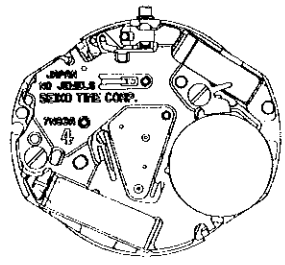
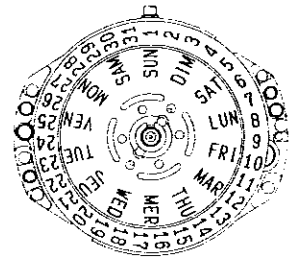
PARTS CATALOGUE / TECHNICAL GUIDE

Cal. 7N82A
Cal. 7N83A
Cal. 7N89A

[SPECIFICATIONS]

Item \ Cal. No.		7N82A	7N83A	7N89A
Movement		  The illustrations refer to Cal. 7N83A. (x 2.0)		
Movement size	Outside diameter	ø17.8mm 15.7mm between 3 o'clock and 9 o'clock sides		
	Casing diameter	ø17.4mm 15.3mm between 3 o'clock and 9 o'clock sides		
	Height	2.6mm (2.7mm*)	2.9mm (3.1mm*)	2.6mm (2.7mm*)
Time indication		3 hands	3 hands	2 hands
Driving system		Step motor (Load compensated driving pulse type)		
Additional mechanism		Date calendar		
		Instant setting device for date calendar		
		–	Day calendar	–
		–	Instant setting device for day calendar	–
		Train wheel setting device		
		Electronic circuit reset switch		
		Battery life indicator		–
Loss/gain		Monthly rate at normal temperature range: less than 15 seconds		
Regulation system		Nil		
Measuring gate by quartz tester		Use 10-second gate.		
Battery		SEIKO SR621SW, Maxell SR621SW, SONY SR621SW, Matsushita SR621SW, EVEREADY 364 Battery life is approximately 2 years. Voltage: 1.55V		
Jewels		0 jewel		

* Including the battery portion.

SEIKO CORPORATION

PARTS CATALOGUE

Cal. 7N82A, 7N83A, 7N89A

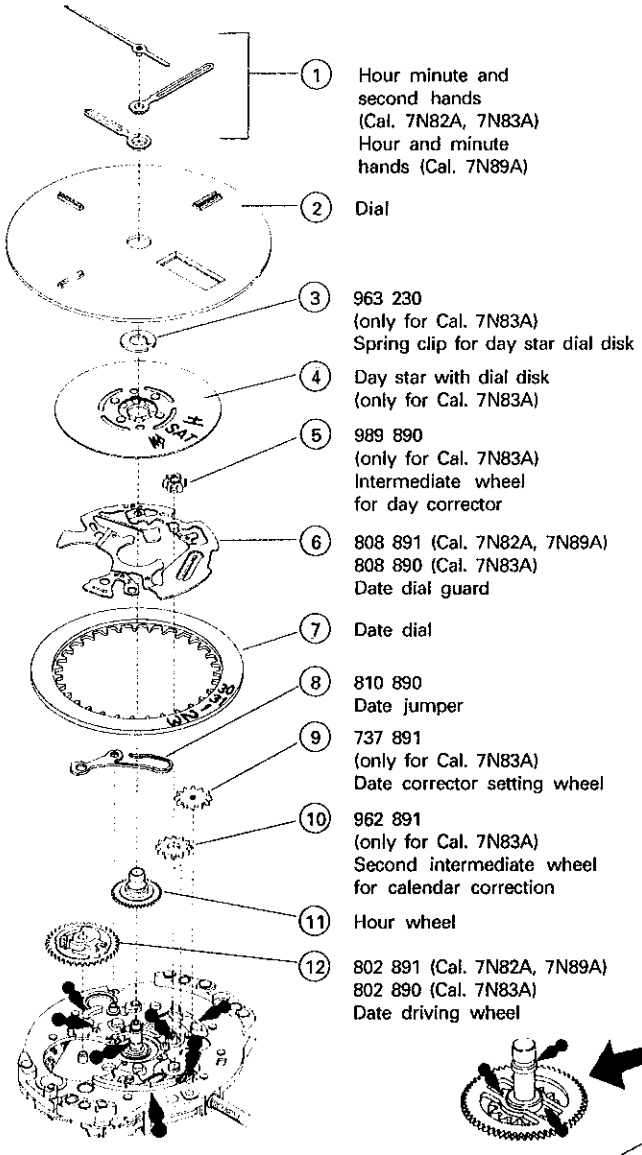
Disassembling procedures Figs. : (1) → (36)

