TIME MODULE

Revised on: 24. Aug. 2012

TECHNICAL GUIDE

&

PARTS CATALOGUE

Cal.NE15B

AUTOMATIC MECHANICAL

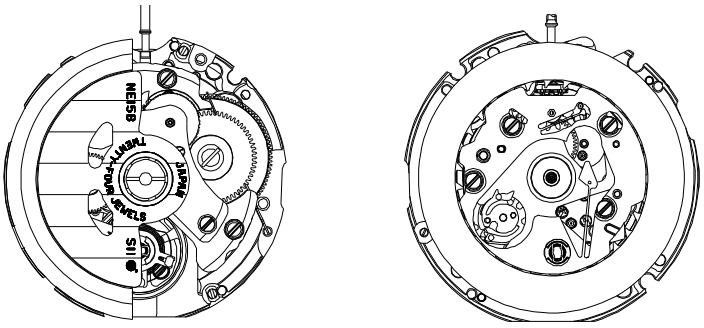
SII Products

TIME MODULE

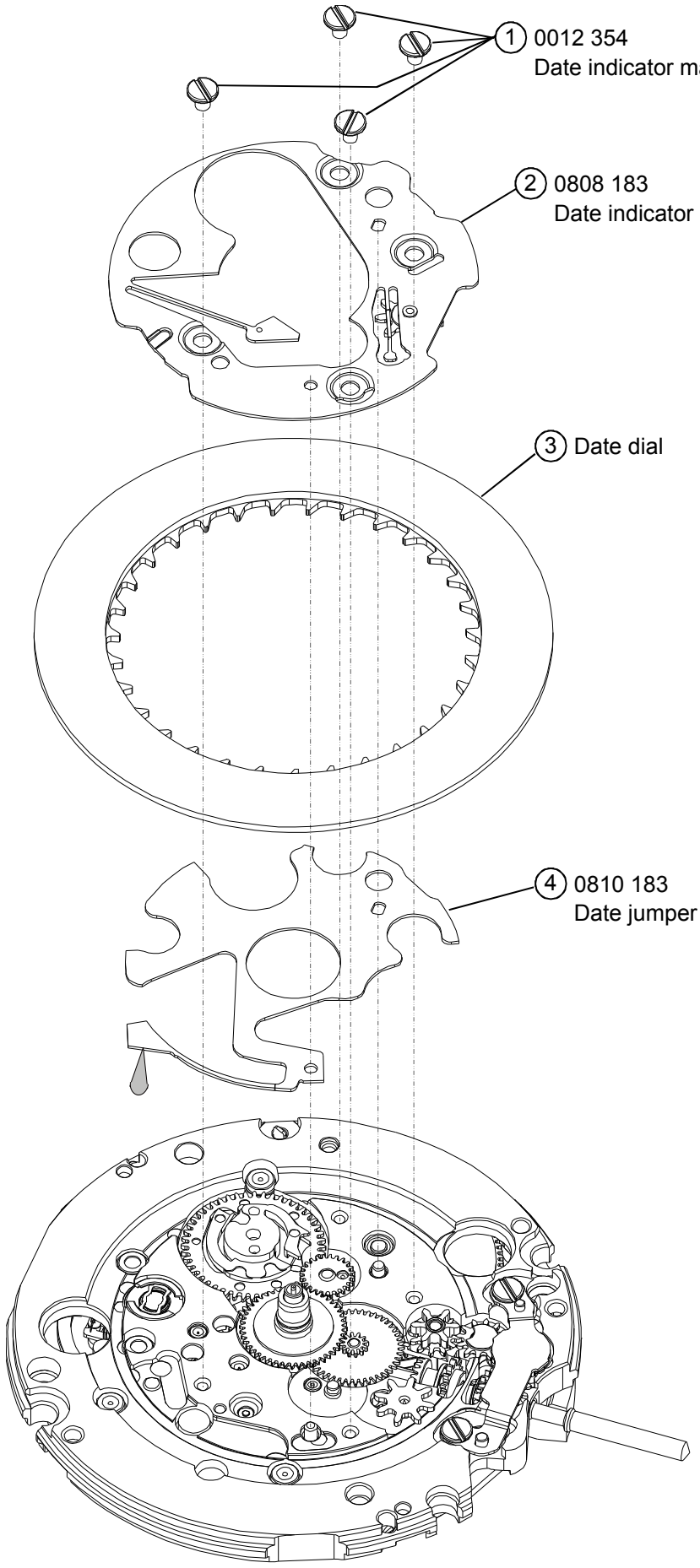
PARTS CATALOGUE / TECHNICAL GUIDE
Cal.NE15B

[SPECIFICATION]

Version-01

Item \ Cal. No.		NE15B	
Movement			
Movement size	Outside diameter	Φ27.40mm	
	Casing diameter	Φ27.00mm	
	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 wounded up by turning the crown minimum 55 times. ・Fully wounded 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.	**Type of oil**	**Oil quantity mark**
① → ⑫	Moebius 9010	NORMAL QUANTITY
Reassembling procedures Figs.	MO-4	SUFFICIENT QUANTITY
⑫ → ①	MO-3	



