TIME MODULE

TECHNICAL GUIDE

&

PARTS CATALOGUE

Cal.NH3 Series

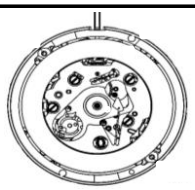
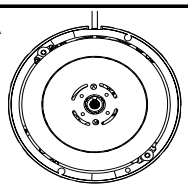
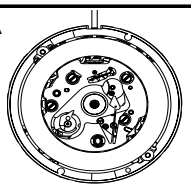
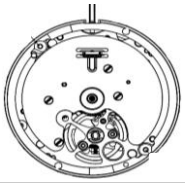
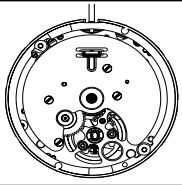
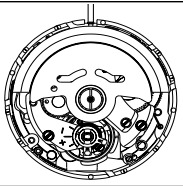
(NH35A/36A/37A/38A/39A)

AUTOMATIC MECHANICAL

TIME MODULE

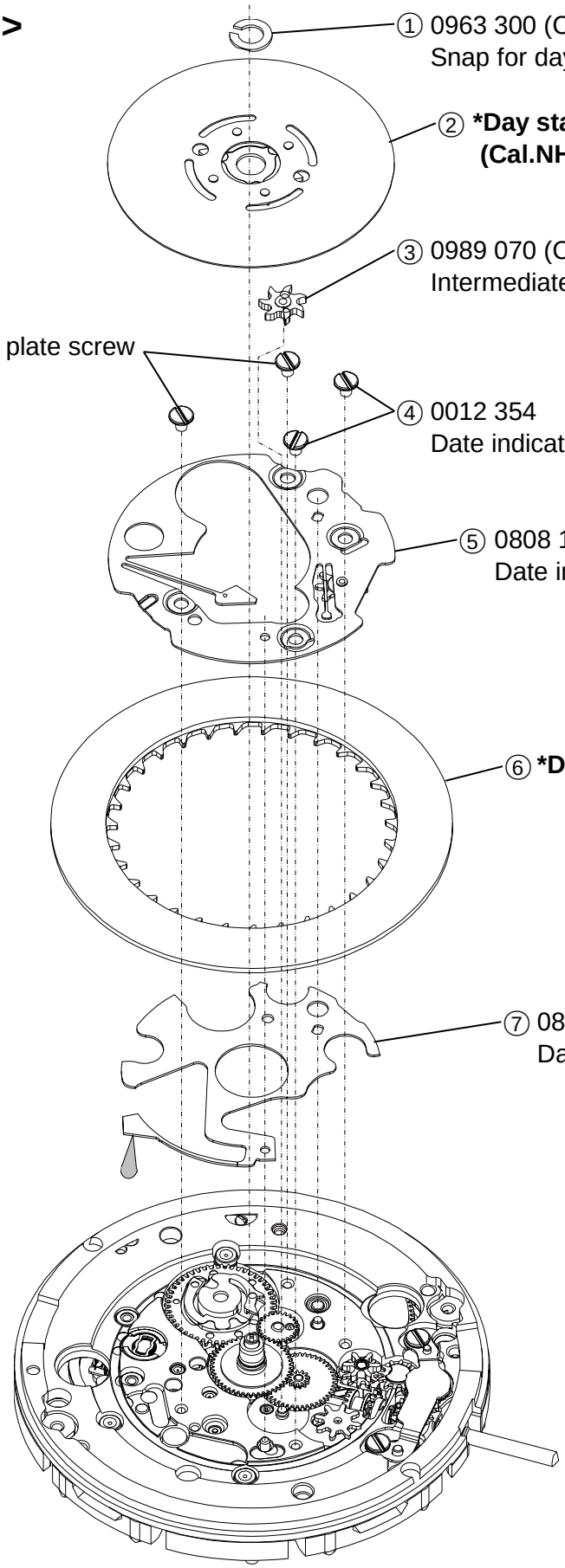
SPECIFICATION

Version-01
Cal.NH3 Series
（NH35A/36A/37A/38A/39A）

Movement			NH35A 	NH36A 	NH37A 	
			NH38A 	NH39A 		
Movement size	Outside diameter		Φ27.40 mm			
	Casing diameter		Φ29.36 mm (with dial holding spacer)			
	Total height		5.32 mm			
Cal. No.			NH35A	NH36A	NH37A	NH38A / NH39A
Time indication	3 Hands (hour, minute, second)		○	○	○	○ / ○
	Date calendar		○	○	○	- / -
	Day calendar		-	○	-	- / -
	24 hour indicator		-	-	○	- / ○
Basic function	Manual winding		○	○	○	○ / ○
	Automatic winding with ball bearing		○	○	○	○ / ○
	Stop-second device		○	○	○	○ / ○
	Quick date correction		○	-	○	- / -
	Quick day-date correction		-	○	-	- / -
Frequency			21,600 vibrations per hour			
Accuracy	Static accuracy		- 20 ~ + 40 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 60 seconds within maximum 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)		- 20 ~ + 40 seconds per day. * Direction of position : Dial up * Difference of static accuracy of 24 h and 0 h			
Duration time			More than 41 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 (Reference information) (1) Rotary speed : 30 rpm (2) Operating time : 60 minutes			
Crown position	Normal position	Counterclockwise	Free			
		Clockwise	Manual winding			
	First click	Counterclockwise	Date setting	Date setting	Date setting	Time setting
		Clockwise	Free	Day setting	Free	
	Second click		Time setting			-

Disassembling procedures Figs. ① → ㊽ Reassembling procedures Figs. ㊽ → ①	**Type of oil** Moebius 9010 S-6 S-4	**Oil quantity mark** NORMAL QUANTITY SUFFICIENT QUANTITY

