TIME MODULE

Revised on : 16. Sep. 2014

TECHNICAL GUIDE

&

PARTS CATALOGUE

Cal.NE20B

AUTOMATIC MECHANICAL

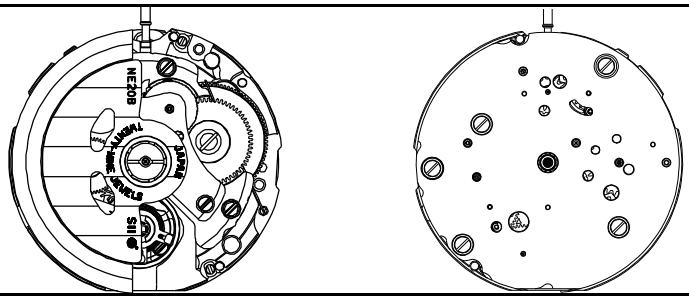
SII Products

PARTS CATALOGUE / TECHNICAL GUIDE
Cal.NE20B

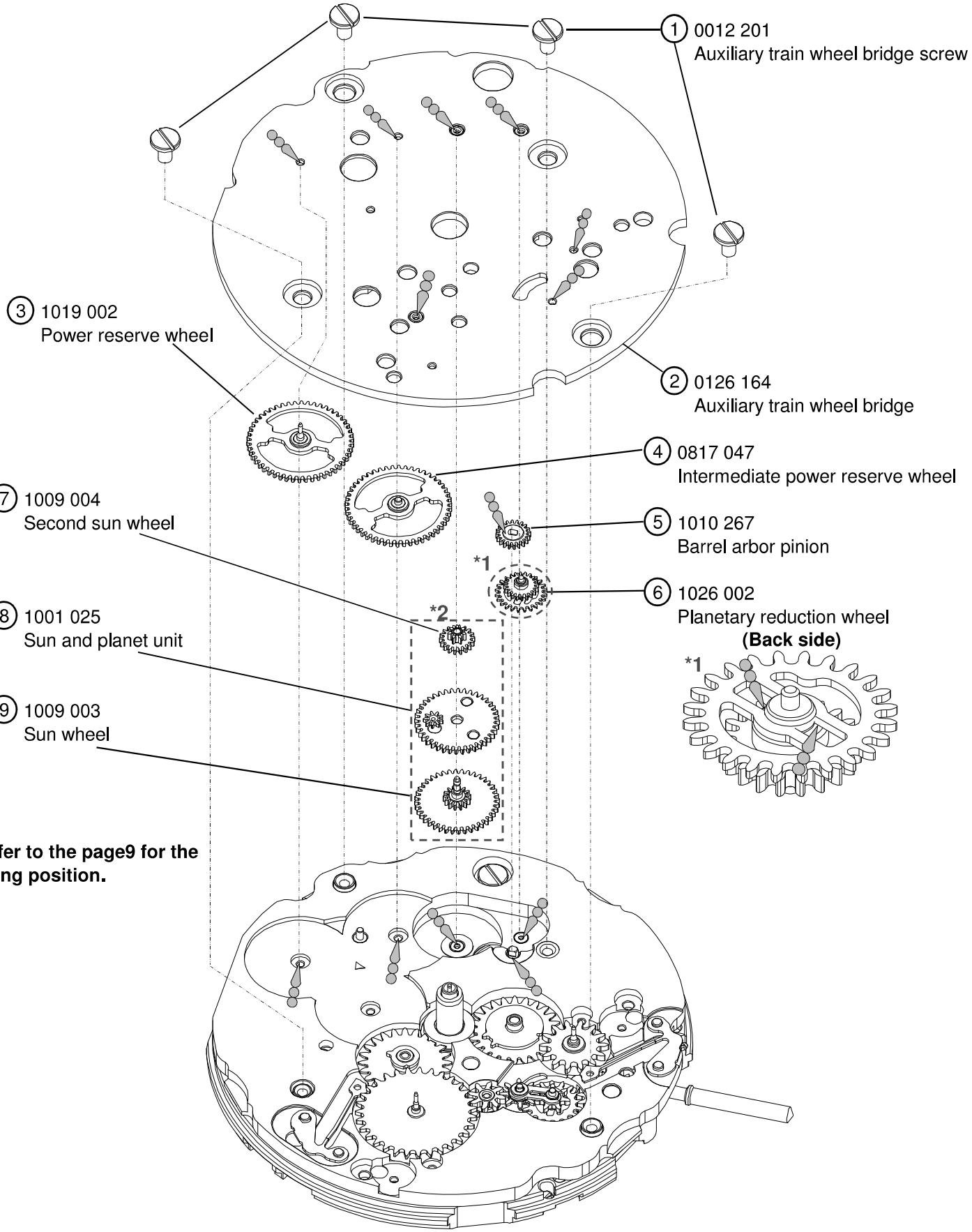
TIME MODULE

[SPECIFICATION]

Version-01

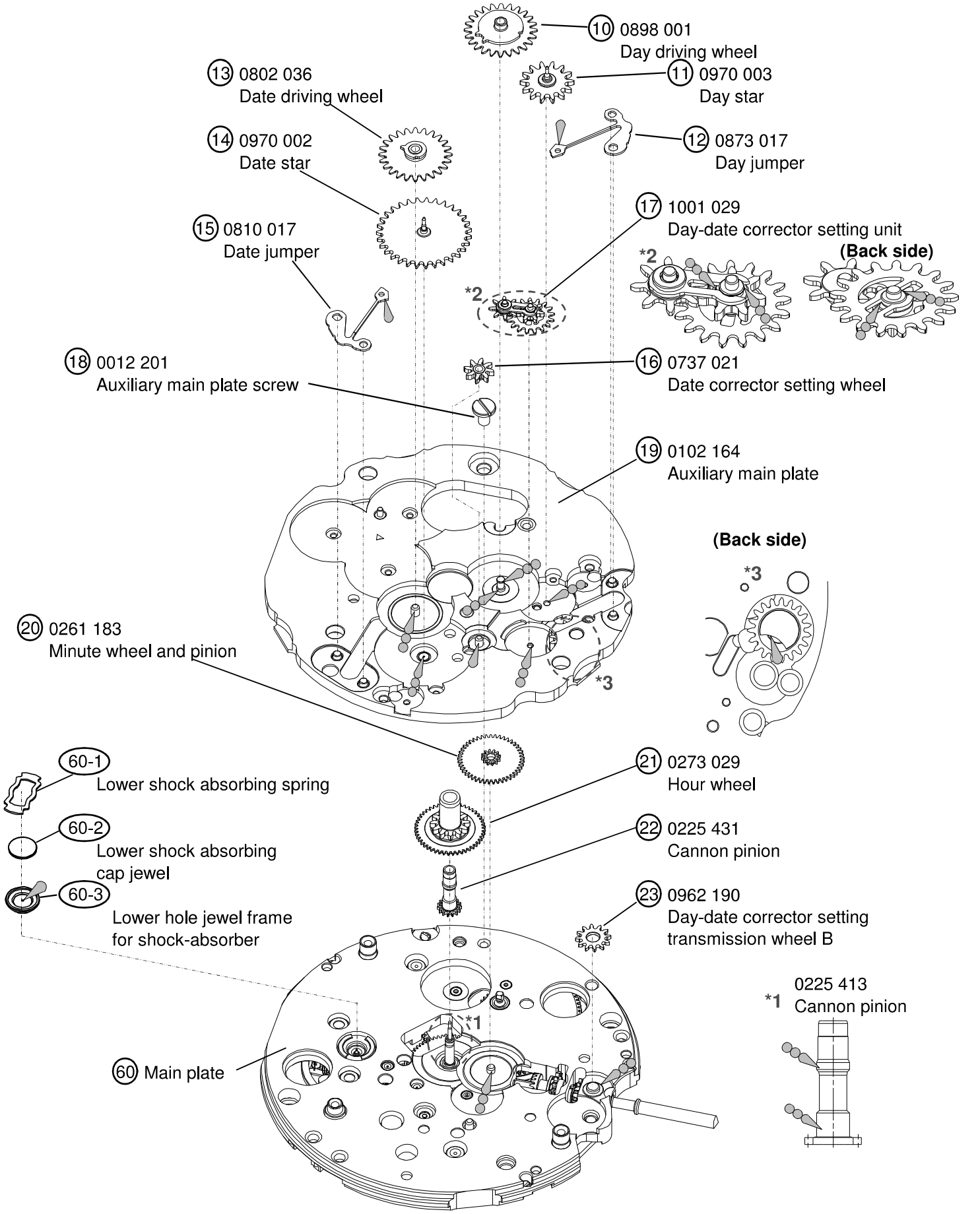
Item \ Cal. No.		NE20B	
Movement			
Movement size	Outside diameter	Φ27.40mm	
	Casing diameter	Φ27.00mm	
	Total height	6.15 mm	
Time indication		3 Hands (Hour , Minute , Second) Day-date calendar hands Power reserve hand	
Basic function		Manual winding Automatic winding with ball bearing Stop second device Day-date correction	
Frequency		28,800 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	52 deg.	
	Measurement time	20 seconds * Equipment to be used : Witschi WATCH EXPERT	
	Posture difference	Difference is under 45 seconds within max value and min 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 45 hours … Mainspring after fully wound up. * Posture to confirmation : Dial up	
Winding the mainspring		<< Movements >> ▪Fully wounded up by turning the crown min 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 minutes	
Jewels		29 jewels	
Crown position		Left rotation	Right rotation
	Normal position	Free	Manual winding
	First click	Date setting	Day setting
	Second click	Hand setting	Hand setting

