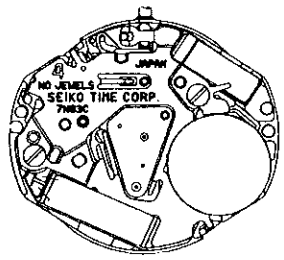
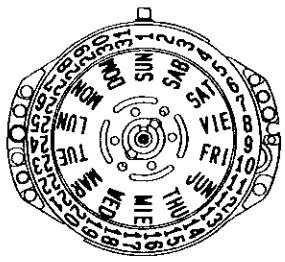
PARTS CATALOGUE/TECHNICAL GUIDE

Cal. 7N82C
Cal. 7N83C
Cal. 7N85C
Cal. 7N89C

[SPECIFICATIONS]

Item \ Cal. No.		7N82C	7N83C	7N85C	7N89C
Movement		  The illustrations refer to Cal. 7N83C. (x 2.0)			
Movement size	Outside diameter	ø17.8 mm 17.8 mm between 12 o'clock and 6 o'clock sides 15.7 mm between 3 o'clock and 9 o'clock sides			
	Casing diameter	ø17.4 mm 17.4 mm between 12 o'clock and 6 o'clock sides 15.3 mm between 3 o'clock and 9 o'clock sides			
	Height	2.6 mm	2.9 mm	2.6 mm	
Time indication		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			

SEIKO CORPORATION

PARTS CATALOGUE

Cal. 7N82C, 7N83C, 7N85C, 7N89C

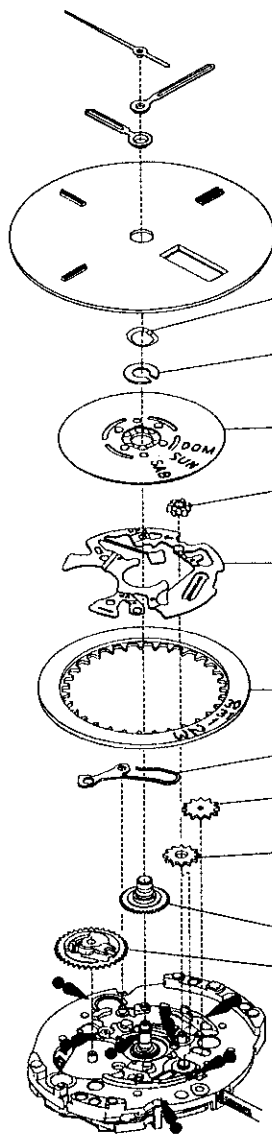
Disassembling procedures Figs. : (1) → (37)

Reassembling procedures Figs. : (37) → (1)

Lubricating: Types of oil — Moebius A

Oil quantity — Normal quantity

Ex. : Cal. 7N83C



(1) Hour, minute and second hands (Cal. 7N82C, 7N83C, 7N85C) Hour and minute hands (Cal. 7N89C)

(2) Dial

(3) 0491 736 (only for Cal. 7N85C) Dial washer

(4) 0963 230 (only for Cal. 7N83C) Spring clip for day star with dial disk

(5) Day star with dial disk (only for Cal. 7N83C)

(6) 0989 890 (only for Cal. 7N83C) Intermediate wheel for day corrector

(7) 0808 890 (Cal. 7N83C) 0808 891 (Cal. 7N82C, 7N85C, 7N89C) Date dial guard

(8) Date dial

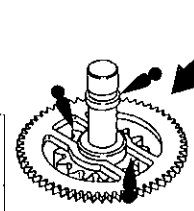
(9) 0810 890 Date jumper

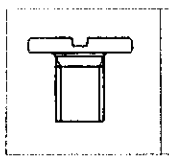
(10) 0737 891 (only for Cal. 7N83C) Day-date corrector wheel

(11) 0962 891 (only for Cal. 7N83C) Second intermediate wheel for calendar correction