<<NH35A/36A/37A>>



① 0963 300 (Cal.NH36A only)
Snap for day star with dial disk

② ***Day star with dial disk (Cal.NH36A only)**

③ 0989 070 (Cal.NH36A only)
Intermediate wheel for day corrector

④ 0012 354
Date indicator maintaining plate screw

④ 0012 354
Date indicator maintaining plate screw

⑤ 0808 183
Date indicator maintaining plate

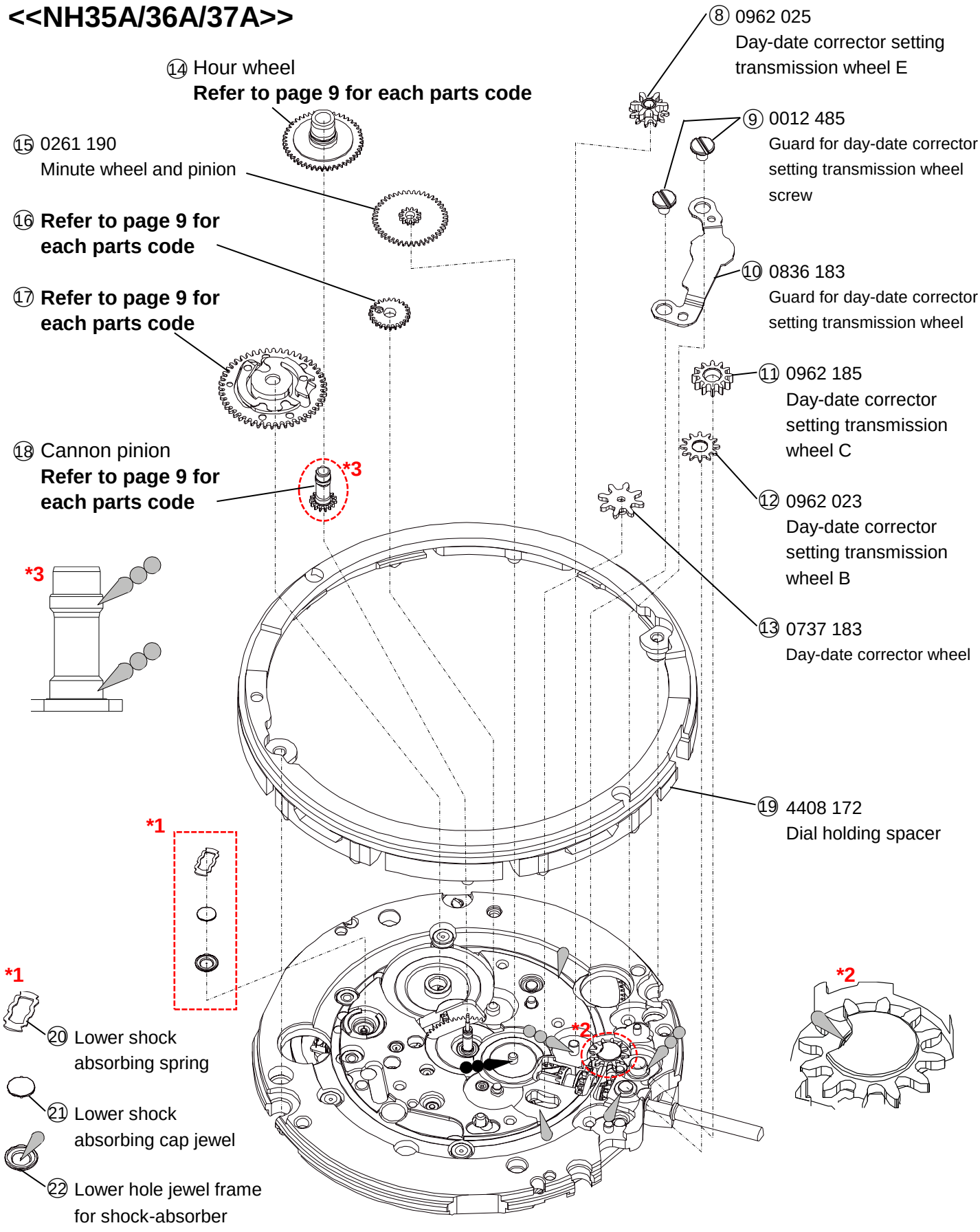
⑥ ***Date dial**

⑦ 0810 333
Date jumper

***Refer to page 8 for each parts code**

Disassembling procedures Figs.	Type of oil	Oil quantity mark
① → ⑱ Reassembling procedures Figs. ⑱ → ①	Moebius 9010 S-6 S-4	NORMAL QUANTITY SUFFICIENT QUANTITY

<<NH35A/36A/37A>>



⑭ Hour wheel
Refer to page 9 for each parts code

⑮ 0261 190
Minute wheel and pinion

⑯ **Refer to page 9 for each parts code**

⑰ **Refer to page 9 for each parts code**

⑱ Cannon pinion
Refer to page 9 for each parts code

⑧ 0962 025
Day-date corrector setting transmission wheel E

⑨ 0012 485
Guard for day-date corrector setting transmission wheel screw

⑩ 0836 183
Guard for day-date corrector setting transmission wheel

⑪ 0962 185
Day-date corrector setting transmission wheel C

⑫ 0962 023
Day-date corrector setting transmission wheel B

⑬ 0737 183
Day-date corrector wheel

⑲ 4408 172
Dial holding spacer

*1
⑳ Lower shock absorbing spring

㉑ Lower shock absorbing cap jewel

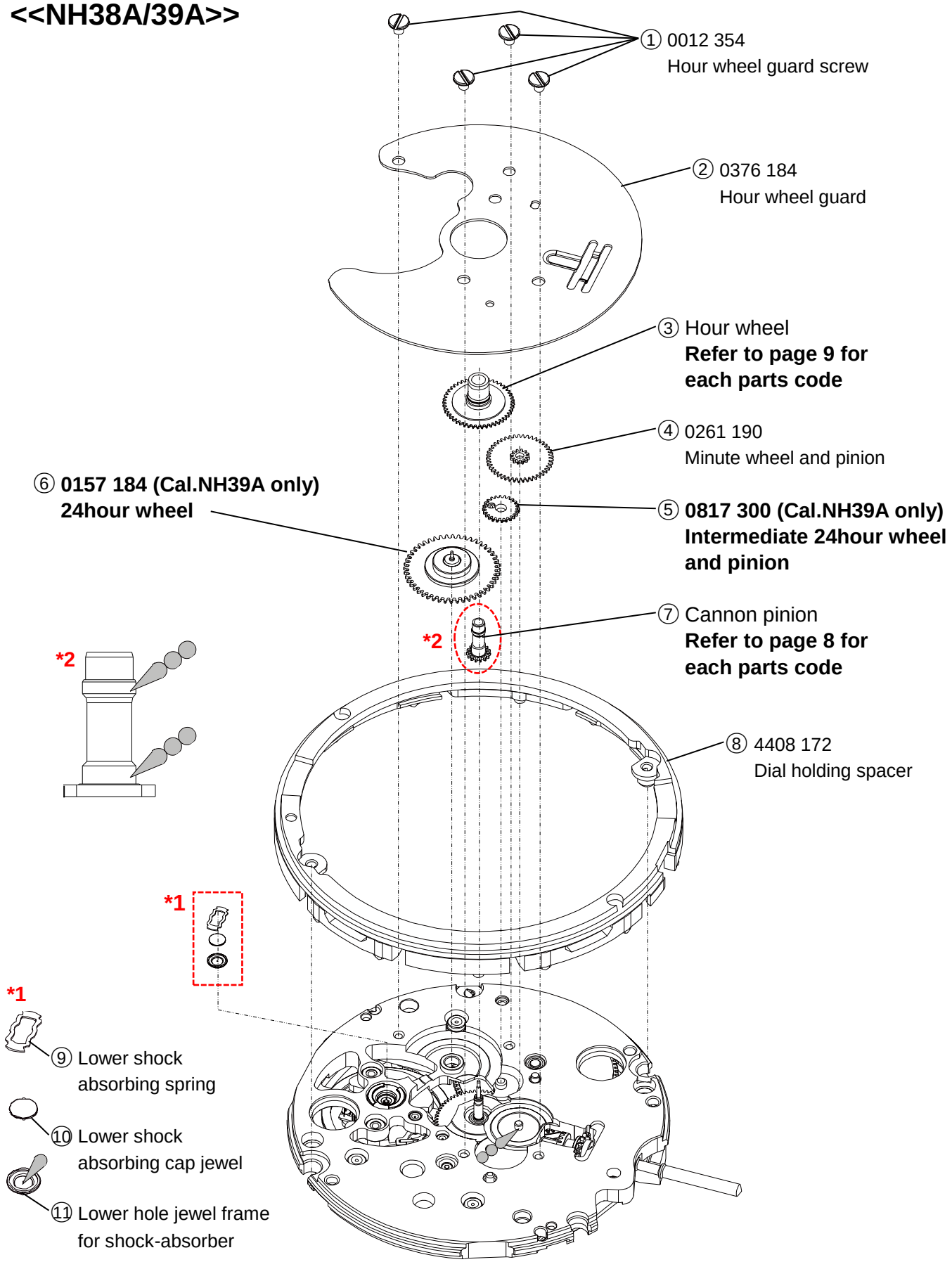
㉒ Lower hole jewel frame for shock-absorber

