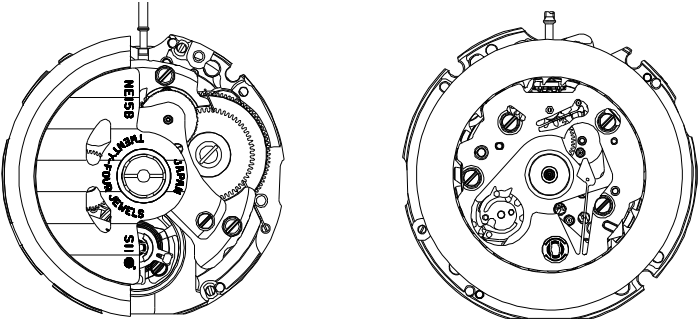


**TECHNICAL GUIDE
&
PARTS CATALOGUE**

Cal.NE15B

AUTOMATIC MECHANICAL

SII Products

| | Cal. No. | NE15B | |
|------------------------|--|--|----------------|
| Movement |  | | |
| Movement size | Outside diameter | Φ 27.40mm | |
| | Casing diameter | Φ 27.00mm | |
| | Total height | 5.32mm | |
| Time indication | 3 Hands (Hour , Minute , Second) Date Calendar | | |
| Basic function | Manual winding Automatic winding with ball bearing Time setting with stop second device Date display with quick date correction | | |
| Frequency | 21,600 vibrations per hour | | |
| Accuracy | Static accuracy | -15~+25 seconds per day * Measurement should be done within 10~60 minutes after fully wound up. * All measurements are made without the calendar in function. | |
| | Measurement position | Direction of 3 positions. (1) Dial up (2) 9 o'clock up (3) 6 o'clock up | |
| | Lift angle | 53 deg. | |
| | Measurement time | 20 seconds * Equipment to be used : Witschi WATCH EXPERT | |
| | Posture difference | Difference is under 45 seconds within max value and minimum value. * Measurement should be done within 10~60 minutes after fully wound up. * Direction of 4 positions. (1) 12 o'clock up (2) 9 o'clock up (3) 6 o'clock up (4) 3 o'clock up | |
| | Isochronisms (24h-0h) | -10~+20 seconds per day. * Direction of position. : Dial up * Difference of static accuracy of 24h and 0h | |
| Duration time | More than 50 hours ... Mainspring after fully wound up. * Posture to confirmation : Dial up | | |
| Winding the mainspring | << Movements >> • Fully wound up by turning the crown minimum 55 times. • Fully wound up by turning the ratchet wheel screw 8 times. << Complete Watch >> A winding machine is needed to wind up the mainspring. Full wind up conditions • Rotary speed : 30 rpm • Operating time : 60 minute | | |
| Jewels | 24 jewels | | |
| Crown position | | Left rotation | Right rotation |
| | Normal position | Free | Manual winding |
| | First click | Date setting | Free |
| | Second click | Time setting with stop-second device | |

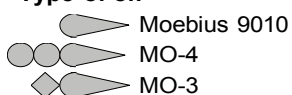
Disassembling procedures Figs.

① → ⑤②

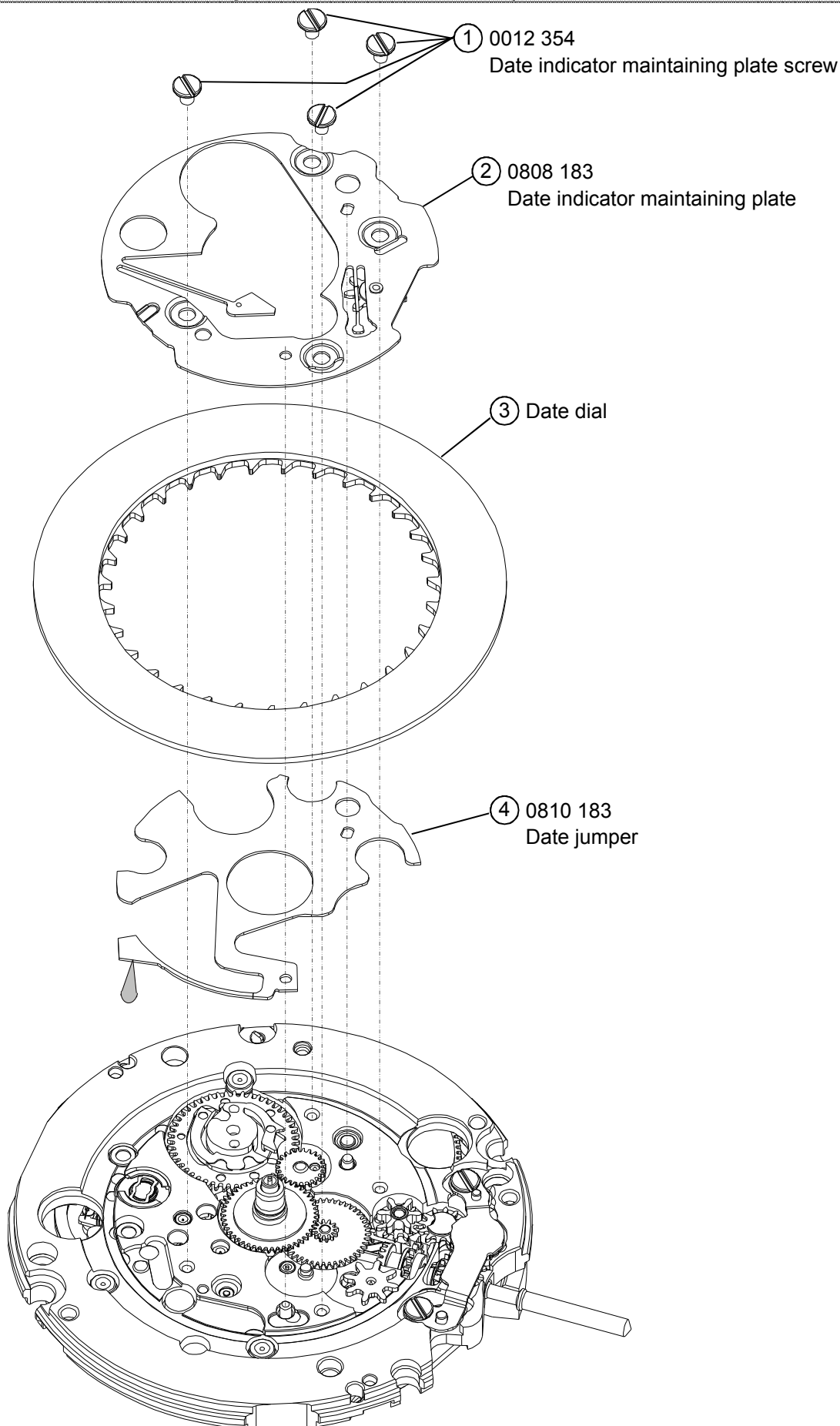
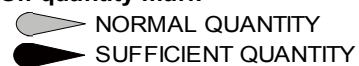
Reassembling procedures Figs.