Disassembling procedures Figs. ① → ⑥⓪ Reassembling procedures Figs. ⑥⓪ → ①	**Type of oil** Moebius 9010 S-6 S-4	**Oil quantity mark** NORMAL QUANTITY SUFFICIENT QUANTITY

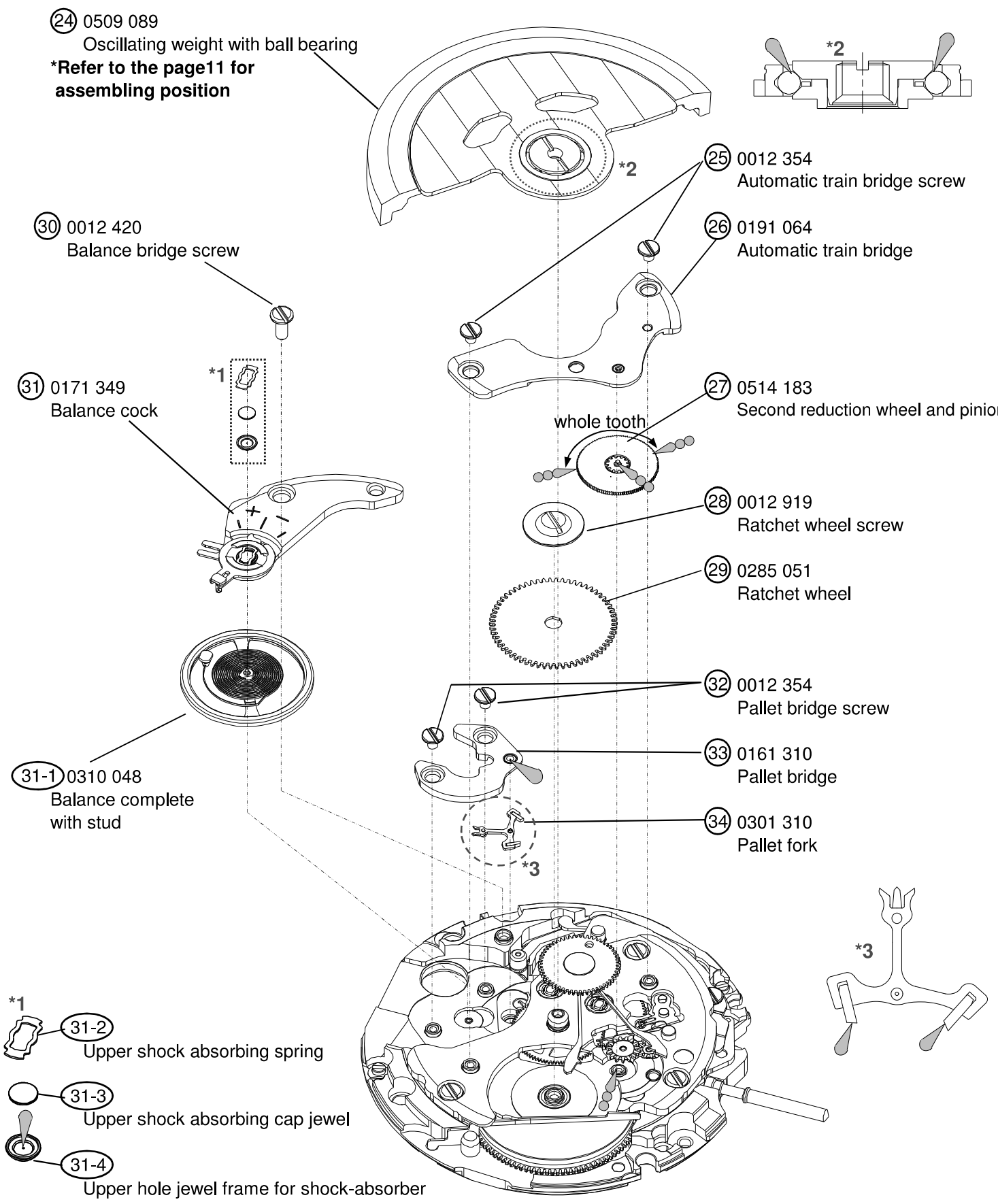


***2**
Refer to the page9 for the oiling position.

Type of oil	Oil quantity mark
Moebius 9010	NORMAL QUANTITY
S-6	SUFFICIENT QUANTITY
S-4	



Type of oil		Oil quantity mark	
Moebius 9010	S-6	NORMAL QUANTITY	
	S-4	SUFFICIENT QUANTITY	



