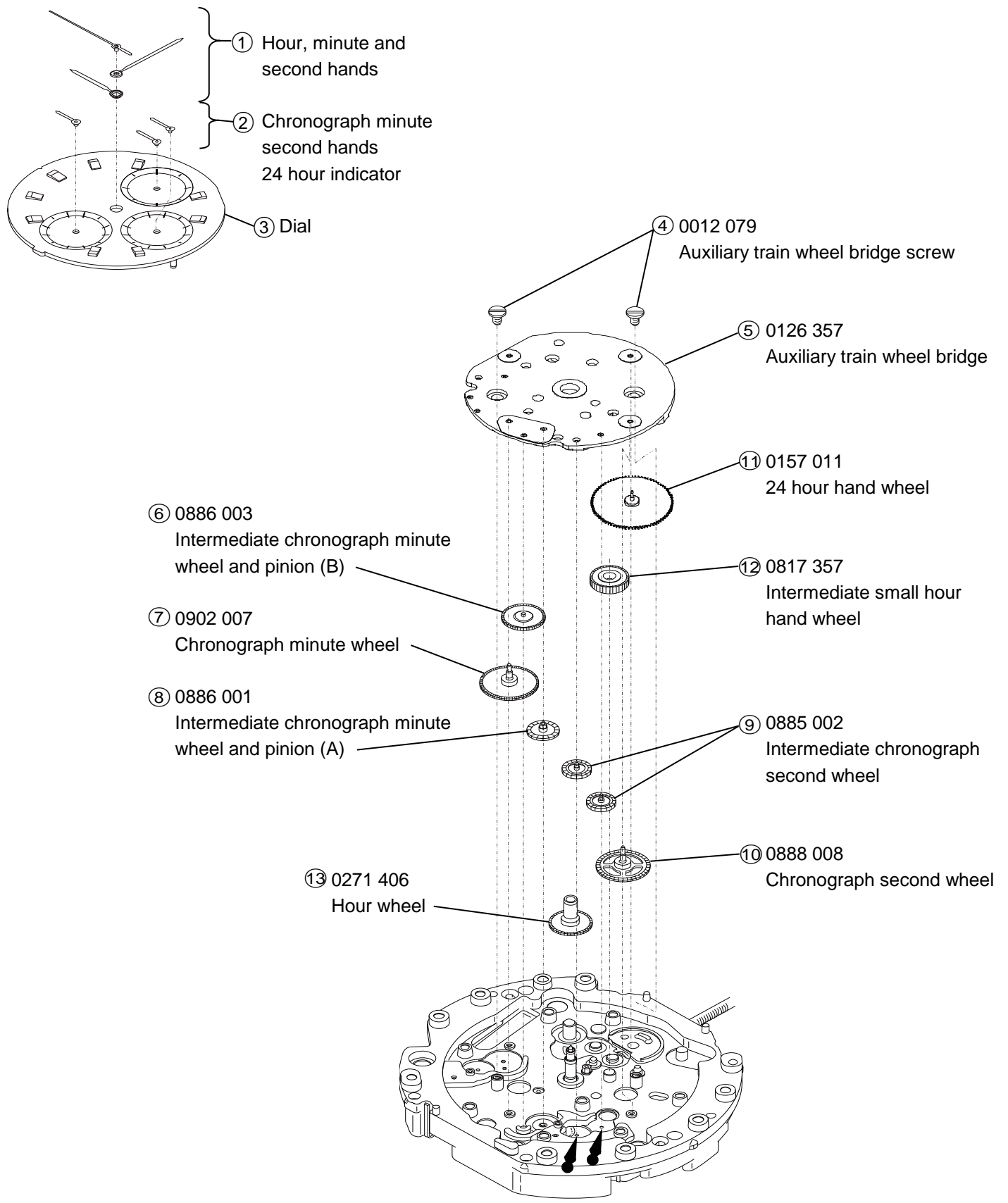# TMI
TIME MODULE

TECHNICAL GUIDE
&
PARTS CATALOGUE

Cal.VD54C

ANALOGUE QUARTZ

SPECIFICATION

<table>
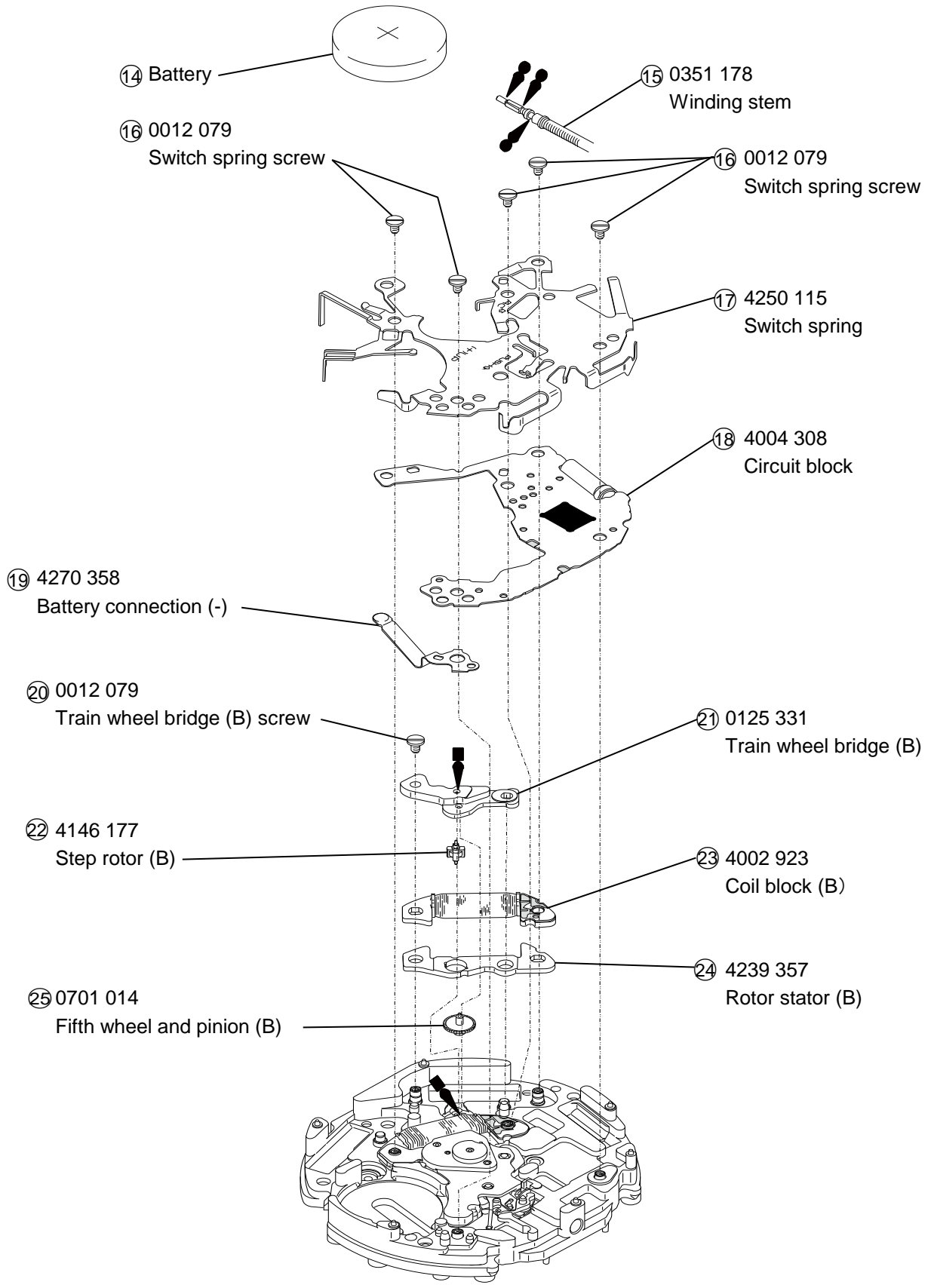<tr><td rowspan="2">Item

Cal. No.</td><td>VD54C</td></tr>
<tr><td></td></tr>
</table>

Movement	

Movement size	Outside diameter	(φD)　　　　(3H - 9H)　　(12H - 6H) φ29.50 mm × 26.00 mm × 　—
	Casing diameter	(φD)　　　　(3H - 9H)　　(12H - 6H) φ28.80 mm × 　　— 　　×　　—
	Total height	3.97 mm