Reassembling procedures Figs. : (36) → (1)

Lubricating: **Types of oil** — Moebius A

Oil quantity — Normal quantity

Ex. : Cal. 7N83A



(1) Hour minute and second hands (Cal. 7N82A, 7N83A) Hour and minute hands (Cal. 7N89A)

(2) Dial

(3) 963 230 (only for Cal. 7N83A) Spring clip for day star dial disk

(4) Day star with dial disk (only for Cal. 7N83A)

(5) 989 890 (only for Cal. 7N83A) Intermediate wheel for day corrector

(6) 808 891 (Cal. 7N82A, 7N89A) 808 890 (Cal. 7N83A) Date dial guard

(7) Date dial

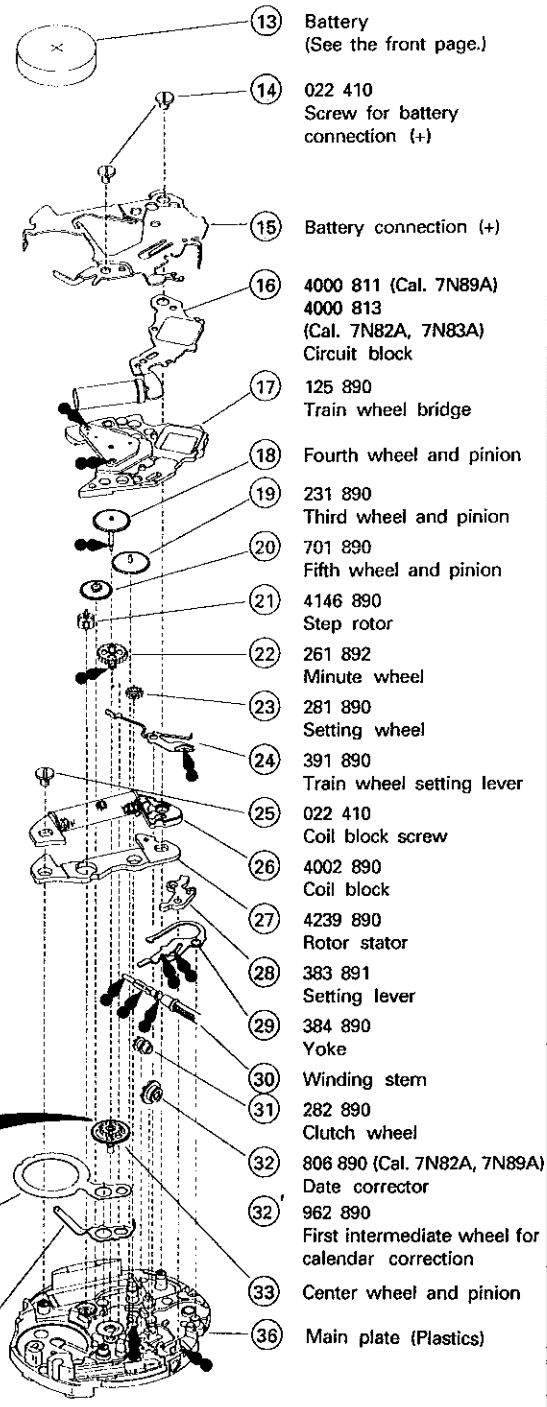
(8) 810 890 Date jumper

(9) 737 891 (only for Cal. 7N83A) Date corrector setting wheel

(10) 962 891 (only for Cal. 7N83A) Second intermediate wheel for calendar correction

(11) Hour wheel

(12) 802 891 (Cal. 7N82A, 7N89A) 802 890 (Cal. 7N83A) Date driving wheel



(13) Battery (See the front page.)

