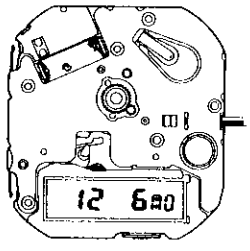
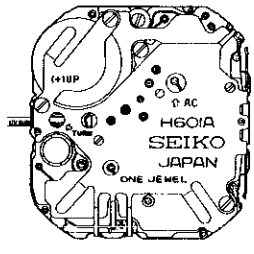
PARTS CATALOGUE/TECHNICAL GUIDE

Cal. H601A

[SPECIFICATIONS]

Item \ Cal. No.		H601A	
Movement		  (x 1.5)	
Movement size	Outside diameter	24.5 mm between 6 o'clock and 12 o'clock sides 23.0 mm between 3 o'clock and 9 o'clock sides	
	Casing diameter	–	
	Height	2.5 mm	
		Analogue section	Digital section
Time indication		3 hands	Nematic Liquid Crystal, FEM (Field Effect Mode)
Driving system		Step motor (Load compensated driving pulse type)	Multiplex driving system
Additional mechanism		• Electronic circuit reset switch • Train wheel setting device	• Hourly time signal • Alarm test system • Illuminating light
Loss/gain		Monthly rate at normal temperature range: less than 15 seconds	
Regulation system		Trimmer condenser	
Measuring gate by quartz tester		Any gate can be used (Use the analogue section to measure accuracy.)	
Battery		SEIKO SR920W, Maxell SR920W Battery life is approximately 2 years. Voltage: 1.55V	
Jewels		1 jewel	

HATTORI SEIKO CO., LTD.

