**TMI**
*TIME MODULE*

# TECHNICAL GUIDE
# &
# PARTS CATALOGUE

# Cal.VD51C

# ANALOGUE QUARTZ

# SPECIFICATION

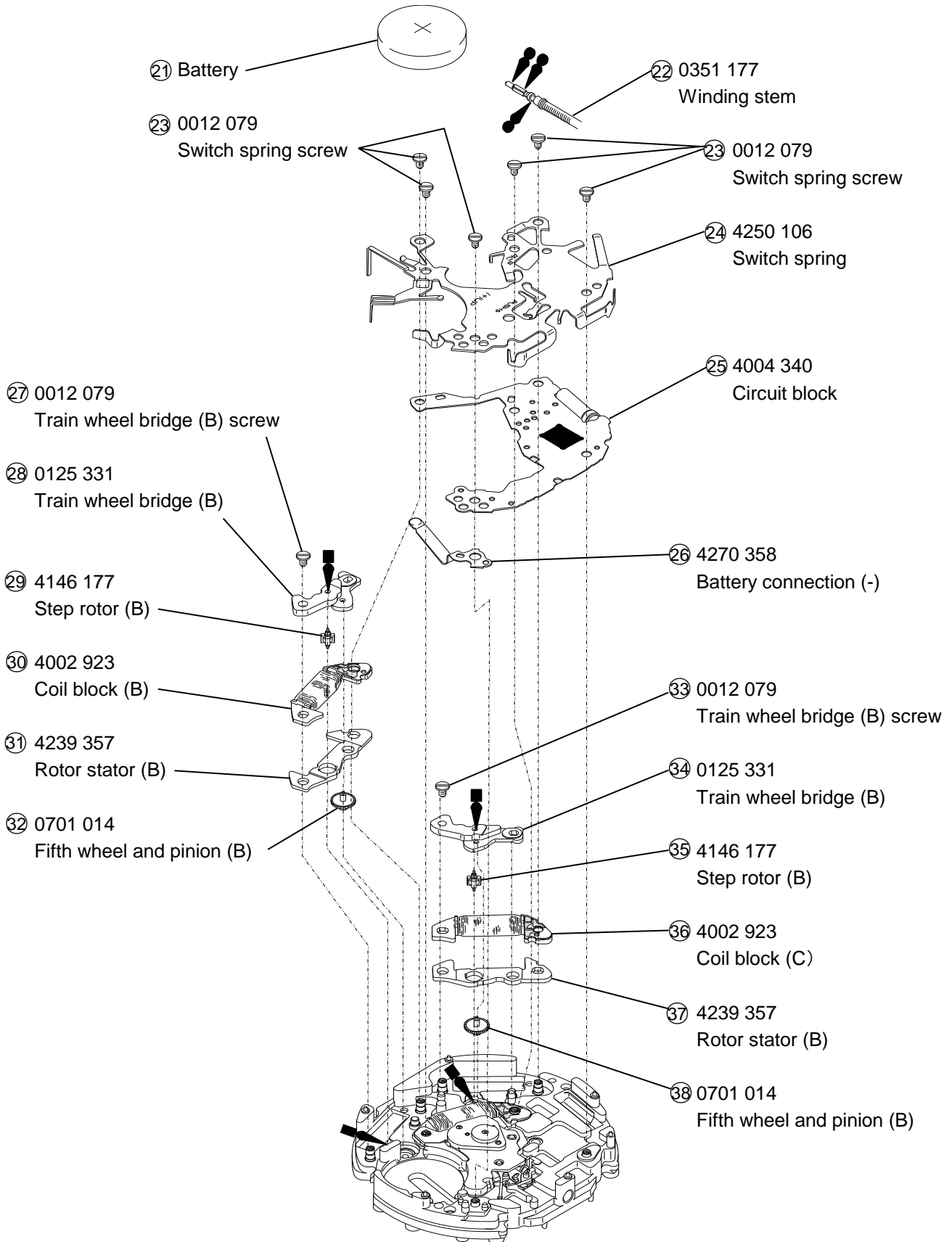| Item \ Cal. No. | | VD51C |
|---|---|---|
| Movement | |  |
| Movement size | Outside diameter | (φD)　　　　　(3H - 9H)　　(12H - 6H)<br>φ29.50 mm × 26.00 mm × 　— |
| | Casing diameter | (φD)　　　　　(3H - 9H)　　(12H - 6H)<br>φ28.80 mm × 　　— 　　× 　— |
| | Total height | 4.57 mm |
| Time indication | | 3 Hands (Hour, Minute, Second)<br>Chronograph (Minute, 1/1 second)<br>Calendar |
| Driving system | | Two pole stepping motor<br>Step motor 3 pieces |
| Additional mechanism | | Electronic circuit reset switch<br>Second setting device<br>[ Time ]<br>Indicated by the Hour, Minute, Second<br>[ Stop watch ]<br>Up to 60 minutes in 1 second split time |
| Antimagnetic | | ≧ 1600 A/m |
| Accuracy | | Less than ± 20 seconds : Monthly rate at normal temperature range |
| Battery | | SR920SW (SEIZAIKEN) Silver oxide battery<br>φ9.5 × t 2.0 mm<br>Battery life is approximately 3 years |
| Measuring gate by quartz tester | | Use 10 second gate<br>*Set the winding stem with crown at the normal position |
| Jewels | | 0 Jewel |

