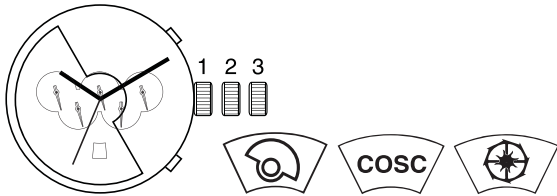
	Technical Guide		TG-19-C-060-E	A
	Produced by: pelrom	Date: 28.08.2008	3	

# CALIBRE

## 3888

	Version A
$13\frac{1}{4}'''$ Ø 30,00 mm	
Height on movement	8.88 mm
Power reserve	> 52 h
Number of jewels	33
Frequency	4 Hz (28'800 A/h)



Exclusive OMEGA movement, COSC-certified chronometer, self-winding, small second at 9 o'clock, instantaneous date and day. Indication of date with date indicator and day with small hand in the centre of dial. 7-day chronograph: chrono second in the middle, minute counter at 3 o'clock, hour counter at 4.30 o'clock and 7-day counter at 7.30 o'clock. Co-axial escapement with 3-level co-axial wheel: impulse wheel, impulse pinion and drive pinion. Balance without index, with four external regulating screws. Patented setting system to reinforce hairspring at stud, twisted hairspring. New generation of Nivashocks shock-absorber. Luxury decoration, côtes de Genève, red engraving.

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## General information for Calibre 3888

### Date and time setting correction

Date and day corrections are not recommended between 10 p.m. and 2 a.m. A safety component may prevent carrying out these correction functions during this time period and under certain conditions.

### Complete balance bridge (Ref. 10.058°)

Chronometer balance bridges are not available (see CS-Info. Calibre No. 33).

### Co-axial escapement lubrication

See Working Instruction No 40.

### Instantaneous rate

Demagnetise the movement prior to checks according to Working Instruction No 34.

### Measuring instruments depending on operation types

Operation	Minimum equipment required	Comments
<b>Full or partial maintenance service</b> Co-Axial 3.5 Hz & 4 Hz	- Watch Expert II + III (white case) - Chronoscope M1 (updated version) - Chronoscope S1, X1	<b>Test mode : parameters must be set for «Spe1»!</b>
<b>Rate adjustment on new watches :</b> (Co-Axial 3.5 Hz & 4 Hz)	- Watch Expert (red case) - Wicomètre Professionnel - Chronoscope M1 (former version)	<b>Important : the amplitude will not be indicated precisely. This is acceptable for the rate adjustment only!</b>

### Tightening and untightening torques according to screw thread

Screw Ø	Tightening torque target cNm	Untightening torque mini cNm
Ø threads ≤ S 0.50 mm	1.0	0.7
Ø threads S 0.6 mm	1.4	0.8
Ø threads S 0.7 mm	1.8	0.9
Ø threads S 0.8 mm	2.2	1.1
Ø threads S 0.9 mm	2.6	1.3
Ø threads S 1.0 mm	3.0	1.6
Ø threads S 1.2 mm	3.5	2.0
Ø threads S 1.4 and >	4.0	2.5







### Hand fitting

To fit the hands, the movement must be placed in a suitable, well-adjusted movement holder.

#### Tools



Hand fitting tool kit	Ref. 507 0011
Movement holder for hand fitting	507 0123
Movement holder, 2-side use	506 0112
Tool for checking the escapement	506 0111
Mainspring winder	506 0065
Timing key	506 0042
Lever for hairspring collets	502 250 0011