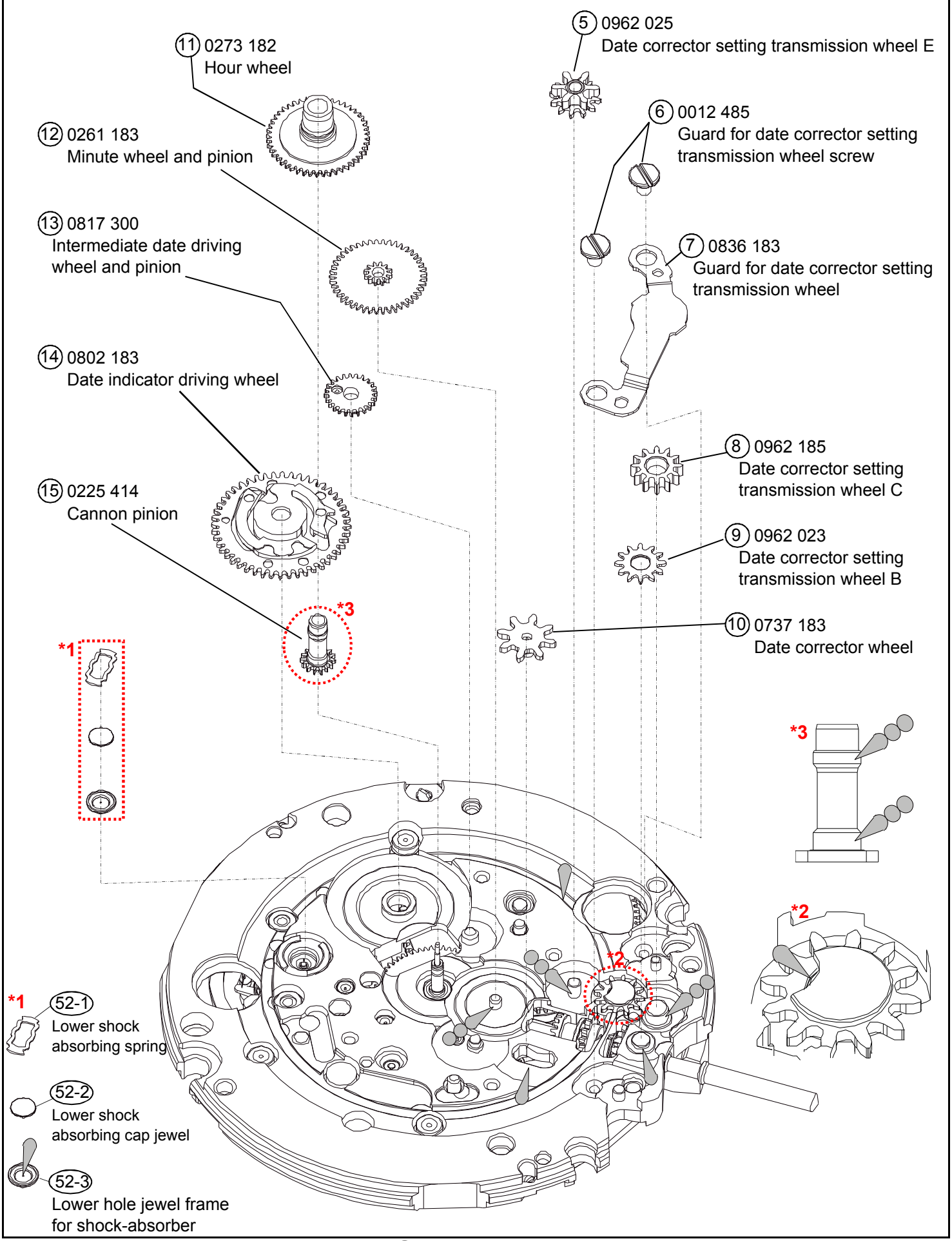
① 0012 354
Date indicator maintaining plate screw