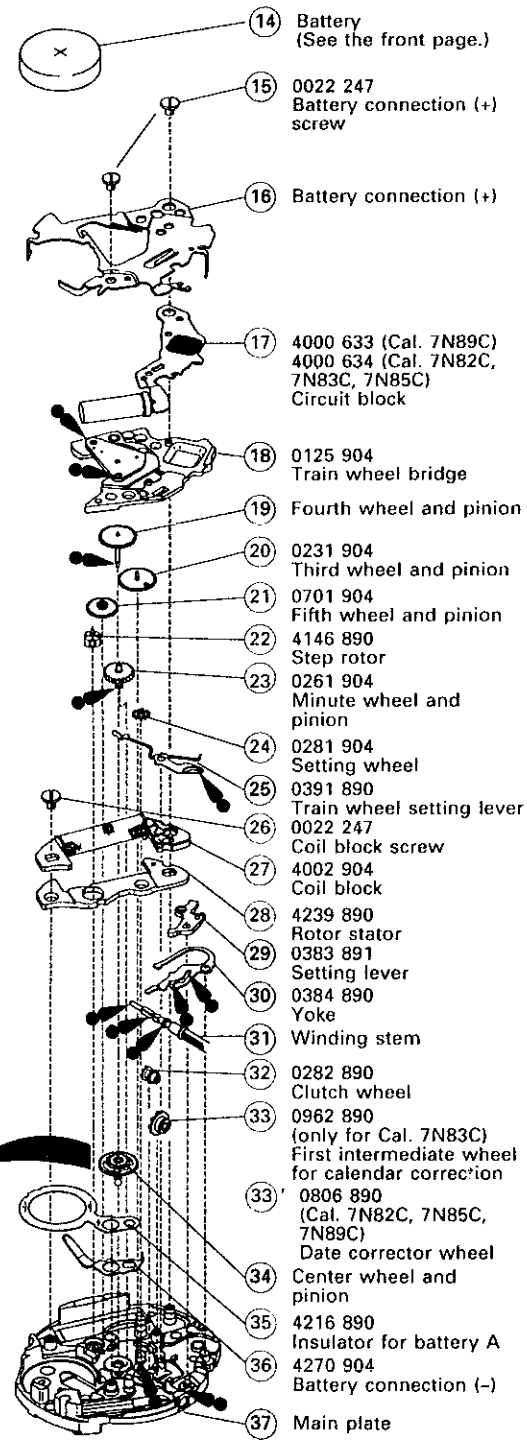
(12) Hour wheel

(13) 0802 890 (Cal. 7N83C) 0802 891 (Cal. 7N82C, 7N85C, 7N89C) Date driving wheel





0022 247
- Battery connection (+) screw (2 pcs.)
- Coil block screw (1 pc.)



(14) Battery (See the front page.)

(15) 0022 247 Battery connection (+) screw

(16) Battery connection (+)

(17) 4000 633 (Cal. 7N89C) 4000 634 (Cal. 7N82C, 7N83C, 7N85C) Circuit block

(18) 0125 904 Train wheel bridge

(19) Fourth wheel and pinion

(20) 0231 904 Third wheel and pinion

(21) 0701 904 Fifth wheel and pinion

(22) 4146 890 Step rotor

(23) 0261 904 Minute wheel and pinion

(24) 0281 904 Setting wheel

(25) 0391 890 Train wheel setting lever

(26) 0022 247 Coil block screw

(27) 4002 904 Coil block

(28) 4239 890 Rotor stator

(29) 0383 891 Setting lever

(30) 0384 890 Yoke

(31) Winding stem

(32) 0282 890 Clutch wheel

(33) 0962 890 (only for Cal. 7N83C) First intermediate wheel for calendar correction

(33)' 0806 890 (Cal. 7N82C, 7N85C, 7N89C) Date corrector wheel

(34) Center wheel and pinion

(35) 4216 890 Insulator for battery A

(36) 4270 904 Battery connection (-)

(37) Main plate

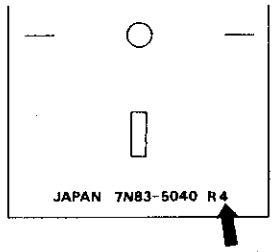
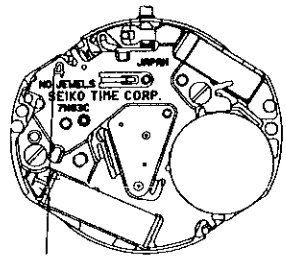
○ ⇨ Please see the remarks on the following pages.