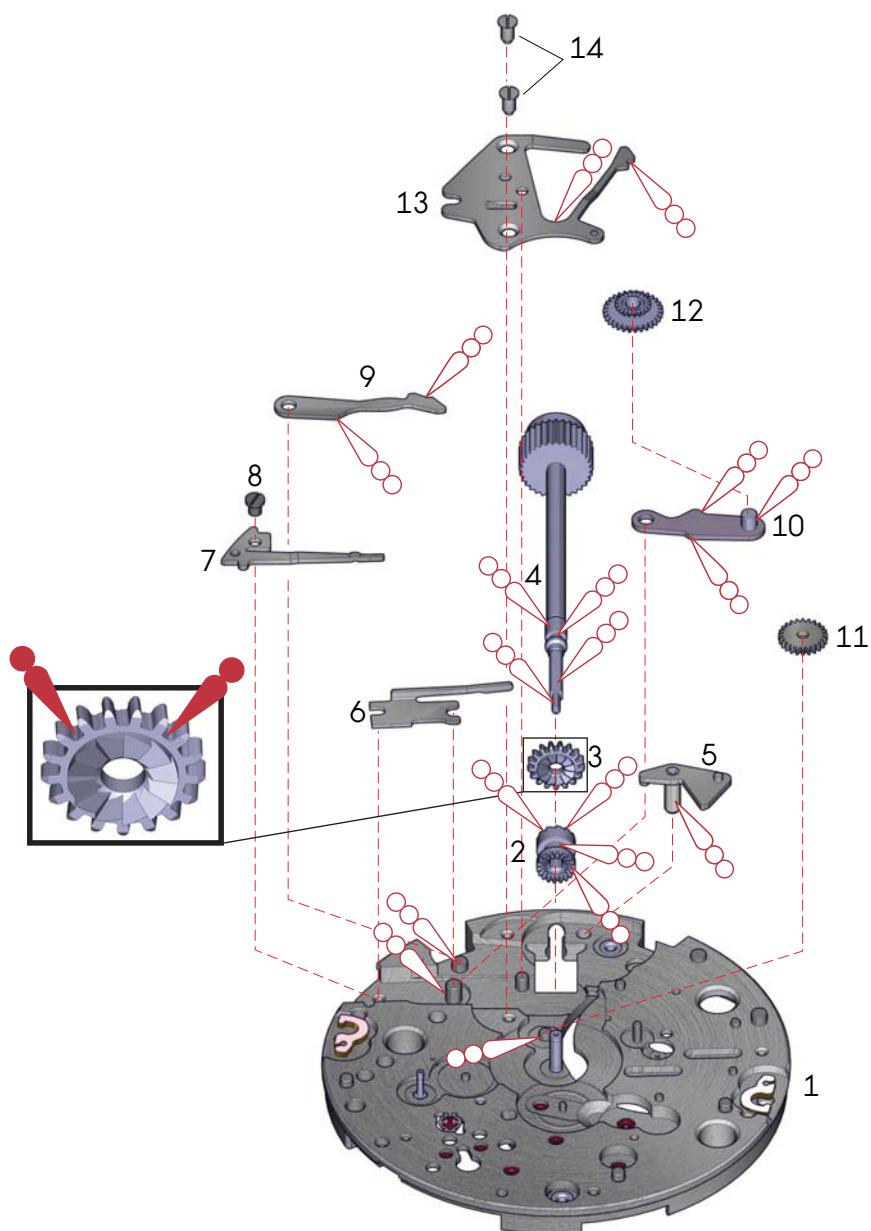
#### Lubricants

 Moebius SYNT-A-LUBE 9010 (2ml)	Ref. 504 200 0001
 Kluber P125	504 100 0071
 Moebius HP-500	504 5012
 Moebius SYNT HP-1300 Sans Colorant	504 5013
 Moebius 9504	504 100 0011
 Molycote DX	504 100 0052
* Small quantity	

## Parts listed in order of assembly

1 = 100207*	8 = 3454/1 (1x)
2 = 31120	9 = 435
3 = 407	10 = 437
4 = 51010	11 = 450
5 = 443/1	12 = 31101
6 = 61100	13 = 445
7 = 61102	14 = 2551/1 (2x)


 Moebius 9504  
 Moebius SYNT HP-1300 Sans Colorant

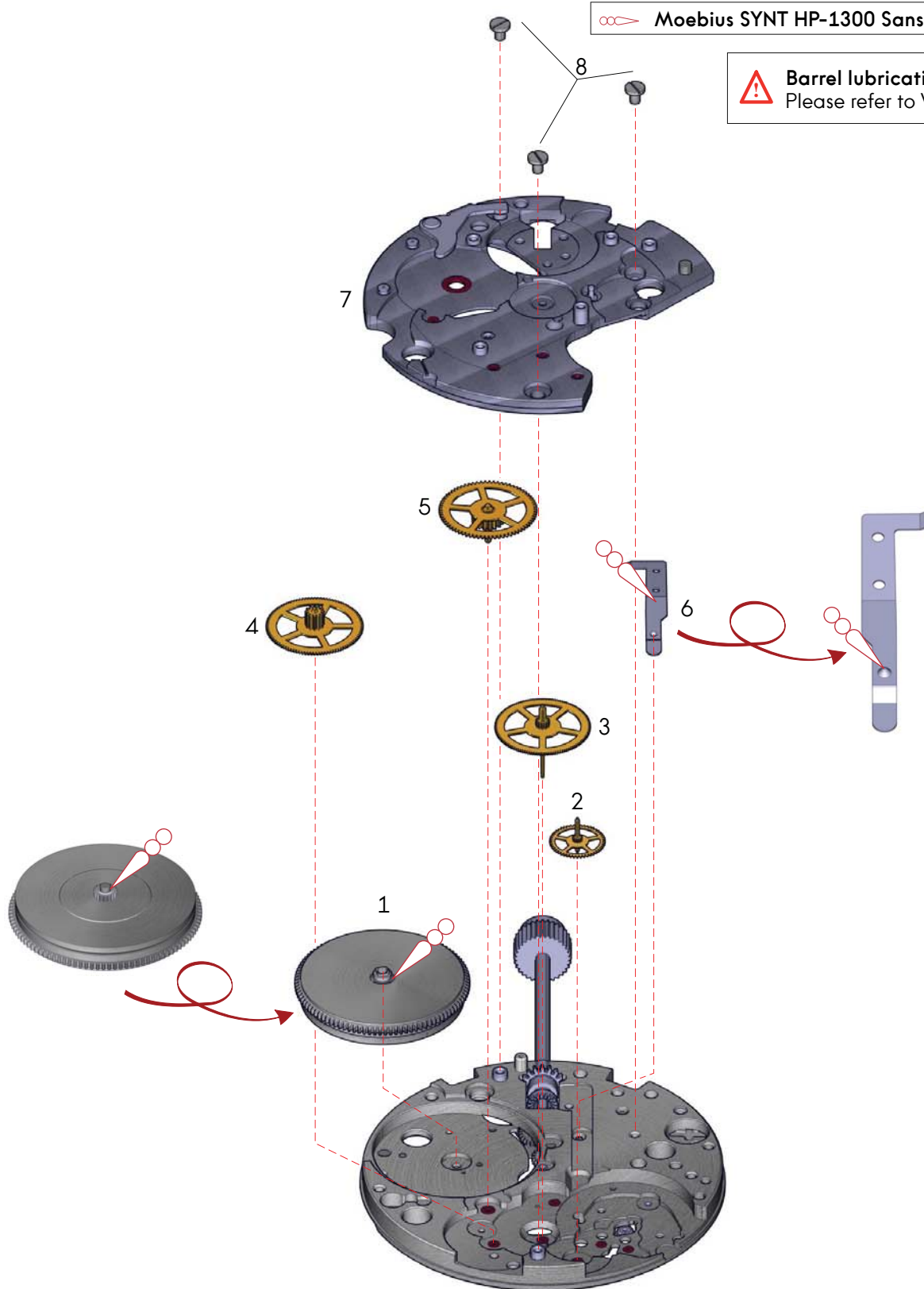


## Parts listed in order of assembly

1 = 20010	5 = 201/1
2 = 30039	6 = 56070
3 = 30027*	7 = 10041
4 = 30025	8 = 3453/1 (3x)

