TMI
TIME MODULE

TECHNICAL GUIDE
&
PARTS CATALOGUE

Cal.VD51B
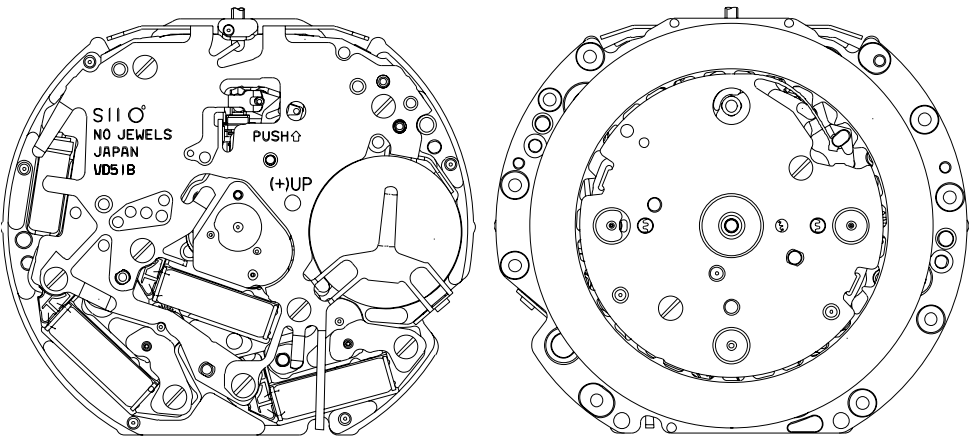
ANALOGUE QUARTZ

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PARTS CATALOGUE / TECHNICAL GUIDE

Cal.VD51B

[SPECIFICATION]　　　　　　　　　　　　　　　　　　　　　　　　　　　Version-03

Cal. No. Item	Cal.VD51B	
Movement		
Movement size	Outside diameter	φ29.50 mm 　26.00 mm ： between　3 o'clock and 9 o'clock sides
	Casing diameter	φ28.80 mm
	Total height	4.57mm
Time indication		3 hands (hour , minute , second) Chronograph (minute , 1/1 second) Calendar
Driving　System		Two pole stepping motor Step motor 3 pieces
Additional mechanism		Electronic circuit reset switch Second setting device Date setting
Antimagnetic		≧　1600 A/m
Accuracy		Less than ±20seconds : Monthly rate at normal temperature range
Battery		SR920SW (SEIZAIKEN)　Silver oxide battery Battery life is approximately 2 years
Measuring gate by　　　quartz tester		Use 10-second gate * Set the winding stem with crown at the normal position
Jewels		0 Jewel

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![TMI TIME MODULE logo]

Disassembling procedures Figs.	① ⇒ ㊾
Reassembling procedures Figs.	㊾ ⇒ ①

Lubricating : Types of oil   Oil quantity

🖛 Moebius A   ⌇⊳ Normal quantity
🖛 Moebius F

① Hour, minute second hands

② Chronograph minute second hands

③ Dial

④ 0022 247 Auxiliary train wheel bridge screw

⑤ 0808 368 Date dial guard

⑥ *Date dial

⑦ 0126 368 Auxiliary train wheel bridge

⑧ 0806 368 Date corrector wheel

⑨ 0810 368 Date jumper

⑪ 0817 368 Intermediate date driving wheel

⑩ 0802 368 Date driving wheel

⑮ 0888 009 Chronograph second wheel

⑫ 0836 369 Intermediate wheel for date corrector holder

⑯ 0885 002 Intermediate chronograph second wheel

⑬ 0737 891 Intermediate wheel for date corrector (C)

⑭ 0962 891 Intermediate wheel for date corrector (B)

⑰ 0885 002 Intermediate chronograph second wheel

⑱ 0888 009 Chronograph second wheel

⑲ 0271 407 Hour wheel

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2

20 Battery

21 0351 177
Winding stem

22 0022 247
Switch spring screw

23 4250 011
Switch spring

24 4004 269
Circuit block

25 4270 358
Battery connection(-)

26 0022 247
Switch spring screw

27 0022 247
Train wheel bridge (B) screw

28 0125 331
Train wheel bridge (B)

30 4146 177
Step rotor (B)

29 0701 014
Fifth wheel and pinion (B)

31 4002 923
Coil block (B)

32 4239 357
Rotor stator (B)

33 0022 247
Train wheel bridge (B) screw

34 0125 331
Train wheel bridge (B)

35 4146 177
Step rotor (B)

36 4002 923
Coil block (B)

37 4239 357
Rotor stator (B)

38 0701 014
Fifth wheel and pinion (B)

* All parts code are subject to change without notice.