Remarks:

(12) Hour wheel
(19) Fourth wheel and pinion
(34) Center wheel and pinion
(37) Main plate

- **Discrimination of the hand installation height**

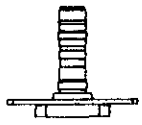
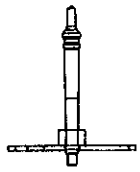
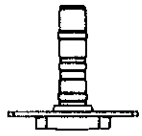
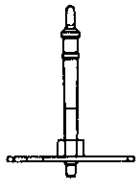
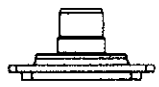
Cal. 7N series watches have numerals printed on the dial and the movement to indicate the hand installation heights. When repairing, refer to the table below.

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 above the calibre number.

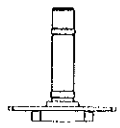
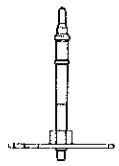
Combination:

* The hand installation heights can be discerned from the shape of the following parts. Refer to the table below.

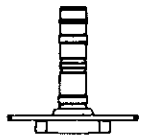
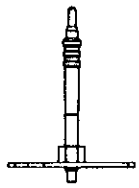
[Cal. 7N82C]

Numeral for discrimination	Center wheel and pinion	Fourth wheel and pinion	Hour wheel	Main plate (Center pipe)
1	 0221 929	 0241 929	 0271 929	 0100 362
4	 0221 162	 0241 183	 0271 942	 0100 363

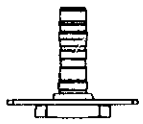
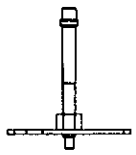
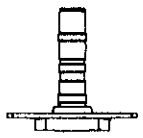
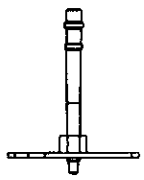
[Cal. 7N83C]

Numeral for discrimination	Center wheel and pinion	Fourth wheel and pinion	Hour wheel	Main plate (Center pipe)
1	 0221 163	 0241 173	 0271 934	 0100 361

[Cal. 7N85C]

Numeral for discrimination	Center wheel and pinion	Fourth wheel and pinion	Hour wheel	Main plate (Center pipe)
2	 0221 165	 0241 904	 0271 942	 0100 363

[Cal. 7N89C]

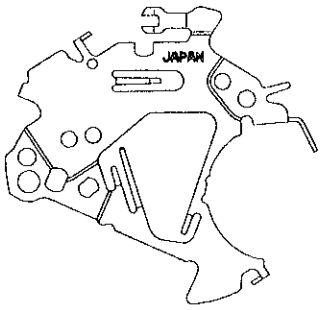
Numeral for discrimination	Center wheel and pinion	Fourth wheel and pinion	Hour wheel	Main plate (Center pipe)
1	 0221 929	 0241 940	 0271 929	 0100 362
4	 0221 162	 0241 181	 0271 942	 0100 363

PARTS CATALOGUE

Cal. 7N82C, 7N83C, 7N85C, 7N89C

(16) Battery connection (+) 4268 660

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



(31) Winding stem 0351 890

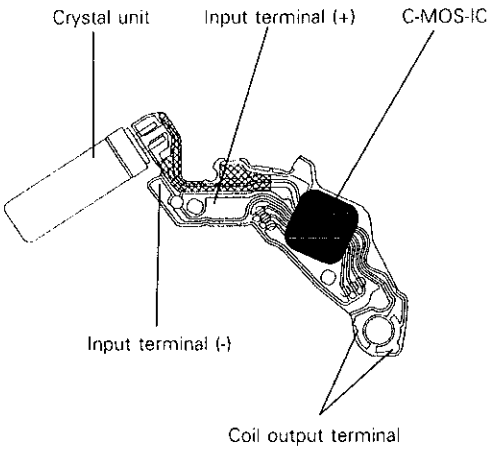
The type of winding stem is determined based on the design of cases.
Check the case number and refer to "SEIKO Casing Parts Catalogue" to choose a corresponding winding stem.