⑤② → ①

Type of oil



Oil quantity mark



Type of oil

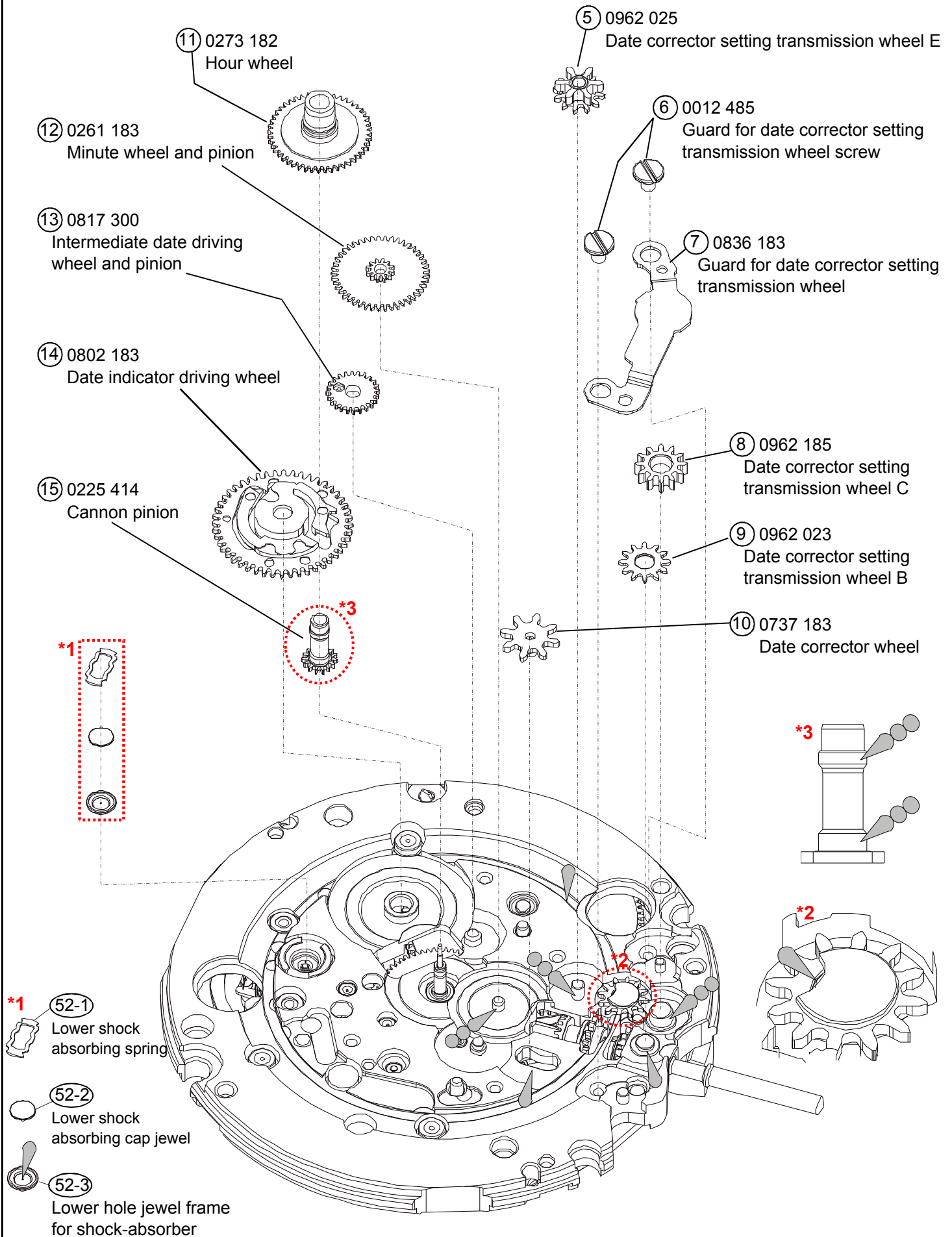
Moebius 9010

MO-4
MO-3

Oil quantity mark

NORMAL QUANTITY

SUFFICIENT QUANTITY



Type of oil

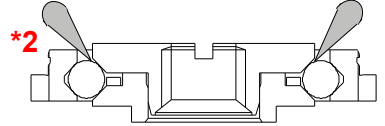
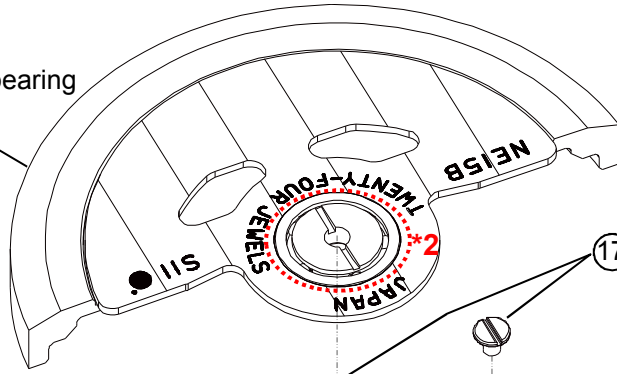
Moebius 9010