PARTS CATALOGUE

Cal. H601A

Disassembling procedures Figs. : ① → ㉝

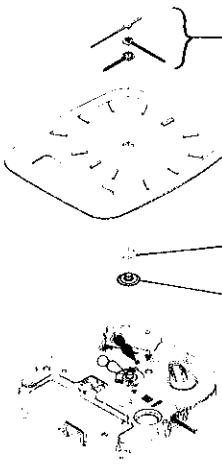
Reassembling procedures Figs. : ㉝ → ①

Lubricating: Types of oil

- Moebius A
- SEIKO Watch Oil S-6

Oil quantity

- Normal quantity
- Extremely small

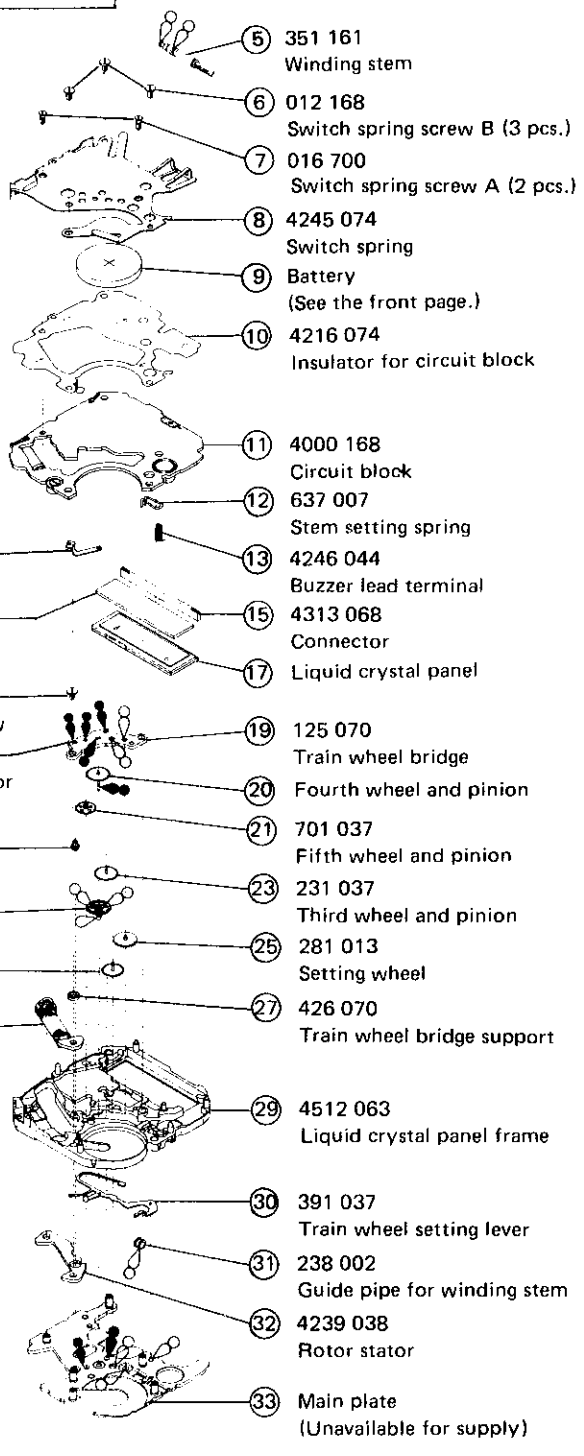


① Hour, minute, and second hands

② Dial

③ 491 141
Dial washer

④ Hour wheel



⑤ 351 161
Winding stem

⑥ 012 168
Switch spring screw B (3 pcs.)

⑦ 016 700
Switch spring screw A (2 pcs.)

⑧ 4245 074
Switch spring

⑨ Battery
(See the front page.)

⑩ 4216 074
Insulator for circuit block

⑪ 4000 168
Circuit block

⑫ 637 007
Stem setting spring

⑬ 4246 044
Buzzer lead terminal

⑭ 4270 068
Battery connection (–)

⑮ 4313 068
Connector

⑯ 4521 063
Reflecting mirror

⑰ Liquid crystal panel

⑱ 012 168
Train wheel bridge screw

011 583
Upper hole jewel of step rotor

⑲ 125 070
Train wheel bridge

⑳ Fourth wheel and pinion

㉑ 701 037
Fifth wheel and pinion

㉒ 4146 031
Step rotor

㉓ 231 037
Third wheel and pinion

㉔ Center minute wheel

㉕ 281 013
Setting wheel

㉖ 261 024
Minute wheel

㉗ 426 070
Train wheel bridge support

㉘ 4002 030
Coil block

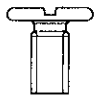
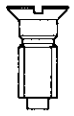
㉙ 4512 063
Liquid crystal panel frame

㉚ 391 037
Train wheel setting lever

㉛ 238 002
Guide pipe for winding stem

㉜ 4239 038
Rotor stator

㉝ Main plate
(Unavailable for supply)

	012 168 Switch spring screw B (3 pcs.) Train wheel bridge screw (1 pc.)
	016 700 Switch spring screw A (2 pcs.)

○⇨ Please see the remarks on the following pages.

Remarks:

- **Other parts:**

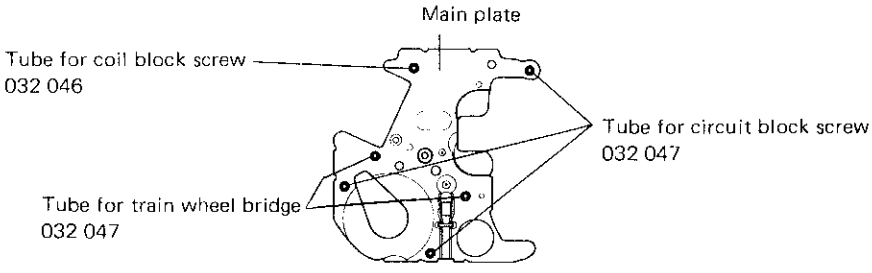
Bulb 4530 017

The bulb which is soldered to the circuit block is available for supply.

Piezoelectric element 4589 013

The piezoelectric element which is adhered to the inside of the case back is available for supply.

Tubes



(4) Hour wheel
(20) Fourth wheel and pinion
(24) Center minute wheel

Combination:

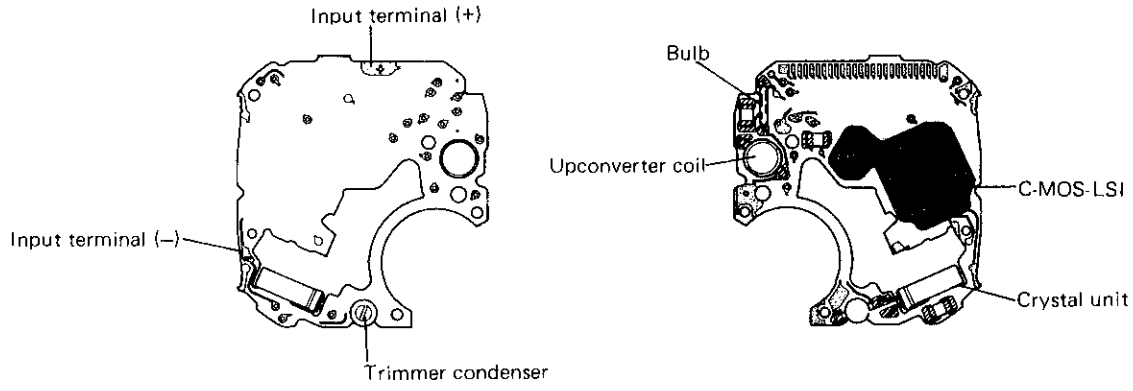
	Hour wheel	Fourth wheel and pinion	Center minute wheel
a	 271 189	 241 089	 270 072
b	 271 190	 241 116	 270 119

(5) Winding stem 351 161
(17) Liquid crystal panel 4510 038 (silver), 4510 040 (gold)

The types of these parts depend on the design of each model.
Refer to "SEIKO Casing Parts Catalogue" to choose corresponding parts.

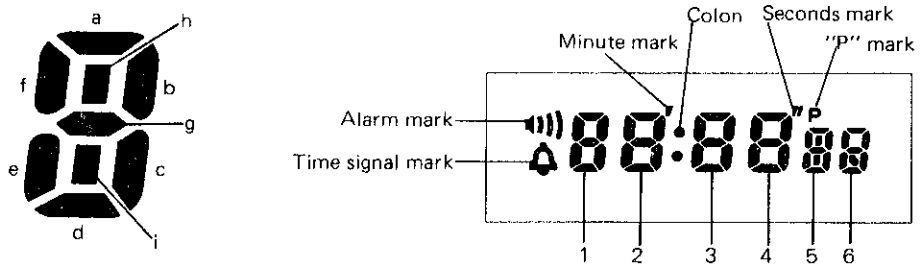
- The explanation here is only for the particular points of Cal. H601A.
- For the repairing, checking and measuring procedures, refer to the "TECHNICAL GUIDE, GENERAL INSTRUCTION".