② 0808 183
Date indicator maintaining plate

③ Date dial

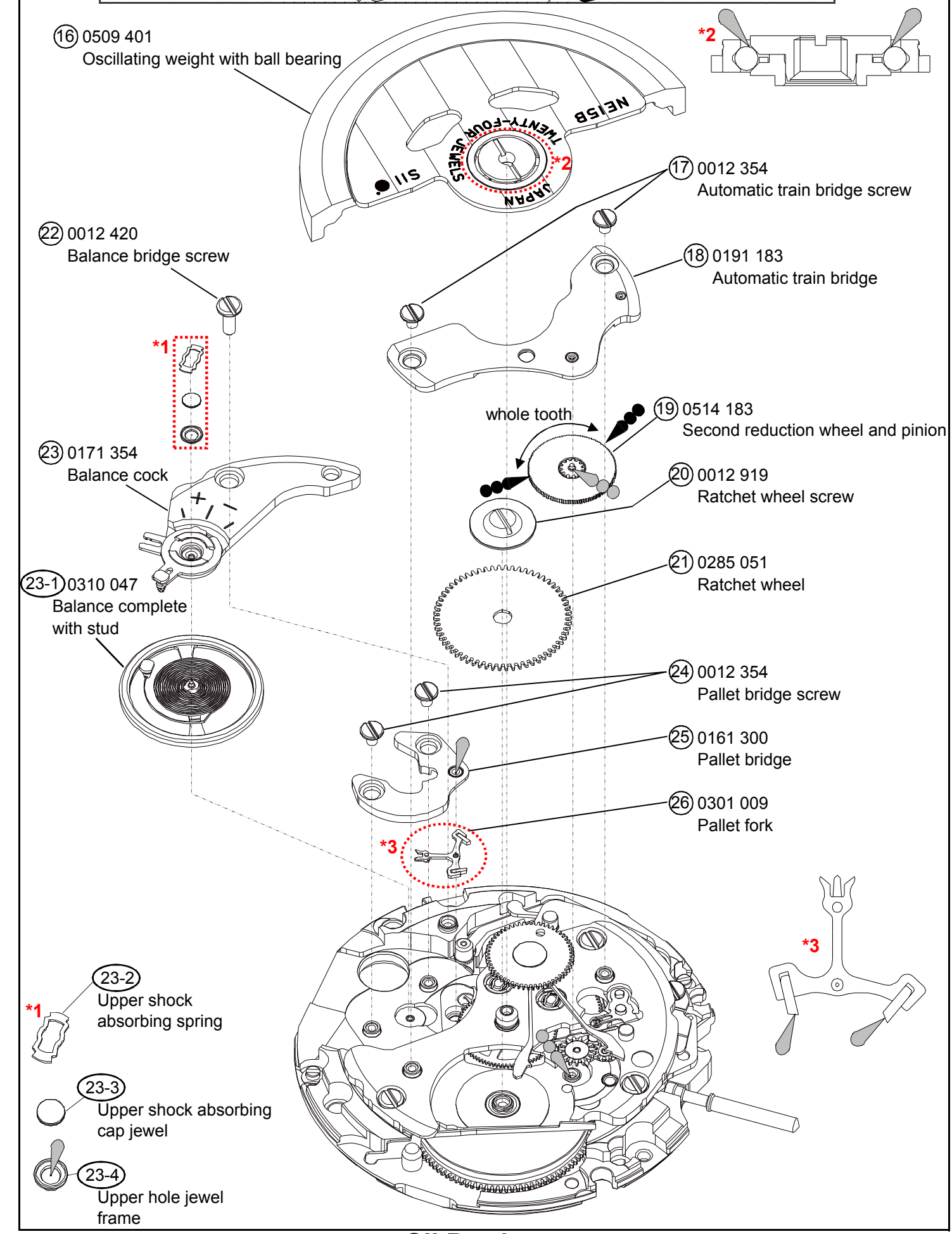
④ 0810 183
Date jumper

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



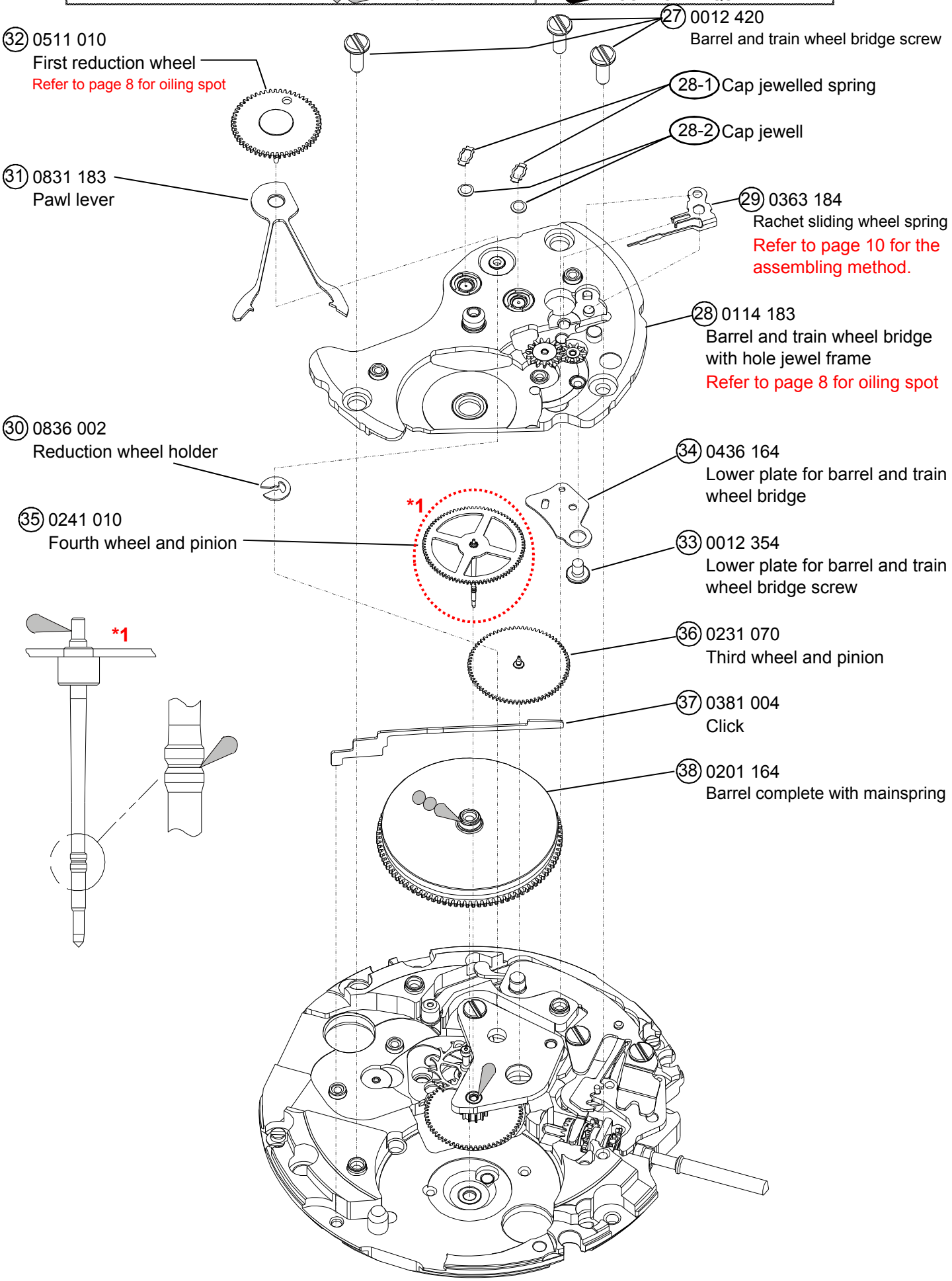
Type of oil
Moebius 9010
MO-4
MO-3

Oil quantity mark
NORMAL QUANTITY
SUFFICIENT QUANTITY



Type of oil
Moebius 9010
MO-4
MO-3

Oil quantity mark
NORMAL QUANTITY
SUFFICIENT QUANTITY



(27) 0012 420
Barrel and train wheel bridge screw

(32) 0511 010
First reduction wheel
Refer to page 8 for oiling spot

(28-1) Cap jewelled spring

(28-2) Cap jewell

(31) 0831 183
Pawl lever

(29) 0363 184
Rachet 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

(30) 0836 002
Reduction wheel holder

(34) 0436 164
Lower plate for barrel and train wheel bridge

(35) 0241 010
Fourth wheel and pinion

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

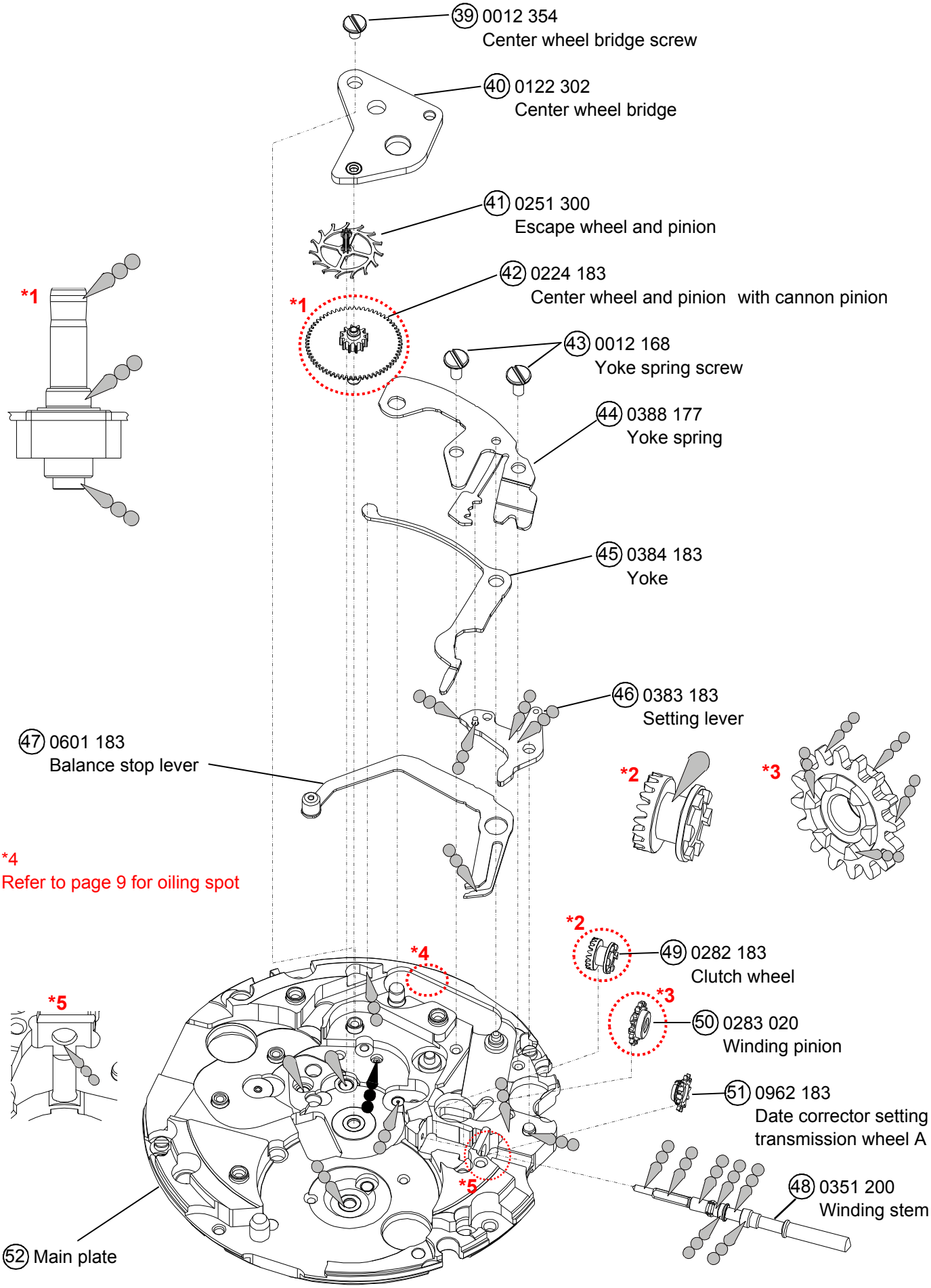
(36) 0231 070