*2

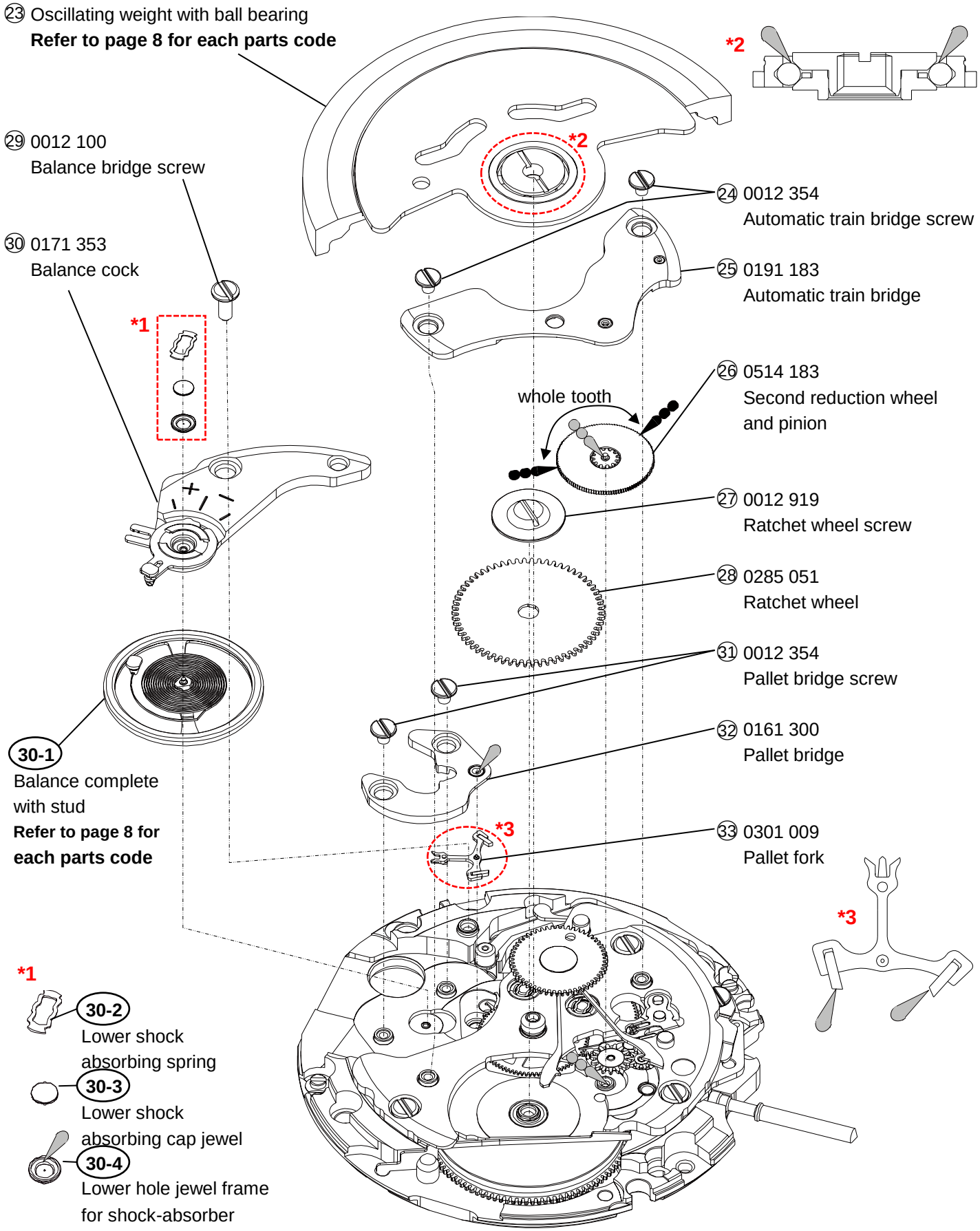
*3

Disassembling procedures Figs. ① → ㊽ Reassembling procedures Figs. ㊽ → ①	**Type of oil** Moebius 9010 S-6 S-4	**Oil quantity mark** NORMAL QUANTITY SUFFICIENT QUANTITY