# PARTS CATALOGUE

**TMI** TIME MODULE

| Disassembling procedures Figs. ① → ㊿ | Lubricating : Types of oil | Oil quantity |
|---|---|---|
| Reassembling procedures Figs. ㊿ → ① | Moebius 9010 | NORMAL QUANTITY |
| | Moebius 9030 | |
| | S-6 | |

④ 0012 079
Auxiliary train wheel bridge screw

⑤ 0808 368
Date dial guard

⑥ *Date dial

⑦ 0126 368
Auxiliary train wheel bridge

① Hour, minute
second hands

② Chronograph minute
second hands

③ Dial

⑧ 0806 368
Date corrector wheel

⑨ 0810 368
Date jumper

⑪ 0817 368
Intermediate date driving wheel

⑩ 0802 368
Date driving wheel

⑯ 0888 009
Chronograph second wheel

⑫ 0836 369
Intermediate wheel for
date corrector holder

⑰ 0885 002
Intermediate chronograph second wheel

⑬ 0737 891
Intermediate wheel for
date corrector (D)

⑭ 0962 891
Intermediate wheel for
date corrector (C)

⑱ 0885 002
Intermediate chronograph minute wheel

⑮ 0962 891
Intermediate wheel for
date corrector (B)

⑳ 0271 407
Hour wheel

⑲ 0888 009
Chronograph second wheel

**\*Refer to page 5 for each parts code**

# PARTS CATALOGUE

| Disassembling procedures Figs. ① → ㊼ | Lubricating : Types of oil | Oil quantity |
|---|---|---|

