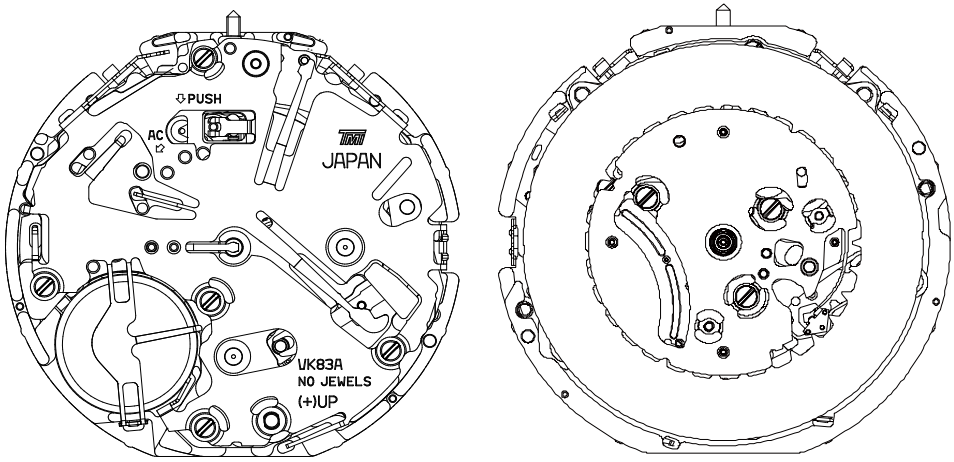




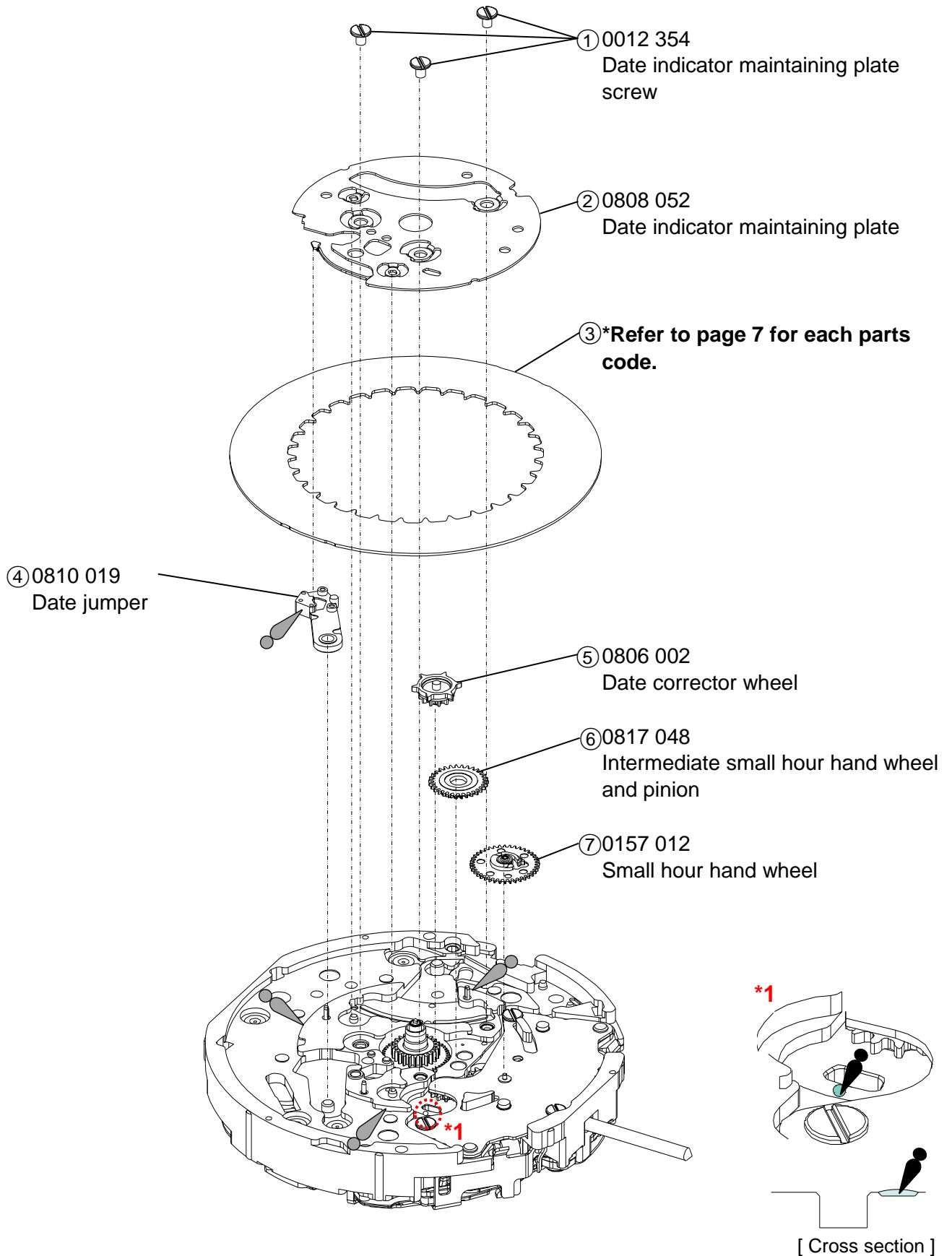






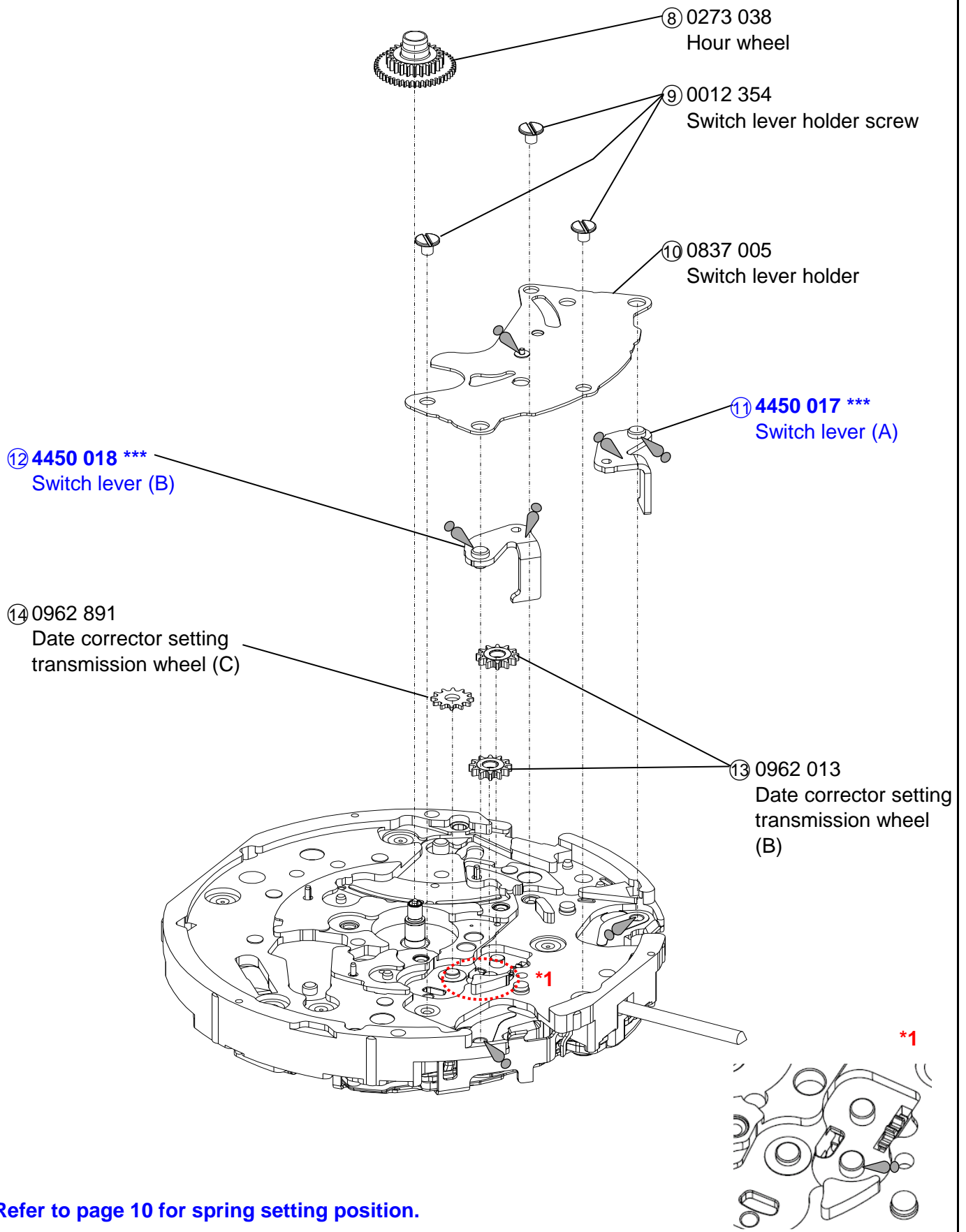
**TECHNICAL GUIDE
&
PARTS CATALOGUE
Cal.VK83A
ANALOGUE QUARTZ**

| Cal. No. | | VK83A |
|---------------------------------|--|----------------------------------|
| Item | | |
| Movement |  | |
| Movement size | Outside diameter | φ30.80 mm × 29.10 mm (3H - 9H) |
| | Casing diameter | φ29.00 mm |
| | Total height | 5.10 mm |
| Time indication | 2 Hands (hour, minute) | |
| | Date Calendar | |
| | Small second hand (6H) | |
| | Center chronograph (1/5 second) | |
| | 20 minutes counter (9H) | |
| | 24 hour indicator (3H) | |
| Driving system | Two pole stepping motor Step motor 2 pieces | |
| Additional mechanism | Date display with quick correction Electronic circuit reset switch Time setting with stop-second | |
| Accuracy | Less than ± 20 seconds : Monthly rate at normal temperature range | |
| Battery | SR936SW (Silver oxide battery) Battery life is approximately 3 years (60 minutes chronograph operation per day) | |
| Measuring gate by quartz tester | Use 10 second gate *Set the winding stem with crown at the normal position | |
| Antimagnetic | ≧ 1600 A/m | |
| Jewels | 0 Jewel | |





| | | |
|---|--|--|
| Disassembling procedures Figs. ① → ⑥① Reassembling procedures Figs. ⑥① → ① | Lubricating : Types of oil | Oil quantity |
| |  Moebius 9010  Moebius 9030 |  NORMAL QUANTITY  SUFFICIENT QUANTITY |