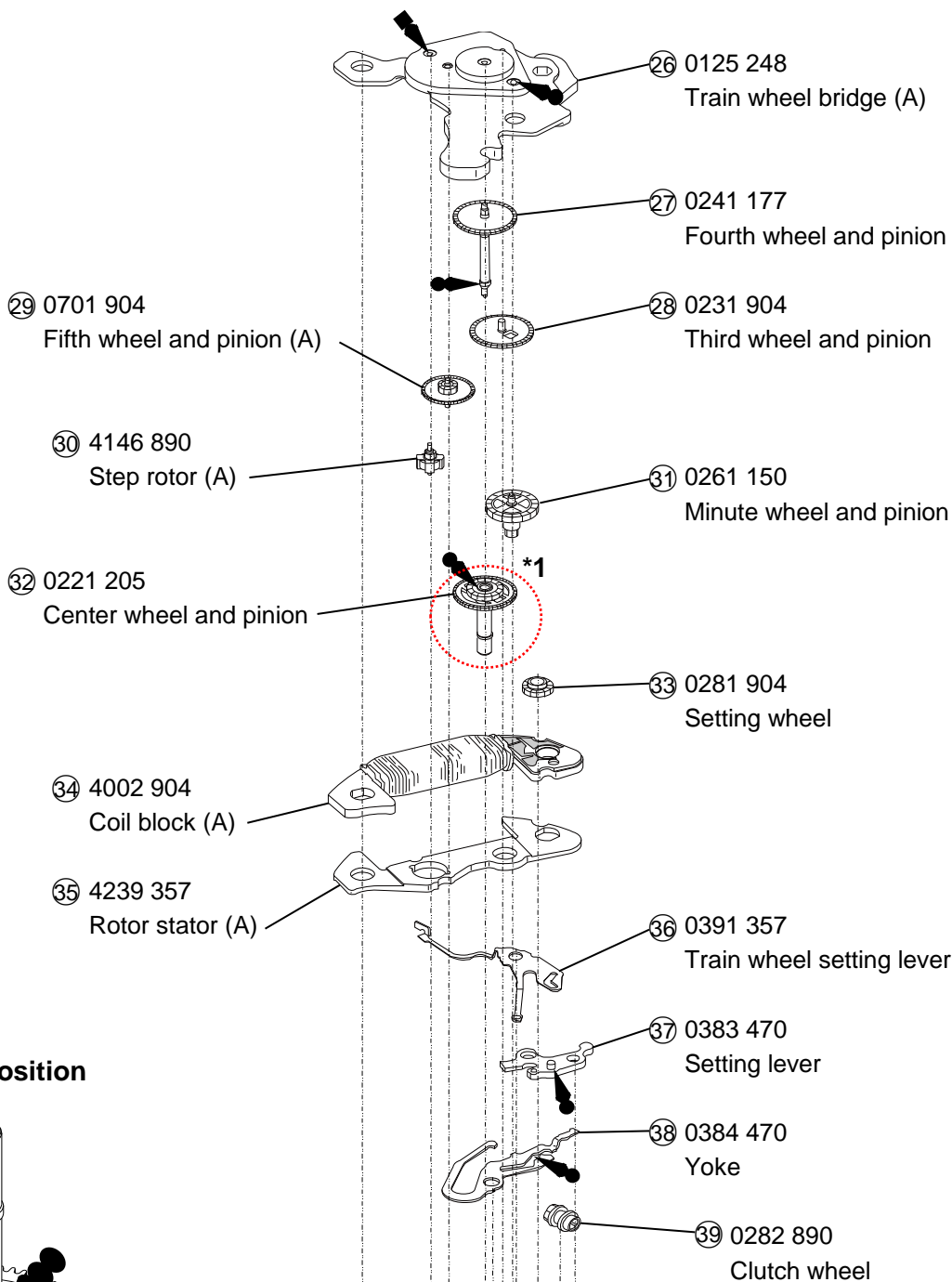| Time indication	3 Hands (Hour, Minute, Second) Chronograph (Minute, Second) 24 hour indicator
Driving system	Two pole stepping motor Step motor 2 pieces
Additional mechanism	Electronic circuit reset switch Second setting device [Time] Indicated by the Hour, Minute, Second 24 hour hands [Stop watch] Up to 60 minutes in 1 second split time
Antimagnetic	$\geqq$ 1600 A/m
Accuracy	Less than ± 20 seconds : Monthly rate at normal temperature range
Battery	SR920SW (SEIZAIKEN) Silver oxide battery φ9.5 × t 2.0 mm Battery life is approximately 3 years
Measuring gate by quartz tester	Use 10 second gate *Set the winding stem with crown at the normal position
Jewels	0 Jewel

