ③③ ~ ①

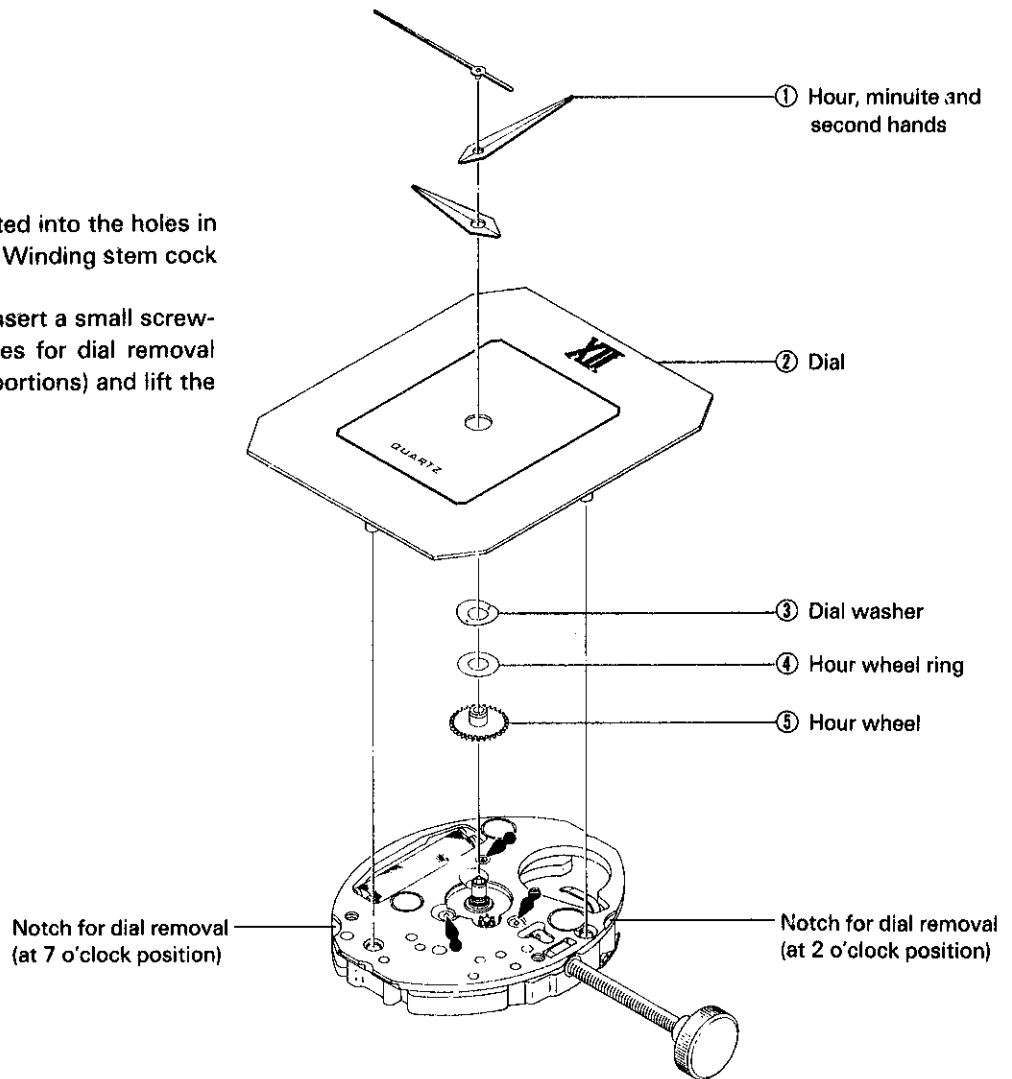
● Hands ~ Hour wheel

Lubricating:

Types of oil	Oil quantity
Moebius A 	Small 
Seiko oil S-6 	Standard 

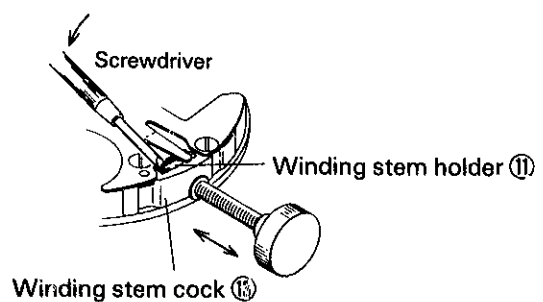
② The dial legs are inserted into the holes in the Dial spacer ②④ and Winding stem cock ①③.

* To remove the dial, insert a small screwdriver into the notches for dial removal of the main plate (2 portions) and lift the dial out.