MO-4
MO-3

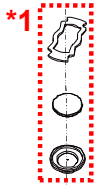
Oil quantity mark

NORMAL QUANTITY
SUFFICIENT QUANTITY

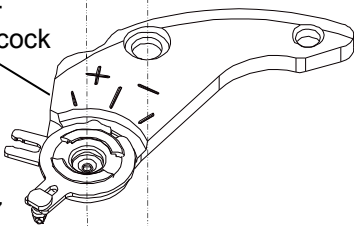
①⑥ 0509 401
Oscillating weight with ball bearing



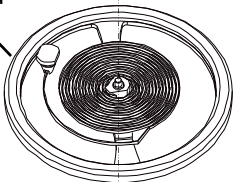
②② 0012 420
Balance bridge screw



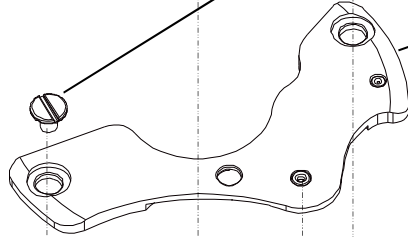
②③ 0171 354
Balance cock



②③-1 0310 047
Balance complete with stud

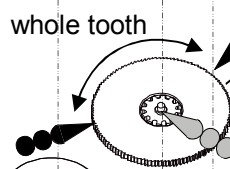


①⑦ 0012 354
Automatic train bridge screw

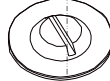


①⑧ 0191 183
Automatic train bridge

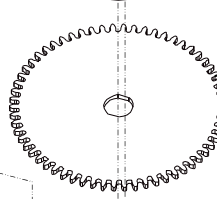
①⑨ 0514 183
Second reduction wheel and pinion



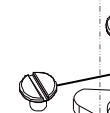
②⑩ 0012 919
Ratchet wheel screw



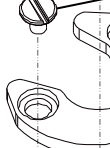
②① 0285 051
Ratchet wheel



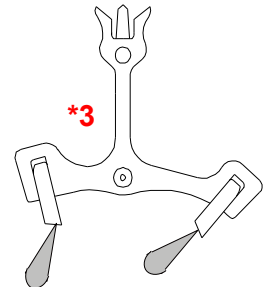
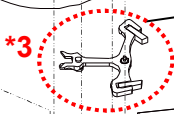
②④ 0012 354
Pallet bridge screw



②⑤ 0161 300
Pallet bridge



②⑥ 0301 009
Pallet fork



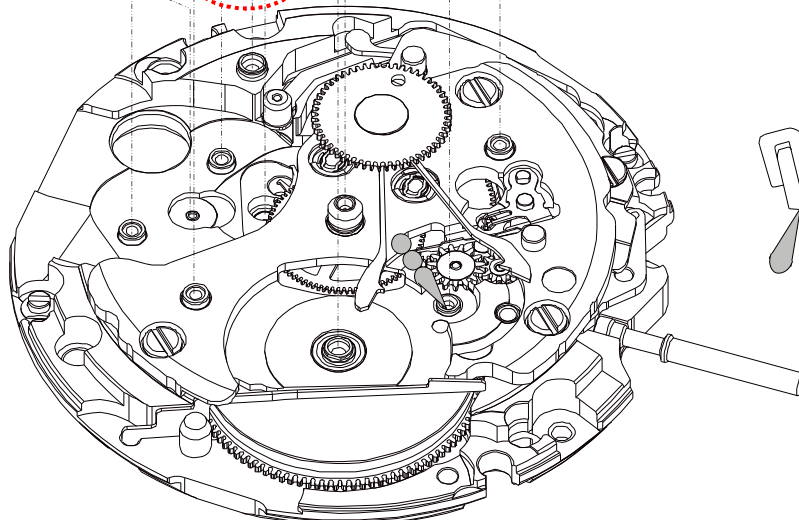
*① ②③-2
Upper shock absorbing spring



②③-3
Upper shock absorbing cap jewel



②③-4
Upper hole jewel frame



Type of oil

Moebius 9010

MO-4
MO-3

Oil quantity mark

NORMAL QUANTITY
SUFFICIENT QUANTITY

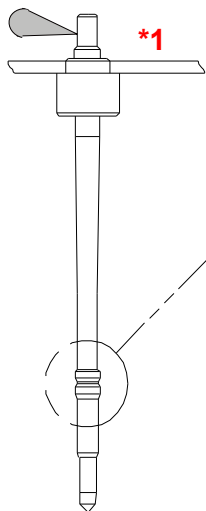
32 0511 010

First reduction wheel
Refer to page 8 for oiling spot

31 0831 183
Pawl lever

30 0836 002
Reduction wheel holder

35 0241 010
Fourth wheel and pinion



27 0012 420
Barrel and train wheel bridge screw

28-1 Cap jewelled spring

28-2 Cap jewel

29 0363 184
Ratchet sliding wheel spring
Refer to page 10 for the assembling method.

28 0114 183
Barrel and train wheel bridge with hole jewel frame
Refer to page 8 for oiling spot

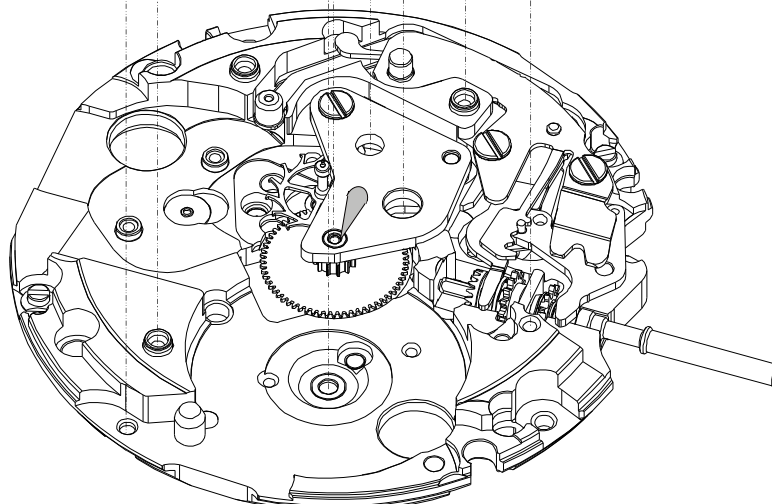
34 0436 166
Lower plate for barrel and train wheel bridge