PARTS CATALOGUE

TMI TIME MODULE

Disassembling procedures Figs. ① → ㊴	Lubricating : Types of oil	
	●● ▶	A3a / Moebius 9010
Reassembling procedures Figs. ㊴ → ①	■■ ▶	A2a / Moebius 9030
	●●● ▶	A3a (S-6)
	Oil quantity ◯◯▷	Normal quantity

① Hour, minute and second hands

② Chronograph minute second hands 24 hour indicator

③ Dial

④ 0012 079 Auxiliary train wheel bridge screw

⑤ 0126 357 Auxiliary train wheel bridge

⑪ 0157 011 24 hour hand wheel

⑥ 0886 003 Intermediate chronograph minute wheel and pinion (B)

⑫ 0817 357 Intermediate small hour hand wheel

⑦ 0902 007 Chronograph minute wheel

⑧ 0886 001 Intermediate chronograph minute wheel and pinion (A)

⑨ 0885 002 Intermediate chronograph second wheel

⑩ 0888 008 Chronograph second wheel

⑬ 0271 406 Hour wheel

PARTS CATALOGUE

TMI TIME MODULE

	Lubricating : Types of oil	
Disassembling procedures Figs. ① → ㊴		A3a / Moebius 9010
		A2a / Moebius 9030
Reassembling procedures Figs. ㊴ → ①		A3a (S-6)
	Oil quantity	Normal quantity

⑭ Battery

⑮ 0351 178
Winding stem

⑯ 0012 079
Switch spring screw

⑯ 0012 079
Switch spring screw

⑰ 4250 115
Switch spring

⑱ 4004 308
Circuit block

⑲ 4270 358
Battery connection (-)

⑳ 0012 079
Train wheel bridge (B) screw

㉑ 0125 331
Train wheel bridge (B)

㉒ 4146 177
Step rotor (B)

㉓ 4002 923
Coil block (B)

㉔ 4239 357
Rotor stator (B)

㉕ 0701 014
Fifth wheel and pinion (B)

PARTS CATALOGUE

TMI *TIME MODULE*

Disassembling procedures Figs. ① → ㉟	Lubricating : Types of oil	
	●●◖▶	A3a / Moebius 9010
	■◖▶	A2a / Moebius 9030
Reassembling procedures Figs. ㉟ → ①	●●◖▶	A3a (S-6)
	Oil quantity ◯◯▷	Normal quantity

㉖ 0125 248
Train wheel bridge (A)

㉗ 0241 177
Fourth wheel and pinion

㉙ 0701 904
Fifth wheel and pinion (A)

㉘ 0231 904
Third wheel and pinion

㉚ 4146 890
Step rotor (A)

㉛ 0261 150
Minute wheel and pinion

㉜ 0221 205
Center wheel and pinion

*1

㉝ 0281 904
Setting wheel

㉞ 4002 904
Coil block (A)

㉟ 4239 357
Rotor stator (A)

㊱ 0391 357
Train wheel setting lever

㊲ 0383 470
Setting lever

*1 Oiling position

㊳ 0384 470
Yoke

㊴ 0282 890
Clutch wheel

4

・The explanation here is only for the particular point of Cal.VD54C

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.
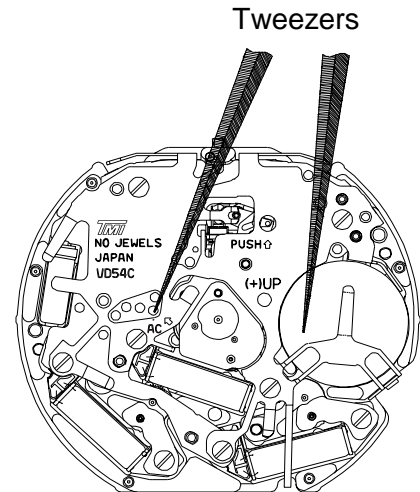
2) When the battery replaced with a new one, the time information stored in the built-in IC and
the time indicated by the stopwatch hands do not correspond with each other.
Reset the stopwatch hands to "0" position following the procedure below.
If the stopwatch hands should move improperly, also follow the same procedure.

ORDER

① Pull out the crown.