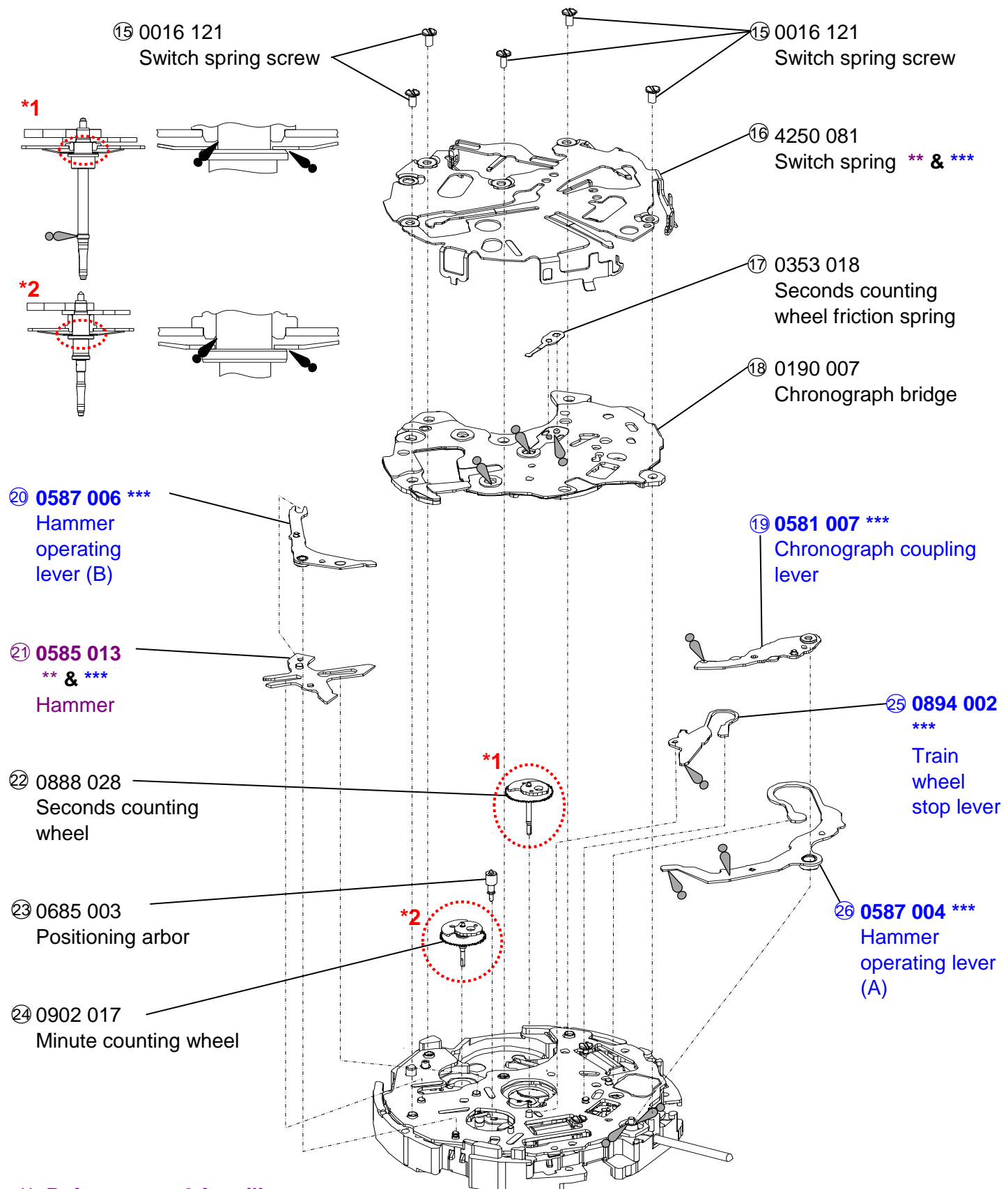


| | | |
|---|--|--|
| Disassembling procedures Figs. ① → ⑥① Reassembling procedures Figs. ⑥① → ① | Lubricating : Types of oil | Oil quantity |
| |  Moebius 9010  Moebius 9030 |  NORMAL QUANTITY  SUFFICIENT QUANTITY |







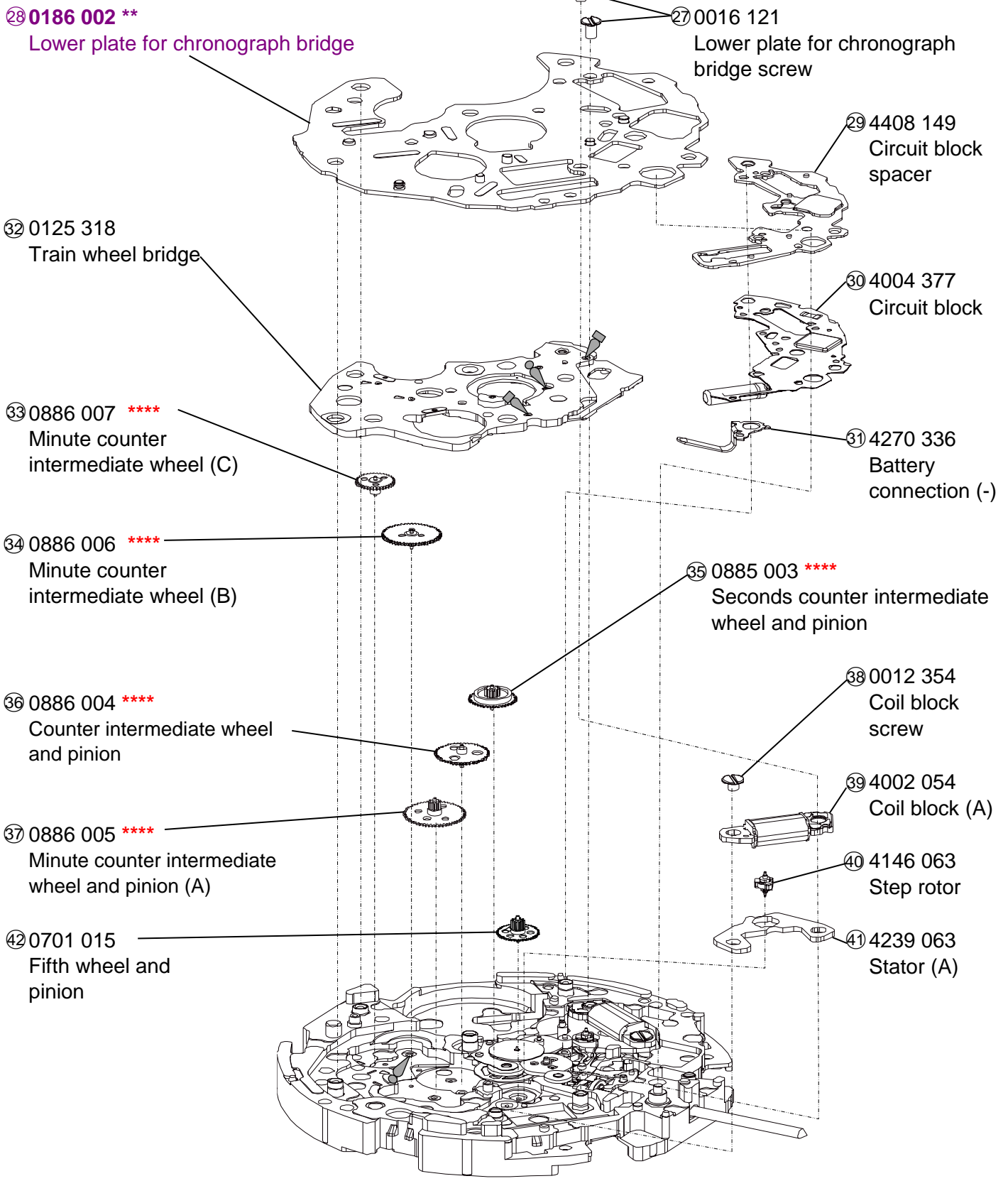
*** Refer to page 10 for spring setting position.

| | | |
|---|--|--|
| Disassembling procedures Figs. ① → ⑥1 Reassembling procedures Figs. ⑥1 → ① | Lubricating : Types of oil | Oil quantity |
| |  Moebius 9010  Moebius 9030 |  NORMAL QUANTITY  SUFFICIENT QUANTITY |