33 0012 354
Lower plate for barrel and train wheel bridge screw

36 0231 070
Third wheel and pinion

37 0381 004
Click

38 0201 164
Barrel complete with mainspring



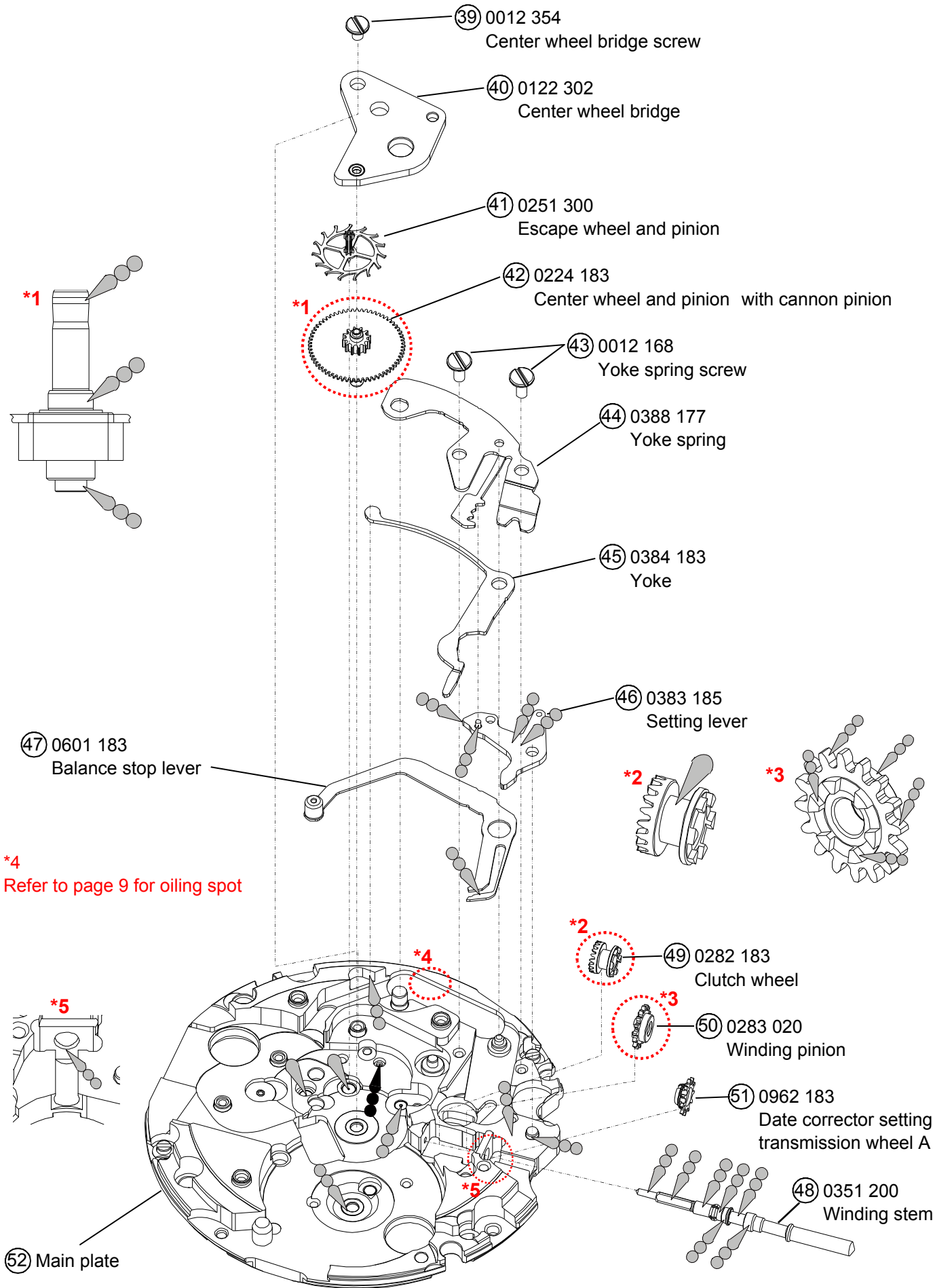
Type of oil

Moebius 9010

MO-4
MO-3

Oil quantity mark

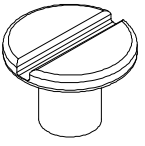
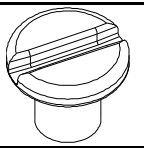
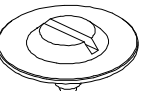
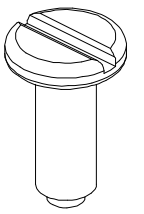
NORMAL QUANTITY
SUFFICIENT QUANTITY








③ Date dial

| Parts code | Position of crown | Position of day frame | Color of letters | Color of background |
|------------|-------------------|-----------------------|------------------|---------------------|
| 0878 208 | 3H | 3H | Black | White |
| | | | | |

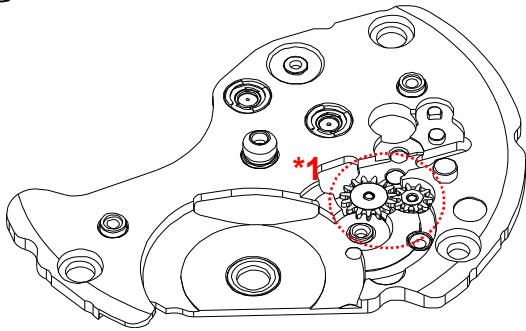
■ List of screw

| No | Parts code | Parts name | Parts form | No | Parts code | Parts name | Parts form |
|----|------------|---|---|----|------------------------|--|--|
| ① | 0012 354 | Date indicator maintaining plate screw (x4) |  | ⑥ | 0012 485 | Guard for date corrector setting transmission wheel screw (x2) |  |
| ⑱ | | Automatic train bridge screw (x2) | | ⑳ | 0012 919 | Ratchet wheel screw |  |
| ㉔ | | Pallet bridge screw (x2) | | ㉒ | 0012 420 | Balance bridge screw |  |
| ㉓ | | Lower plate for barrel and train wheel bridge screw | | ㉑ | | Barrel and train wheel bridge screw (x3) | |
| ㉙ | | Center wheel bridge screw | | ㉕ | Yoke spring screw (x2) | | |