 Moebius SYNT HP-1300 Sans Colorant

 **Barrel lubrication:**  
Please refer to WI 40



## Parts listed in order of assembly

1 = 30040	4 = 3537 (1x)
2 = 40010	5 = 3538 (1x)
3 = 10057	



Moebius SYNT HP-1300 Sans Colorant



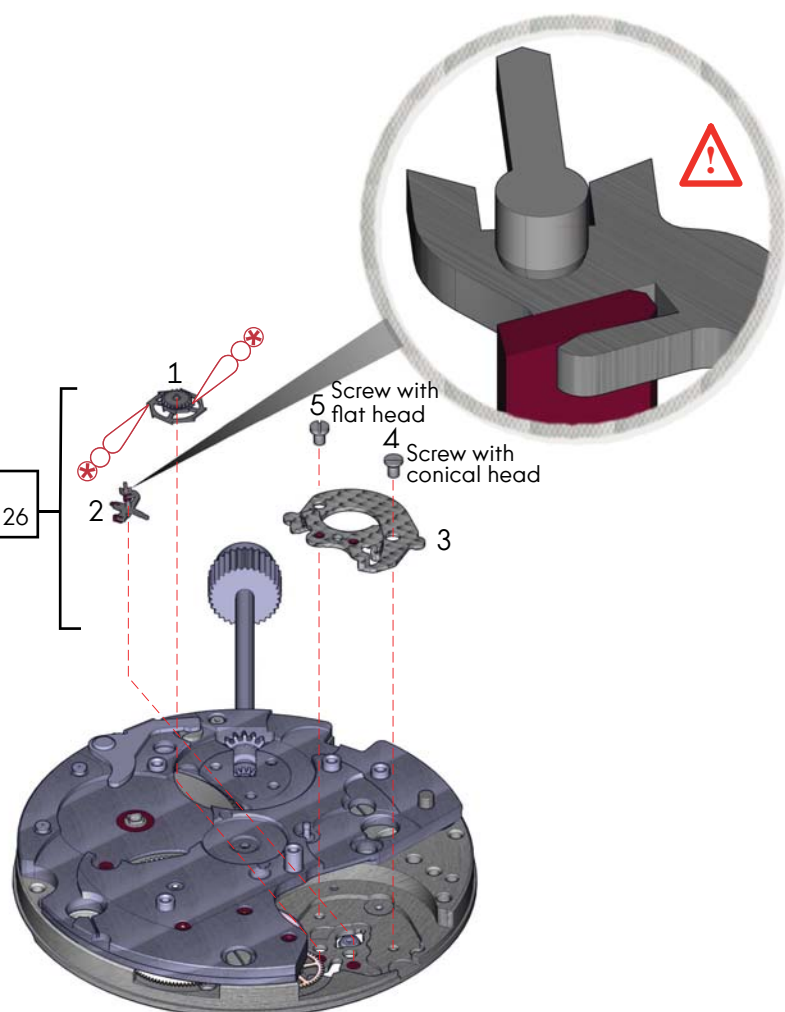
Never touch the inside of the fork.



**Escapement lubrication:**



Please refer to WI 40

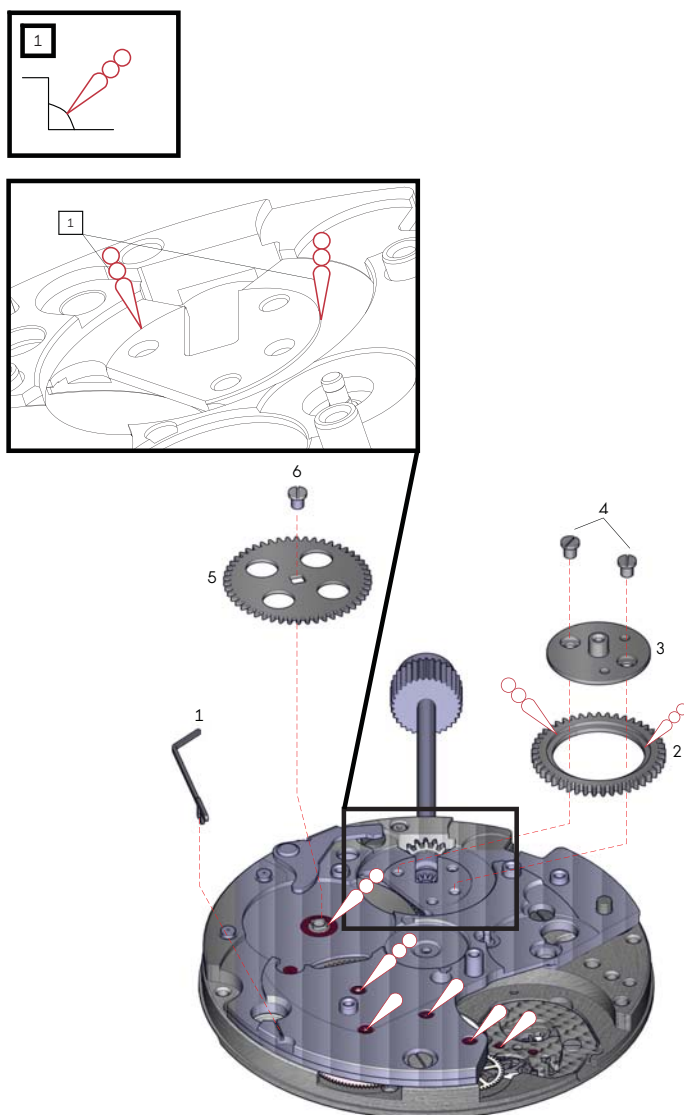
**Warning:**  
See page 26



## Parts listed in order of assembly

1 = 434	4 = 3454/1 (2x)
2 = 420	5 = 415
3 = 423	6 = 3454/1 (1x)