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", the hands move counter clockwise.
* By pressing button "B", the hands move clockwise.

④ Turn the crown to set the hour, and minute and 24 hour
hands to the desired time, and push the crown back in to
the normal position.
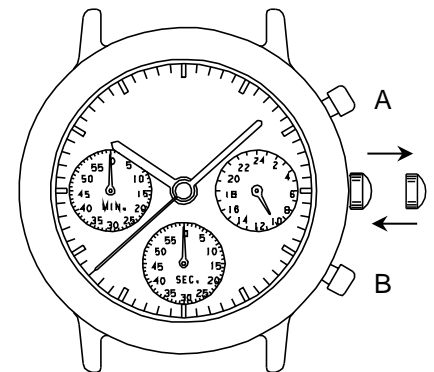
2.REMARKS ON DISASSEMBLING AND REASSEMBLING

(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.
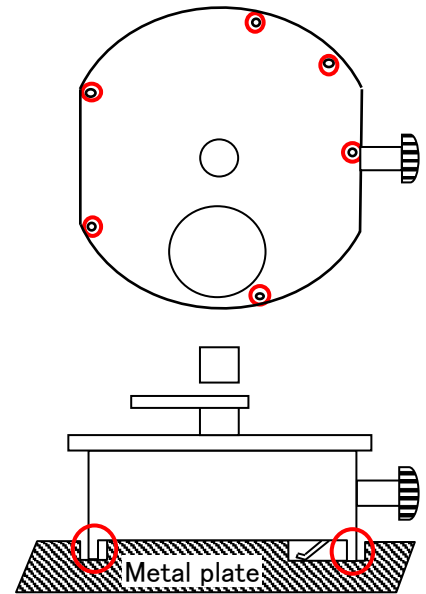*Install the 24 hour indicator at the "24" position.

[Reference]   The power of press hands
Minute & Hour Hands   < 5kg
Second Hand   < 5kg
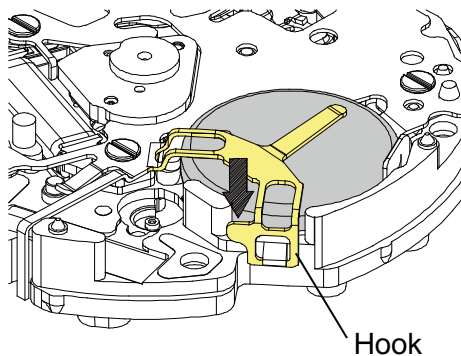Chrono Minute & Second   < 3kg
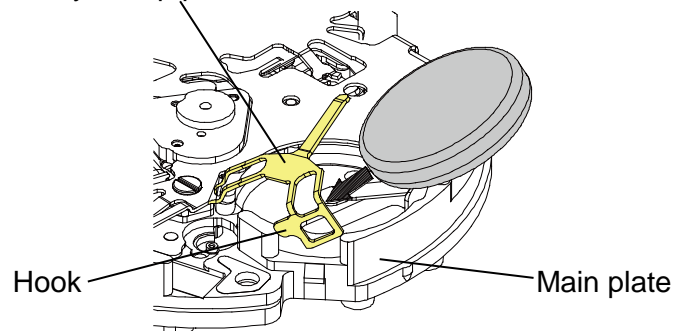24 hour indicator   < 3kg