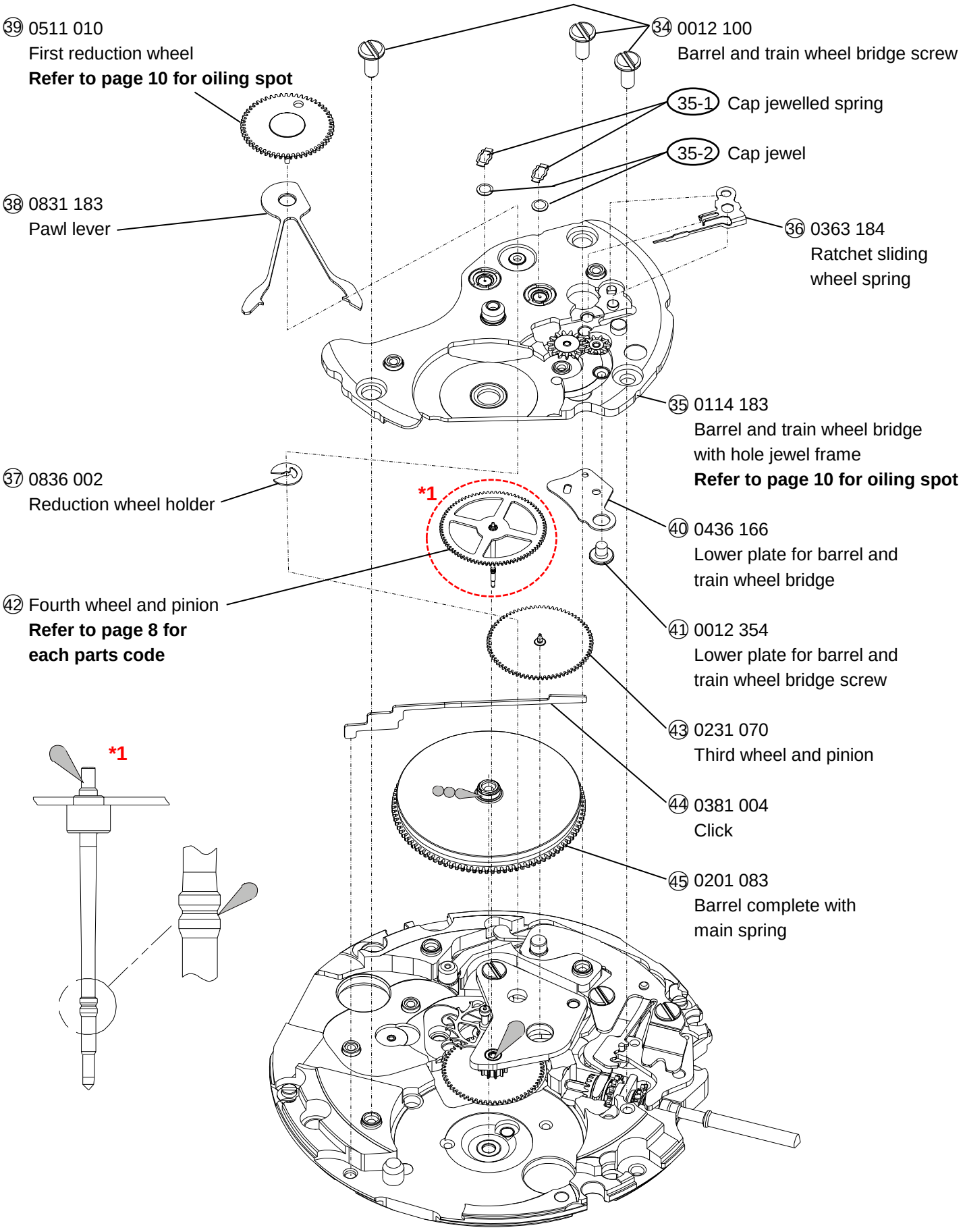
<<NH38A/39A>>



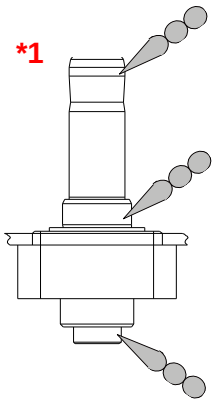
Disassembling procedures Figs. ① → ㊽ Reassembling procedures Figs. ㊽ → ①	**Type of oil** Moebius 9010 S-6 S-4	**Oil quantity mark** NORMAL QUANTITY SUFFICIENT QUANTITY



Disassembling procedures Figs. ① → ㊽ Reassembling procedures Figs. ㊽ → ①	**Type of oil** Moebius 9010 S-6 S-4	**Oil quantity mark** NORMAL QUANTITY SUFFICIENT QUANTITY



Disassembling procedures Figs. ① → ⑱ Reassembling procedures Figs. ⑱ → ①	**Type of oil** Moebius 9010 S-6 S-4	**Oil quantity mark** NORMAL QUANTITY SUFFICIENT QUANTITY



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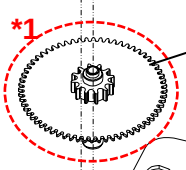

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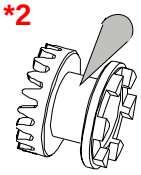

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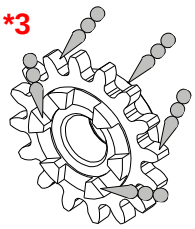
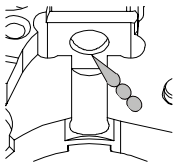


*3

*4
Refer to page 10 for oiling spot



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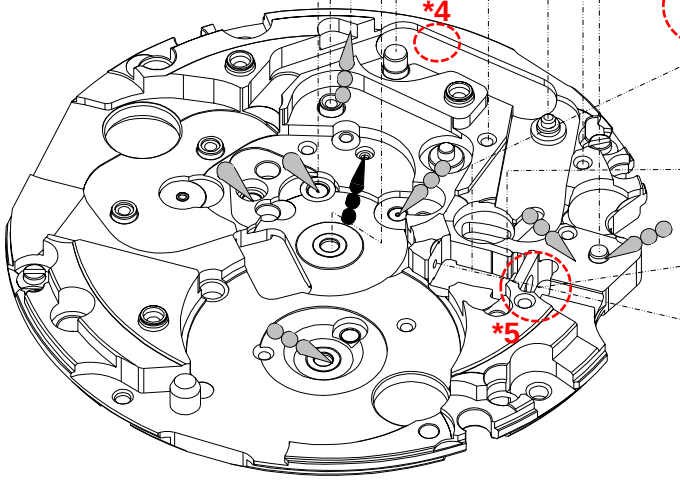

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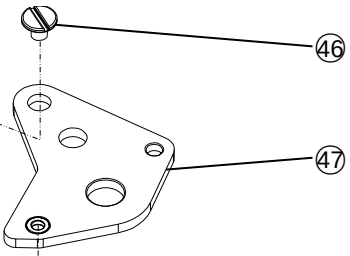
*5



46 0012 354
Center wheel bridge screw

47 0122 302
Center wheel bridge

48 0251 300
Escape wheel and pinion

49 Center wheel and pinion
Refer to page 8 for each parts code

50 0012 168
Yoke spring screw

51 0388 177
Yoke spring

52 Yoke
Refer to page 8 for each parts code

53 Setting lever
Refer to page 8 for each parts code

54 0601 183
Balance stop lever

56 0282 183
Clutch wheel

57 0283 020
Winding pinion

*2

*3

58 **0962 183**
(Cal.NH35A/36A/37A)
Day-Date corrector setting transmission wheel A

55 0351 200
Winding stem

② **Day star with dial disk (Cal.NH36A only : Page 2)**

Parts code	Position of crown	Position of day frame	Color of letters	Color of background	Language
0160 495	3H	3H	MON～FRI : Black SAT : Blue SUN : Red	White	English & Spanish

⑥ **Date dial (Page 2)**

Cal.	Parts code	Position of crown	Position of day frame	Color of letters	Color of background
NH35 NH37	0878 208	3H	3H	Black	White
NH36	0878 206	3H	3H	Black	White

⑱ **Cannon pinion (Page 3)**

Cal.	Parts code	Cal.	Parts code
NH35 NH36	0225 420	NH37	0225 426

⑦ **Cannon pinion (Page 4)**

Cal.	Parts code	Cal.	Parts code
NH38	0225 420	NH39	0225 426

㉓ **Oscillating weight with ball bearing (Page 5)**

Cal.	Parts code	Marking
NH35	0509 467	Japan mark
	0509 468	Malaysia mark
NH36	0509 463	Japan mark
	0509 464	Malaysia mark
NH37	0509 470	Japan mark
	0509 471	Malaysia mark

Cal.	Parts code	Marking
NH38	0509 476	Japan mark
	0509 477	Malaysia mark
NH39	0509 473	Japan mark
	0509 474	Malaysia mark

30-1 **Balance complete with stud (Page 5)**

Cal.	Parts code	Cal.	Parts code
NH35 NH36 NH37	0310 183	NH38 NH39	0310 184

㊷ **Fourth wheel and pinion (Page 6)**

Cal.	Parts code	Cal.	Parts code
NH35 NH36 NH38	0241 010	NH37 NH39	0144 185

㊾ **Center wheel and pinion (Page 7)**

Cal.	Parts code	Cal.	Parts code
NH35 NH36 NH38	0224 203	NH37 NH39	0224 205

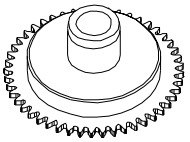
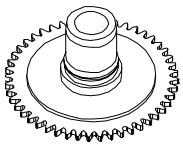
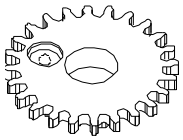
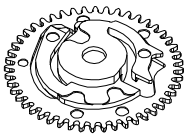
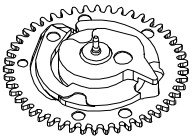
㊷ **Yoke (Page 7)**

Cal.	Parts code	Cal.	Parts code
NH35 NH36 NH37	0384 183	NH38 NH39	0384 184

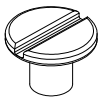
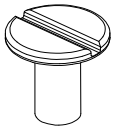
㊸ **Setting lever (Page 7)**

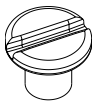
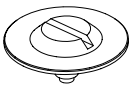
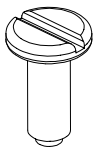
Cal.	Parts code	Cal.	Parts code
NH35 NH36 NH37	0383 185	NH38 NH39	0383 186