 Moebius SYNT-A-LUBE 9010  
 Moebius SYNT HP-1300 Sans Colorant



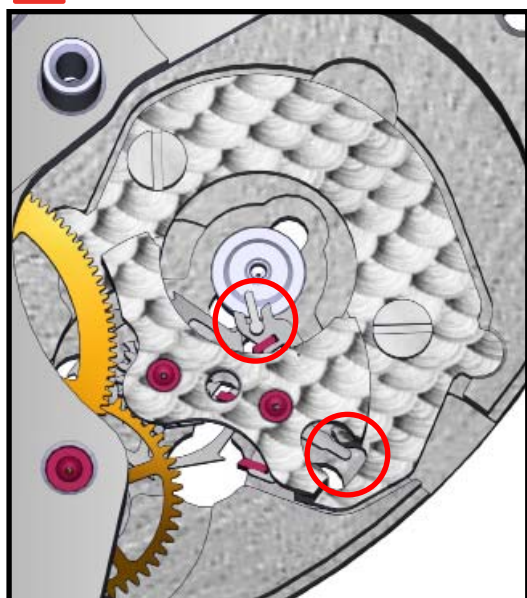


### Parts listed in order of assembly

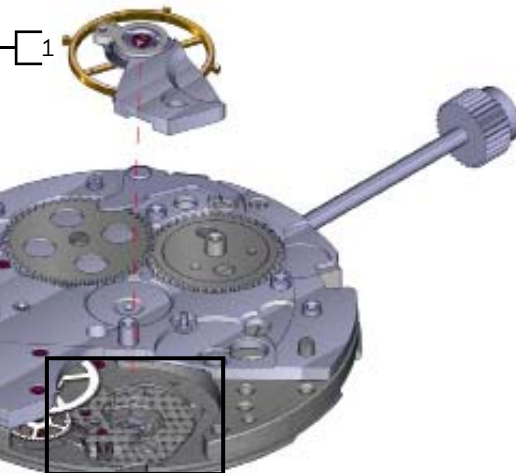
1 = 10058/40050    2 = 3457/1 (1x)