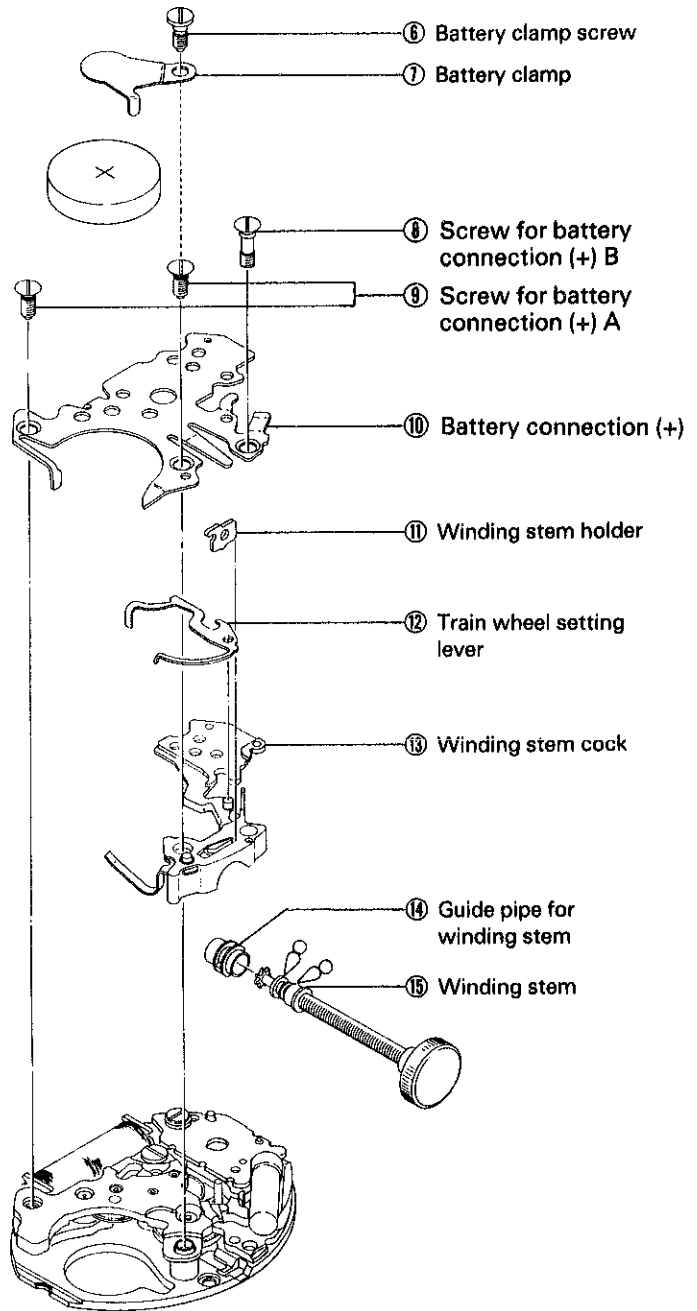
* Removing/installing winding stem

Insert a screwdriver between the Winding stem holder ①① and Winding stem cock ①③ and pull out the winding stem while lifting up the winding stem holder.

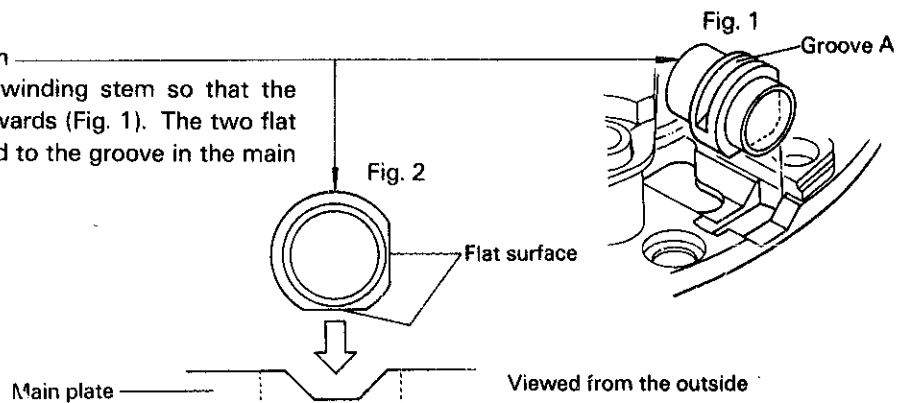


● Battery clamp screw ~ Winding stem

* In some models, a battery clamp and battery clamp screw are used.

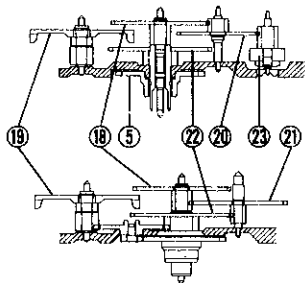


- ⑭ Guide pipe for winding stem
 Install the guide pipe for winding stem so that the groove A is positioned upwards (Fig. 1). The two flat surfaces should correspond to the groove in the main plate (Fig. 2).