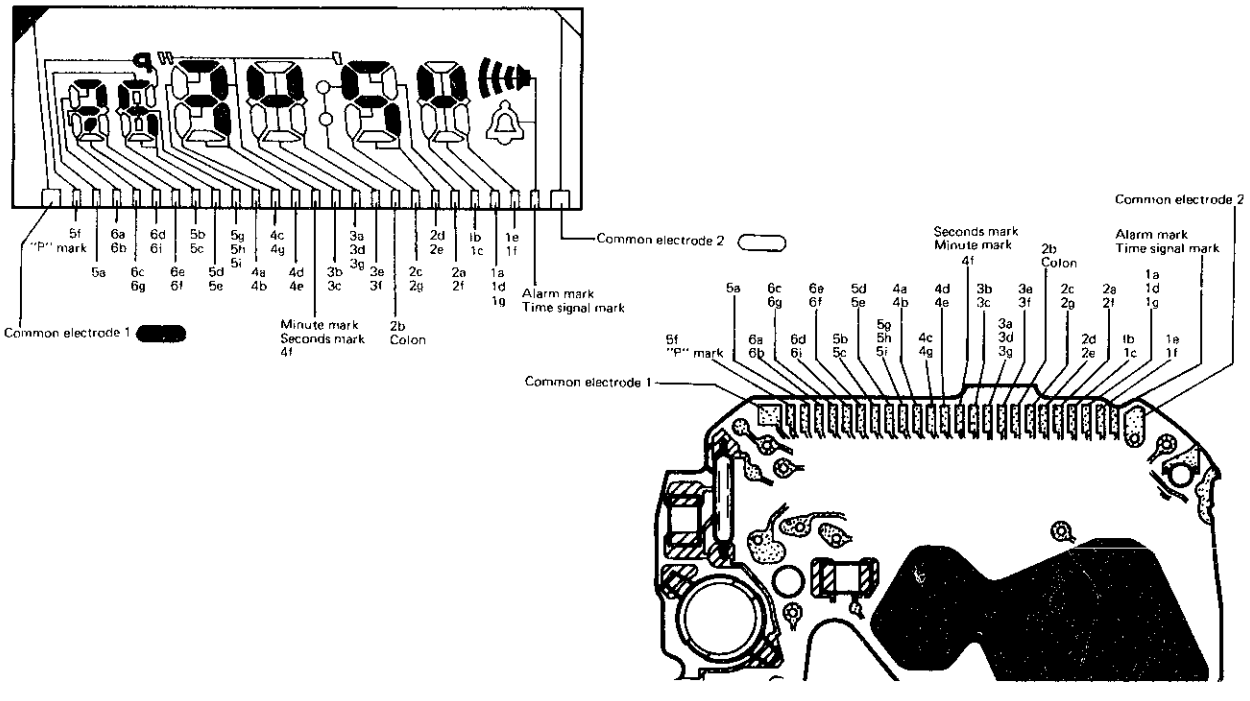
I. STRUCTURE OF THE CIRCUIT BLOCK



II. RELATIONSHIP BETWEEN THE SEGMENT (LIQUID CRYSTAL PANEL ELECTRODE) AND THE C-MOS-LSI OUTPUT TERMINAL

- **Designation of the segment**



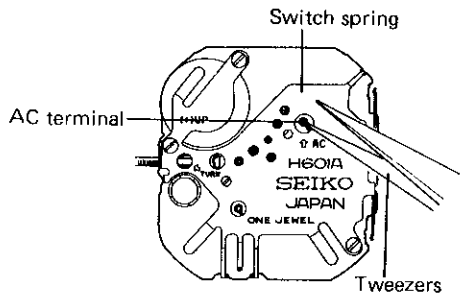


III. REMARKS ON DISASSEMBLING AND REASSEMBLING

Use the universal movement holder for disassembling and reassembling.

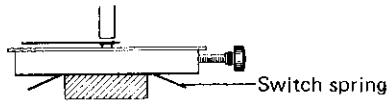
- **Remarks on installing the battery**

After installing the battery, short-circuit AC terminal of the circuit block and the switch spring with tweezers.



① Hands

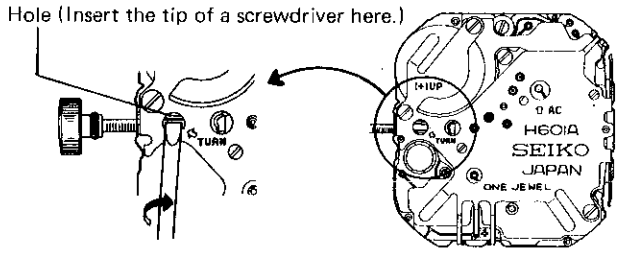
When installing the hands, place the movement directly on a flat metal plate or the like.



⑤ Winding stem

- **How to remove**

Insert the tip of a screwdriver into the hole marked by "TURN ⇨ ", then turn the screwdriver about 90° in either direction, and slowly pull out the winding stem.



⑧ Switch spring

⑨ Battery

- **How to install**

1) Set the switch spring, and tighten both of the two switch spring screws A (Fig. 1).
2) Have the hook portion (2 places) of the switch spring catch the liquid crystal panel frame (Fig. 2 & 3).
3) Lift up the battery clamp portion by finger and insert the battery sideways (Fig. 4).
4) Tighten the three switch spring screws B (Fig. 1).