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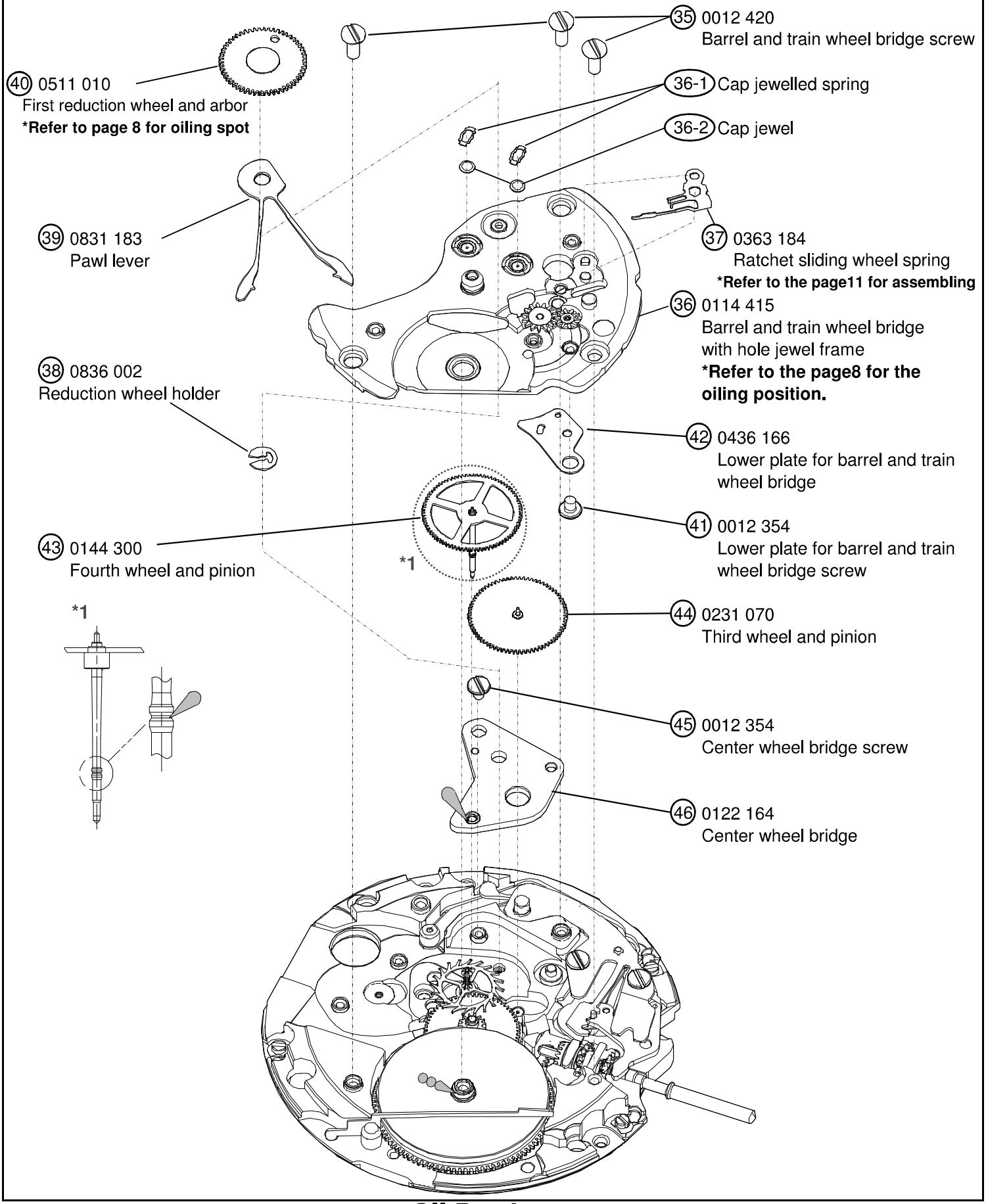
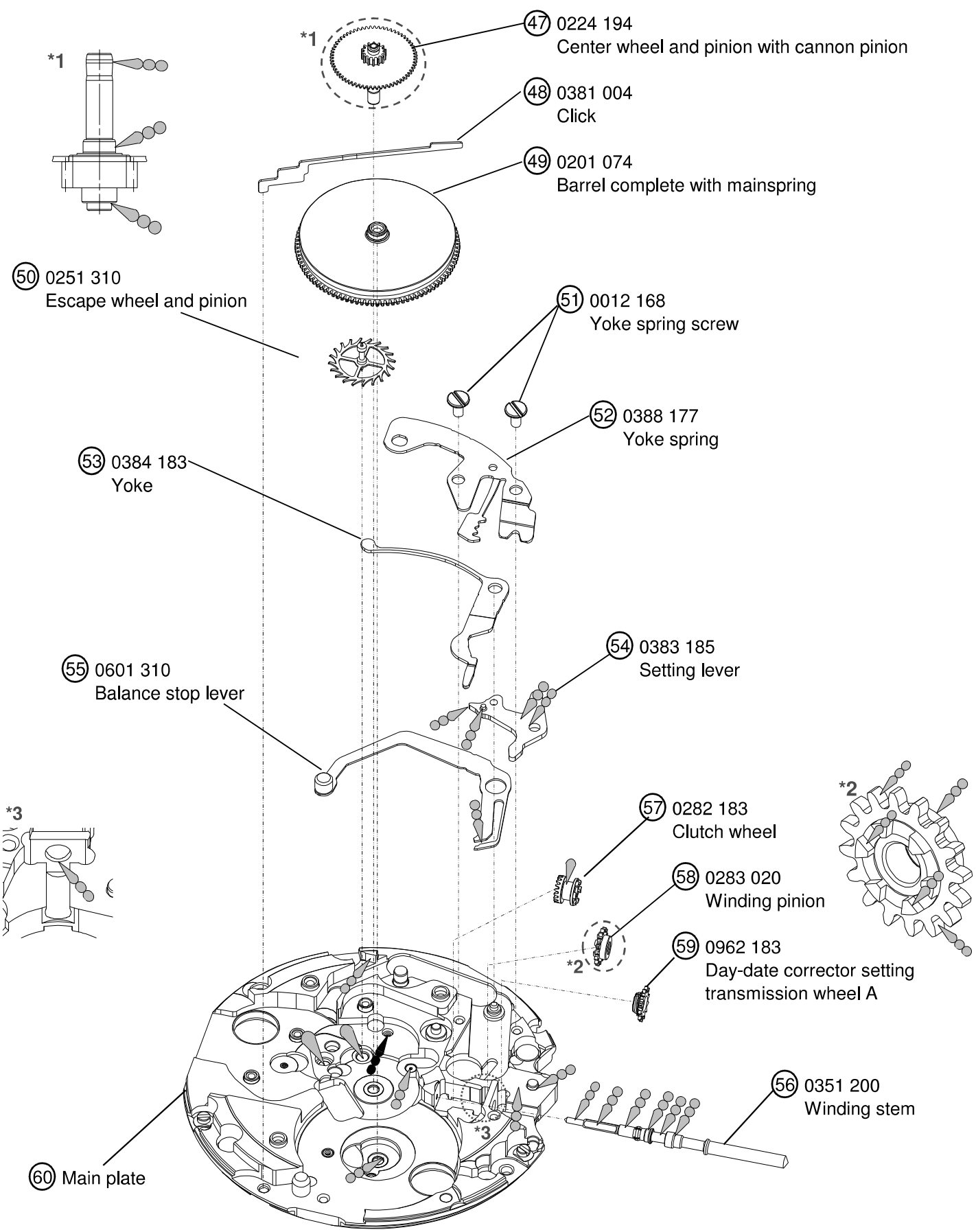
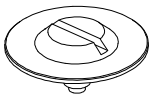
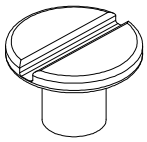
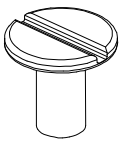
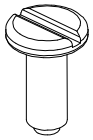
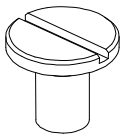