Disassembling procedures Figs. ① → ㊳
Reassembling procedures Figs. ㊳ → ①

Lubricating : Types of oil
Moebius 9010
Moebius 9030
S-6

Oil quantity
NORMAL QUANTITY

㉑ Battery

㉒ 0351 177
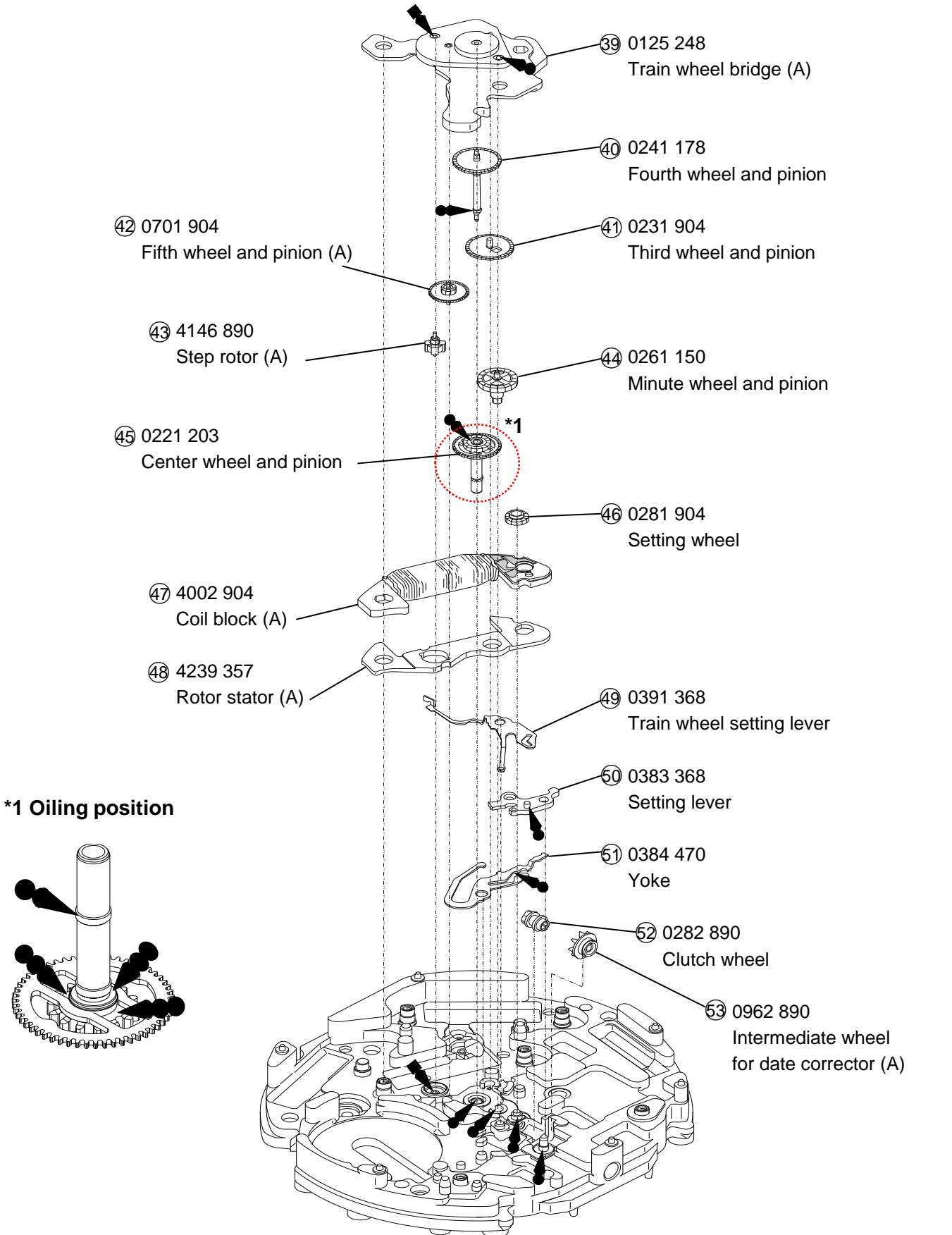Winding stem

㉓ 0012 079
Switch spring screw

㉓ 0012 079
Switch spring screw

㉔ 4250 106
Switch spring

㉕ 4004 340
Circuit block

㉗ 0012 079
Train wheel bridge (B) screw

㉘ 0125 331
Train wheel bridge (B)

㉖ 4270 358
Battery connection (-)

㉙ 4146 177
Step rotor (B)

㉚ 4002 923
Coil block (B)

㉝ 0012 079
Train wheel bridge (B) screw

㉛ 4239 357
Rotor stator (B)

㉞ 0125 331
Train wheel bridge (B)

㉜ 0701 014
Fifth wheel and pinion (B)

㉟ 4146 177
Step rotor (B)

㊱ 4002 923
Coil block (C)

㊲ 4239 357
Rotor stator (B)

㊳ 0701 014
Fifth wheel and pinion (B)