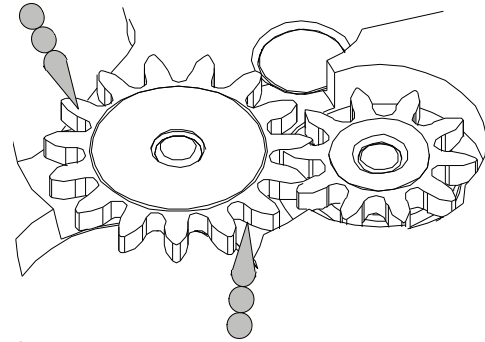
| Type of oil | Oil quantity mark |
|--|---|
|  Moebius 9010 |  NORMAL QUANTITY |
|  MO-4 |  SUFFICIENT QUANTITY |
|  MO-3 | |

1.Oiling spot

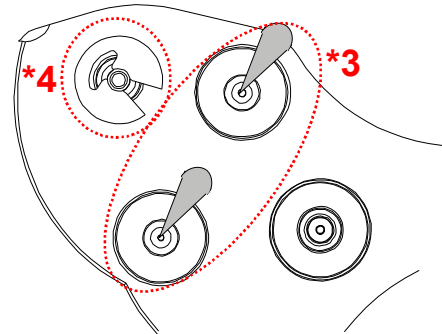
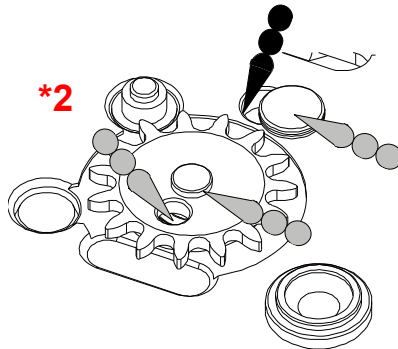
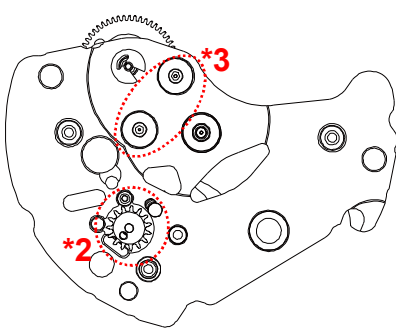
(28) Barrel and train wheel bridge with hole jewel frame



***1**

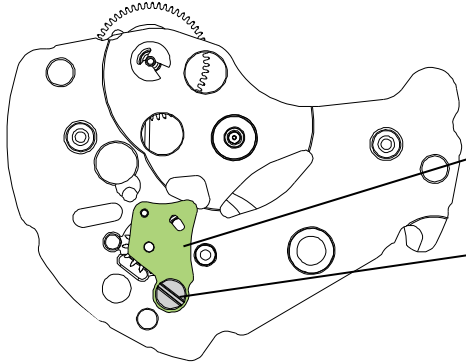


Barrel and train wheel bridge with hole jewel frame (back side)



Note

***2 After oiling, set lower plate for barrel and train wheel bridge & screw.**

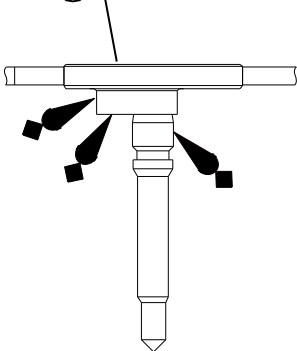


(34) Lower plate for barrel and train wheel bridge

(33) Lower plate for barrel and train wheel bridge screw

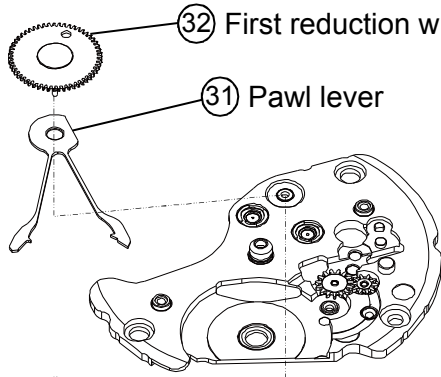
***4 After oiling, set first reduction wheel & pawl lever & reduction wheel holder.**

(32) First reduction wheel



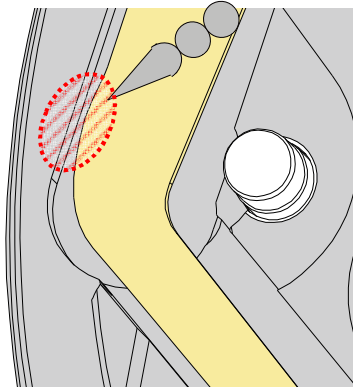
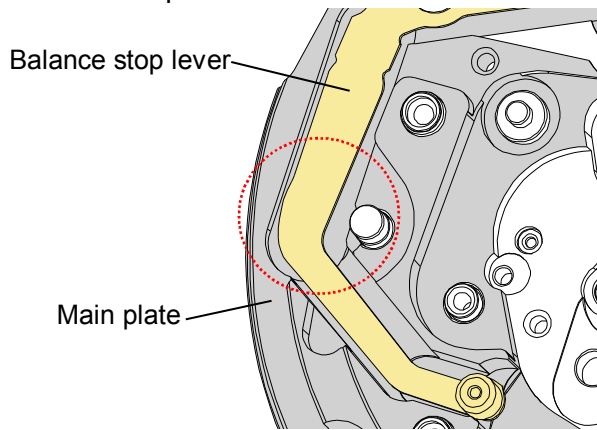
(32) First reduction wheel