Type of oil	Oil quantity mark
Moebius 9010	NORMAL QUANTITY
S-6	SUFFICIENT QUANTITY
S-4	



Remarks

● **List of screws**

Parts No	Name	Parts No	Name
0012 919 	㉘ Ratchet wheel screw	**0012 354** 	㊺ Center wheel bridge screw
			㉜ Pallet bridge screw (×2)
0012 168 	㊶ Yoke spring screw (×2)		㊶ Lower plate for barrel and train wheel bridge screw
			㉕ Automatic train bridge screw (×2)
0012 420 	㉟ Barrel and train wheel bridge screw (×3)	**0012 201** 	⑱ Auxiliary main plate screw
	㉚ Balance bridge screw		① Auxiliary train wheel bridge screw (×4)

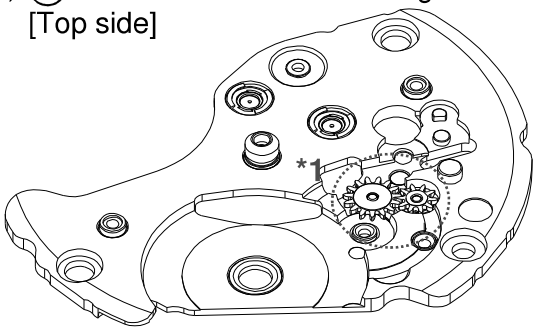
***All parts code are subject to change without notice.**

Type of oil	Oil quantity mark
Moebius 9010 / S-6 / S-4	NORMAL QUANTITY / SUFFICIENT QUANTITY

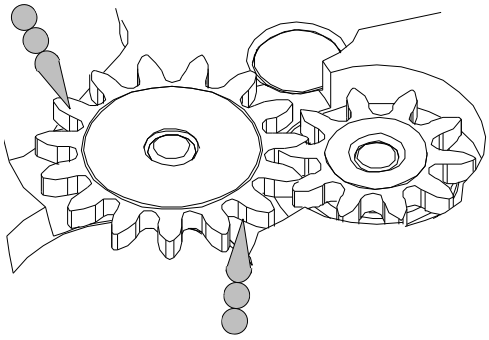
1.Oiling spot

(1) ㊱ Barrel and train wheel bridge with hole jewel frame

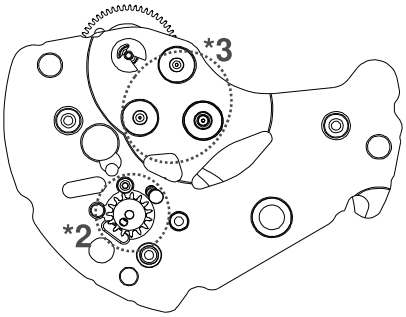
[Top side]

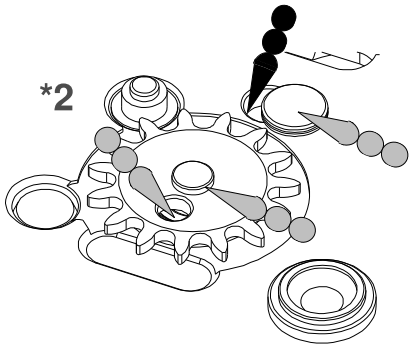


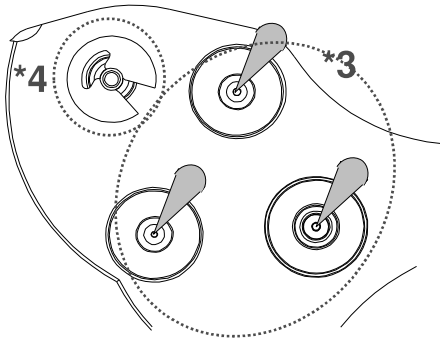
*1



[Back side]

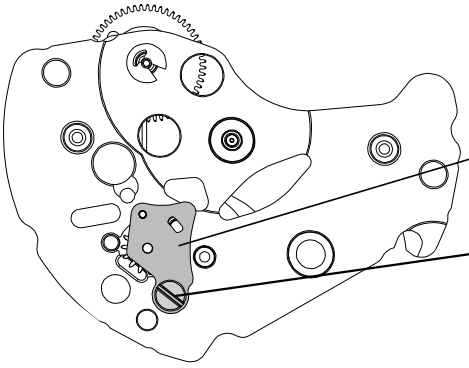






Note

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

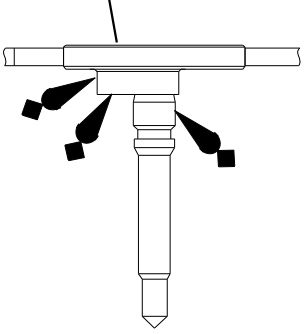


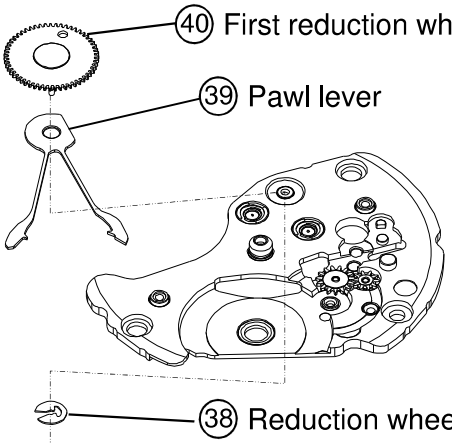
㊷ Lower plate for barrel and train wheel bridge