# PARTS CATALOGUE

| | | | |
|---|---|---|---|
| Disassembling procedures Figs. ① → ㊾ | Lubricating : Types of oil | | Oil quantity |
| Reassembling procedures Figs. ㊾ → ① | Moebius 9010 | | NORMAL QUANTITY |
| | Moebius 9030 | | |
| | S-6 | | |

㊴ 0125 248
Train wheel bridge (A)

㊵ 0241 178
Fourth wheel and pinion

㊷ 0701 904
Fifth wheel and pinion (A)

㊶ 0231 904
Third wheel and pinion

㊸ 4146 890
Step rotor (A)

㊹ 0261 150
Minute wheel and pinion

㊺ 0221 203
Center wheel and pinion

*1

㊻ 0281 904
Setting wheel

㊼ 4002 904
Coil block (A)

㊽ 4239 357
Rotor stator (A)

㊾ 0391 368
Train wheel setting lever

㊿ 0383 368
Setting lever

51 0384 470
Yoke

52 0282 890
Clutch wheel

53 0962 890
Intermediate wheel
for date corrector (A)

**\*1 Oiling position**

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# PARTS CATALOGUE

Remark :

⑥ Date dial

| Part code | Position of crown | Position of date frame | Color of figure | Color of background |
|---|---|---|---|---|
| 0878 220 | 3H | 3H | Black | White |
| 0878 221 | 3H | 3H | White | Black |

**\*All parts code are subject to change without notice.**

# TECHNICAL  GUIDE

・The explanation here is only for the particular point of Cal.VD51C          Tweezers

1.REMARKS ON INSTALLING THE BATTERY

　1) After the battery is replaced with a new one or after the
　　 battery is reinstalled following the repairing procedures,
　　 Be sure to touch the short-circuit the AC terminal of circuit
　　 block and the switch spring with conductive tweezers
　　 to reset the circuit as illustrated at right.
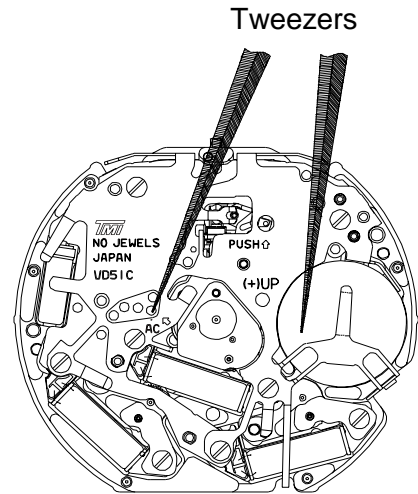
　2) When the battery replaced with a new one, the time information stored in the built-in IC and
　　 the time indicated by the stopwatch hands do not correspond with each other.
　　 Reset the stopwatch hands to "0" position following the procedure below.
　　 If the stopwatch hands should move improperly, also follow the same procedure.

ORDER
　① Pull the crown out to the second click.

　② Keep buttons "A" and "B" pressed at the same time
　　 for 2 seconds, and then, release the buttons.
　　 The stopwatch second hand move back and returned
　　 to where it was.

　③ Press button "A" or "B" to reset the stopwatch second
　　 and minute hands to "0" position.
　　 * By pressing button  "A", set the stopwatch 1/1 second hand.
　　 * By pressing button  "B", set the stopwatch minute hand.

　④ Turn the crown to set the hour, and minute hands to
　　 the desired time, and push the crown back in to the
　　 normal position.
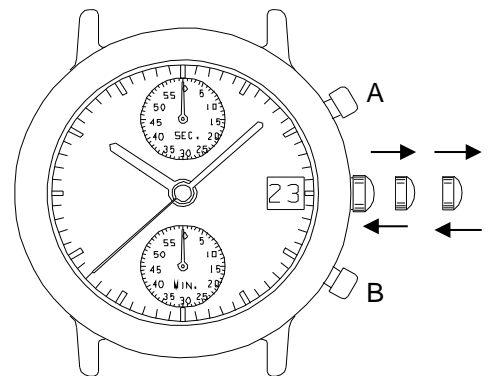
## 2.REMARKS ON DISASSEMBLING AND REASSEMBLING