Third wheel and pinion

(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

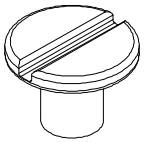
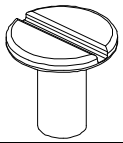


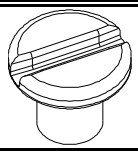
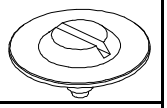
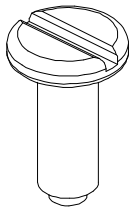
*4
Refer to page 9 for oiling spot

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

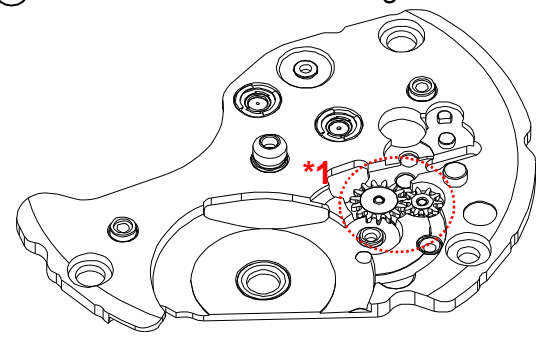
No	Parts code	Parts name	Parts form
①	0012 354	Date indicator maintaining plate screw (x4)	
⑰		Automatic train bridge screw (x2)	
㉔		Pallet bridge screw (x2)	
㉝		Lower plate for barrel and train wheel bridge screw	
㊴		Center wheel bridge screw	
㊸	0012 168	Yoke spring screw (x2)	

No	Parts code	Parts name	Parts form
⑥	0012 485	Guard for date corrector setting transmission wheel screw (x2)	
⑳	0012 919	Ratchet wheel screw	
㉒	0012 420	Balance bridge screw	
㉗		Barrel and train wheel bridge screw (x3)	