➤ Moebius SYNT-A-LUBE 9010

 **Shock-absorber lubrication:**  
Please refer to WI 40

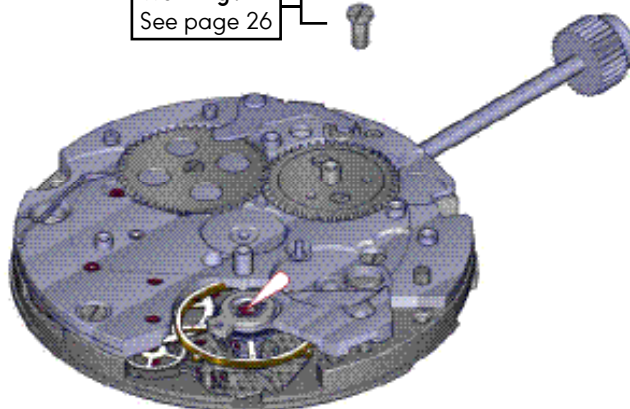


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See page 26



**Warning:**  
See page 26




2

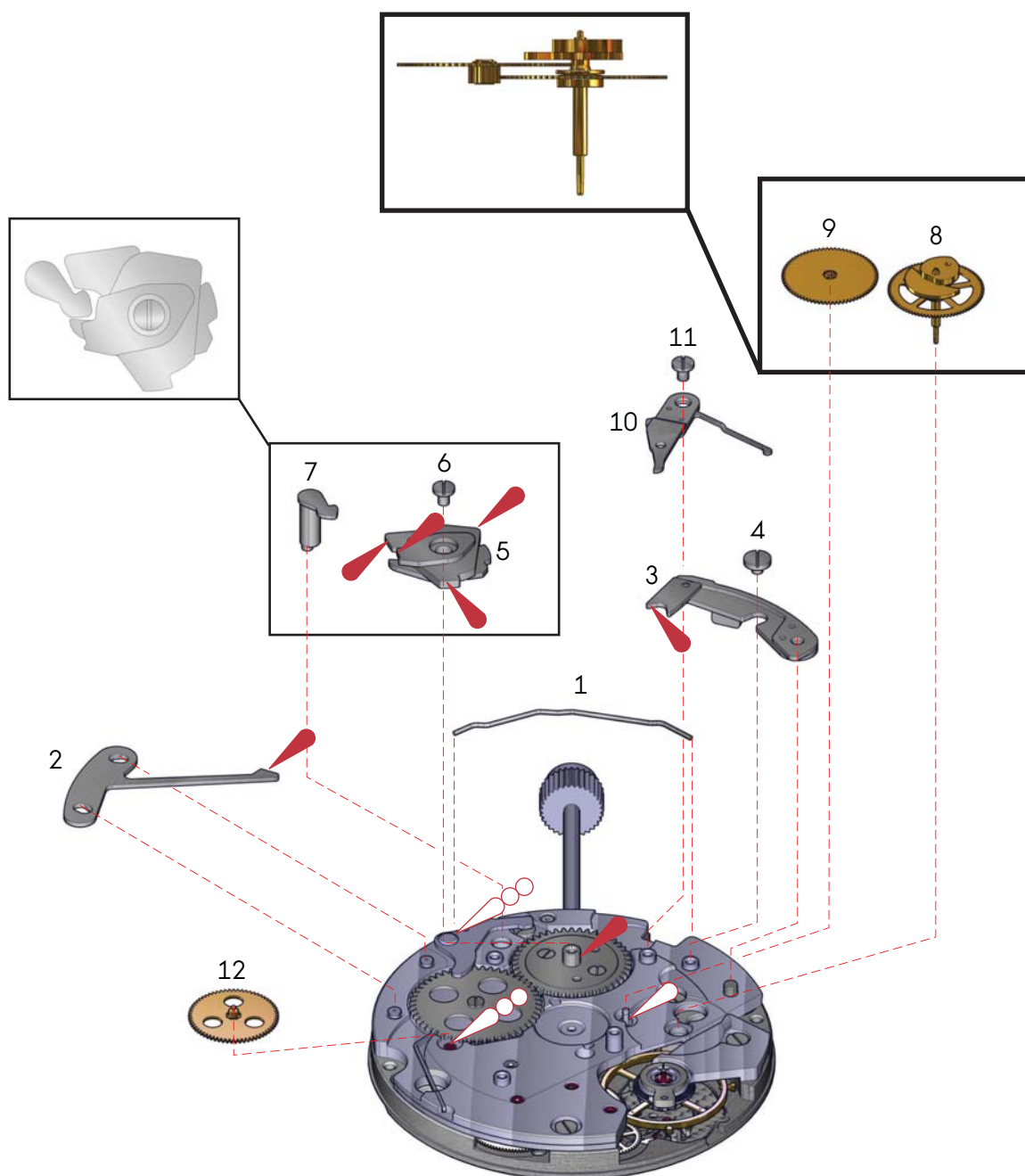




## Parts listed in order of assembly

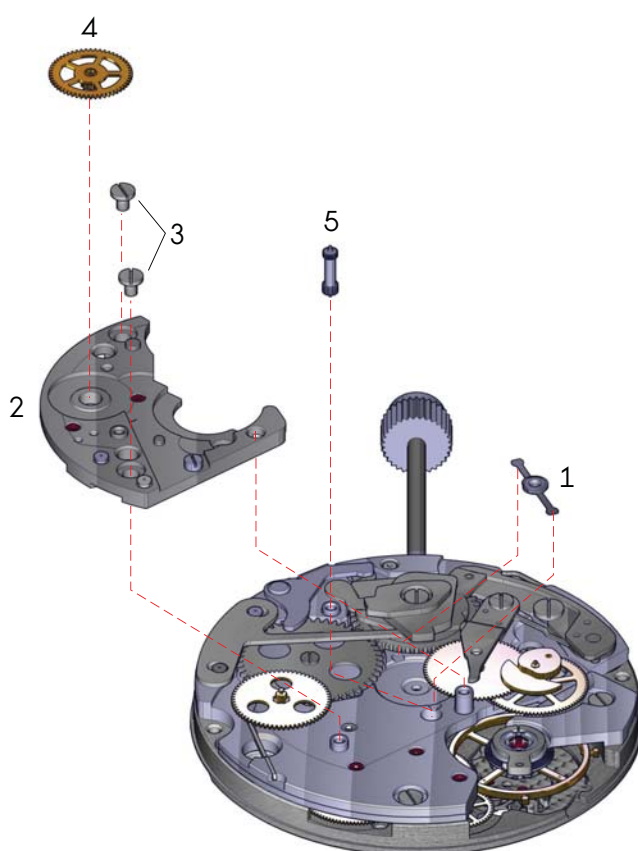
1 = 8335	7 = 8660
2 = 8356	8 = 35012
3 = 8140	9 = 35014
4 = 3455/1 (1x)	10 = 8200
5 = 8171	11 = 3453/1 (1x)
6 = 3455/1 (1x)	12 = 1482

-  Moebius SYNT-A-LUBE 9010
-  Molycote DX
-  Moebius SYNT HP-1300 Sans Colorant






### Parts listed in order of assembly


1 = 65355	4 = 1481
2 = 15040	5 = 8086
3 = 3453/1 (2x)	