### (1) Hand
・How to install the hands
Please put on the metal plate so as to
avoid 6 protrusions.(Right figure: place of red circle)
*Install the hour, minute and second hands at the
"12" o'clock position.
*Install the chrono minute and second hands at the
"0" o'clock position.
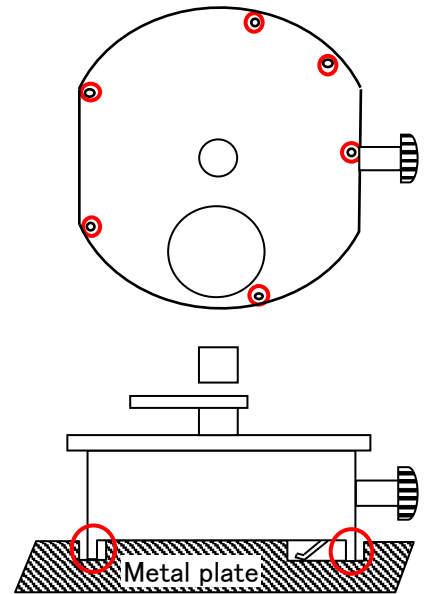
**[ Reference ]** The power of press hands

| | |
|---|---|
| Minute & Hour Hands | < 5kg |
| Second Hand | < 5kg |
| Chrono Minute & Second | < 3kg |

Metal plate

### (2) Battery
・How to install the battery
① Remove the hook of the switch springs battery
clamp portion.
② Insert the battery sideways, and have the hook of
the switch springs battery clamp portion catch
the main plate.

Hook

Battery clamp position

Hook

Main plate
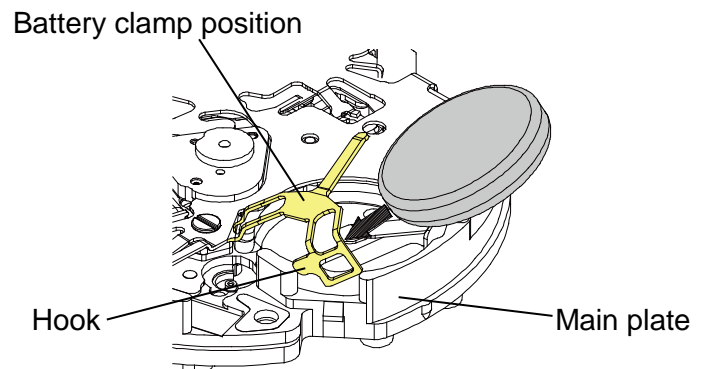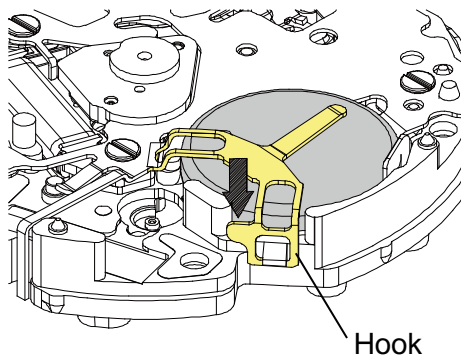
### (3) Winding stem
・How to remove
While pushing the indented portion of the arrow, pull out
the winding stem.

Push

Enlargement

PUSH
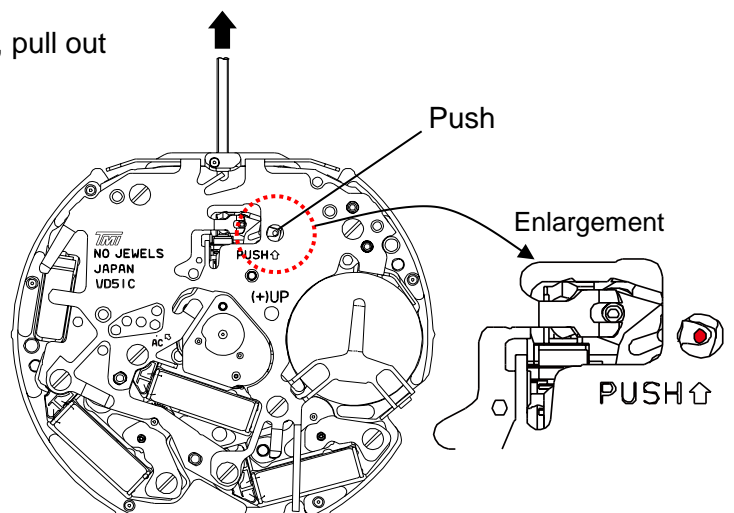
## DISPLAY AND CROWN / BUTTON OPERATION