**** Refer to page 9 for oiling spot.**
***** Refer to page 10 for spring setting position.**

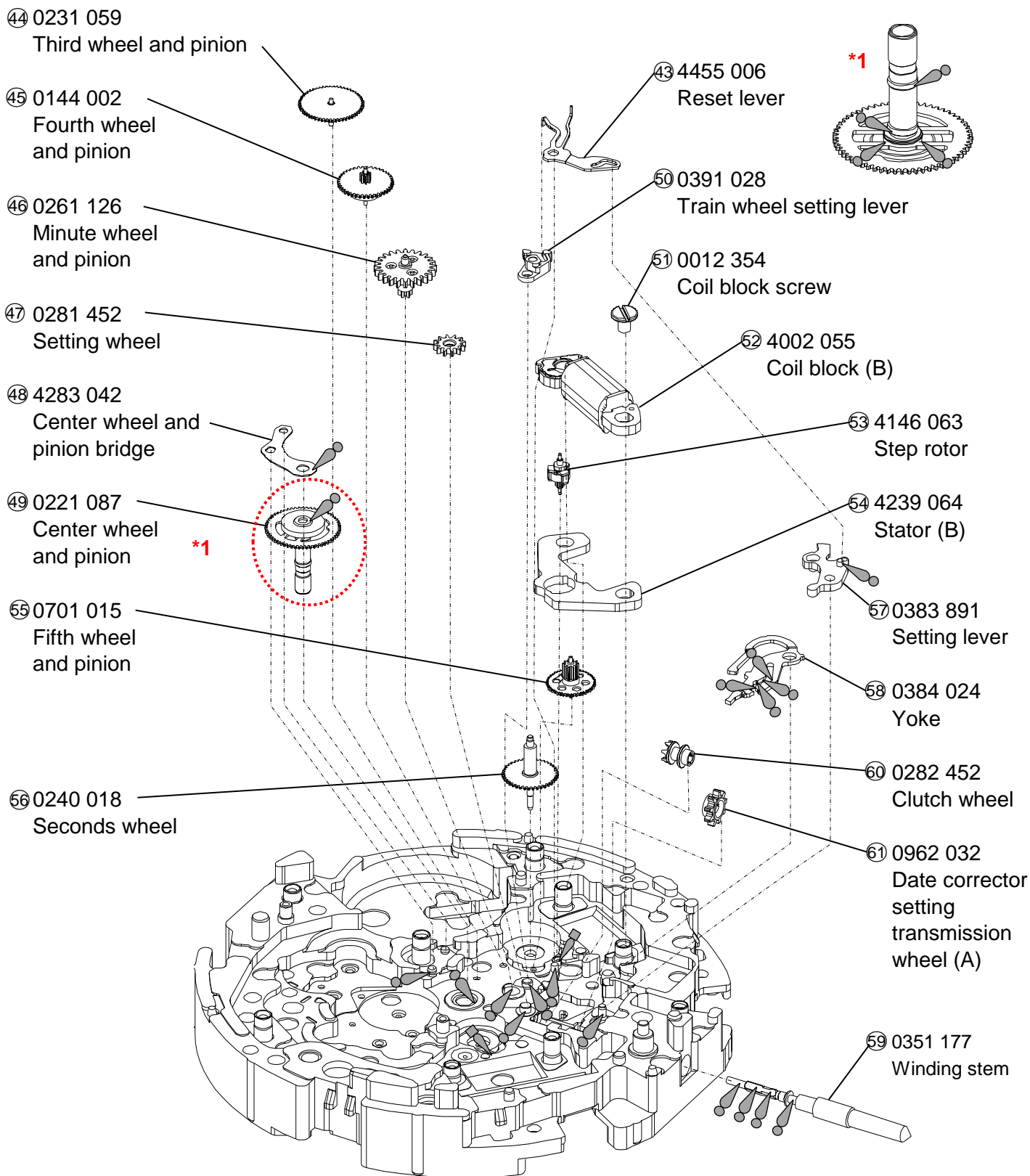
| | | |
|---|--|--|
| Disassembling procedures Figs. ① → ⑥① Reassembling procedures Figs. ⑥① → ① | Lubricating : Types of oil | Oil quantity |
| |  Moebius 9010  Moebius 9030 |  NORMAL QUANTITY  SUFFICIENT QUANTITY |



** Refer to page 9 for oiling spot.

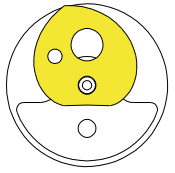
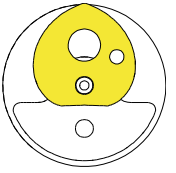
**** Refer to page 8 for assembling of chronograph wheel.

| | | | | |
|---|--|--|---|---|
| Disassembling procedures Figs. ① → ⑥① Reassembling procedures Figs. ⑥① → ① | Lubricating : Types of oil | | Oil quantity | |
| |  Moebius 9010 |  Moebius 9030 |  NORMAL QUANTITY |  SUFFICIENT QUANTITY |



[NOTE]

About the parts code "0902 017"

| Old parts | New parts |
|---|---|
| No. ②④ | No. ②④ |
| | 0902 017 |
|  |  |

When you purchase this part,
please order new one "0902 017."

③ Date indicator

| Parts code | Crown position | Date position | Color of figure | Color of background |
|------------|----------------|---------------|-----------------|---------------------|
| 0878 328 | 3H | 3H (4.5H) | Black | White |
| 0878 329 | 3H | 3H (4.5H) | White | Black |

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

1. Detailed assembling of chronograph wheel

[NOTE]

There is a mark on parts. Parts are set in order of the mark as shown in the table below.