(31) Pawl lever



(30) Reduction wheel holder

④7 Balance stop lever

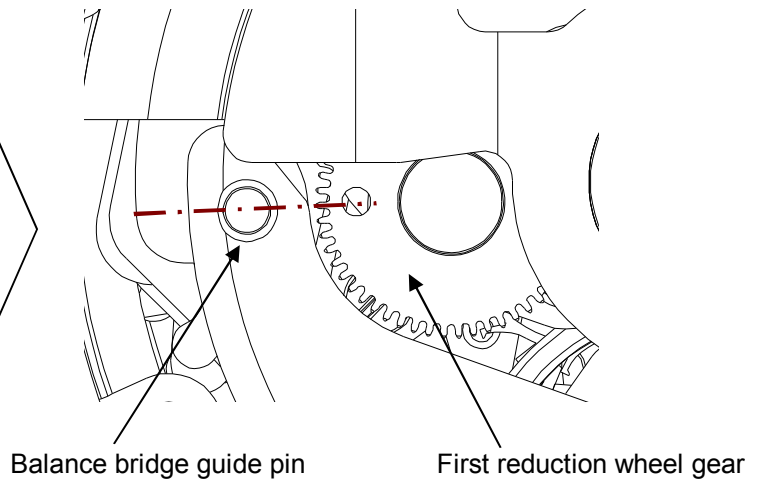
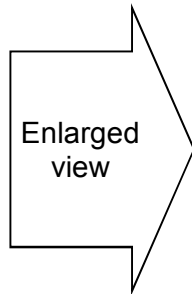
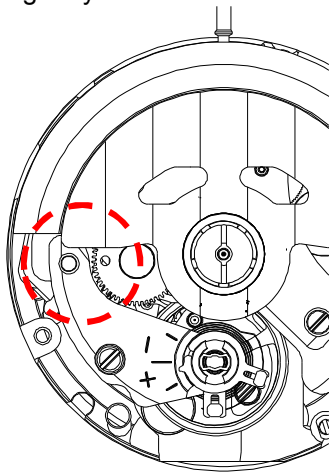


Contact part of main plate and balance stop lever

2. Setting position of oscillating weight

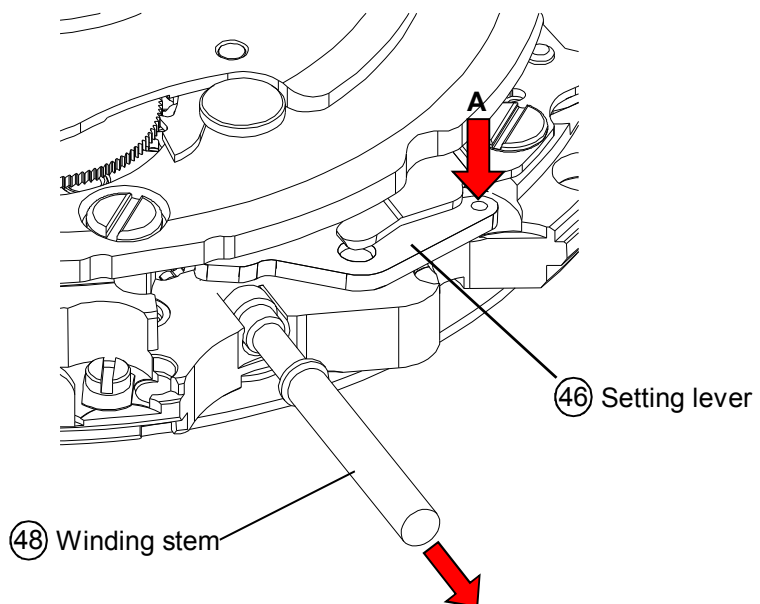
• Before assembling oscillating weight.

Match the center of the oscillating weight and winding stem. Set the hole of first reduction wheel gear on the imaginary line toward the balance bridge guide pin.



3. To remove the winding stem

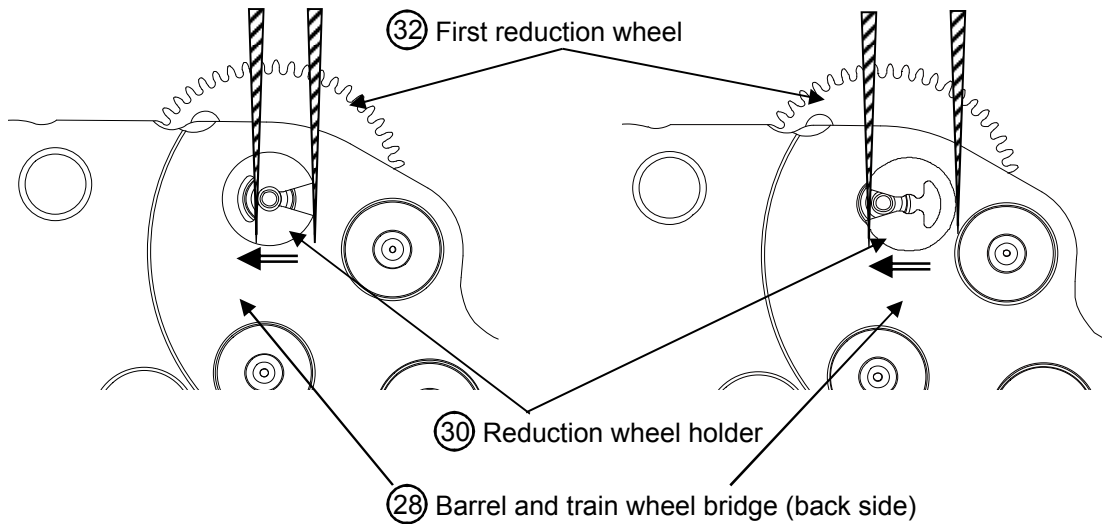
- 1) Set the winding stem to normal position.
- 2) Pull out the winding stem, while pushing "A"