Minute hand

Stopwatch 1/1 second hand

Button "A"
In stopwatch function
Start / Stop

Crown at normal position

Hour hand

Second position
Time setting

First position
Date setting

Second hand
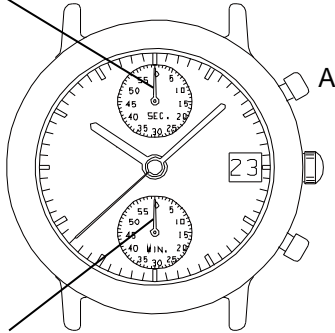
Stopwatch minute hand

Button "B"
In stopwatch function
Split / Reset
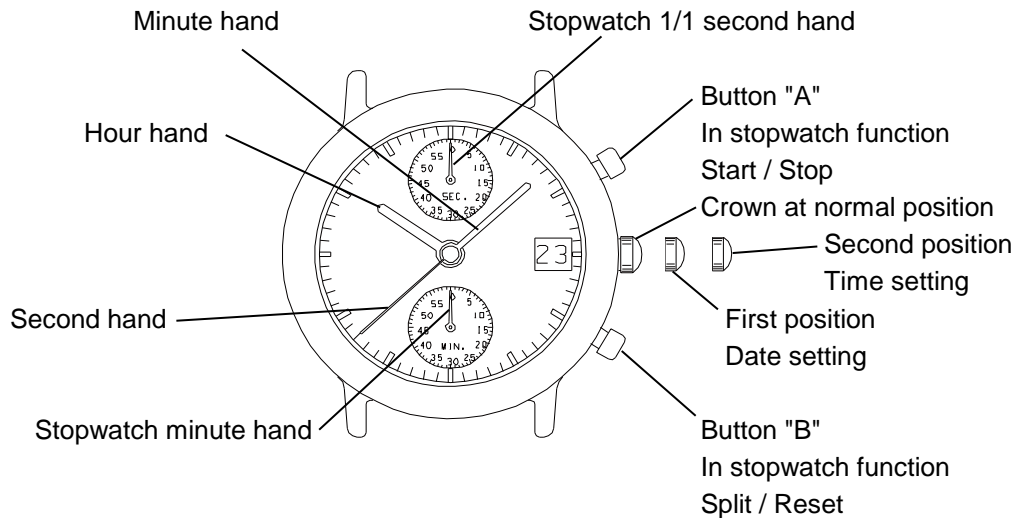
*The measurement time is indicated by the stopwatch hands that move independently of small second hand.

## ADJUSTING THE STOPWATCH HAND POSITION

Before setting the time, check if the stopwatch 1/1 second, second and minute hands are in the "0" position.
*If the stopwatch is in use, press the button in the following order to reset it, and then, check if the hands
 return to "0" position. (For details, see "HOW TO USE THE STOPWATCH")

* If the stopwatch is counting :     A  →  B
* If the stopwatch is stopped  :     B
* If the split time is displayed :     B  →  A  →  B

If either of the stopwatch hands are not in the "0" position, reset them following the procedure below.