㊶ 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>.**

㊵ First reduction wheel





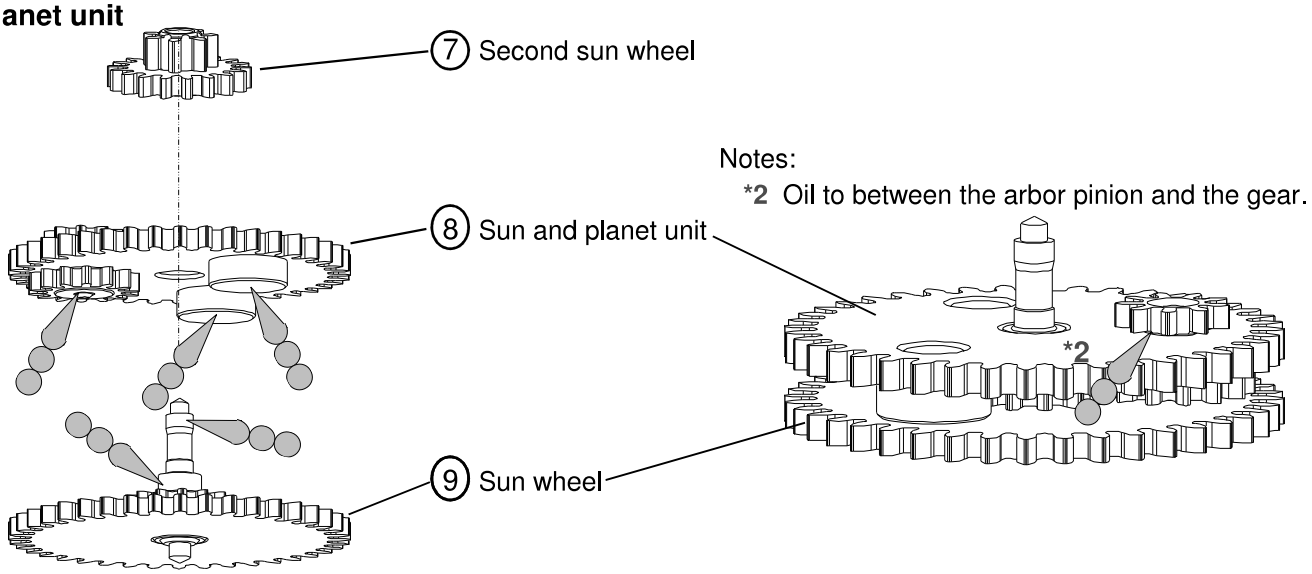
㊵ First reduction wheel

㊴ Pawl lever

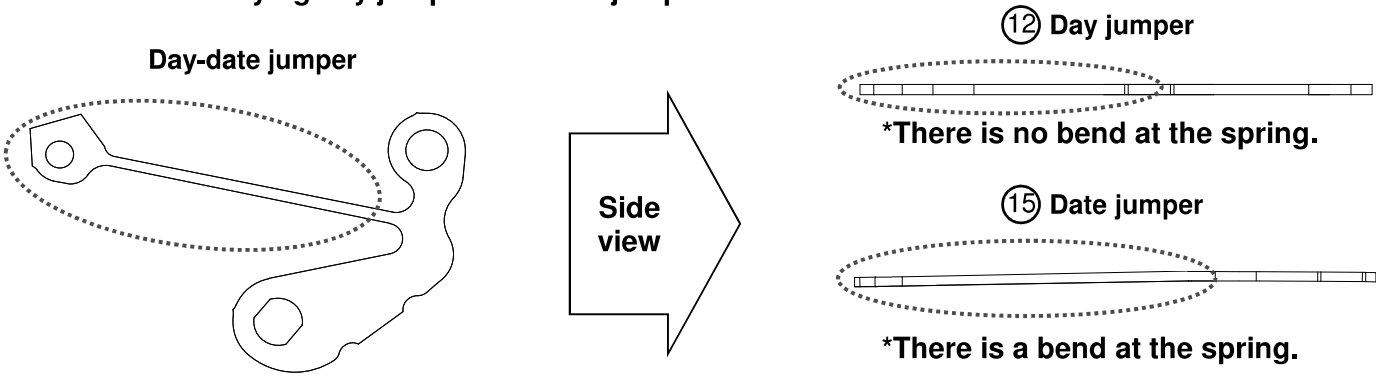
㊳ Reduction wheel holder

Type of oil	Oil quantity mark
Moebius 9010 / S-6 / S-4	NORMAL QUANTITY / SUFFICIENT QUANTITY

(2) Planet unit

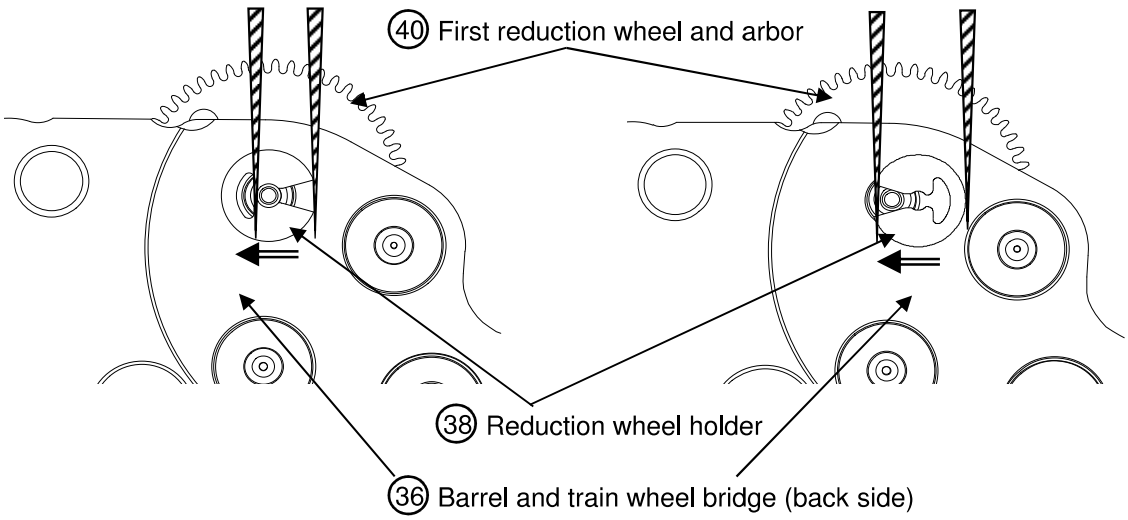


2.Method of identifying day jumper and date jumper



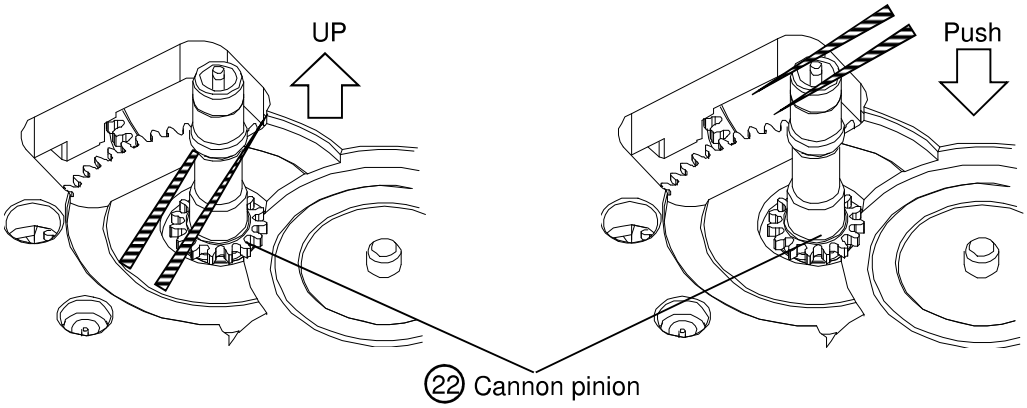
3.Disassembling / assembling of the first reduction wheel