■ **Remarks : Different parts for each CAL.**

Page	No	Cal. NH35	NH36	NH37	NH38	NH39	Parts code	Parts name	Parts form
3	⑭	○	-	-	-	-	0273 182	Hour wheel 0273 182 & 0273 184 (Height difference)	
		-	○	-	-	-	0273 183		
		-	-	○	-	-	0273 184		
4	③	-	-	-	○	-	0273 183	Hour wheel 0273 183 & 0273 185 (Height difference)	
		-	-	-	-	○	0273 185		
3	⑯	○	○	-	-	-	0817 300	Intermediate date driving wheel and pinion	
		-	-	○	-	○		Intermediate 24hour wheel and pinion	
3	⑰	○	○	-	-	-	0802 183	Date indicator driving wheel	
		-	-	○	-	-	0157 182	24hour wheel	

■ **List of screw**

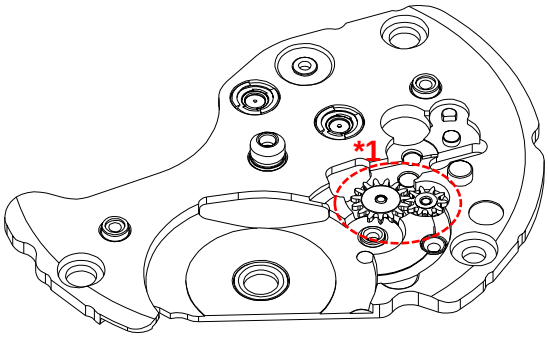
Page	No	Parts code	Parts name	Parts form
2	④	0012 354	Date indicator maintaining plate screw (x4)	
4	①		Hour wheel guard screw (x4)	
5	㉔		Automatic train bridge screw (x2)	
	㉛		Pallet bridge screw (x2)	
6	㊶		Lower plate for barrel and train wheel bridge screw	
7	㊻		Center wheel bridge screw	
7	㊿	0012 168	Yoke spring screw (x2)	

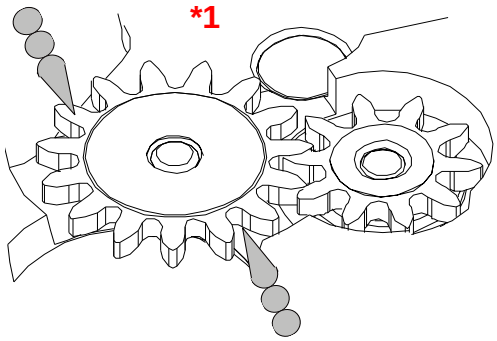
Page	No	Parts code	Parts name	Parts form
3	⑨	0012 485	Guard for day-date corrector setting transmission wheel screw (x2)	
5	㉗	0012 919	Ratchet wheel screw	
5	㉙	0012 100	Balance bridge screw	
6	㉞		Barrel and train wheel bridge screw (x3)	

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

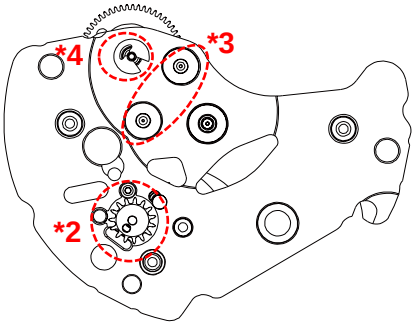
1.Oiling spot

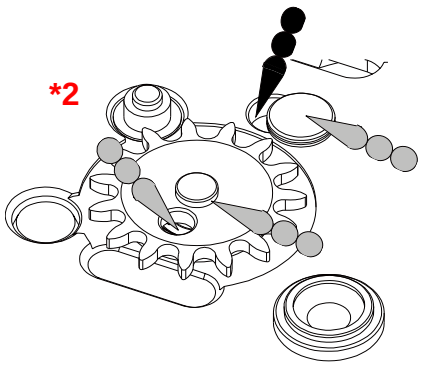
㉟ Barrel and train wheel bridge with hole jewel frame

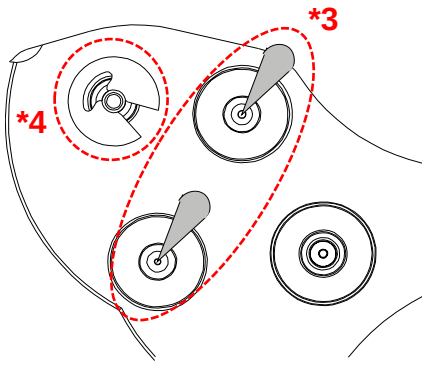




Barrel and train wheel bridge with hole jewel frame (back side)

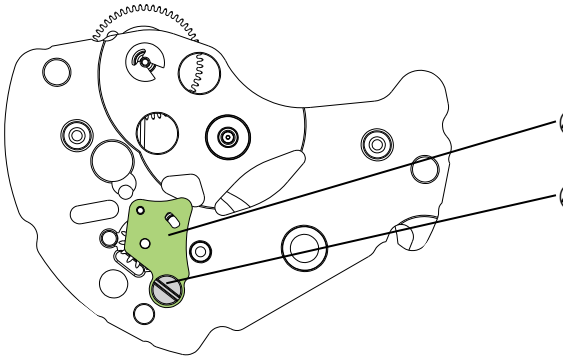






Note

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

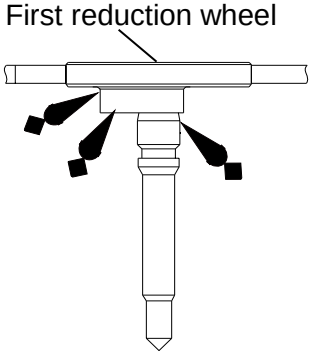


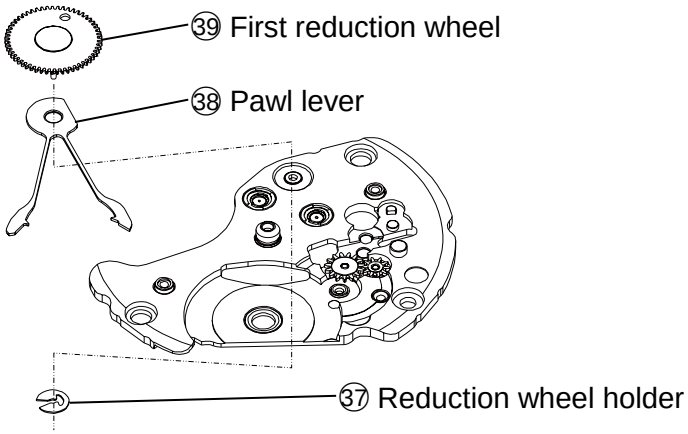
㊵ Lower plate for barrel and train wheel bridge

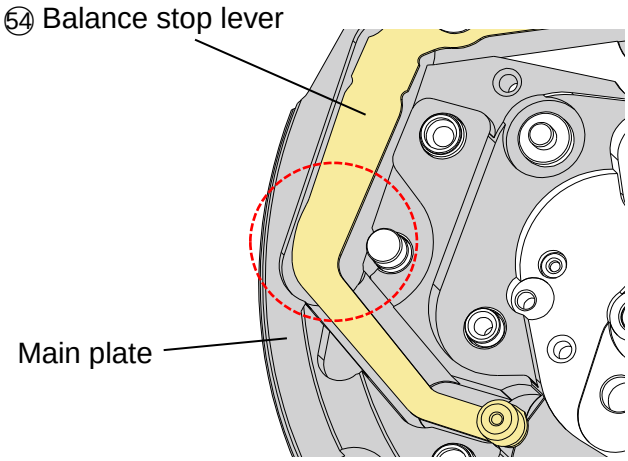
㊶ Lower plate for barrel and train wheel bridge screw