TECHNICAL GUIDE

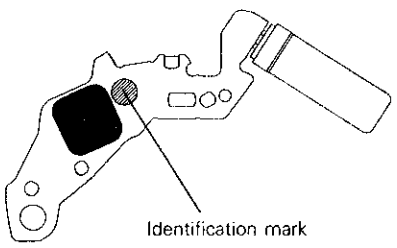
Cal. 7N82C, 7N83C, 7N85C, 7N89C

- The explanation here is only for the particular points of Cal. 7N82C, 7N83C, 7N85C and 7N89C.
- For the repairing, checking and measuring procedures, refer to the "TECHNICAL GUIDE, GENERAL INSTRUCTIONS".

I. STRUCTURE OF THE CIRCUIT BLOCK



Note:
Though Cal. 7N82C, 7N83C, 7N85C and 7N89C have the same circuit block pattern, Cal. 7N89C is not provided with the battery life indicator function. The circuit blocks of Cal. 7N82C, 7N83C and 7N85C have an identification mark as shown below to distinguish them from the circuit block of Cal. 7N89C.



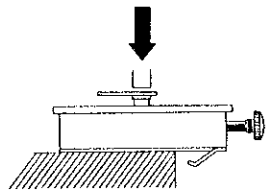
II. REMARKS ON DISASSEMBLING AND REASSEMBLING

Use the universal movement holder for disassembling and reassembling.

(1) Hands

- **How to install**

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



Metal plate

(6) Intermediate wheel for day corrector

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

Dial side

Main plate side

(7) Date dial guard

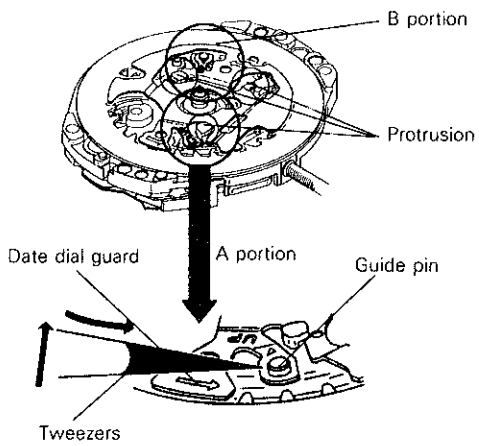
Unlike conventional movements, the date dial guard is not fixed with screws. It is set to the main plate with three protrusions, which are caught under the main plate by turning the guard. Then, it is fixed by two guide pins.

- **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.



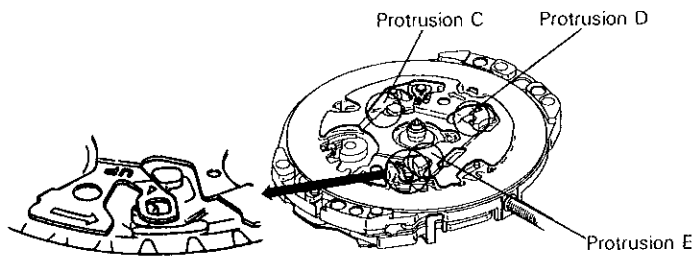
- **How to install**

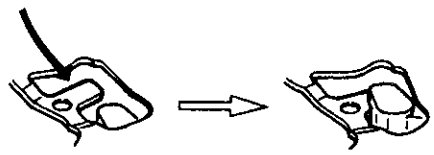
1) Put the date dial guard on the main plate so that the A and B portions are over the guide pins, as shown in the illustrations at right.

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.

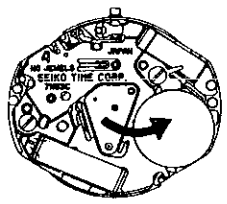




(14) Battery

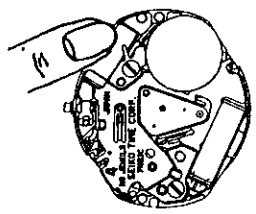
- **How to install**

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



(15) Battery connection (+) screw

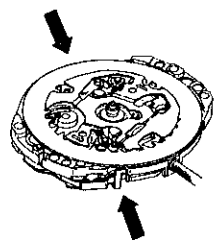
Fasten the screw on the crystal unit side while holding down the edge of the crystal unit.