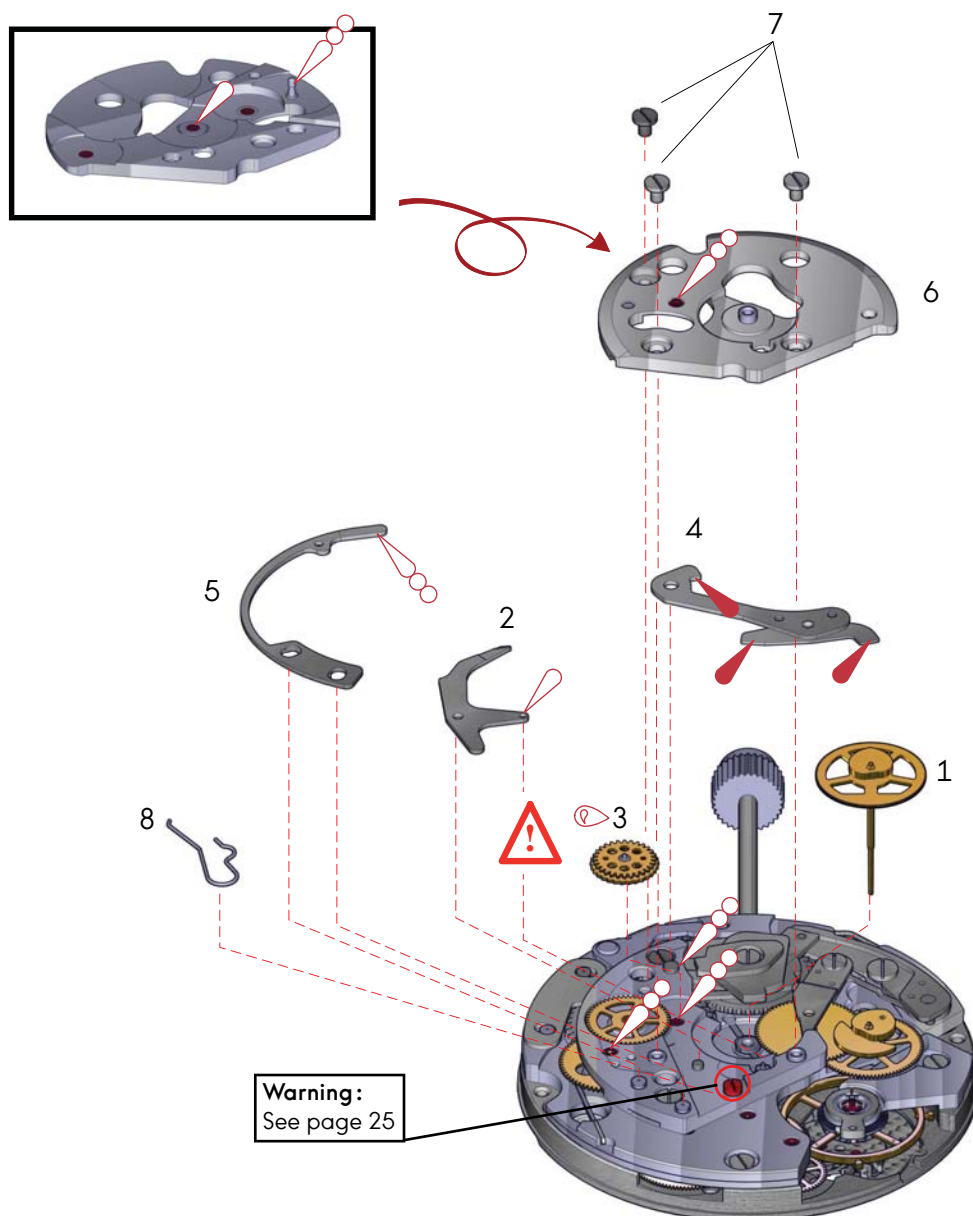


## Parts listed in order of assembly

1 = 35010	5 = 8350
2 = 8079	6 = 12050
3 = 1488	7 = 3453/1 (3x)
4 = 8220	8 = 8320

-  Molycote DX
-  Moebius SYNT-A-LUBE 9010
-  Moebius SYNT HP-1300 Sans Colorant

 **Reversing wheel lubrication:**  
Please refer to WI 40







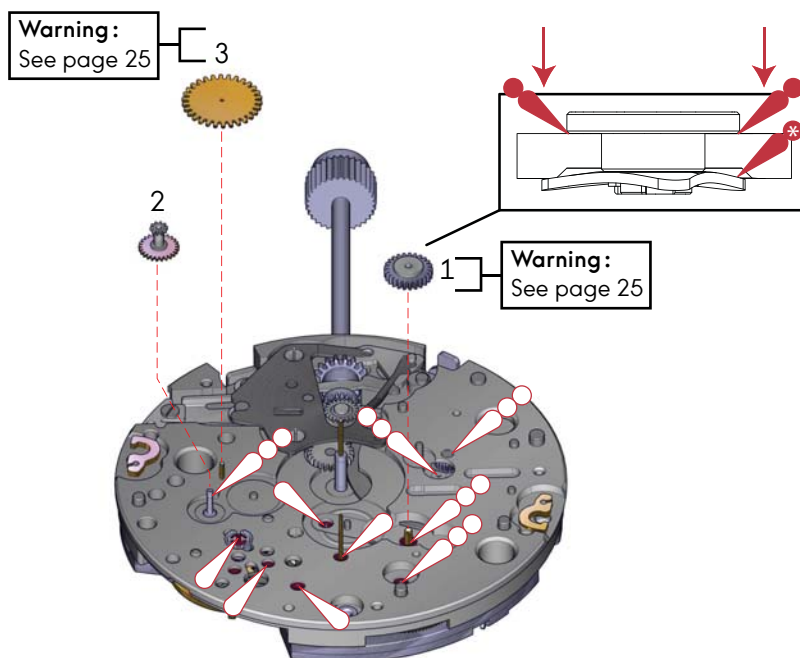
## Parts listed in order of assembly

1 = 240

3 = 32036

2 = 33011

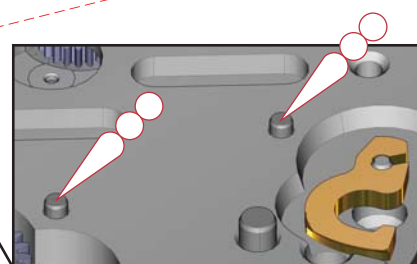
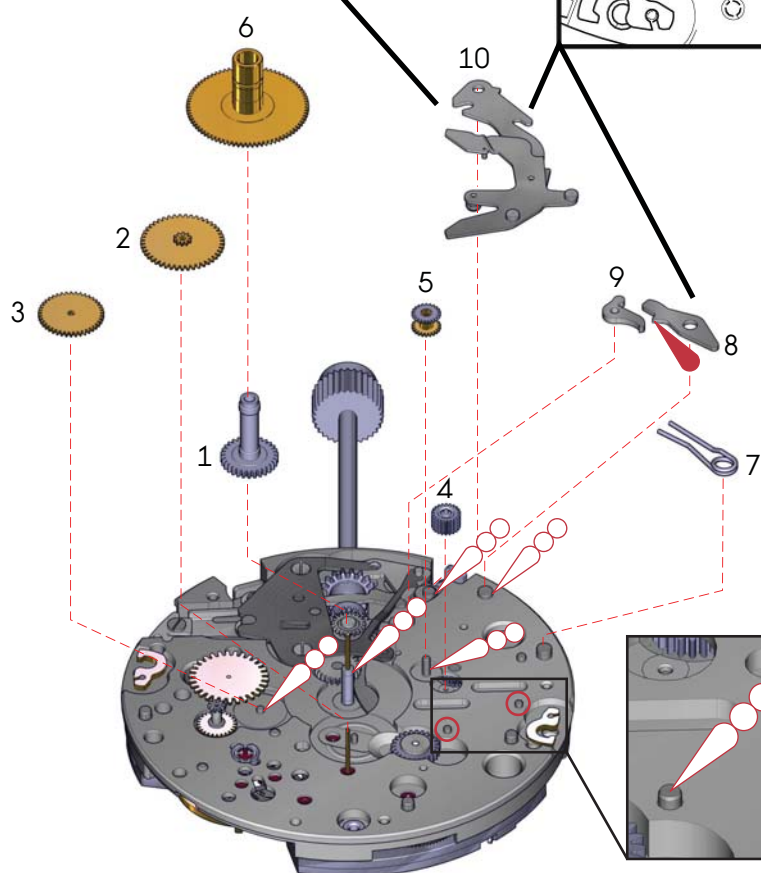