Stopwatch 1/1
second hand

A

B

Stopwatch minute
hand
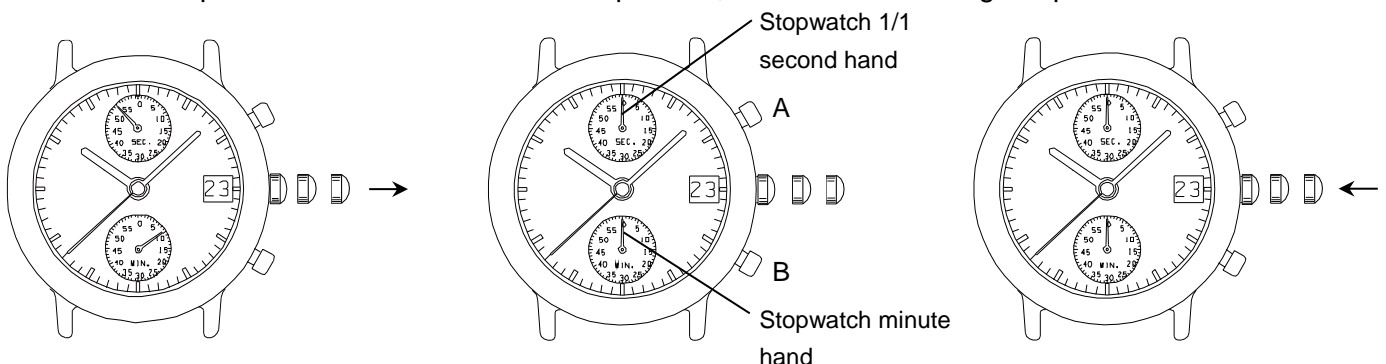
1.Pull the crown out to
   the second click.

2.Press button A or B to reset the
   stopwatch 1/1 second, minute
   hands to "0" position.
  *By pressing button A set the
   stopwatch 1/1 second hand.
  *By pressing button B set the
   stopwatch second and minute
   hands.

3.Push the crown back to
   the normal position.

*The stopwatch minute hand moves correspondingly with the stopwatch second hand.
*The hands move quickly if the respective buttons are kept pressed.

# OPERATION

## TIME SETTING
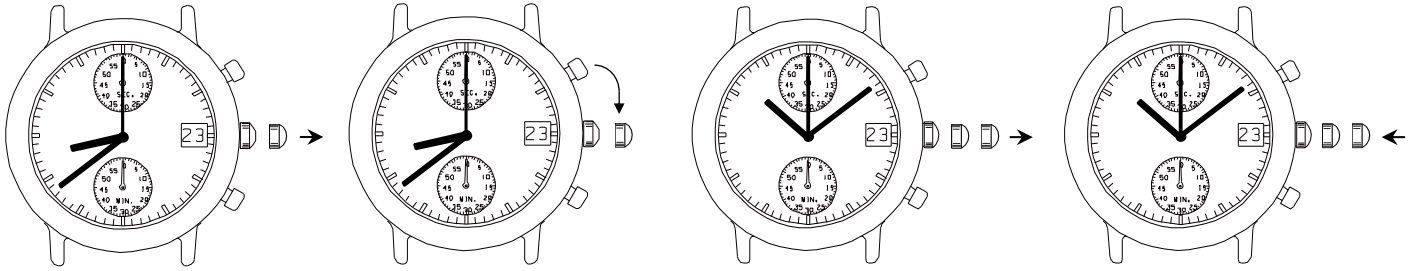
1. Pull out the crown to the first click.

2. Turn the crown clockwise until the previous day's date appears.

3. Pull out the crown to the second click when the second hand is at the 12 o'clock position. It will stop on the spot and advance the hour and minute hands by turning the crown. (Check that AM/PM is set correctly.)

4. Push the crown back in to the normal position in accordance with a time signal.

*When the crown is at the second click position. Do not press any button. Otherwise, the chronograph hands will move.

 *Do not set the date between 9:00 P.M. and 1:00 A.M.
 Otherwise, the day may not change properly. If it is necessary to set the date during that time period,
 First change the time to any time outside it, set the date and then reset the correct time.

# OPERATION

## HOW TO USE THE STOPWATCH

・The measurement time is indicated by the stopwatch hands that move independently of the small second hands.
・The stopwatch can measure up to 12 hours in second.