Fig. 1

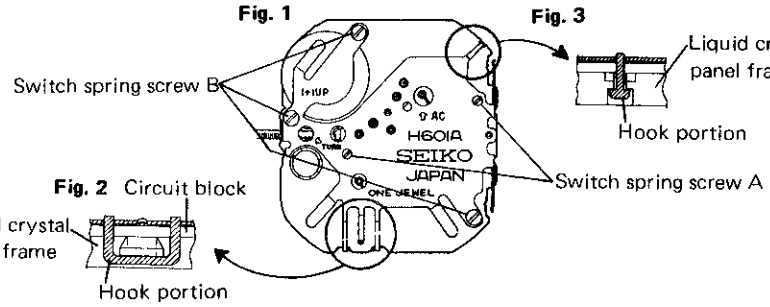


Fig. 2 Circuit block

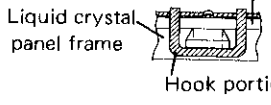


Fig. 3

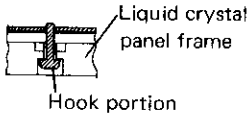
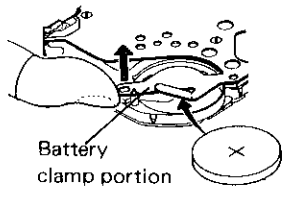
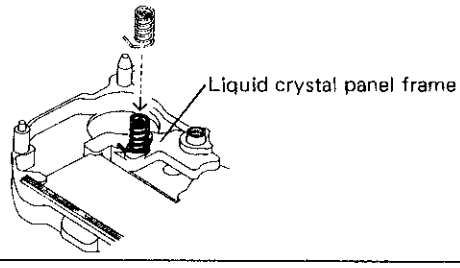


Fig. 4



⑬ Buzzer lead terminal

- **Setting position**



⑯ Reflecting mirror

⑰ Liquid crystal panel

- **How to install**

Slide the liquid crystal panel in the direction indicated by the arrow to set it in position to the liquid crystal panel frame (Fig. 1).

Then, slide the reflecting mirror in the direction indicated by the arrow until the other end of the reflecting mirror is set inside of the location guide pin (Fig. 2 & 3).

Fig. 1

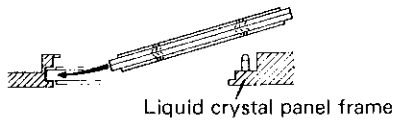


Fig. 2

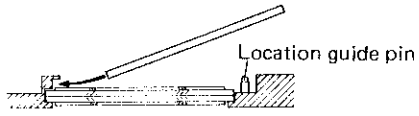
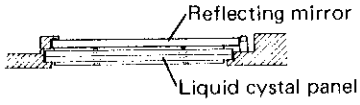
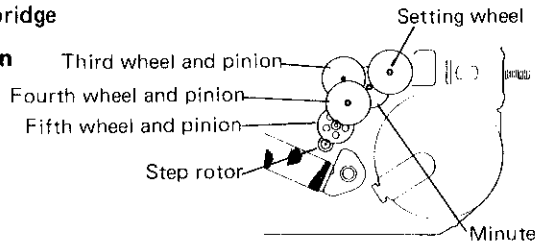


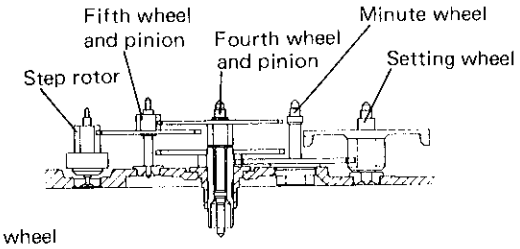
Fig. 3



⑲ Train wheel bridge

- **Setting position**

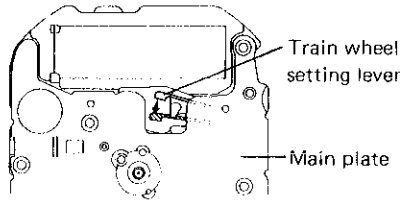




㉚ Train wheel setting lever

- **Remarks on installing**

After reassembling ㉝ Main plate through ⑥ Switch spring screw B, turn over the movement, and hook the end of the train wheel setting lever to the liquid crystal panel frame as shown in the illustration on the right.



IV. VALUE CHECKING

- Coil block resistance

  2.6KΩ ~ 3.2KΩ

- Upconverter coil resistance

  120Ω ~ 180Ω

- Current consumption

  For the whole of the movement : less than 2.0μA

  For the circuit block alone : less than 1.2μA

Remarks:

- After the wire of tester with a current supplier is arranged, short-circuit AC terminal of the circuit block and the switch spring with tweezers.
  (Refer to "Remarks on installing the battery" on page 5.)

  Otherwise, the digital display will become disordered, and as a result current consumption cannot be measured correctly.

- When the current consumption exceeds the standard value for the whole of the movement but is less than the standard value for the circuit block alone, overhaul and clean the movement parts and then measure current consumption for the whole of the movement again. The driving pulse generated to compensate a heavy load that may apply on the gear train, etc. is considered to cause excessive current consumption for the whole of the movement.