4. Disassembling / assembling of the First reduction wheel

<< Disassembling >>

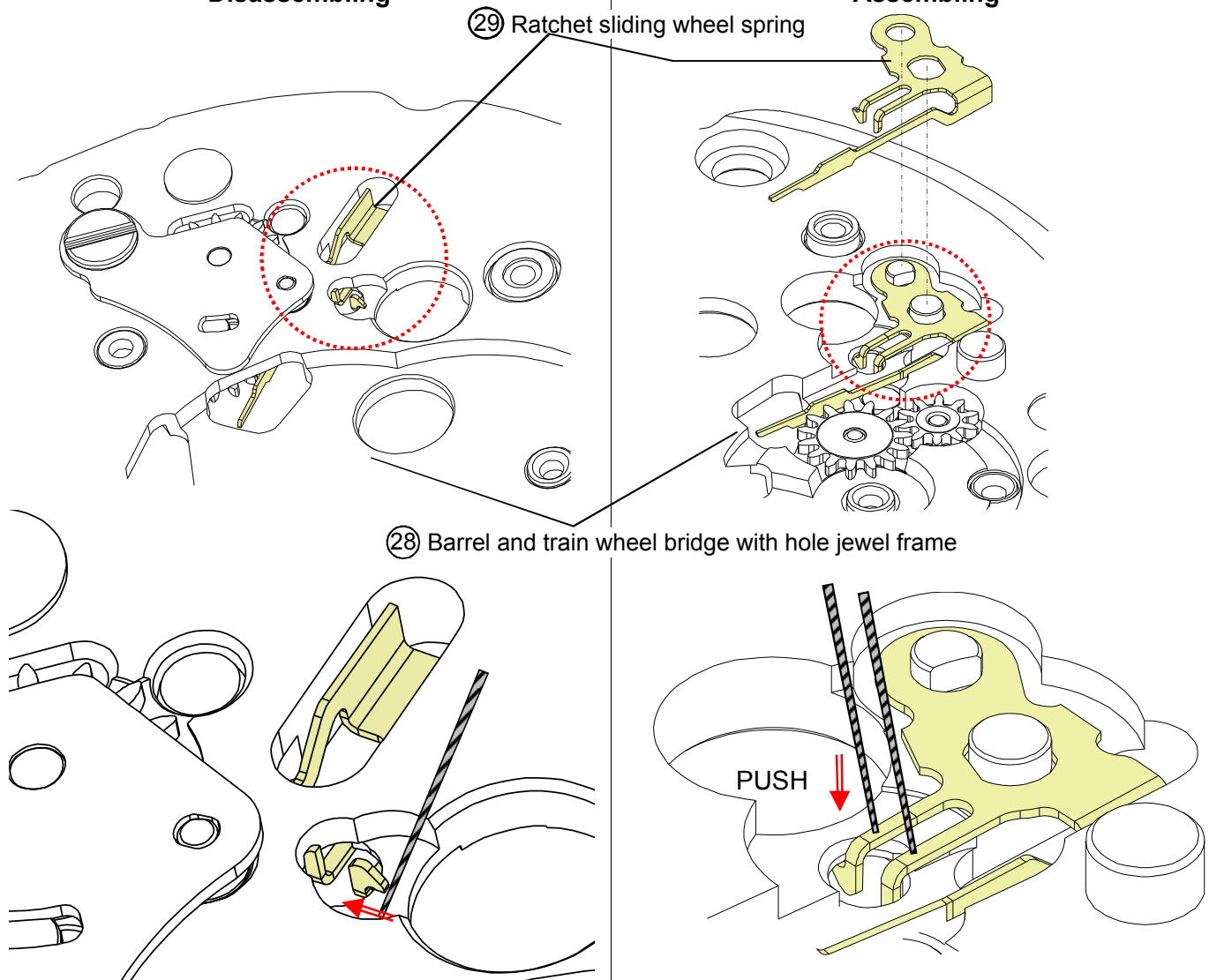
<< Assembling >>



5. Disassembling / assembling of the Ratchet sliding wheel spring.

<< Disassembling >>

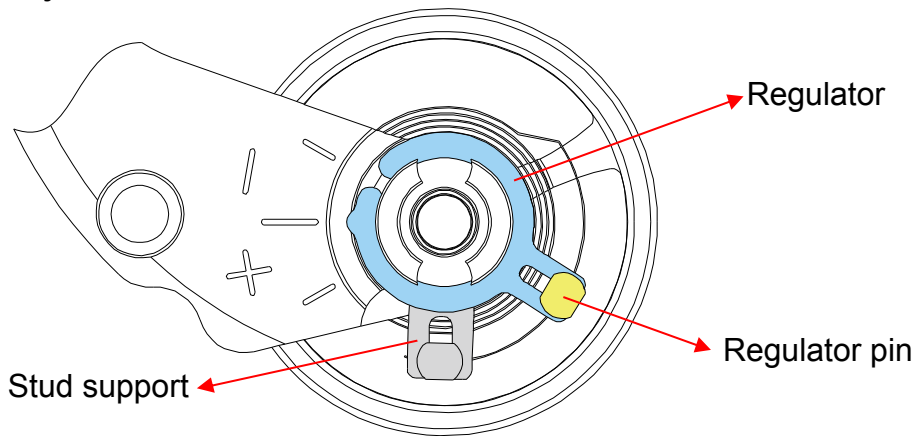
<< Assembling >>



Remove the hook of the ratchet sliding wheel spring from barrel and train wheel bridge with hole jewel frame.

The hooks of ratchet sliding wheel spring are hung up on barrel and train wheel bridge with hole jewel frame.

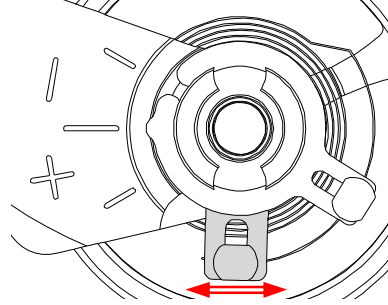
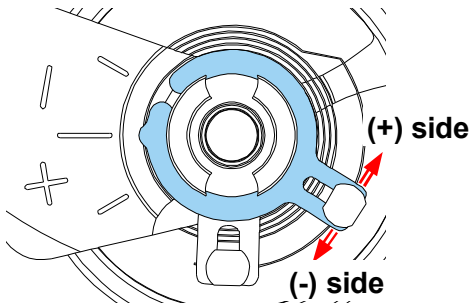
6.Accuracy adjustment



Note:

•Regulator ... Time adjustment

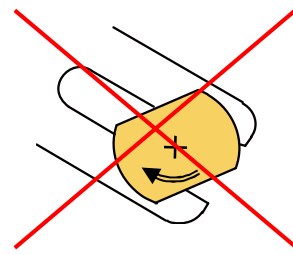
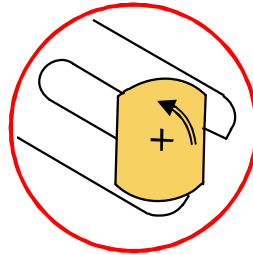
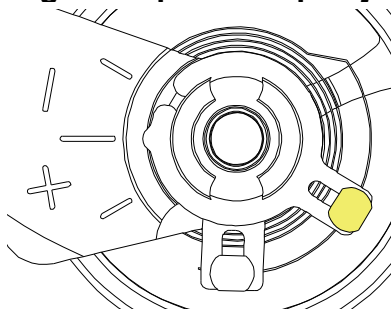
•Stud support ... Beat error adjustment



•Regulator pin ... Gap adjustment of balance spring and regulator pin

Anticlockwise rotation

No clockwise rotation



7.To wind up the mainspring

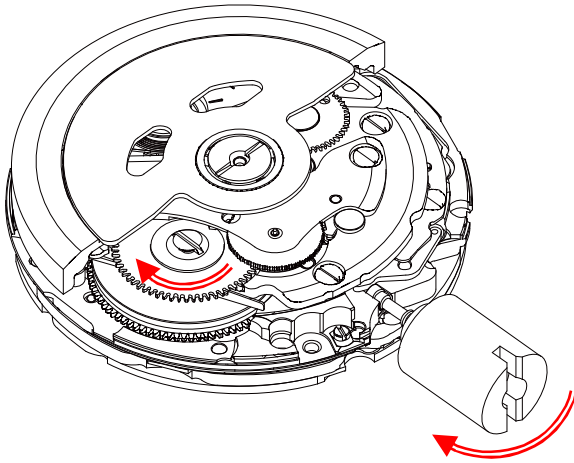
<<Movement>>

The mainspring would be fully wound up by turning the ratchet wheel screw 8 times clockwise. (Manual winding or Screwdriver)

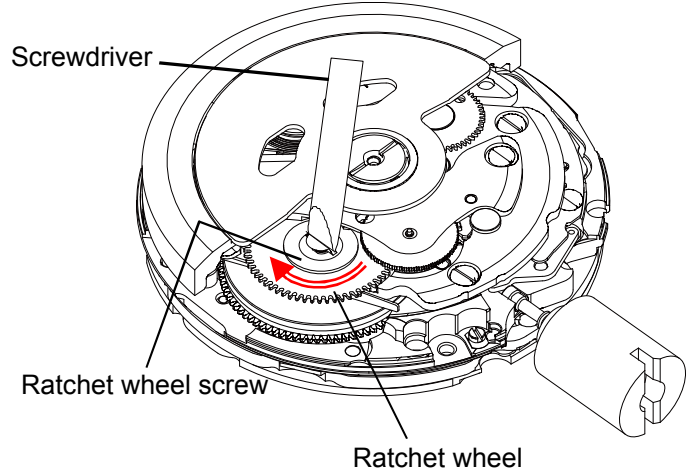
Manual winding ... Rotate crown clockwise at normal position by min 55 times. (Equal to ratchet wheel screw 8 times)

Screwdriver winding ... Turn the ratchet wheel screw 8 times clockwise.

[Manual winding]



[Screwdriver winding]



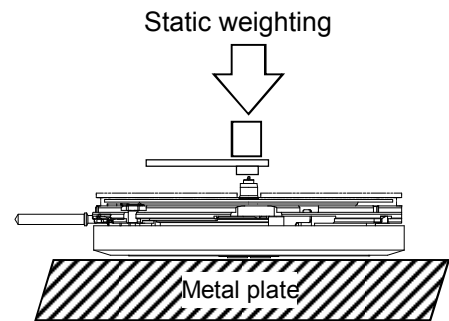
8.How to attach hands

Place the movement directly on a flat metal plate or something similar to attach the hands.

We recommend the use of movement holder to attach hands.

For hands attachment, please use a special equipment.

When the movement receives a strong shock, it may be damaged.



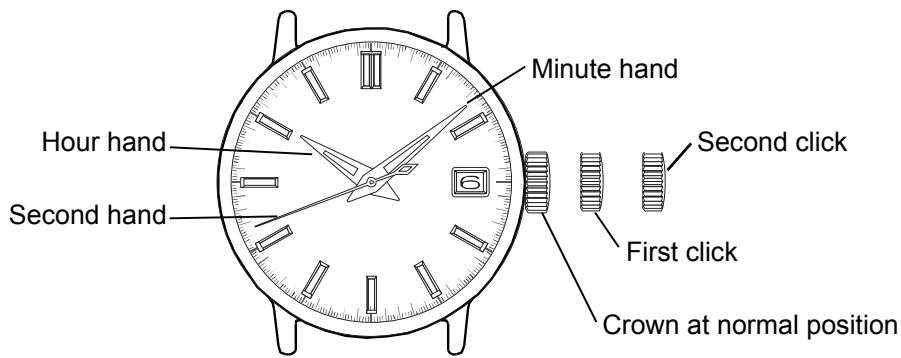
9.Accuracy measurement condition

Static Accuracy : -15~+25 seconds per day

Measurement Conditions

- 1) Measurement should be done within 10~60 minutes after fully wound up.
- 2) Lift angle : 53 deg
- 3) Measurement position : (1) Dial up (2) 9 o'clock up (3) 6 o'clock up
- 4) Minimum measurement Time : 20 seconds
- 5) Stabilizing Time :

Leave the watch for at least 20 seconds to stabilize after you change its measurement position.

**1. Time setting**

- 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.

2. Date setting

- 1) Pull out the crown to the first click position.
- 2) Turn the crown to left for date setting.
* Do not set the calendar between 10:00 P.M. and 1:00 A.M. If the setting of the calendar is made during this period, the date will not change to the next date. Please set the calendar after changing the time other than the above period.
- 3) Push the crown back into the normal position.

3. To wind up the mainspring

- a) Manual winding ... Rotate the crown clockwise at normal position.
Wind turning the ratchet wheel screw 8 times. It will start to move naturally after shaking slightly.
- b) To wind up with winding machine.
Full wind up conditions
 - Rotary speed : 30 rpm
 - Operating time : 60 minutes