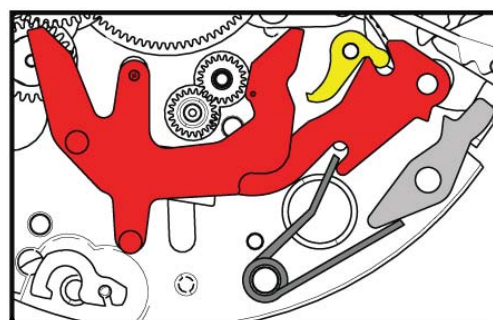
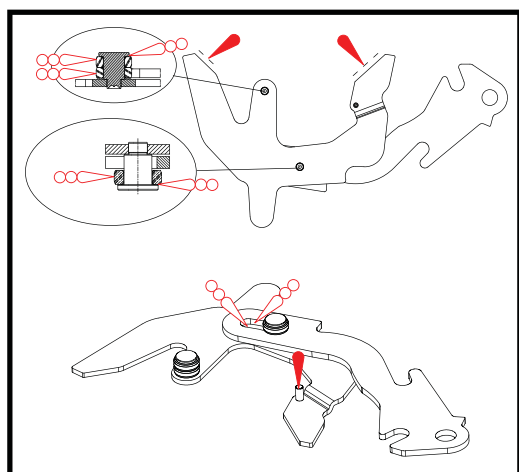
-  Moebius SYNT-A-LUBE 9010
-  Moebius 9504
-  Moebius 9504
-  Moebius SYNT HP-1300 Sans Colorant



## Parts listed in order of assembly

1 = 31081*	6 = 31046*
2 = 31041	7 = 8730
3 = 33012	8 = 8670
4 = 35039	9 = 55288
5 = 35040	10 = 55248

 Molycote DX  
 Moebius SYNT HP-1300 Sans Colorant



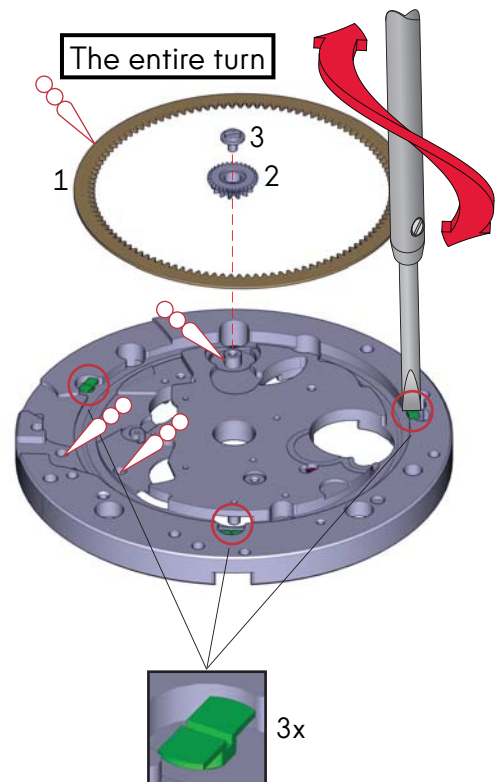
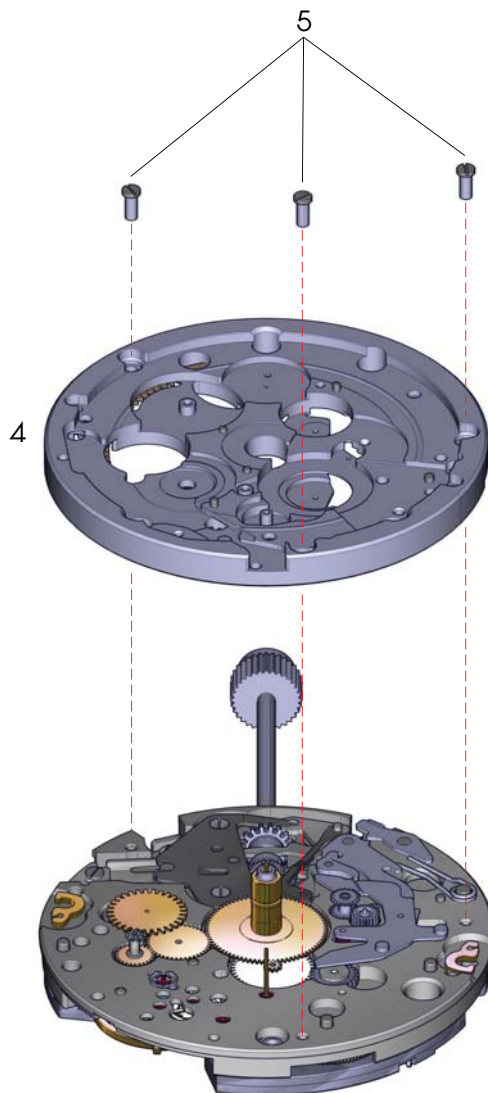
### Parts listed in order of assembly