(14) 022 410 Screw for battery connection (+)

(15) Battery connection (+)

(16) 4000 811 (Cal. 7N89A) 4000 813 (Cal. 7N82A, 7N83A) Circuit block

(17) 125 890 Train wheel bridge

(18) Fourth wheel and pinion

(19) 231 890 Third wheel and pinion

(20) 701 890 Fifth wheel and pinion

(21) 4146 890 Step rotor

(22) 261 892 Minute wheel

(23) 281 890 Setting wheel

(24) 391 890 Train wheel setting lever

(25) 022 410 Coil block screw

(26) 4002 890 Coil block

(27) 4239 890 Rotor stator

(28) 383 891 Setting lever

(29) 384 890 Yoke

(30) Winding stem

(31) 282 890 Clutch wheel

(32) 806 890 (Cal. 7N82A, 7N89A) Date corrector

(32)' 962 890 First intermediate wheel for calendar correction

(33) Center wheel and pinion

(34) 4216 890 Insulator for battery A

(35) 4270 890 Battery connection (-)

(36) Main plate (Plastics)

022 410
- Screw for battery connection (+)
- Coil block screw

Please see the remarks on the following pages.

Remarks:

④ Day star with dial disk (only for Cal. 7N83A)

Part code	Position of crown & day frame	Language	Color of figure	Color of background
160 525	3 o'clock	English Spanish	Black	White

If any other type of day star with dial disk is required, please specify the number inscribed on the disk or refer to the "List of Day Star With Dial Disk".

⑦ Date dial

Cal. No.	Part code	Position of crown & date frame	Color of figure	Color of background
7N82A	878 605	3 o'clock	Black	White
7N83A	878 597	3 o'clock	Black	White
7N89A	878 605	3 o'clock	Black	White

If any other type of date dial is required, please refer to the "Casing Parts Catalogue" or the "List of Date Dial".

⑪ Hour wheel

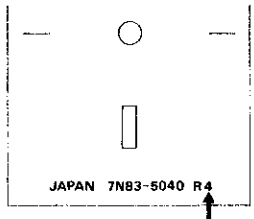
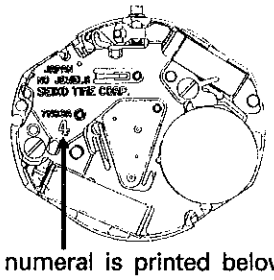
⑱ Fourth wheel and pinion

㉝ Center wheel and pinion

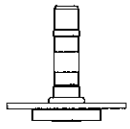
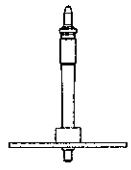
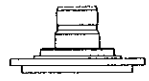
- **Discrimination of the installing height of the hands**

Cal. 7N series watches have numerals printed on the dial and the movement to indicate the installing heights of hands. When repairing, refer to the table below.

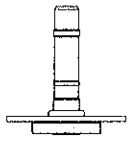
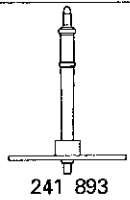
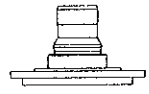
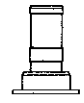
Discrimination	Height	Short type	Standard type	Extra long type
	Numeral for discrimination	1	2	4

Printed on	Dial	Movement
Printed position	Ex) Extra long type  The numeral is printed at the right end.	Ex) Extra long type  The numeral is printed below the calibre number.