(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
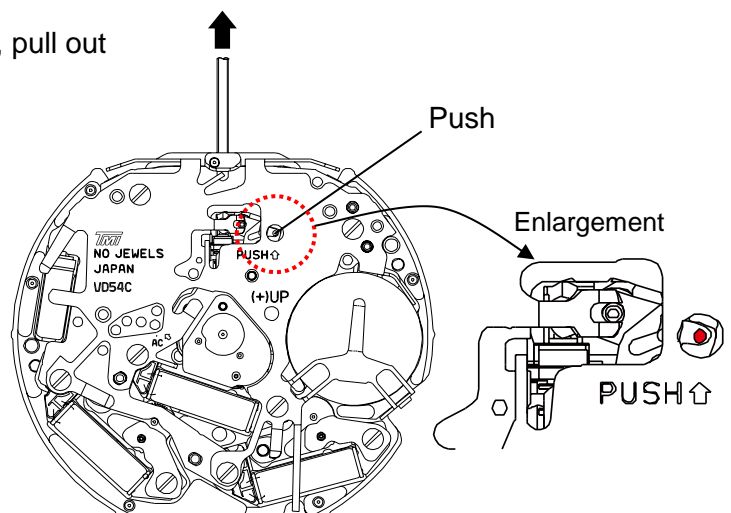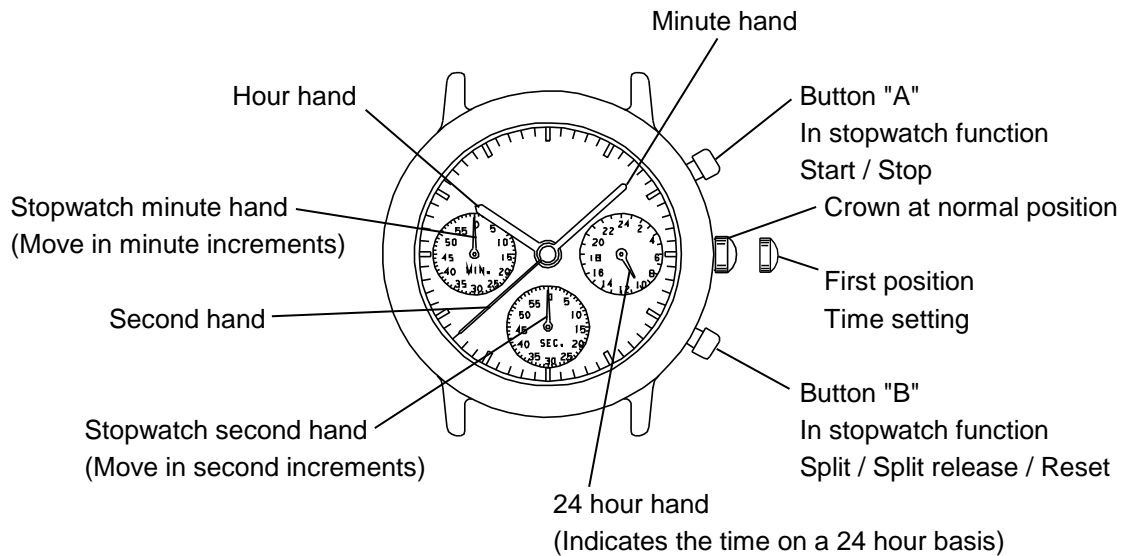the main plate.

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

OPERATION

DISPLAY AND CROWN / BUTTON OPERATION

Minute hand

Hour hand

Button "A"
In stopwatch function
Start / Stop

Stopwatch minute hand
(Move in minute increments)

Crown at normal position

First position
Time setting

Second hand

Button "B"
In stopwatch function
Split / Split release / Reset

Stopwatch second hand
(Move in second increments)

24 hour hand
(Indicates the time on a 24 hour basis)

ADJUSTING THE STOPWATCH HAND POSITION

Before setting the time, check if the stopwatch second and minute hands are in the "0"(12 o'clock) 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 minute hand

A

B

Stopwatch secand hand
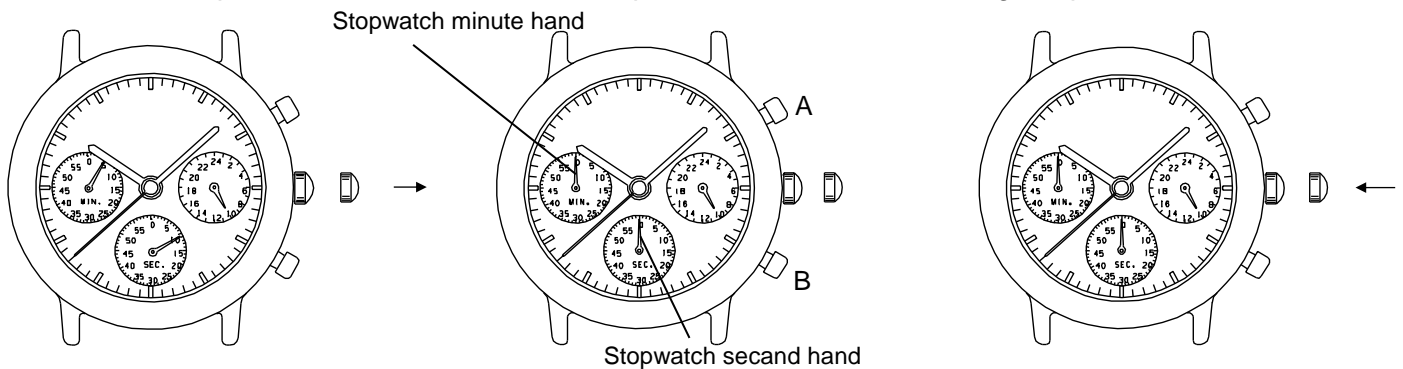
1.Pull out the crown.