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



4.Disassembling / assembling of the cannon pinion

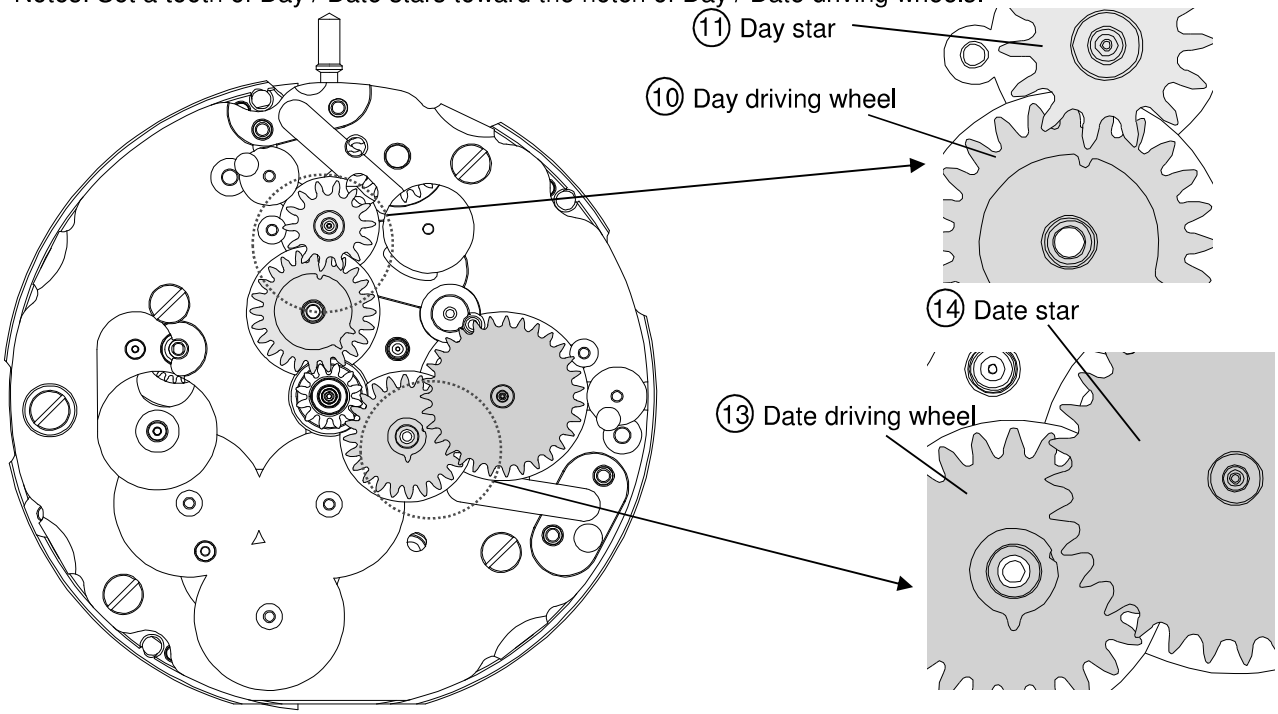
<< Disassembling >> **<< Assembling >>**



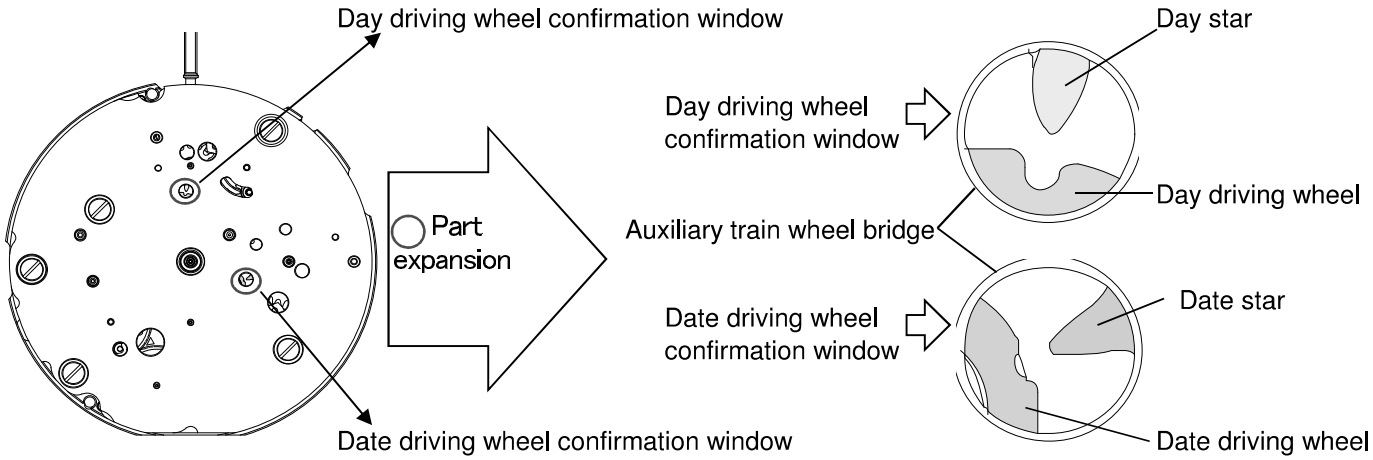
5.Setting position (Refer at the time of disassembling and reassembling)

▪To Date / Day driving wheels setting position

Notes: Set a tooth of Day / Date stars toward the notch of Day / Date driving wheels.