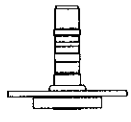
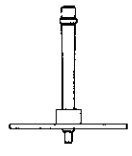
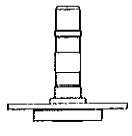
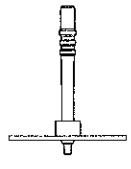
Combination:
[Cal. 7N82A]

Numeral for discrimination	Center wheel and pinion	Fourth wheel and pinion	Hour wheel	Main plate
4	 221 894	 241 894	 271 895	 100 893

[Cal. 7N83A]

Numeral for discrimination	Center wheel and pinion	Fourth wheel and pinion	Hour wheel	Main plate
4	 221 893	 241 893	 271 893	 100 892

[Cal. 7N89A]

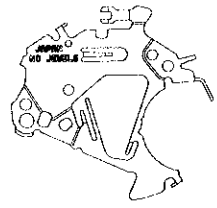
Numeral for discrimination	Center wheel and pinion	Fourth wheel and pinion	Hour wheel	Main plate
1	 221 889	 241 895	 271 894	 100 895
4	 221 894	 241 896	 271 895	 100 893

Note: When ordering the movement, specify the installing height of hands using the numeral for discrimination. If the numeral is not printed on the battery connection (+), check the dial for the numeral or see the tables above and find the numeral from the shape of the parts.

PARTS CATALOGUE

(15) Battery connection (+) 4268 750

Note: The battery connection (+) we are supplying has no calibre number nor numeral printed on it for discriminating the installing height of hands.



(30) Winding stem 351 892

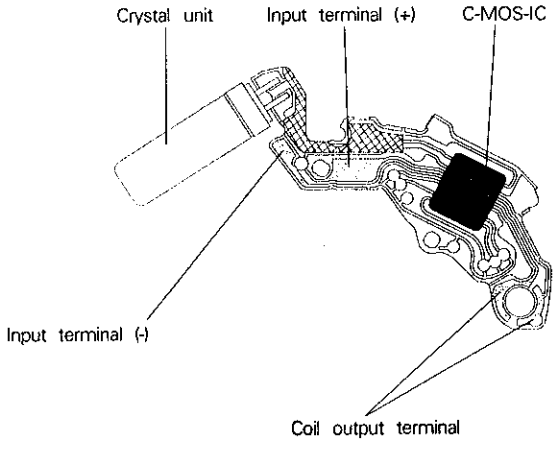
The type of winding stem is determined based on the design of cases.
Check the case number and refer to "SEIKO Casing Parts Catalogue" to choose a corresponding winding stem.

TECHNICAL GUIDE

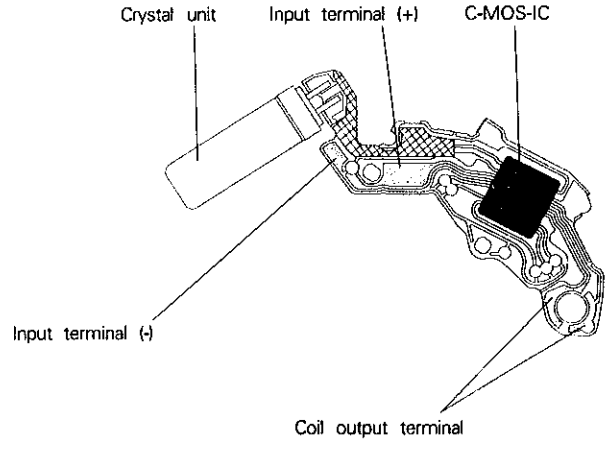
- The explanation here is only for the particular points of Cal. 7N82A, 7N83A and 7N89A.
- For the repairing, checking and measuring procedures, refer to the "TECHNICAL GUIDE, GENERAL INSTRUCTIONS".

I. STRUCTURE OF THE CIRCUIT BLOCK

[Cal. 7N82A, 7N83A]



[Cal. 7N89A]



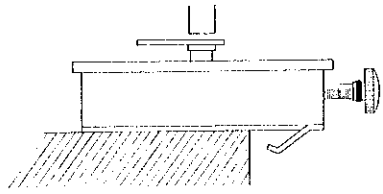
II. REMARKS ON DISASSEMBLING AND REASSEMBLING

Use the universal movement holder for disassembling and reassembling.

(1) Hands

• **Remarks on installing**

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



(5) Intermediate wheel for day corrector (only for Cal. 7N83A)

Set the intermediate wheel for day corrector in the direction as shown in the illustration at right.