2.Press button A or B to reset the
   stopwatch second and minute
   hands to "0" position.
 *By pressing button A the hands
   move counter clockwise.
 *By pressing button B the hands
   move clockwise.

3.Push the crown back to
   the normal position.

OPERATION

TIME SETTING
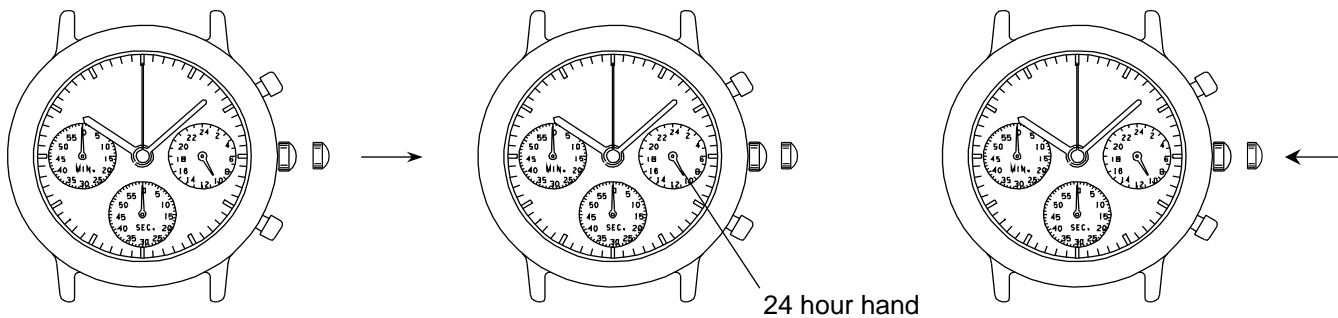
24 hour hand

1.Pull out the crown to
the second hand is at
the 12 o'clock position.
The second hand will
stop on the spot.

* Do not press any button.
Otherwise, the chronograph
hands will move.

2.Turn the crown to set the hour,
minute and 24 hour hands to the
desired time.
As the hour hand moves, the
24 hour hand also moves
correspondingly.
When setting the hour hand,
check that the 24 hour hand
is set property.

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

OPERATION

HOW TO USE THE STOPWATCH

・The measurement time is indicated by the stopwatch hands that move independently of the center and 24 hour hands.
・The stopwatch can measure up to 60 minutes in second.
(The watch indicates the measured time in second increments by ignoring off the 1/10 seconds obtained.)
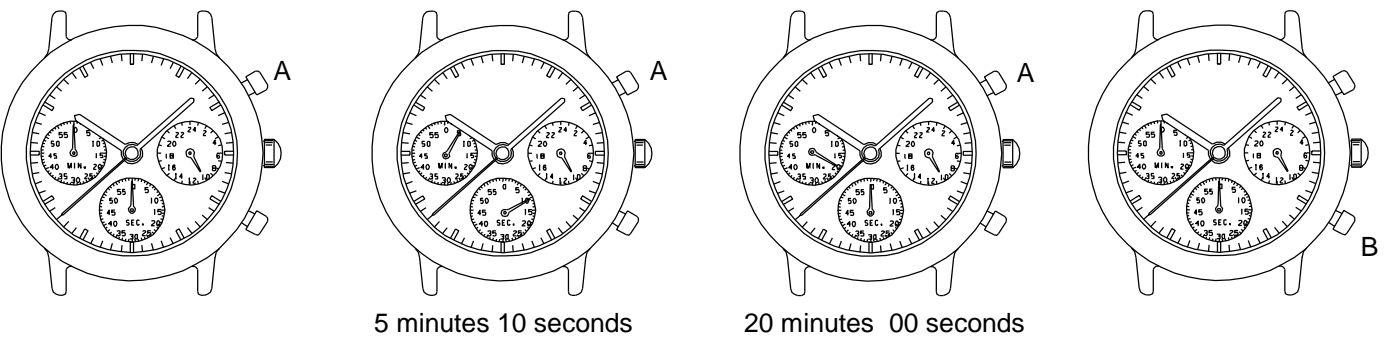
(Standard measurement)
Ex) 100m race (Press the buttons in the following order   A → A → B)
    START ⟶ STOP (Finish) ⟶ RESET (Reset to "0'00")