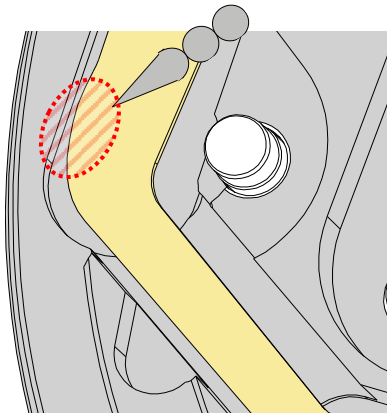
***4** After oiling, set <u>first reduction wheel</u> & <u>pawl lever</u> & <u>reduction wheel holder.</u>

㊴ First reduction wheel







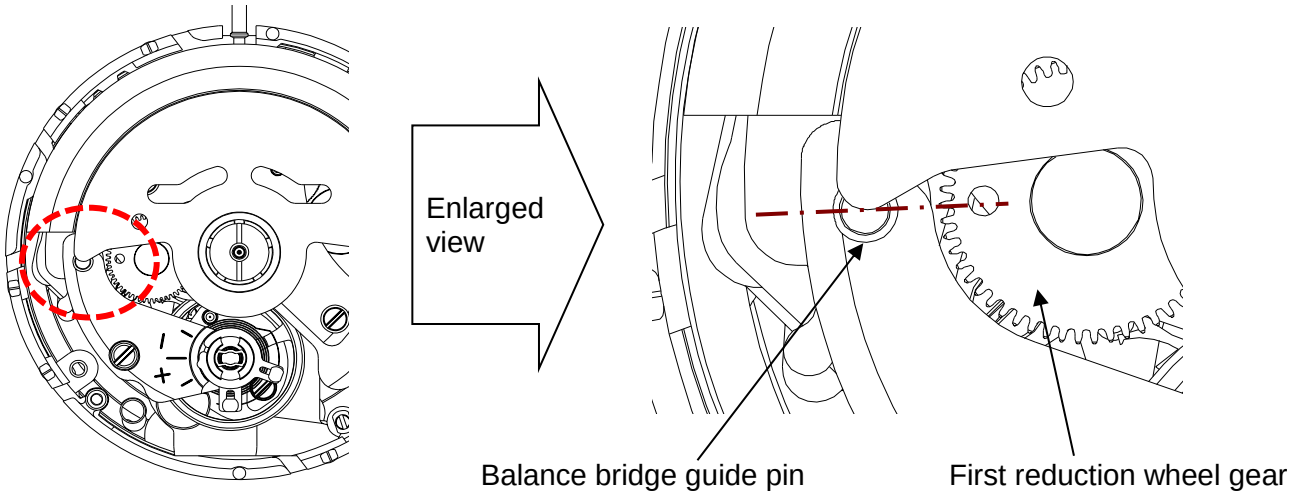


Contact part of main plate and balance stop lever

2.Setting position of oscillating weight

・Before assembling oscillating weight

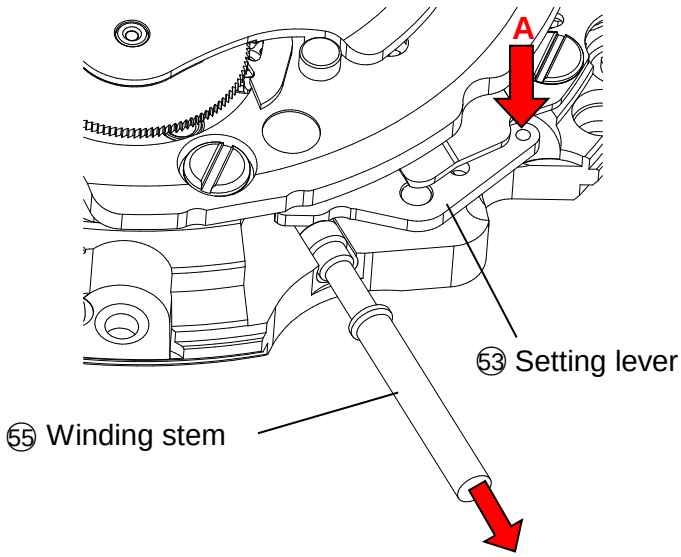
Match the center of the oscillating weight and winding stem. Set the hole of first reduction wheel gear on the imaginary line toward the balance bridge guide pin.



3.To remove the winding stem

1) Set the winding stem to normal position

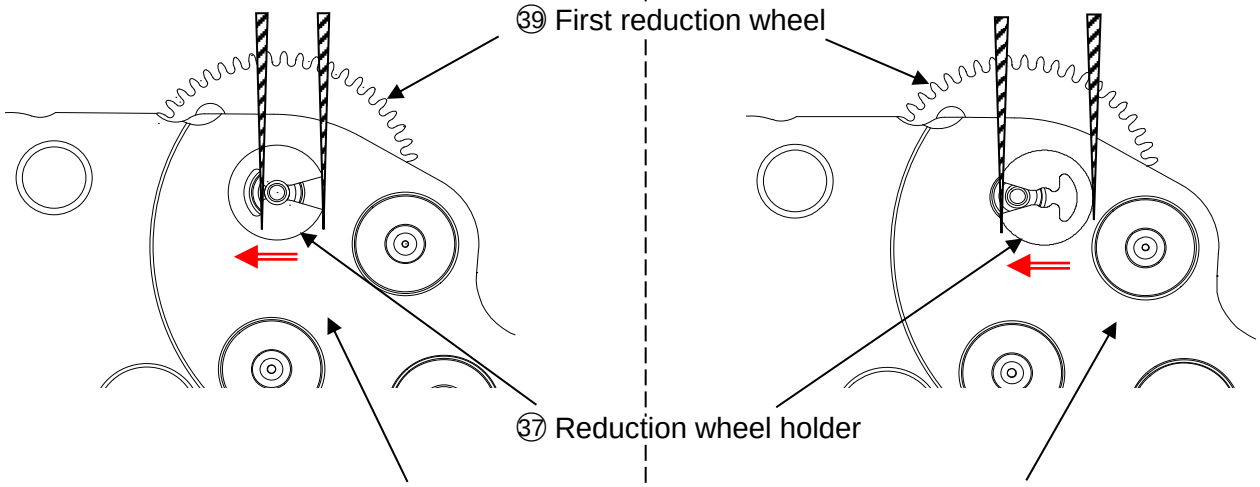
2) Pull out the winding stem, while pushing "**A**"