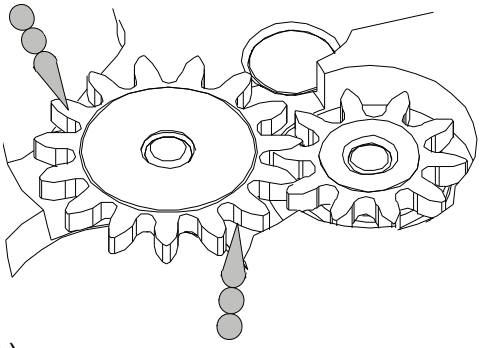
Type of oil	Oil quantity mark
Moebius 9010	NORMAL QUANTITY
MO-4	SUFFICIENT QUANTITY
MO-3	

1.Oiling spot

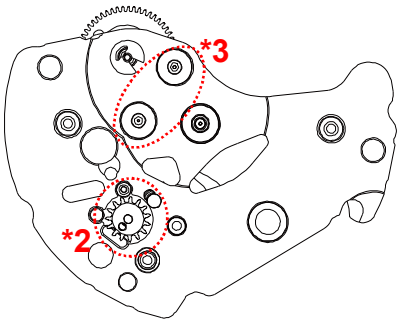
(28) Barrel and train wheel bridge with hole jewel frame

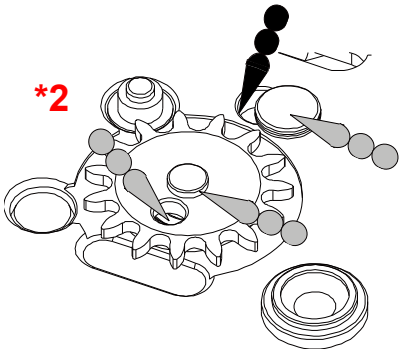


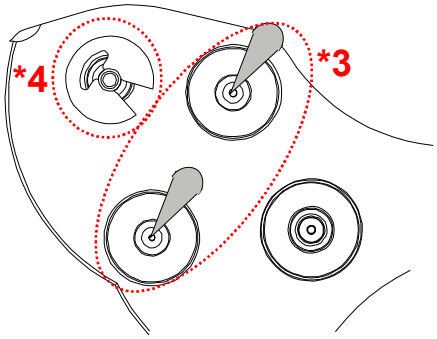
*1



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

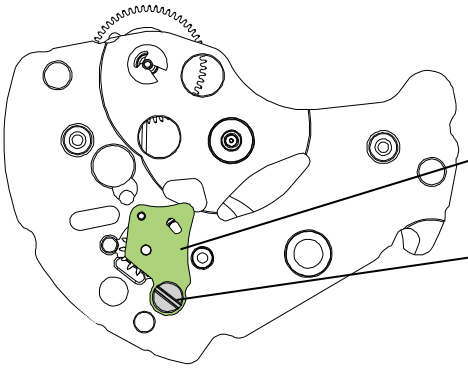






Note

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

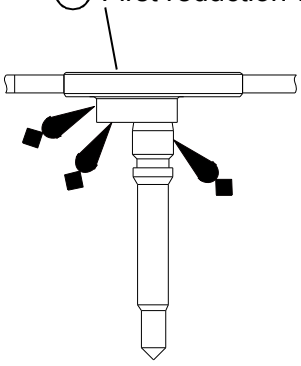


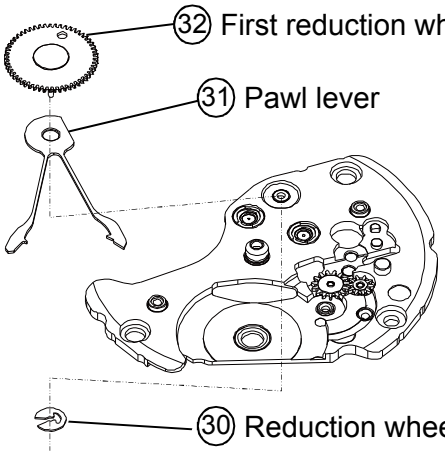
(34) Lower plate for barrel and train wheel bridge