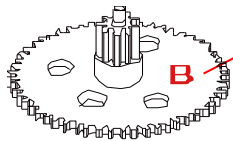
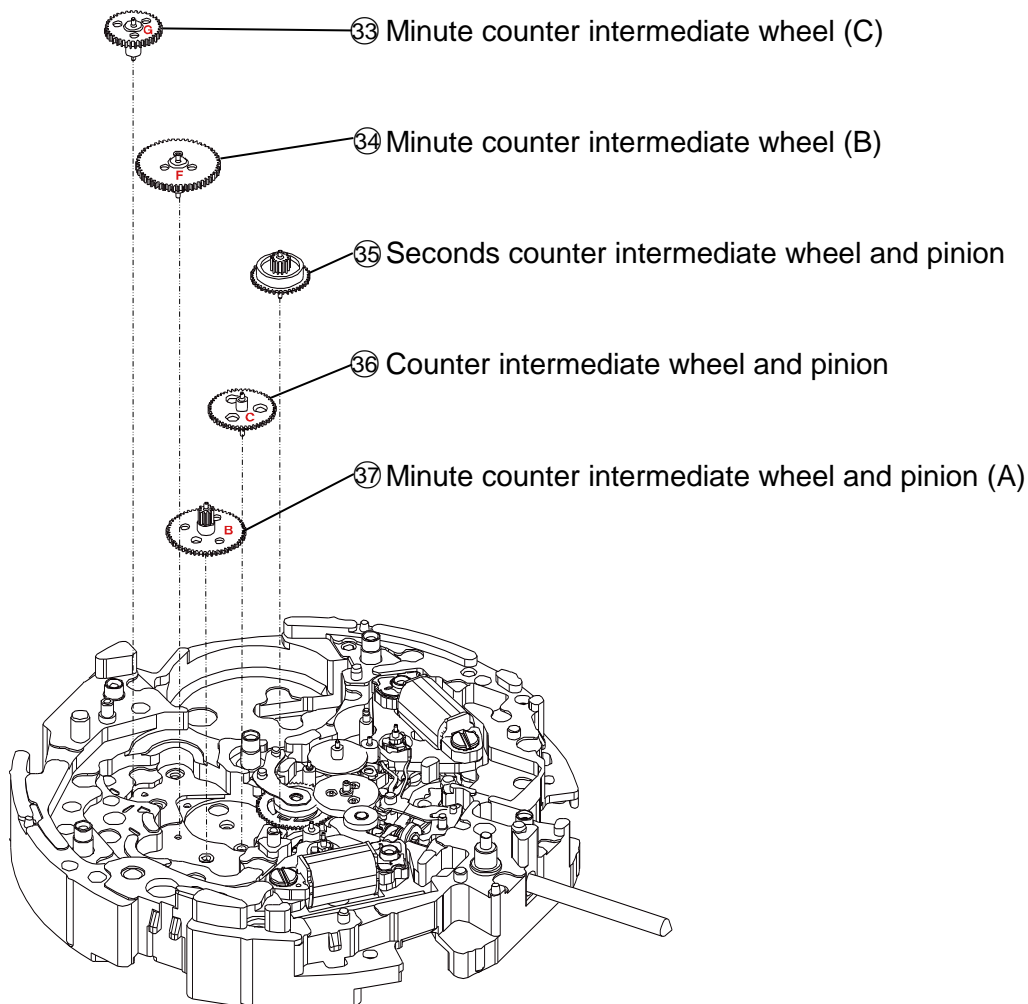


Image example of the mark

| [Cal.VK83] | |
|--------------|---|
| Mark | Parts name |
| B | ③⑦ Minute counter intermediate wheel and pinion (A) |
| C | ③⑥ Counter intermediate wheel and pinion |
| Nil | ③⑤ Seconds counter intermediate wheel and pinion |
| F | ③④ Minute counter intermediate wheel (B) |
| G | ③③ Minute counter intermediate wheel (C) |

[Cal.VK83]

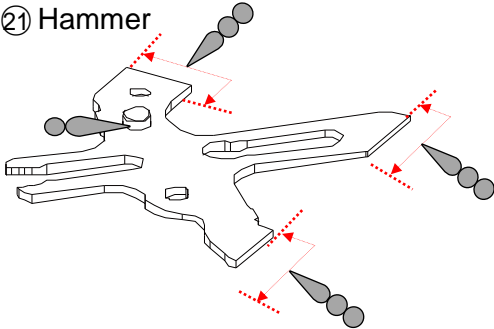


*Mark positions, and sizes, etc. are different.

| Lubricating : Types of oil | | Oil quantity | |
|----------------------------|--------------|--------------|---------------------|
| | Moebius 9010 | | NORMAL QUANTITY |
| | S-6 | | SUFFICIENT QUANTITY |

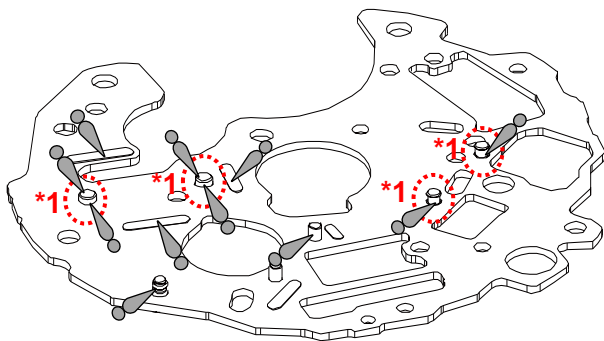
2.Oiling spot

⑳ Hammer



There must be oil within the range of the arrow.

㉘ Lower plate for chronograph bridge

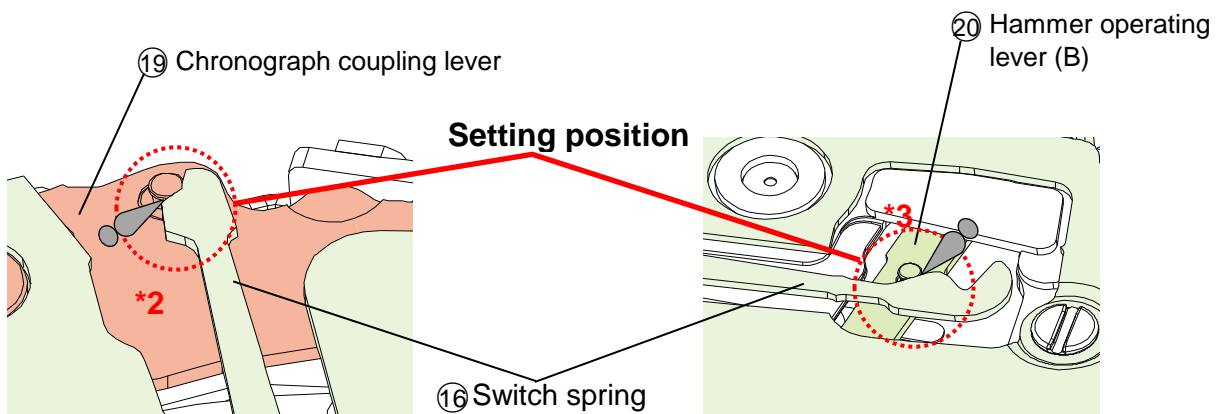
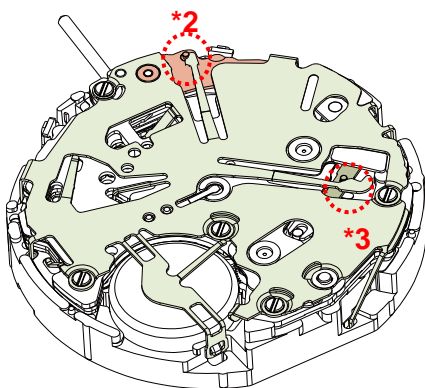