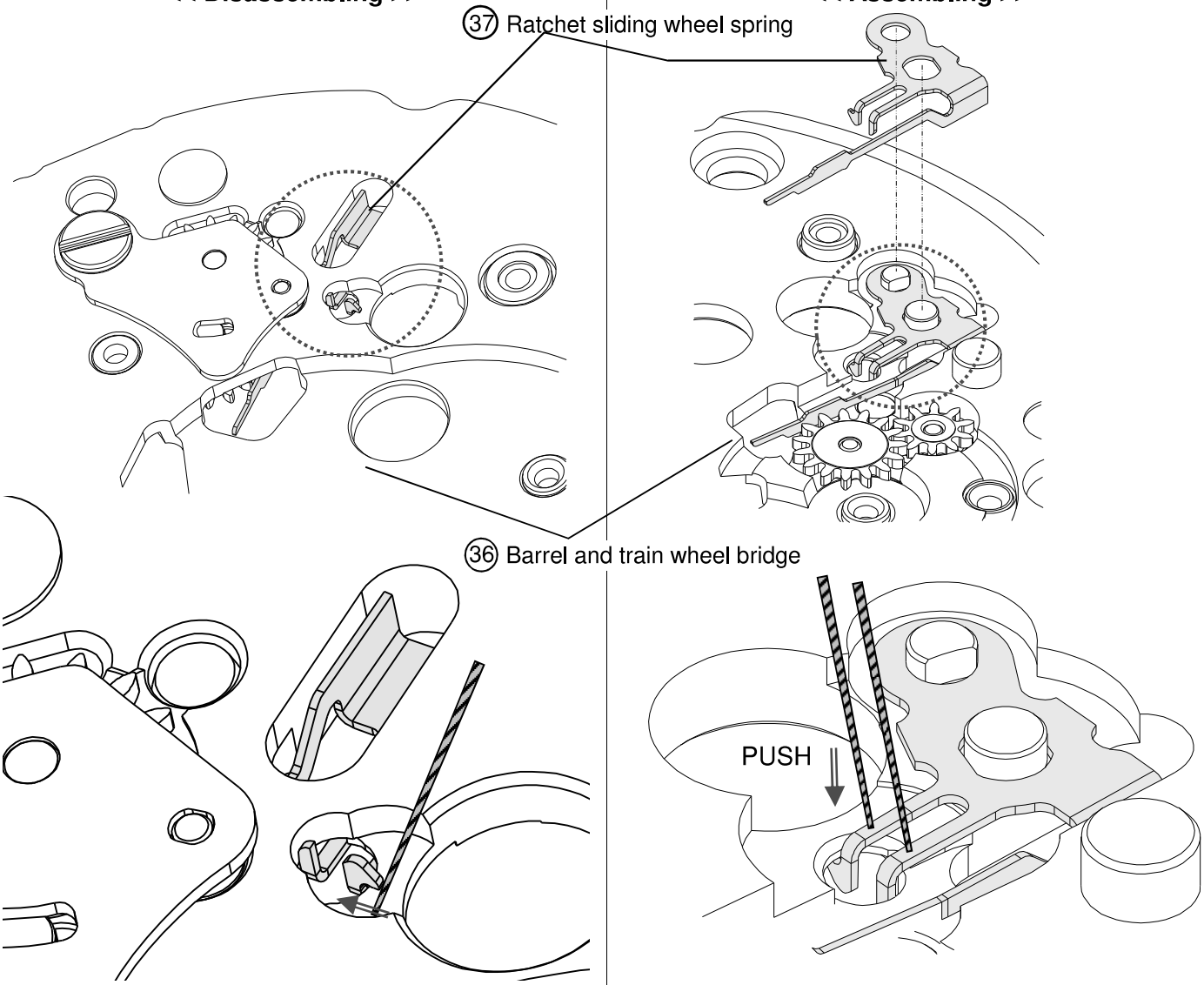
▪Position confirmation by the movement



*The correct positions of Day / Date stars and Day / Date driving wheels should be confirmed from the confirmation window at the same time.

6.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.

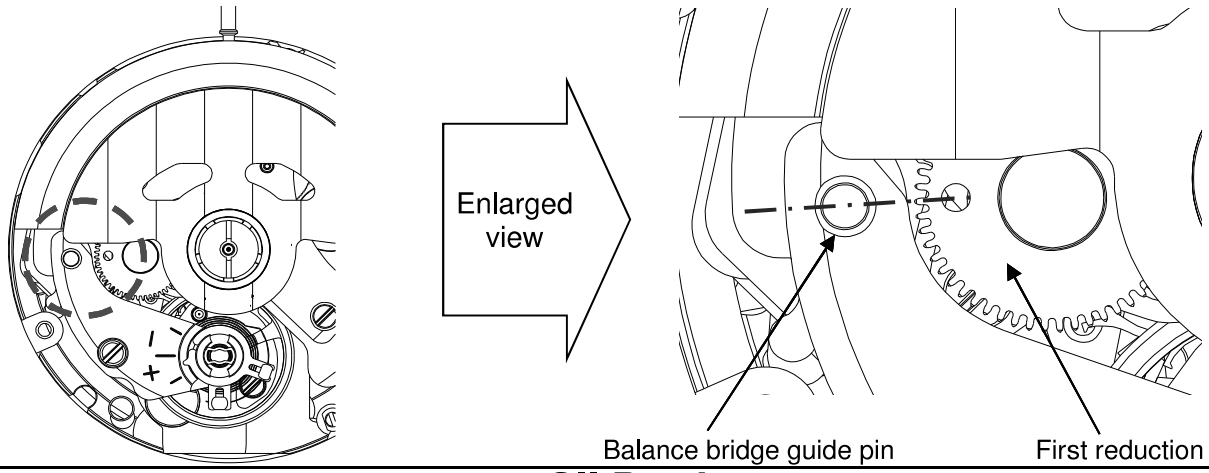
The hooks of the ratchet sliding wheel spring are hung up on barrel and train wheel bridge.

7.Assembling position of oscillating weight

- Before assembling oscillating weight.

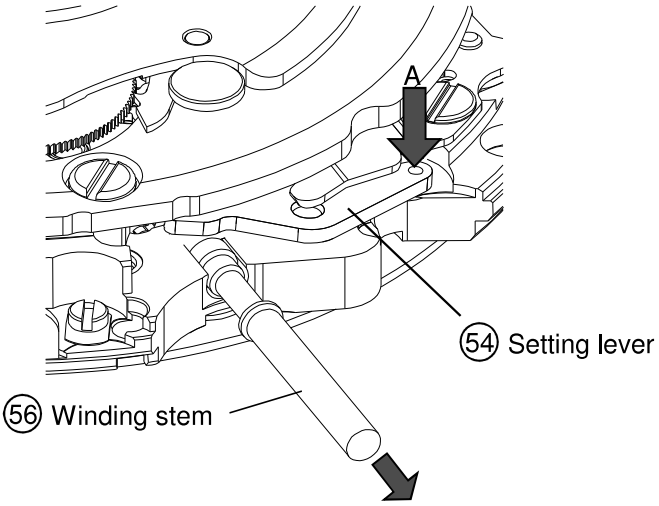
Match the center of the oscillating weight and winding stem.

Set the hole of first reduction wheel gear on the imaginary line toward the balance bridge guide pin.

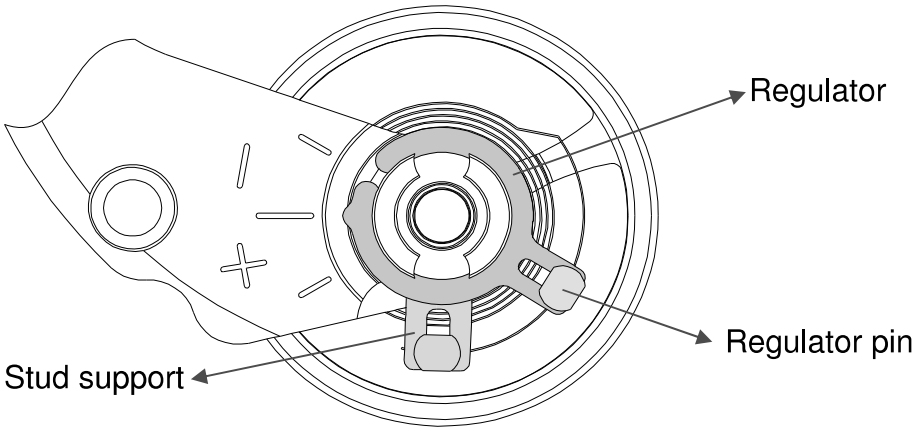


8.To remove the winding stem

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

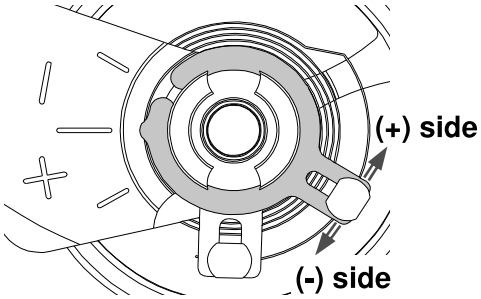


9.Accuracy adjustment

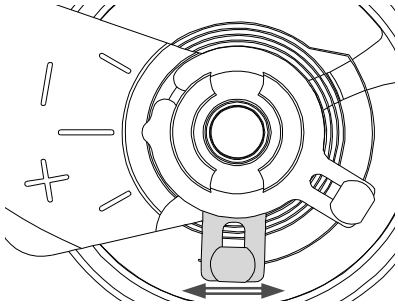


Note:

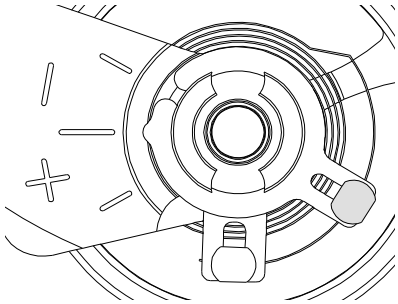
▪Regulator … Time adjustment



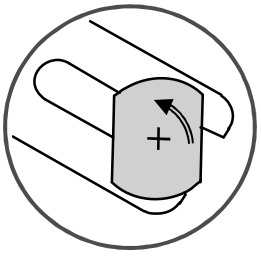
▪Stud support … Beat error adjustment



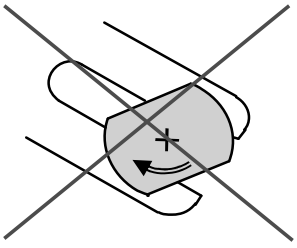
▪Regulator pin … Gap adjustment of balance spring and regulator pin



Anticlockwise rotation



No clockwise rotation



10.To wind up the mainspring

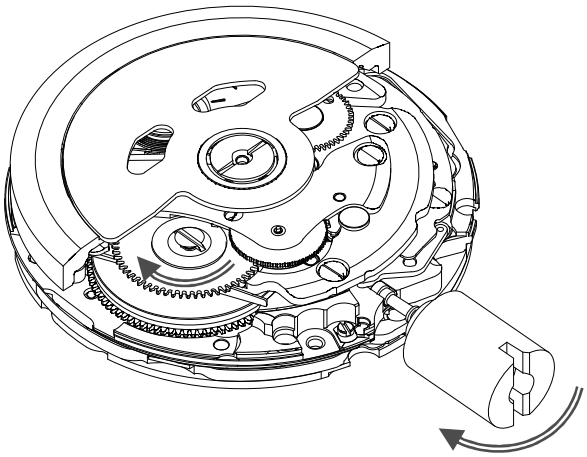
<<Movement>>

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

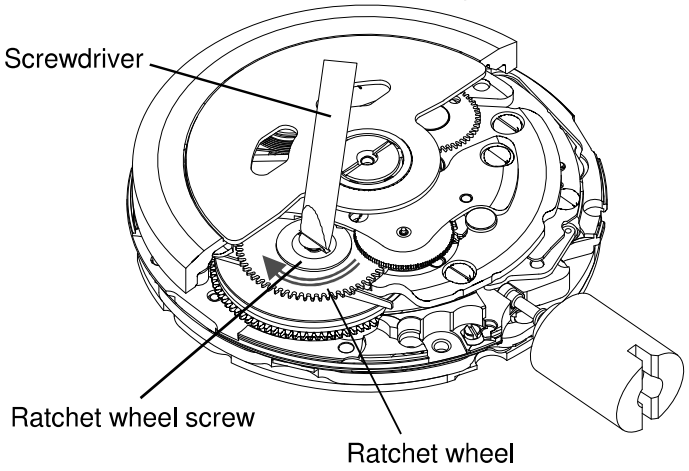
Manual winding … Rotate crown clockwise at normal position by min 55 times. (Equal to ratchet wheel screw 8 times)

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

[Manual winding]



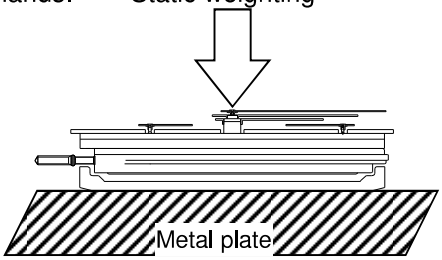
[Screwdriver winding]



11.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.

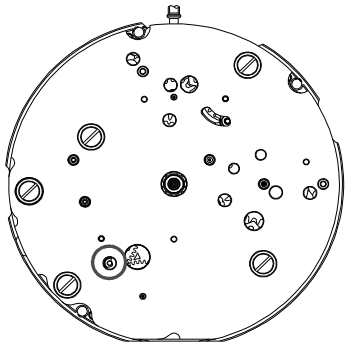
Static weighting

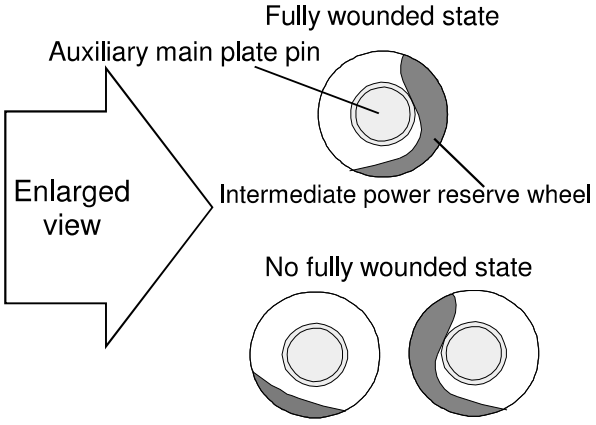


<<Note: Power reserve hand setting>>

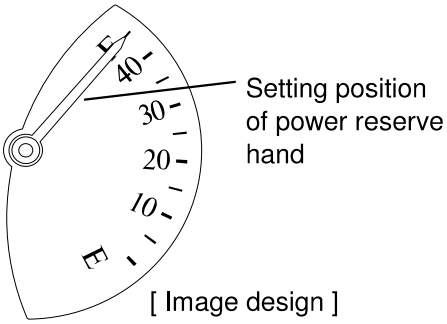
(1)The mainspring should be fully wounded up before setting power reserve hand.
(2)Set power reserve hand at the fully wound up position of the dial graduation.

[HOW TO CHECK]





[Hand setting position]



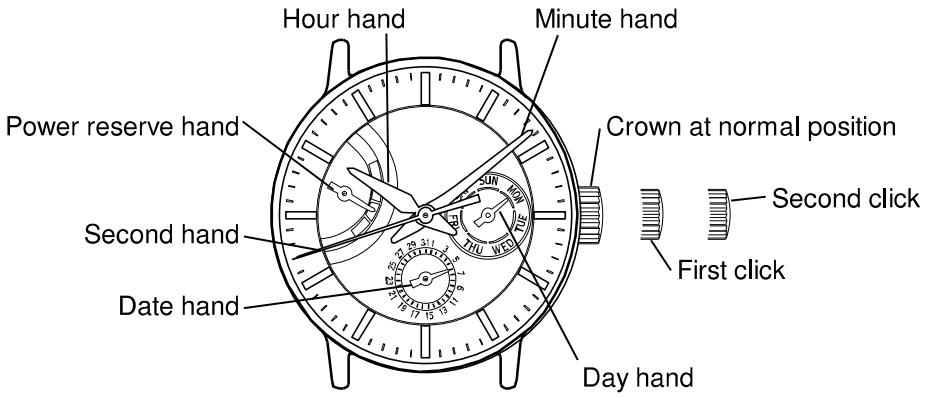
12.Accuracy measurement condition

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 : 52 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.

[NE20B operation manual]



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.
   *When time setting is performed in counterclockwise, day and date hands reverses.
   Please reset by day-date correction.

2.How to set the Day-date hands

1) Pull out the crown to the first click position.
2) Turn the crown to left for date setting.
3) Turn the crown to right for day setting.
   * Do not set the calendar between 9:00 P.M. and 2:00 A.M. If the setting of the calendar is made during this period, the day or date will not change to the next day or date. Please set the calendar after changing the time other than the above period.
4) 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