4.Disassembling / assembling of the First reduction wheel

<< Disassembling >>

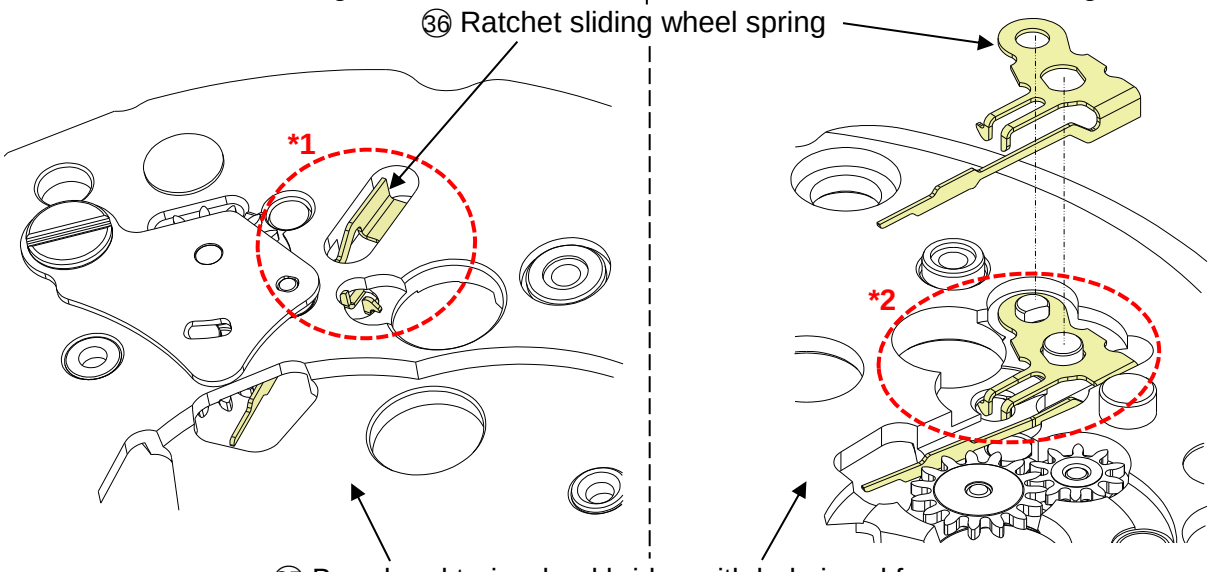
<< Assembling >>

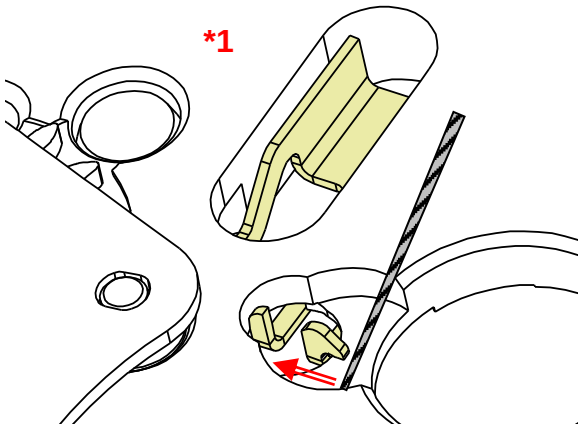


5.Disassembling / assembling of the Ratchet sliding wheel spring

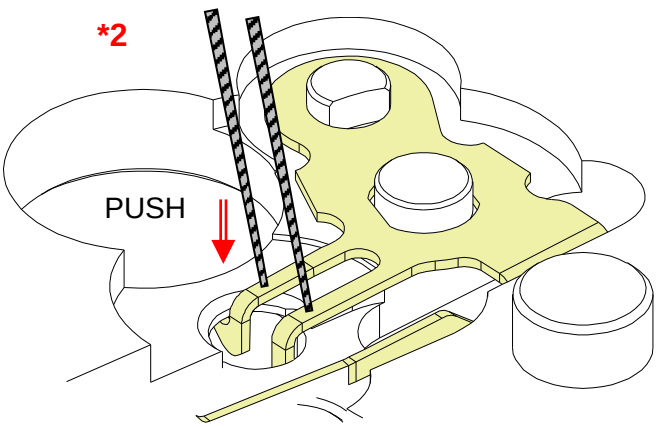
<< Disassembling >>

<< Assembling >>



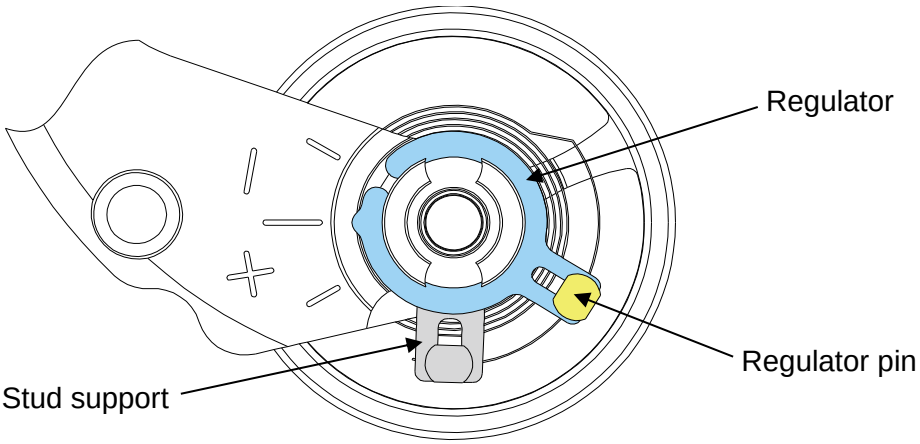


Remove the hook of the ratchet sliding wheel spring from barrel and train wheel bridge with hole jewel frame.



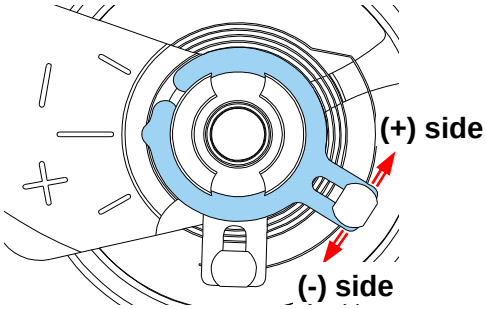
The hooks of ratchet sliding wheel spring are hung up on barrel and train wheel bridge with hole jewel frame.

6.Accuracy adjustment

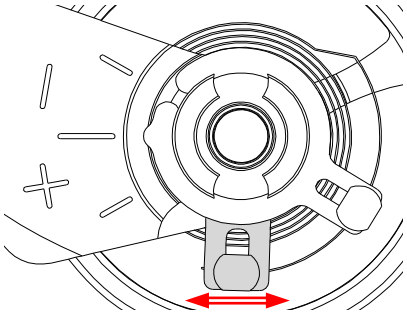


Note:

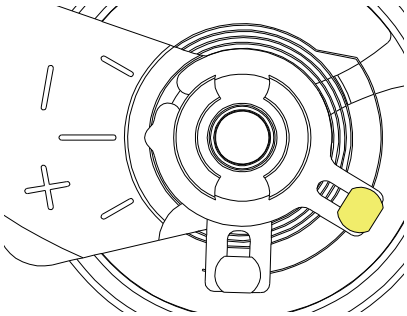
・Regulator (Time adjustment)



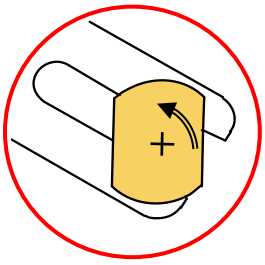
・Stud support (Beat error adjustment)



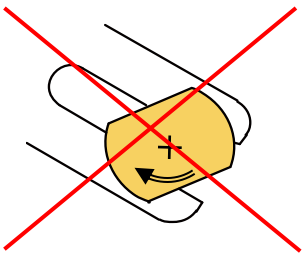
・Regulator pin (Gap adjustment of balance spring and regulator pin)