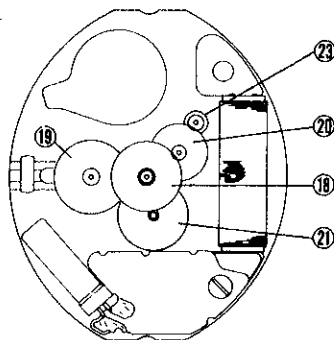


● Train wheel bridge screw ~ Main plate

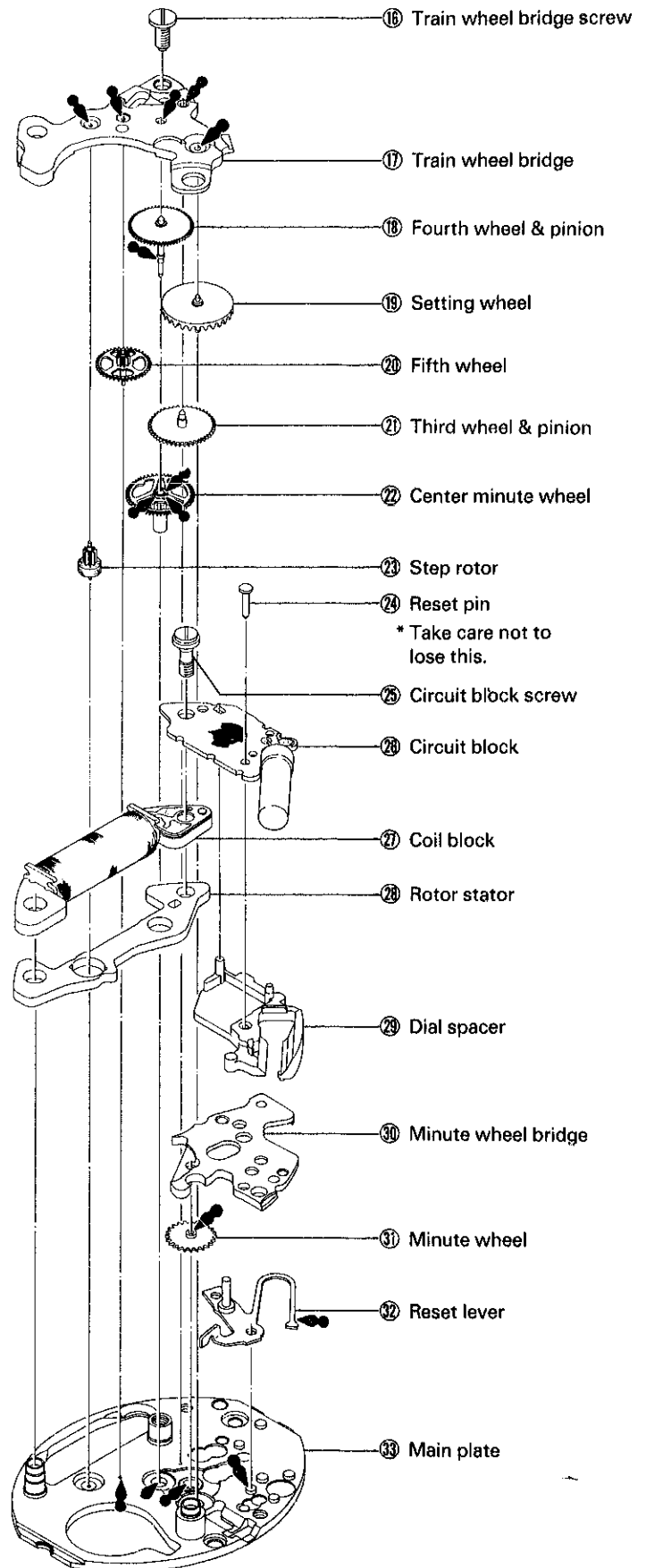
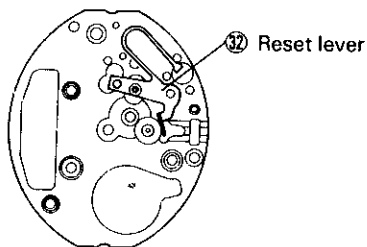
Cross-sectional view of gear train