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39 0125 248
Train wheel bridge (A)

42 0701 904
Fifth wheel and pinion (A)

40 0241 178
Fourth wheel and pinion

41 0231 904
Third wheel and pinion

43 4146 890
Step rotor (A)

44 0261 034
Minute wheel and pinion

45 0221 157
Center wheel and pinion

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)

* All parts code are subject to change without notice.

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Remarks:
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.

・The explanation here is only for the particular point of Cal.VD51B

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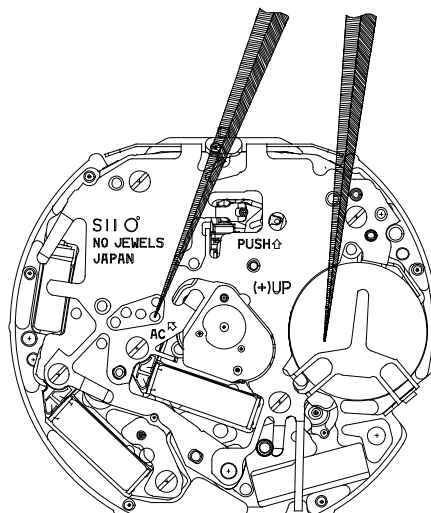
　2) When the battery replaced with a new one, the time information stored in the built-in IC and
　　the time   indicated by the stopwatch hands do not correspond with each other.
　　Reset the stopwatch hands to "0" position following the procedure below.
　　If the stopwatch hands should move improperly,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

①Pull the crown out to the second click.

②Keep 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.

③Press 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.

④Turn the crown to set the hour, and minute hands to
　the desired time, and push the crown back in to the
　normal position.
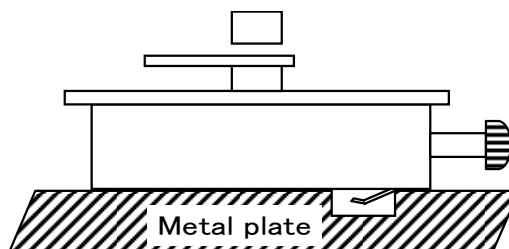
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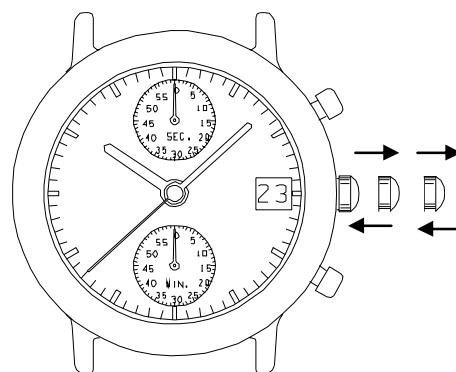
1.REMARKS ON INSTALLING THE BATTERY

(1) HAND
・How to install the hands
Place the movement directly on a flat metal plate or
the like and press in the hands.
  * Install the hour , minute and second hands at the
  "12" o'clock position.
  * Install the chrono minute and second hands at the
  "0" position.

Metal plate

[Reference] The power of press hands

Minute & Hour hands	< 5kg
Second hand	< 5kg
Chrono minute & second	< 3kg

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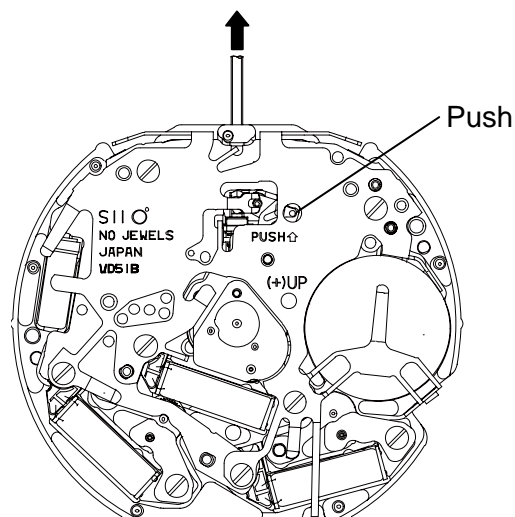 the switch spring 's battery clamp portion catch
  the main plate.