Anticlockwise rotation



No clockwise rotation



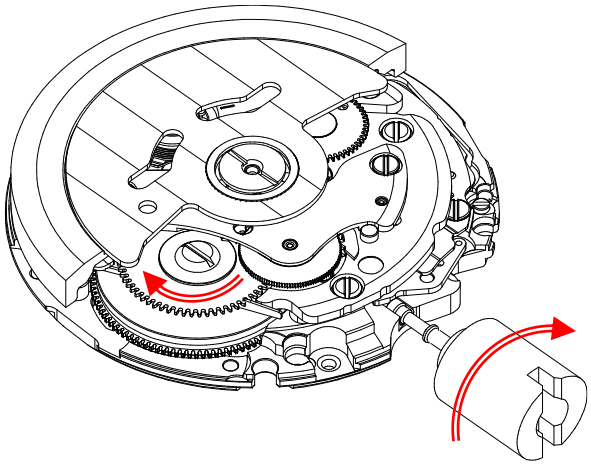
7.To wind up the mainspring

<<Movement>>

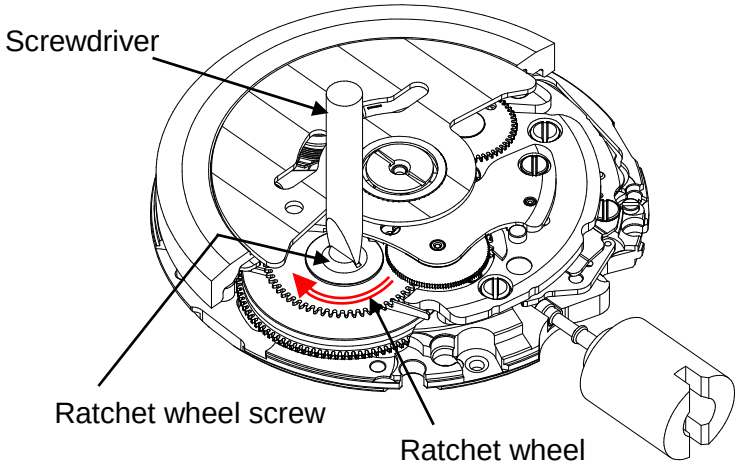
・Manual winding (Fully wound up by turning the crown minimum 55 times)

・Screwdriver winding (Fully wound up by turning the ratchet wheel screw 8 times)

[Manual winding]



[Screwdriver winding]



8.How to install hands

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

We recommend the use of movement holder to install hands.

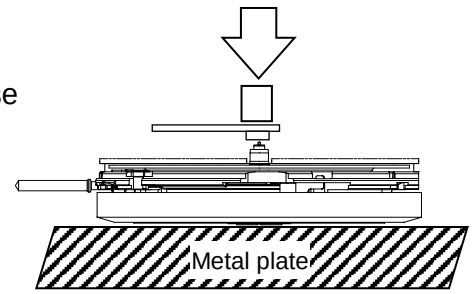
For hands attachment, please use a special equipment.

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

***Install the 24hour hand (Cal.NH37A/39A)**

Pull out the crown to the second click position and rotation it clockwise to install 24hour hand.

Static weighting



9.Accuracy measurement condition

Static Accuracy : - 20 ~ + 40 seconds per day

Measurement Conditions

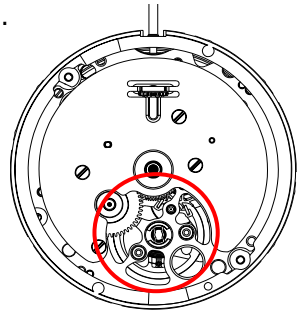
1) Measurement should be done within 10 ~ 60 minutes after fully wound up.
2) Lift angle : 53 deg
3) Measurement position : (1) Dial up (2) 9 o'clock up (3) 6 o'clock up
4) Minimum measurement Time : 20 seconds
5) Stabilizing Time :

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

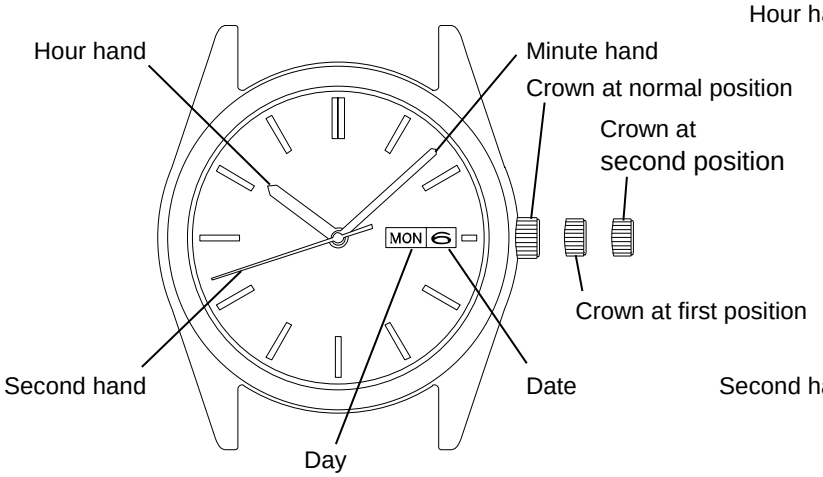
10.About the handling (Cal.NH38A/39A)

○ Part is processed as a mirror surface. It is damaged when touching with tweezers.

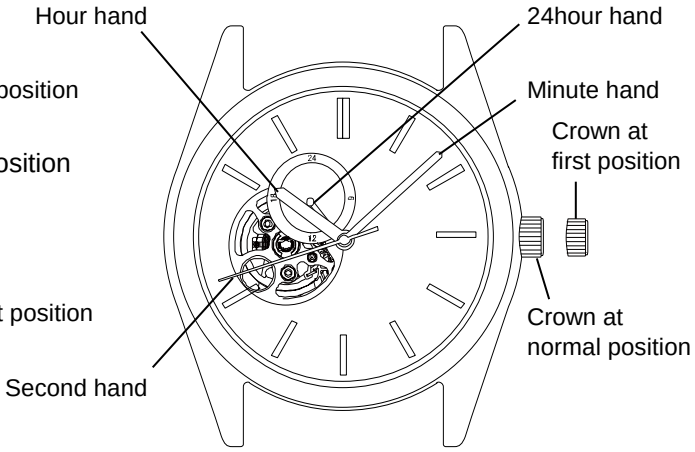
Please be careful about the handling.



NH35A/36A/37A



NH38A/39A



Time indication	NH35	NH36	NH37	NH38	NH39
3Hands (Hour, Minute, Second)	O	O	O	O	O
Date calendar	O	O	O	-	-
Day calendar	-	O	-	-	-
24hour indicator	-	-	O	-	O

1.How to set the time

1) Pull out the crown to the second click position. (Cal.NH35A/36A/37A)
   Pull out the crown to the first click position. (Cal.NH38A/39A)
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.How to set the Date (Cal.NH35A/36A/37A)

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. (Cal.NH36A only)
   *Do not set the date between 9:00 P.M. and 4:00 A.M. as this will cause a malfunction.
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)
   Fully wound up by turning the crown minimum 55 times. It will start to move naturally after shaking slightly.

b) To wind up with winding machine.
   Full wind up conditions (Reference information)
   ・Rotary speed : 30 rpm
   ・Operating time : 60 minutes