Note

***1:** Oiling should be done on the pointed spot of marked place.

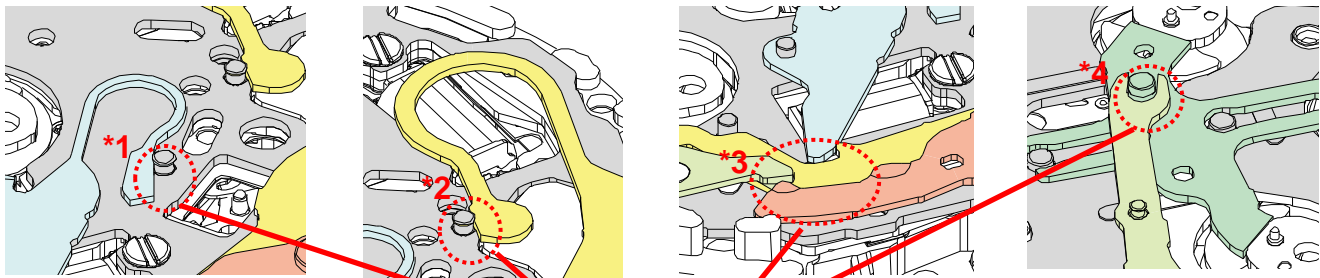
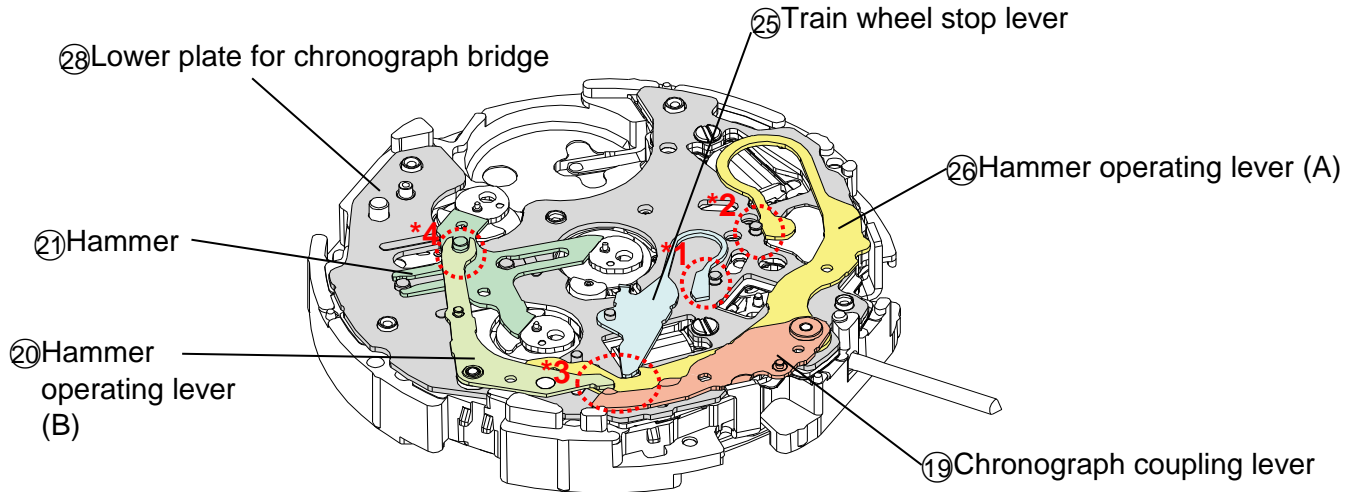
⑯ Switch spring

*Oiling spot and spring setting position.



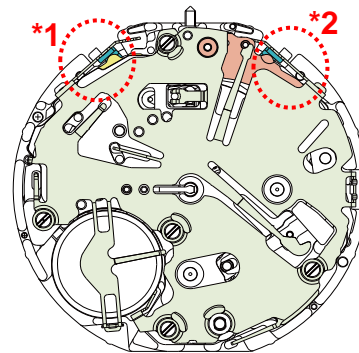
***Oiling should be done on the contact spot of the spring and the pin.**

3.Spring setting position

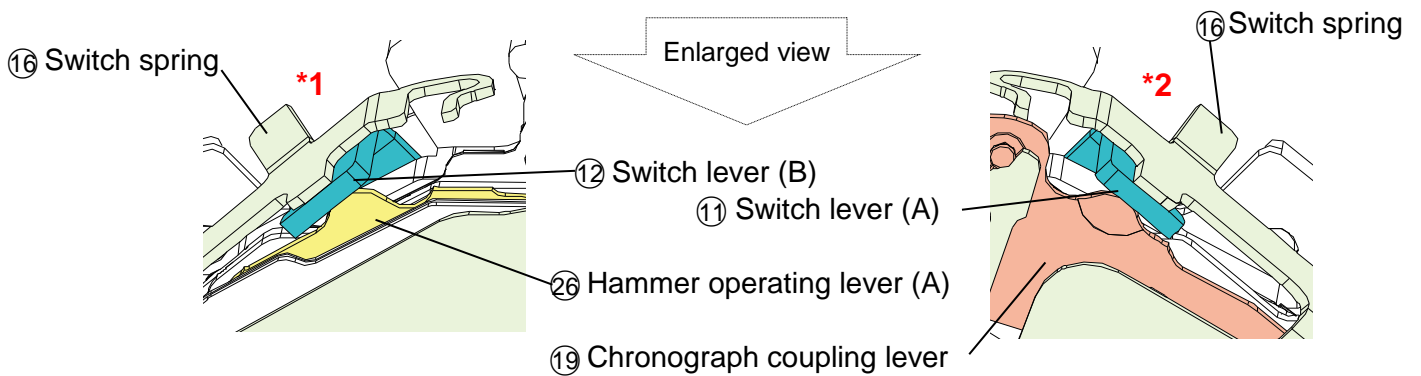


Setting position

4.Switch lever (A) and (B) setting position



Enlarged view

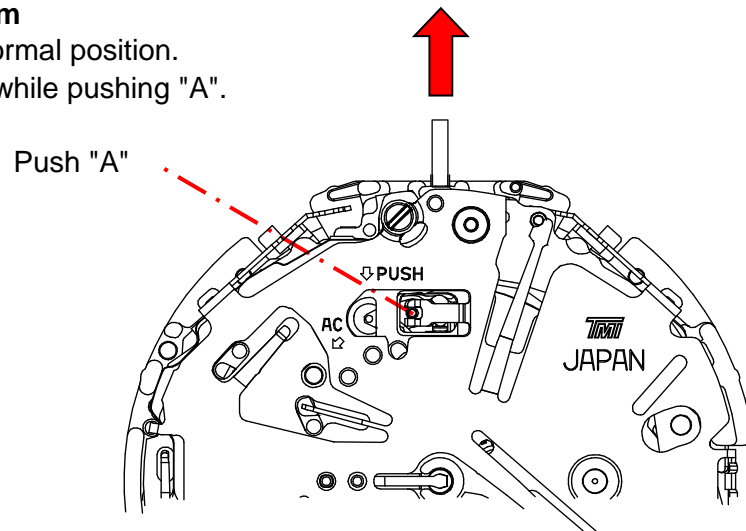


Switch lever (B) is set between the switch spring and hammer operating lever (A) .