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

***4 After oiling, set <u>first reduction wheel</u> & <u>pawl lever</u> & <u>reduction wheel holder</u>.**

(32) First reduction wheel



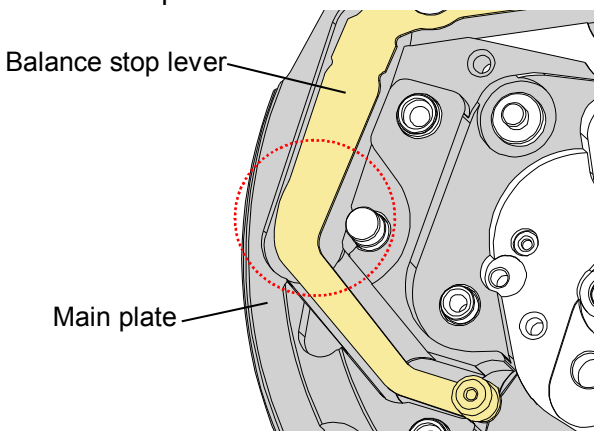


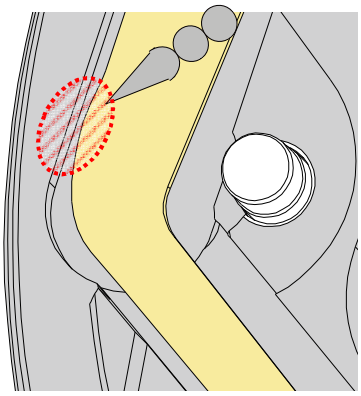
(32) First reduction wheel

(31) Pawl lever

(30) Reduction wheel holder

㊼ Balance stop lever



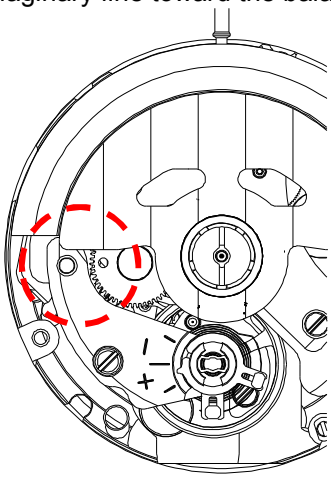


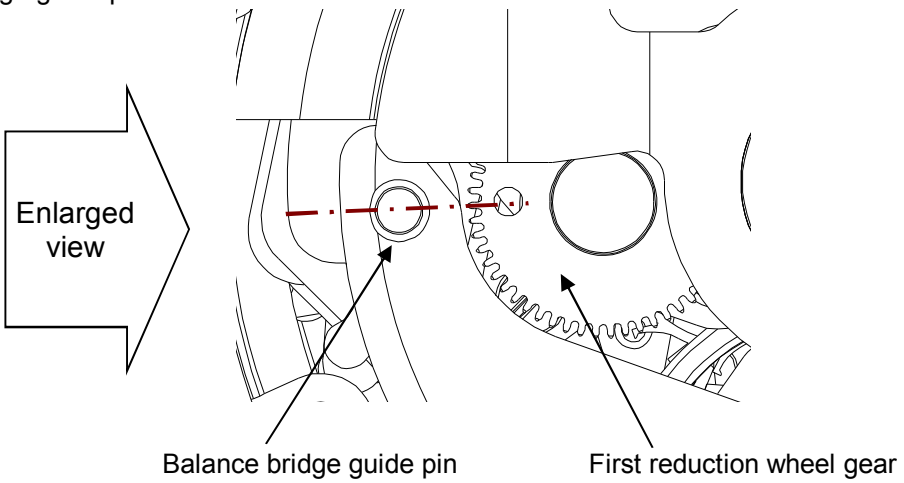
Contact part of main plate and balance stop lever

2.Setting position of oscillating weight

・Before assembling oscillating weight.

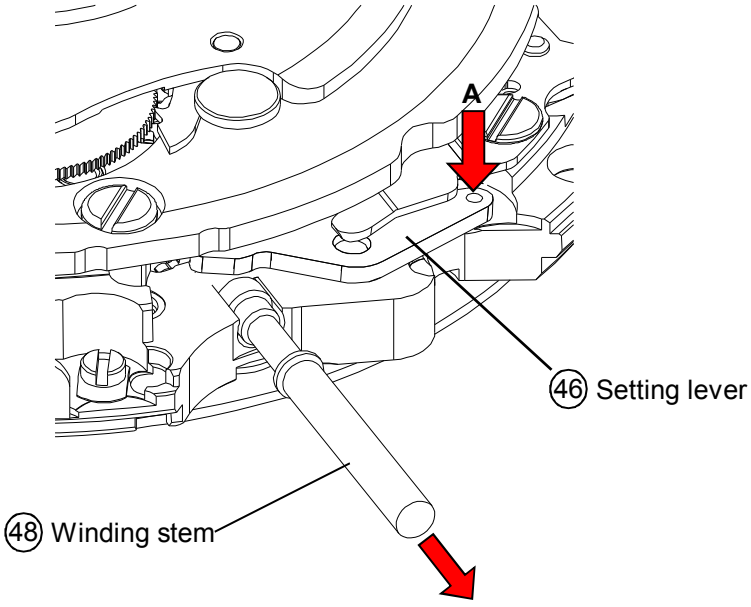
Match the center of the oscillating weight and winding stem. Set the hole of first reduction wheel gear on the imaginary line toward the balance bridge guide pin.