(16) Battery connection (+)

- **How to install**

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

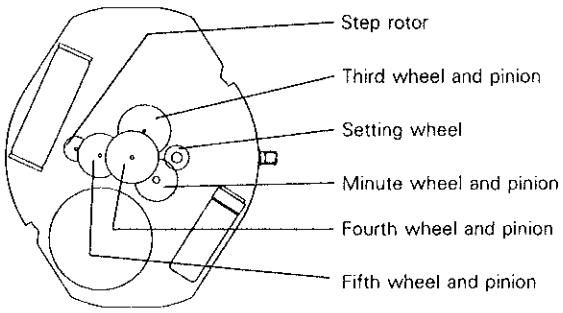


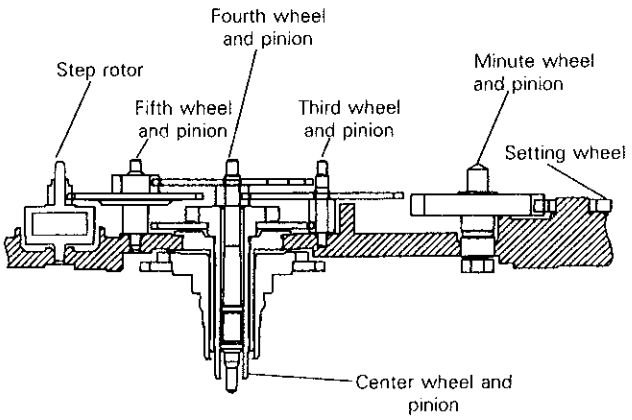
Notes: 1. In disassembling and reassembling, take care not to deform the hooking portions.
2. After installing the battery connection (+), check that the two hooking portions securely catch the main plate.

(18) Train wheel bridge

- **Setting position**

Refer to the illustrations below.





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

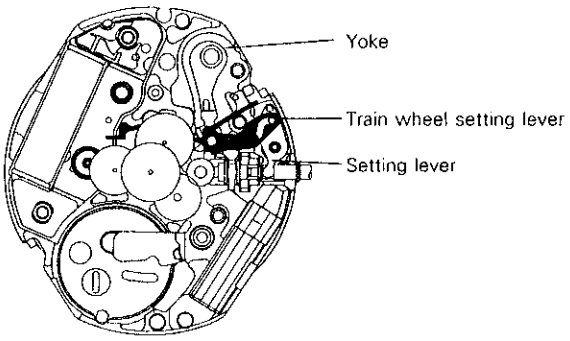
(25) Train wheel setting lever

(29) Setting lever

(30) Yoke

- **Setting position**

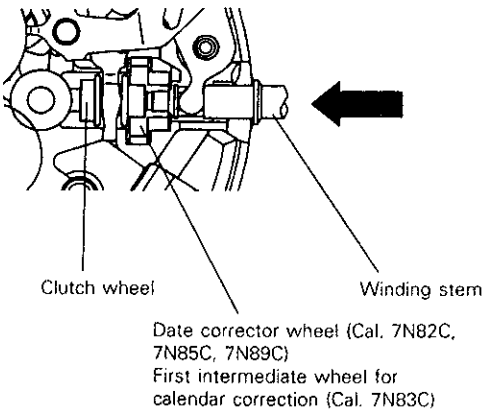
Refer to the illustration at right.



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

(31) Winding stem

The first intermediate wheel for calendar correction (Cal. 7N83C) or the date corrector wheel (Cal. 7N82C, 7N85C, 7N89C) 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

  0.90KΩ ~ 1.30KΩ

- Current consumption

  For the whole movement : less than 1.40μA

  For the circuit block alone : less than 0.28μA

Remarks: When the current consumption exceeds the standard value for the whole movement but is within the standard value range for the circuit block alone, the watch is generating a driving pulse to compensate for the heavy load that may be applied to the gear train, etc.
In this case, overhaul and clean the movement parts and then measure current consumption for the whole movement again.