Switch lever (A) is set between the switch spring and chronograph coupling lever.

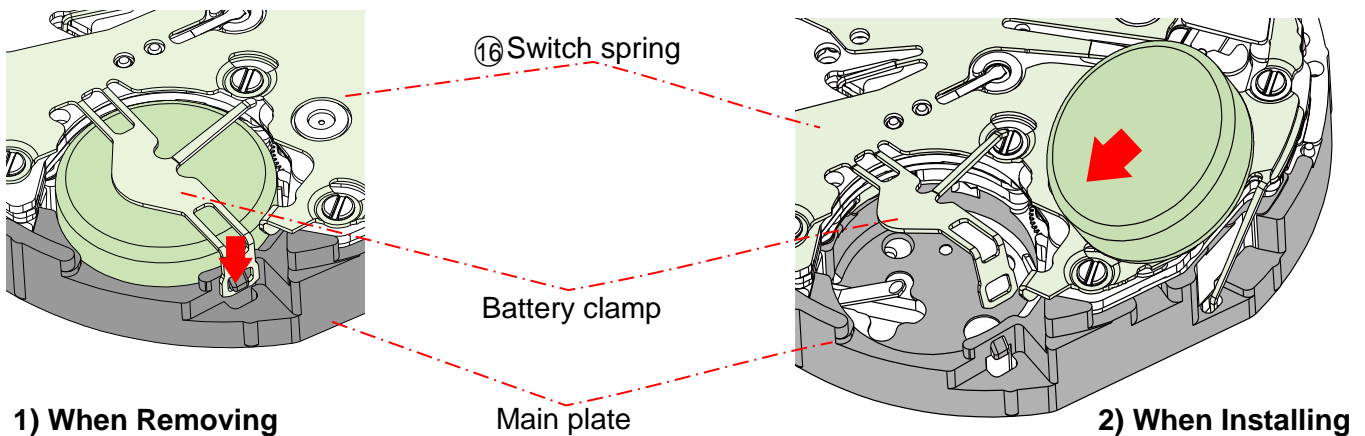
5.To remove the winding stem

- 1) Set the winding stem to normal position.
- 2) Pull out the winding stem while pushing "A".



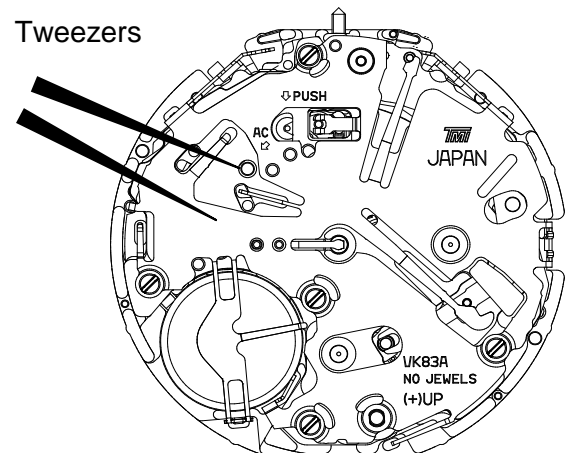
6.To remove or install the battery

- 1) Remove the hook of the switch spring's battery clamp.
- 2) Insert the battery sideways, and have the hook of the switch spring's battery clamp catch the main plate.



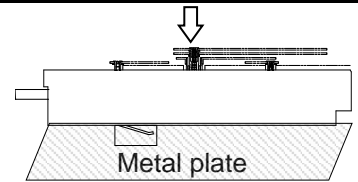
7.Remarks on installing the battery

- 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 AC terminal of circuit block and the switch spring with conductive tweezers to reset the circuit as illustrated.



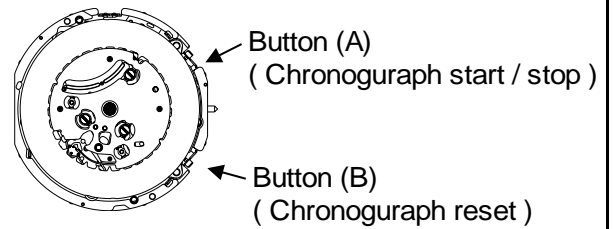
8.How to install the hands

Place the movement directly on a flat metal plate, or something alike to install the hands.



[Note: Second / Minute chronograph hands setting]

- (1) Push button (A) (Chronograph start)
- (2) Push button (A) (Chronograph stop)
- (3) Push button (B) (Chronograph reset)
- (4) After (1)-(3), Install the chronograph hands as shown in the table below.



| Cal. | VK83 |
|--------------------|-----------------------|
| Second chronograph | "12" o'clock (center) |
| Minute chronograph | "0" minute (9H) |

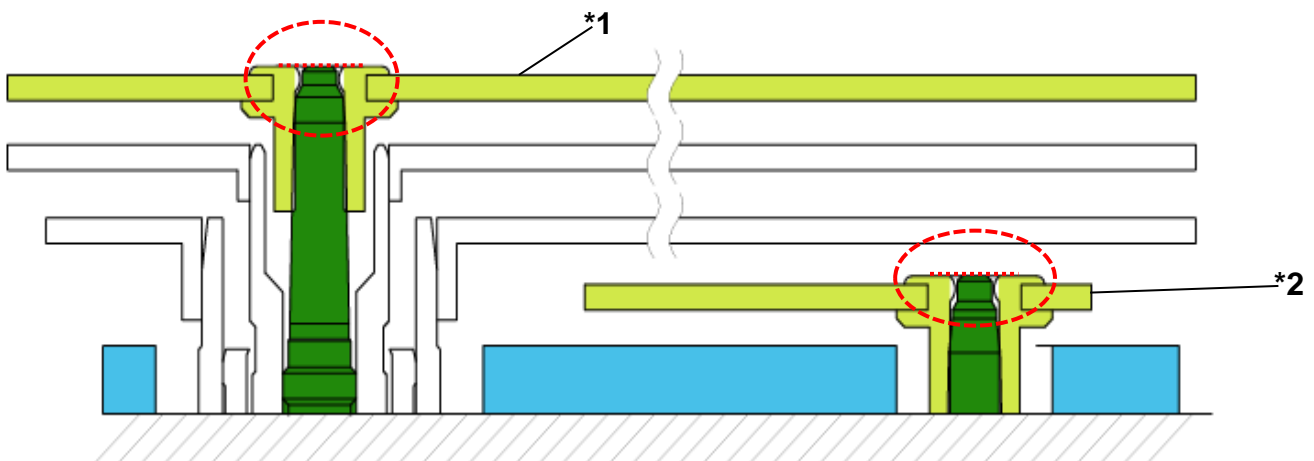
***Do not reuse the chronograph hands once detached. Please change and use new hands.**

[Note: To install 24 hour hand]

Before installing 24 hour hand, pull out the crown to the second click position and rotate it clockwise, until changed to the next date then install the 24 hour hand.