(Standard measurement)
Ex) 100m race (Press the buttons in the following order　　A　→ A　→ B　)

START　　　　　　　　⟶　　　　　STOP (Finish)　　　　⟶　　　　RESET (Reset to "0'00")
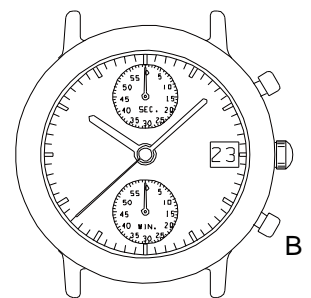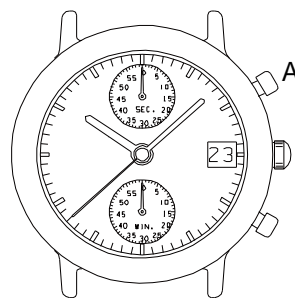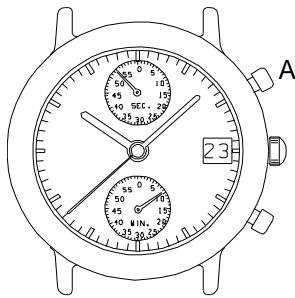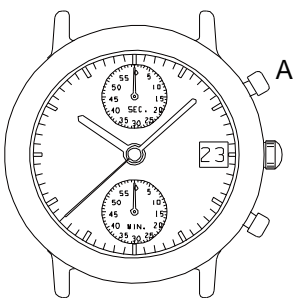
Stopwatch 1/1 second hand

Stopwatch minute hand
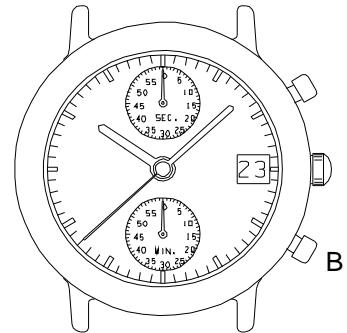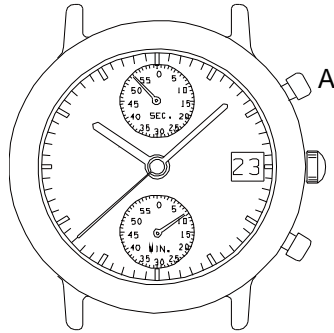
(Accumulated elapsed time measurement)
Ex) Basketball game (Press the buttons in the following order　　A　→ A / A　→ A → B　)

START　　→　　STOP　　/　RESTART　　→　　STOP　　→　　RESET
(Start of game)　　(Time out)　　(Restart of game)　　(Game over)

*Restart and stop of the stopwatch can be repeated as many times as necessary by pressing button A.

(Split time measurement)
Ex.) 5,000m race (Press the buttons in the following order　　A　→ B / B　→ A → B　)

START　　→　　SPLIT/
　　　　　SPLIT RELEASE　　→　　STOP　　→　　RESET
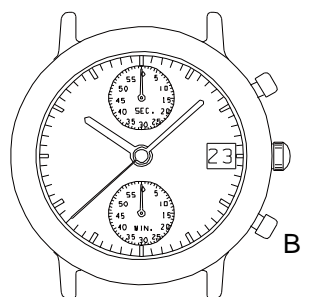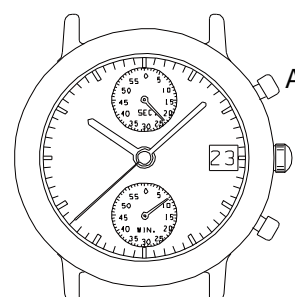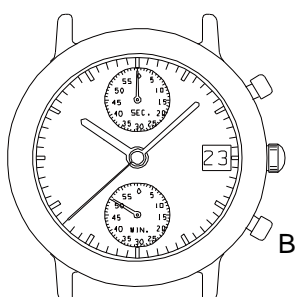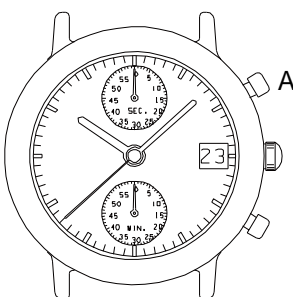
*Measurement and release of the split time can be repeated as many times as necessary by pressing button B.