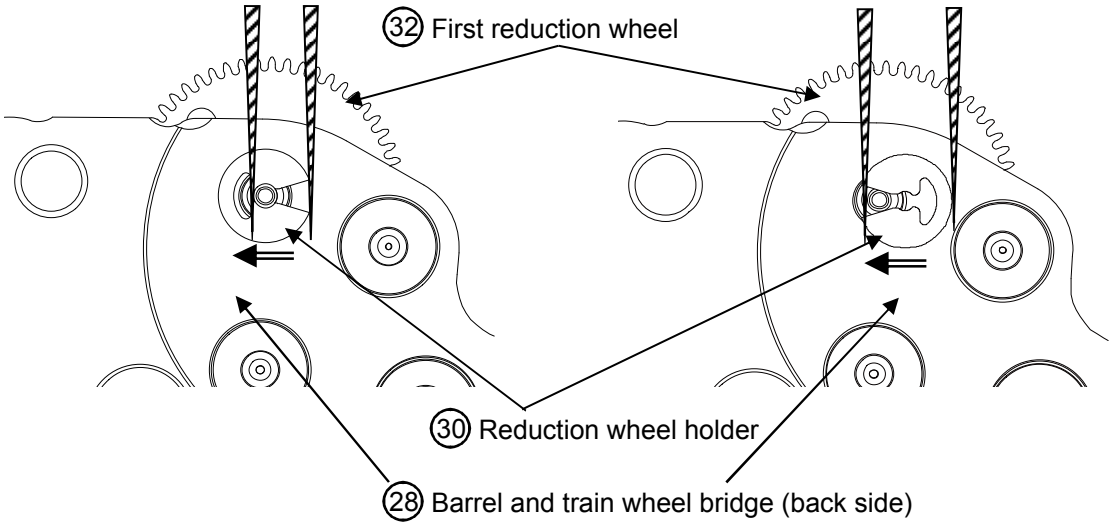
3.To remove the winding stem

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



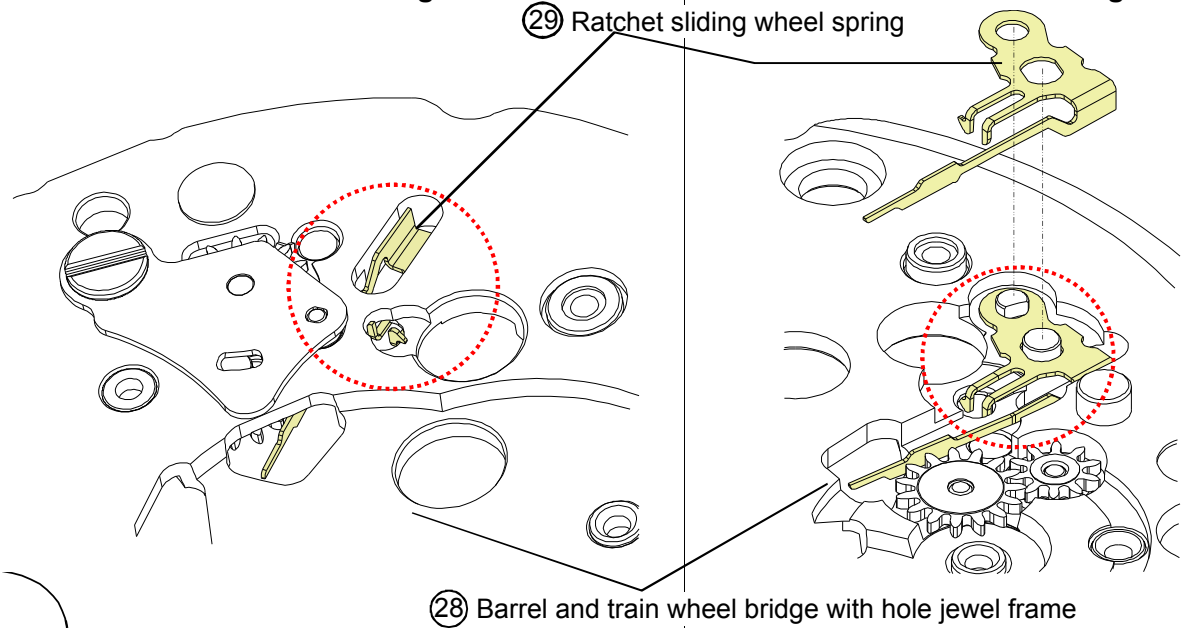
4.Disassembling / assembling of the First reduction wheel

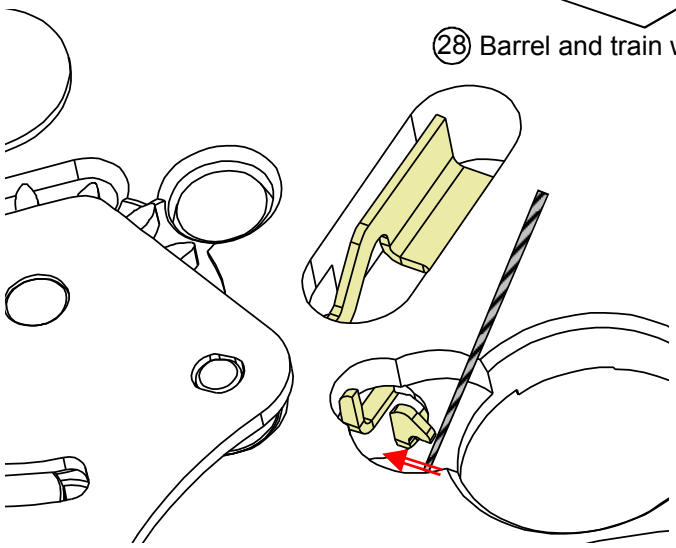
<< Disassembling >> **<< Assembling >>**



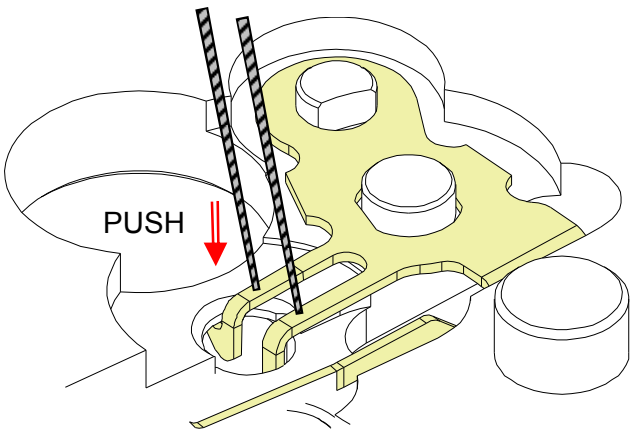
5.Disassembling / assembling of the Ratchet sliding wheel spring.

<< Disassembling >> **<< Assembling >>**



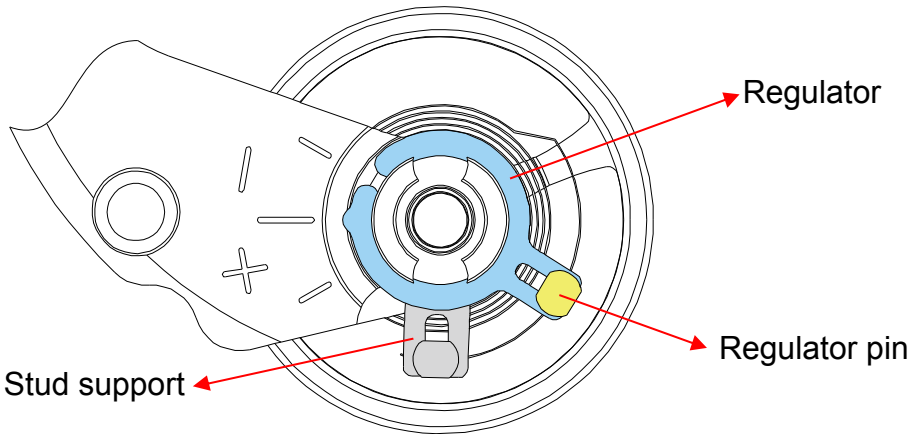


Remove the hook of the ratchet sliding wheel spring from barrel and train wheel bridge with hole jewel frame.