(6) Date dial guard

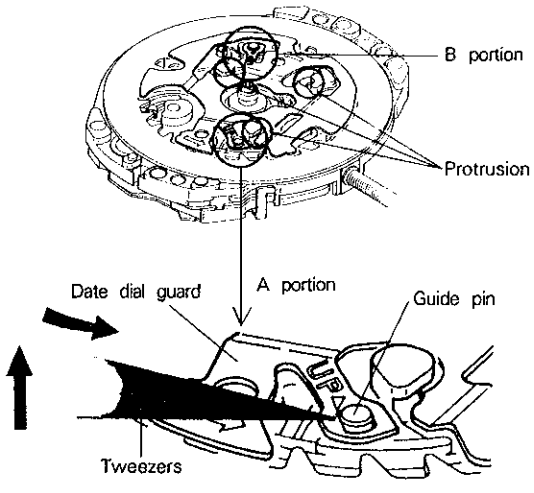
Date dial guards are usually fixed with screws. However, the date dial guard for Cal. 7N82A, 7N83A and 7N89A has three protrusions to be caught under the main plate, and it is also fixed by two guide pins.

• **How to remove**

1) Lightly lift the A portion of the date dial guard with tweezers to release it from the guide pin, and then move it in the counterclockwise direction until it gets on the guide pin.

2) Release the B portion of the date dial guard in the same way as described above, and then move it in the counterclockwise direction until it gets on the guide pin.

3) Check that all the three protrusions of the date dial guard have come off from the main plate, and then remove the date dial guard.



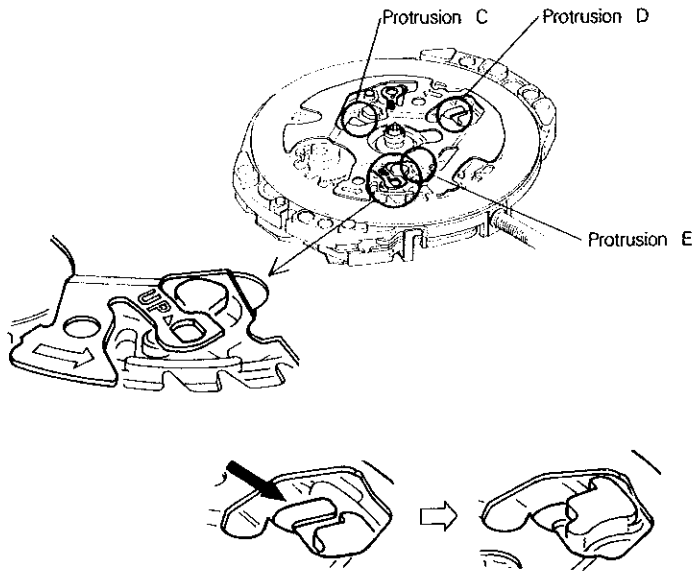
• **How to install**

1) Put the date dial guard on the main plate so that the A and B portions are over the guide pins, as shown in the illustrations at right.

2) Move the protrusion D of the date dial guard in the clockwise direction so that it is caught under the main plate.

3) Slightly move the protrusions C and E in the clockwise direction alternately to set them under the main plate. Then, set the A and B portions of the date dial guard to the guide pins.

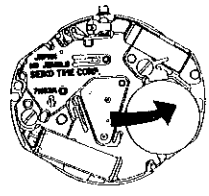
4) Check that the date dial guard is fixed securely to the main plate.



(13) Battery

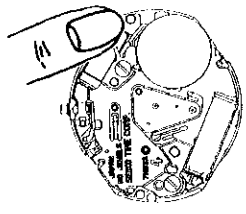
• **How to install**

Insert the battery aslant from the direction shown by the arrow.



(14) Screw for battery connection (+)

Fasten the screw on the crystal unit side while holding down the edge of the crystal unit.



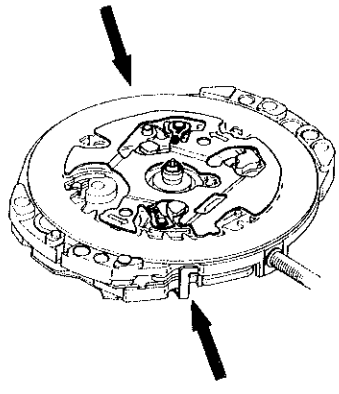
(15) Battery connection (+)

• **How to install**

Have the hooking portion (2 places) catch the main plate.