Hook
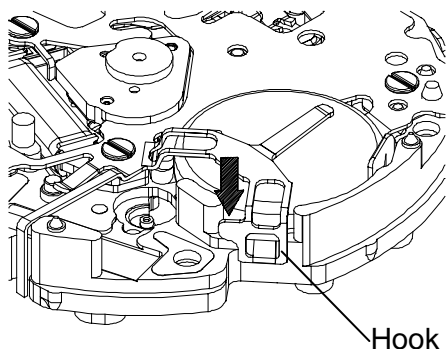
Battery clamp position

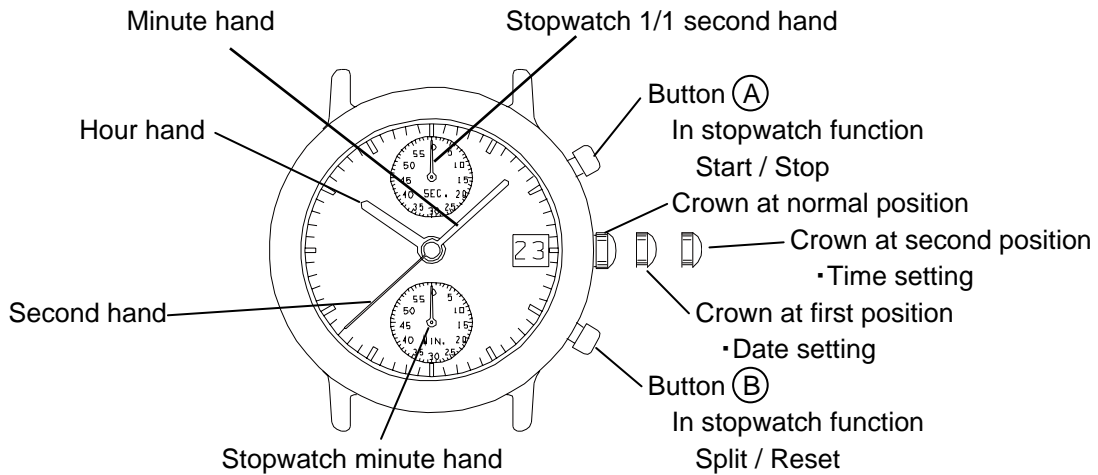Hook

Main plate
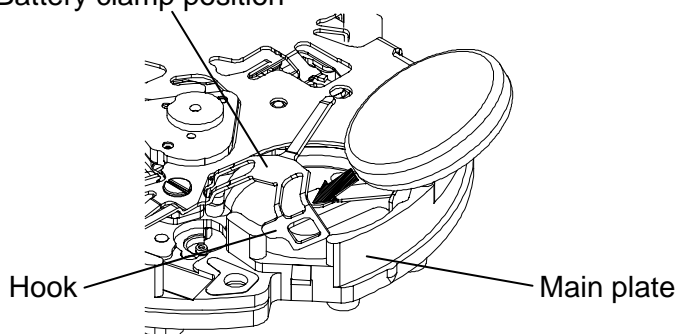
(3)Winding stem
・How to remove

While pushing the indented portion of the arrow pull out
the winding stem.

Push

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NO JEWELS
JAPAN
VD51B

PUSH⇧

(+)UP

DISPLAY AND CROWN / BUTTON OPERATION

Minute hand · · · · · Stopwatch 1/1 second hand

Hour hand

Button Ⓐ
In stopwatch function
Start / Stop

Crown at normal position

Crown at second position
·Time setting

Crown at first position
·Date setting

Second hand

Button Ⓑ
In stopwatch function
Split / Reset

Stopwatch minute hand

*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 , 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 : Ⓐ ⟶ Ⓑ
* If the stopwatch is stopped : Ⓑ
* If the split time is displayed : Ⓑ ⟶ Ⓐ ⟶ Ⓑ