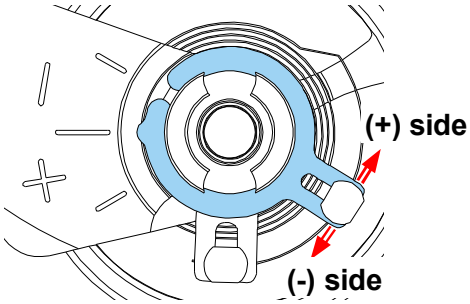
The hooks of ratchet sliding wheel spring are hung up on barrel and train wheel bridge with hole jewel frame.

6.Accuracy adjustment

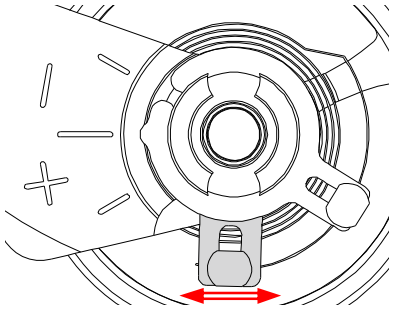


Note:

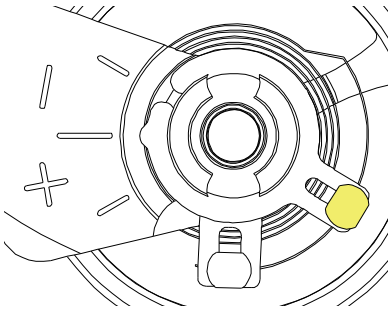
・Regulator … Time adjustment



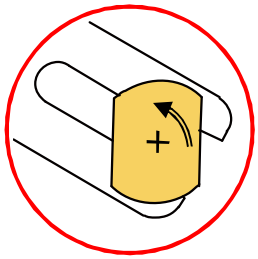
・Stud support … Beat error adjustment



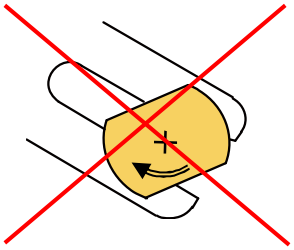
・Regulator pin … Gap adjustment of balance spring and regulator pin



Anticlockwise rotation



No clockwise rotation



7.To wind up the mainspring

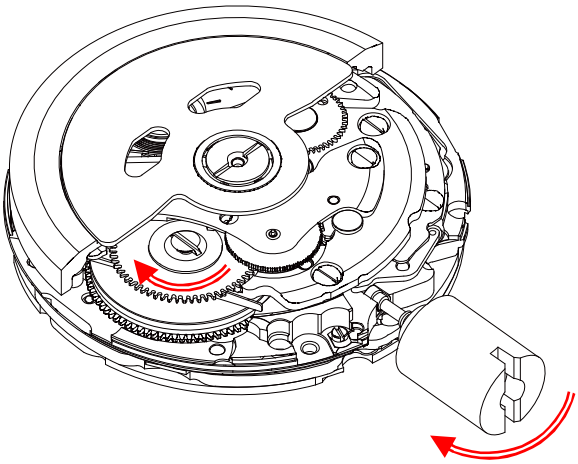
<<Movement>>

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

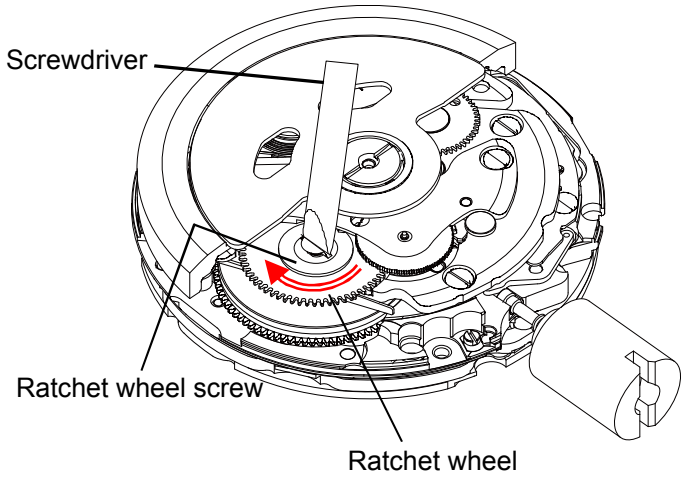
Manual winding … Rotate crown clockwise at normal position by min 55 times. (Equal to ratchet wheel screw 8 times)

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

[Manual winding]



[Screwdriver winding]



8.How to attach hands

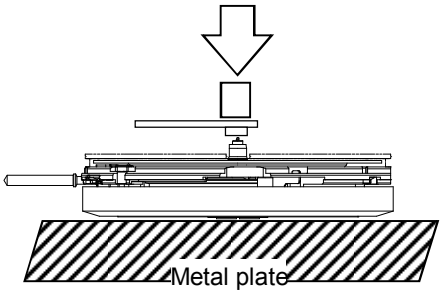
Place the movement directly on a flat metal plate or something similar to attach the hands.

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.

Static weighting



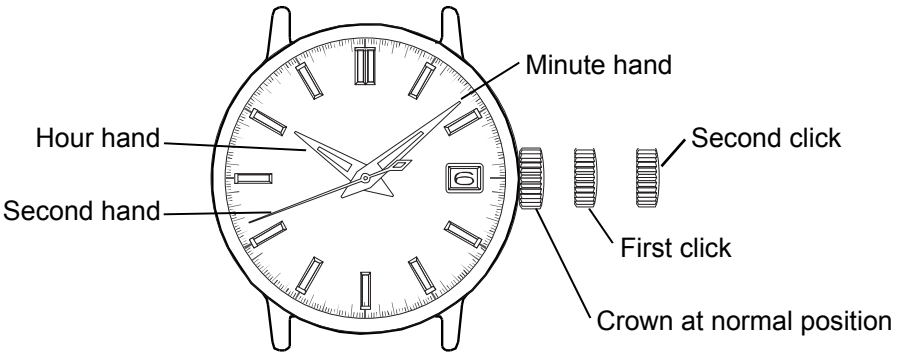
9.Accuracy measurement condition

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