Stopwatch minute hand

Stopwatch second hand
                                    10 second
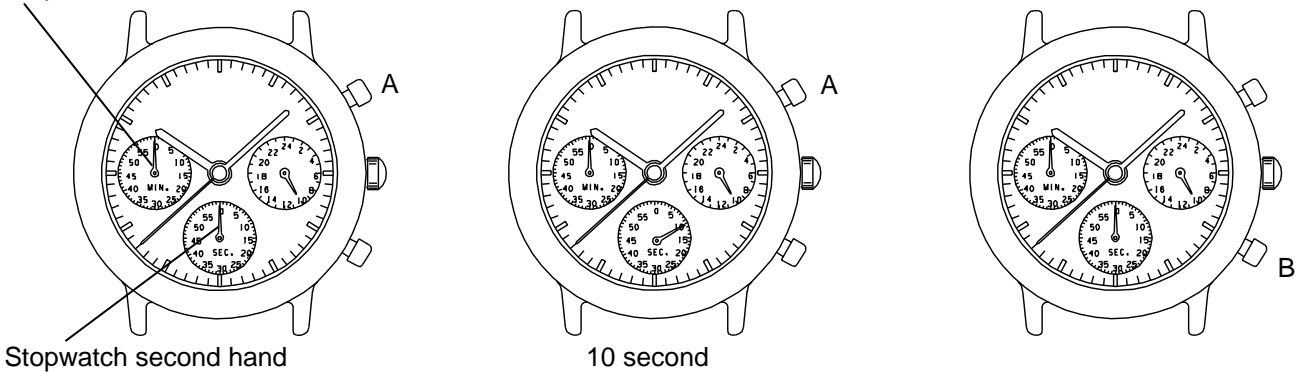
(Accumulated elapsed time measurement)
Ex) Basketball game (Press the buttons in the following order   A → A / A → A → B)
    START   →   STOP   /   RESTART   →   STOP   →   RESET
    (Start of game)   (Time out)   (Restart of game)   (Game over)

                    5 minutes 10 seconds   20 minutes 00 seconds

*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/   →   STOP   →   RESET
                  SPLIT RELEASE

                    2 minutes 50 seconds   15 minutes 10 seconds
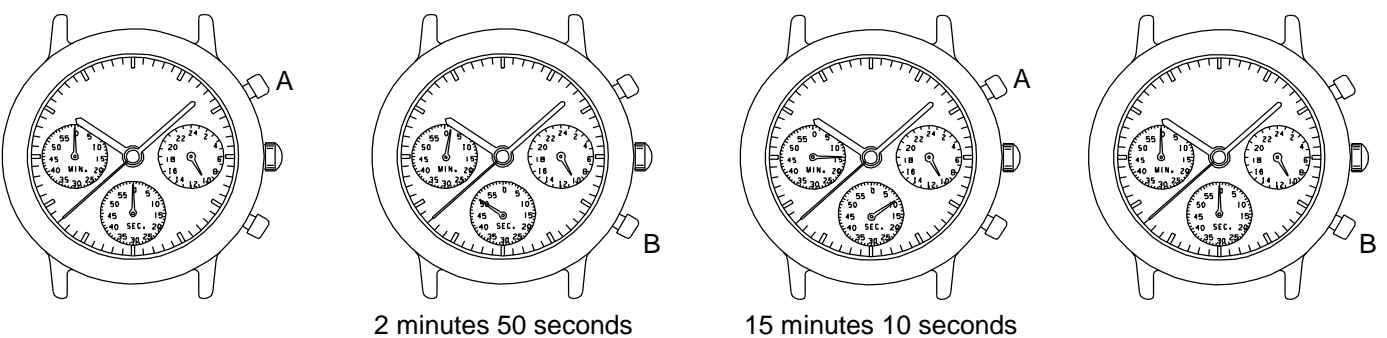
*Measurement and release of the split time can be repeated as many times as necessary by pressing button B.