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

Stopwatch 1/1 second hand

Ⓐ

Ⓑ

Crown

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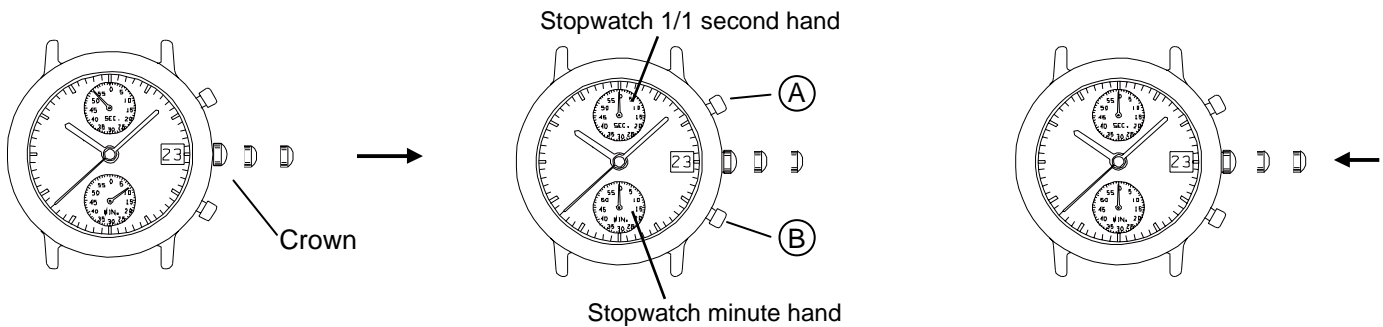
1. Put the crown out to the second click.

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

3. Push the crown back in 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.

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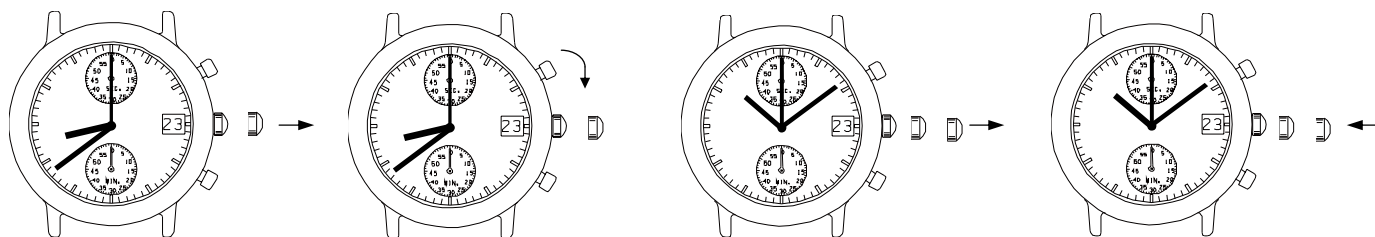
1. Pull out the crown to the first click.

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)

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

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

*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.

HOW TO USE THE STOPWATCH

・The measurement time is indicated by the stopwatch hands that move independently of the small second hands.
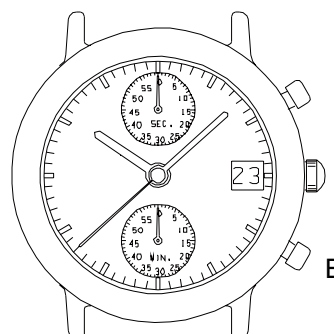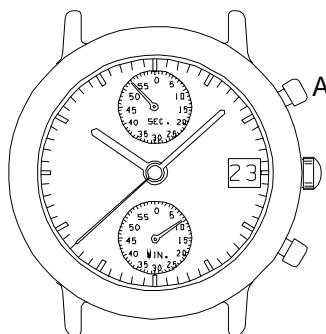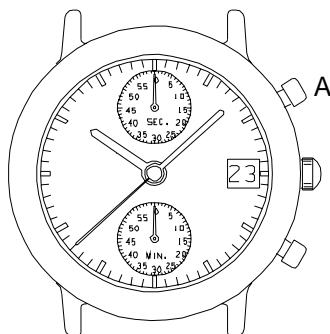・The stopwatch can measure up to 12 hours in seconds.
(Standard measurement)
Ex)100m race (Press the buttons in the following order (A) ⇒ (A) ⇒ (B)