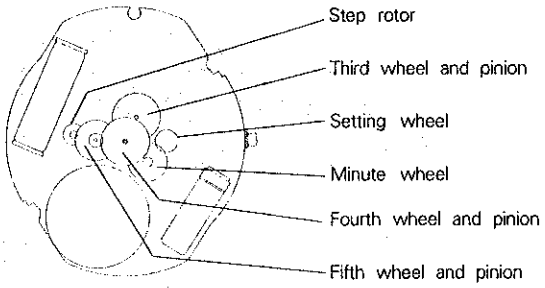
In disassembling and reassembling, take care not to deform the hooking portions.

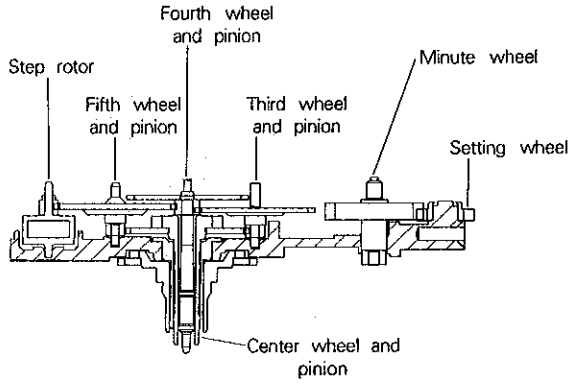
After installing the battery connection (+), check that the two hooking portions securely catch the main plate.



(17) Train wheel bridge

• **Setting position**





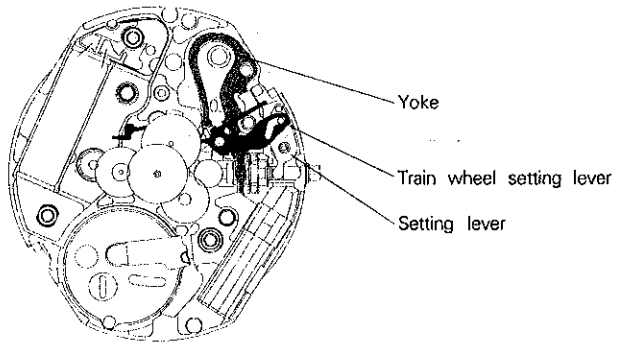
Note: Since the third wheel and pinion, fifth wheel and pinion, step rotor and minute wheel are made of plastics, take care not to damage them in disassembling and reassembling.

(24) Train wheel setting lever

(28) Setting lever

(29) Yoke

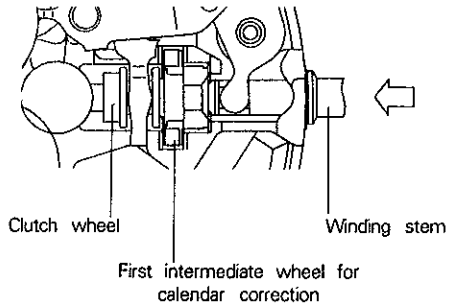
• **Setting position**



Note: Take care not to deform the spring portion of the yoke.

(30) Winding stem

The first intermediate wheel for calendar correction (plastic) has some elasticity in the contact with the winding stem so that it can be easily fixed.
Push in the winding stem straight toward the center of the main plate.



III. VALUE CHECKING

- Coil block resistance

  2.4KΩ ~ 2.8KΩ

- Current consumption

  For the whole of the movement: less than 1.3μA

  For the circuit block alone : less than 0.4μA

Remarks: When the current consumption exceeds the standard value for the whole of the movement but within the standard value range for the circuit block alone, overhaul and clean the movement parts and then measure current consumption for the whole of the movement again. The reason for this is that the driving pulse generated to compensate for a heavy load that may be applied to the gear train, etc., is one possible cause of excessive current consumption by the whole of the movement.