9.How to check correct hands attachment

The hand's top surface should be set parallel with the axis tip, as shown below.

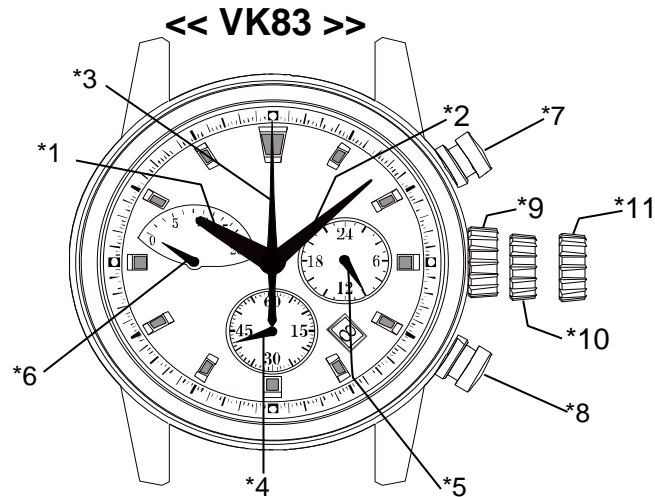


Application hands

*1: Second chronograph hand

*2: Chronograph minute hand and Small second hand and 24 hour hand

DISPLAY AND CROWN / BUTTON OPERATION



Note

| | | |
|-----------------------------|---|--|
| *1: Hour hand | *6: Chronograph minute hand (20 minute) | *10: Crown at first position (Date setting) |
| *2: Minute hand | *7: Button (A) (START / STOP) | *11: Crown at second position (Time setting) |
| *3: Chronograph second hand | *8: Button (B) (RESET) | |
| *4: Small second hand | *9: Crown at normal position | |
| *5: 24 hour hand | | |

1.How to set the time

- 1) Pull out the crown to the second click position.
- 2) Turn the crown to set hour and minute hands.
(Check that AM / PM is set correctly.)
- 3) Push the crown back into the normal position.

[Note]

If the crown is pulled to the second position while the chronograph is started, the chronograph hands will continue to move. This is not a malfunction.

2.How to set the date

- 1) Pull out the crown to the first click position.
- 2) Turn the crown clockwise for date setting.
*Do not set the date between 9:00 P.M. and 3:00 A.M. as this will cause a malfunction.
- 3) Push the crown back into the normal position.

3.How to reset (after battery change)

It is possible to reset by the following two methods.

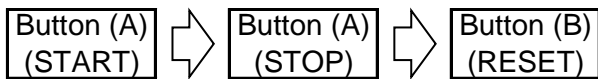
- Method 1 {
- 1) Set the crown to the normal position.
 - 2) Touch the AC terminal of circuit block and the switch spring with conductive tweezers to reset the circuit.
 - 3) The small second hand will move at two-second interval for 10 seconds.
- Method 2 {
- 1) Pull out the crown to the second click position.
 - 2) Press the button (B) for two seconds and release the button.
 - 3) Push the crown back to the normal position.
 - 4) The small second hand will move at two-second interval for 10 seconds.

* If the crown is operated within this 10 seconds, the two-second interval movement will not activate.

[Note]

It is not necessary to set the chronograph hands after the battery is exchanged.

If the chronograph hands position are incorrect, following below procedure all the chronograph hands will be reset to "0" position.



HOW TO USE THE CHRONOGRAPH

[Standard measurement]

Press the buttons in the following order : A → A → B



• Press button (A) to start the chronograph.
The chronograph second hand will start moving.

(10 minutes 40 seconds)
• Press button (A) again to stop the chronograph.
The chronograph hands stop to indicate the elapsed time.

• Press button (B) to reset the chronograph.
All the chronograph hands will be reset to "0" position.

Note

The chronograph can measure up to 20 minutes.

The chronograph stops after a measurement for 20 minutes.

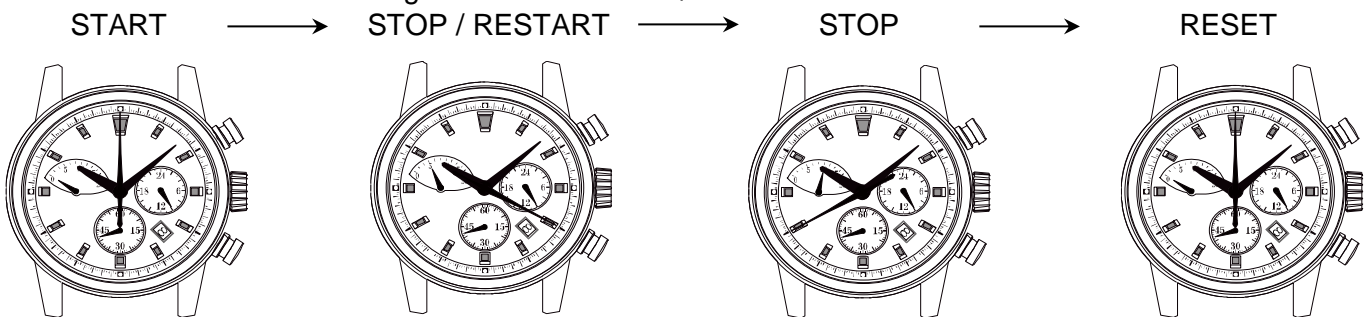
***Restart in the following procedure.**



*During the chronograph operation, button (B) (reset) can be pushed. There is no problem with the function.

[Accumulated elapsed time measurement]

Press the buttons in the following order : A → A / A ... → A → B



(5 minutes 20 seconds) (10 minutes 40 seconds)

*Restart and stop of the chronograph can be repeated as many times as necessary by pressing button (A)