START ⟶ STOP (Finish) ⟶ RESET (Reset to "0:00")

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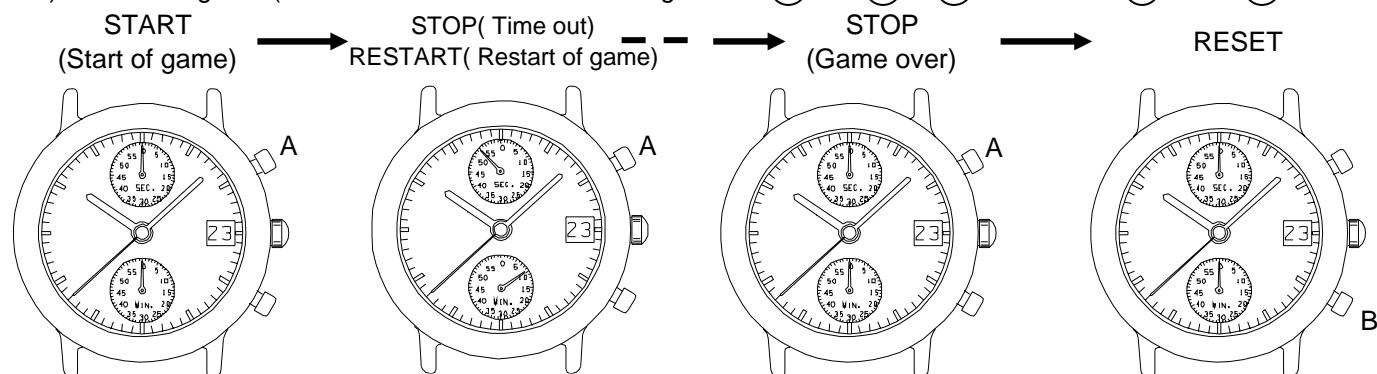
HOW TO USE THE STOPWATCH

(Accumulated elapsed time measurement)

Ex.) Basketball game (Press the buttons in the following order ⒶⒶ ⇒ Ⓐ / Ⓐ ⇒ ·· ⇒ Ⓐ ⇒ Ⓑ

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

*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   Ⓐ ⇒ Ⓑ / Ⓑ ⇒ ·· ⇒ Ⓐ ⇒ Ⓑ

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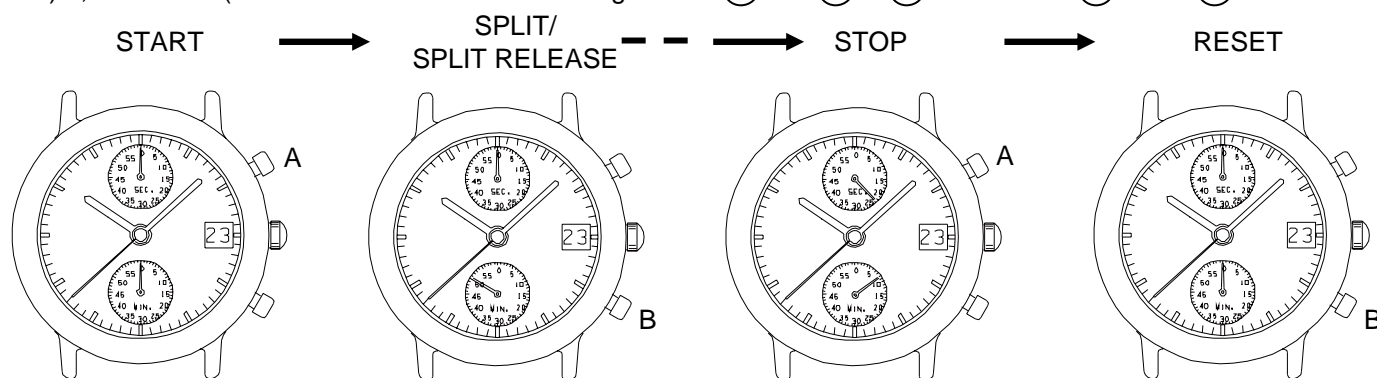
*Measurement and release of the split time can be repeated as many times as necessary by pressing button B

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