Plane figure



Set position of reset lever



IV. CHECKING AND ADJUSTMENT

Procedure for checking and adjustment

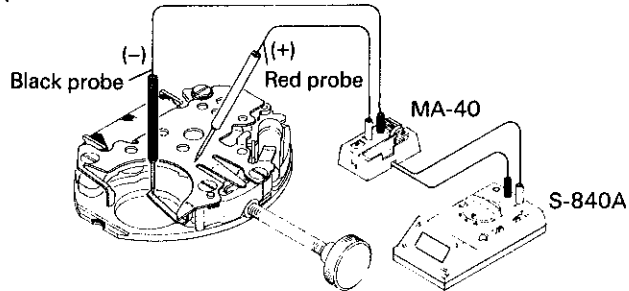
- This section only gives the checking and adjustment procedure which is exclusive for this watch.
- For the normal checking and adjustment, refer to the "TECHNICAL GUIDE GENERAL INSTRUCTION, Analogue Quartz".
- The page numbers in the item correspond to those in the "TECHNICAL GUIDE GENERAL INSTRUCTION, Analogue Quartz".

OUTPUT SIGNAL p.6	
<p>1. Use the Quartz Tester. 2. Turn the measuring gate selection switch to "10-second" gate. NOTE: Checking should be made with the crown set to normal position.</p>	<p>Result: Output signal: Normal No output signal: Defective</p>
BATTERY VOLTAGE	
<p>Use the Digital Multi Tester S-840A. Range to be used: DC V NOTE: Before measuring, short circuit the probes and confirm that the tester reads AUTO 00.0 mV or AUTO 00.1 mV.</p>	<p>Result: 1.57V or more: Normal Less than 1.57V: Defective Replace the battery.</p>
BATTERY CONDUCTIVITY p.9	
Check the conductivity between battery and battery connection (-), etc.	
CIRCUIT BLOCK CONDUCTIVITY p.9	
Check the output terminal and pattern section contamination in the circuit block and check if the circuit is broken or short.	
COIL BLOCK	
<p>Check the coil block for broken wire and short circuit using the Digital Multi Tester S-840A. Range to be used: Ω NOTE: ● Before measuring, short circuit the probes and check to see if the tester sounds and reads from AUTO 00.2Ω to AUTO 00.4Ω. The actual resistance can be obtained by subtracting the initial value (00.2 – 00.4) from the measured value. ● When measuring, take care not to break the coil block leads.</p>	<p>Result: 2.9 ~ 3.3 kΩ: Normal Less than 2.9 kΩ (Short circuit): Defective More than 3.3 kΩ (Broken wire): Defective Replace the coil block.</p>
FRONT GEAR TRAIN MECHANISM p.11	
Check the front gear train mechanism for play of step rotor and wheels and pinions, mis-installation, dust, lint, foreign matter, lubrication, etc.	
BACK GEAR TRAIN MECHANISM p.11	
Check the back gear train mechanism for lubrication leakage, play, dust, lint, etc.	

RESET CONDITION	
<p>With the movement installed, check that the reset condition is normal.</p> <p>1. Check the clearance between the train wheel setting lever and fourth wheel and pinion.</p> <p>(1) Check the clearance with the crown at normal position.</p> <div data-bbox="338 576 762 932" data-label="Diagram"> <p style="text-align: center;"> Normal Defective </p> </div> <p>(2) Check the clearance with the crown at first click position.</p> <div data-bbox="347 1097 783 1408" data-label="Diagram"> <p style="text-align: center;"> Normal Defective </p> </div> <p>2. Check the output signal with the battery installed.</p> <p>(1) Check the output signal with the crown at normal position.</p> <p>(2) Check the output signal with the crown at first click position.</p>	<p>Result: Clearance: Normal No clearance: Defective Replace the train wheel setting lever.</p> <p>Result: No clearance: Normal Clearance: Defective Replace the train wheel setting lever.</p> <p>Result: Output signal: Normal No output signal: Defective Replace the reset lever.</p> <p>Result: No output signal: Normal Output signal: Defective Replace the reset lever.</p>
ACCURACY p.13	
<p>Check accuracy using Quartz Tester (10-second gate) and an electro-magnetic microphone (DM-1).</p> <p>NOTE: Check accuracy with the crown at normal position.</p>	<p>Result: Monthly rate (at normal temperature range) Less than 20 seconds: Normal More than 20 seconds: Defective Replace the circuit block</p>

CURRENT CONSUMPTION

Use the Digital Multi Tester S-840A (with Multi Adaptor MA-40).
Mode: μA



NOTE:

Press the reset switch to read 00.0 μA and measure the current consumption.

Red probe → Battery connection (+)

Black probe → Battery connection (-)

When measuring the current consumption under the incandescent lamp, cover the movement with black cloth. Otherwise the measured value sometimes becomes higher than the actual value.

Result:

0.9 μA or less: Normal

More than 0.9 μA : Defective

Replace the circuit block