$$1 = 36051$$
$$4 = 13021$$
$$2 = 36100$$
$$5 = 3554 \text{ (3x)}$$

3 = 36060



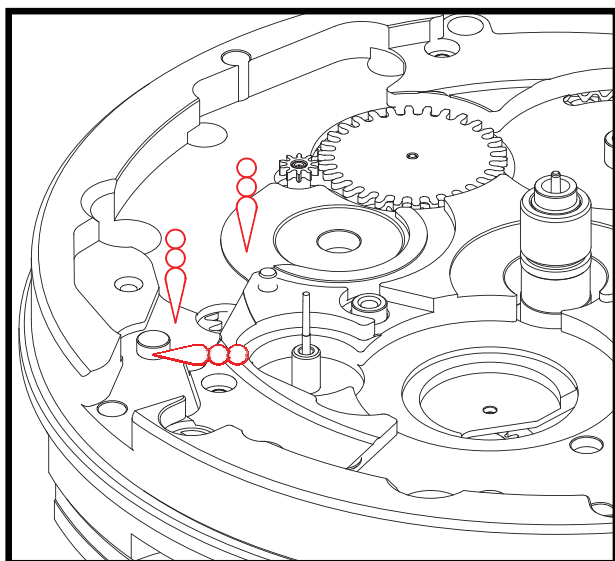
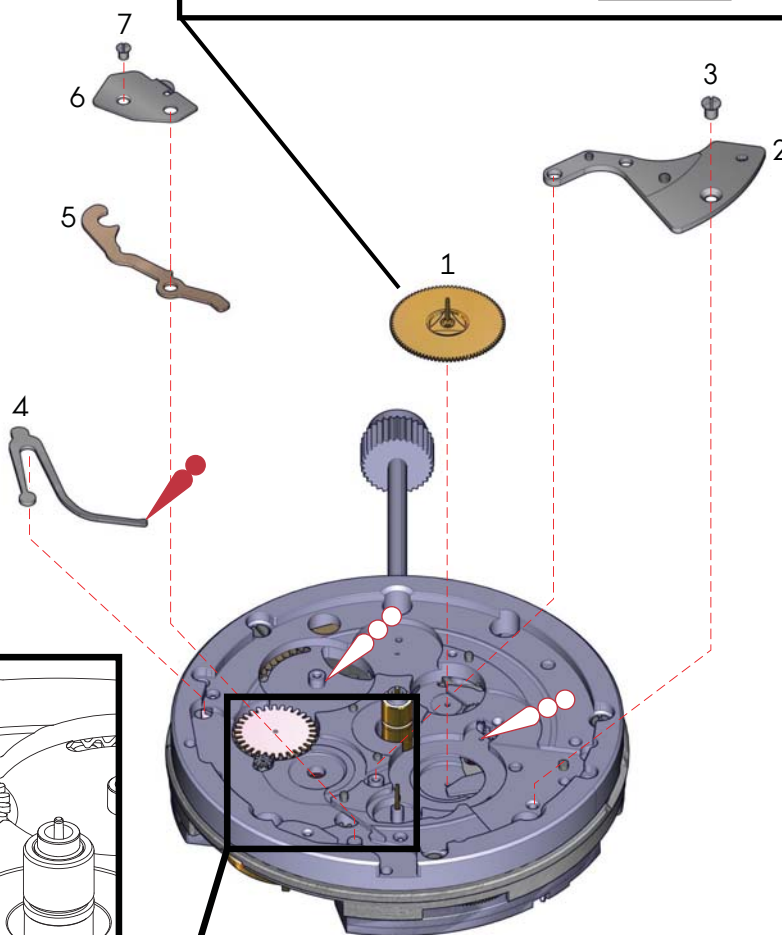
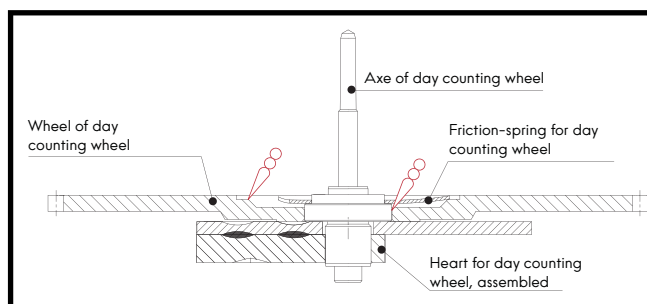
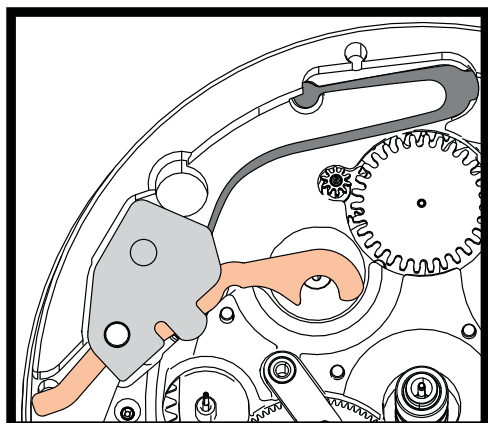
Moebius SYNT HP-1300 Sans Colorant



## Parts listed in order of assembly

- |               |               |
|---------------|---------------|
| 1 = 33004*    | 5 = 53040     |
| 2 = 13044     | 6 = 13109     |
| 3 = 3504 (1x) | 7 = 2988 (1x) |
| 4 = 63012     |               |

 Moebius SYNT HP-1300 Sans Colorant

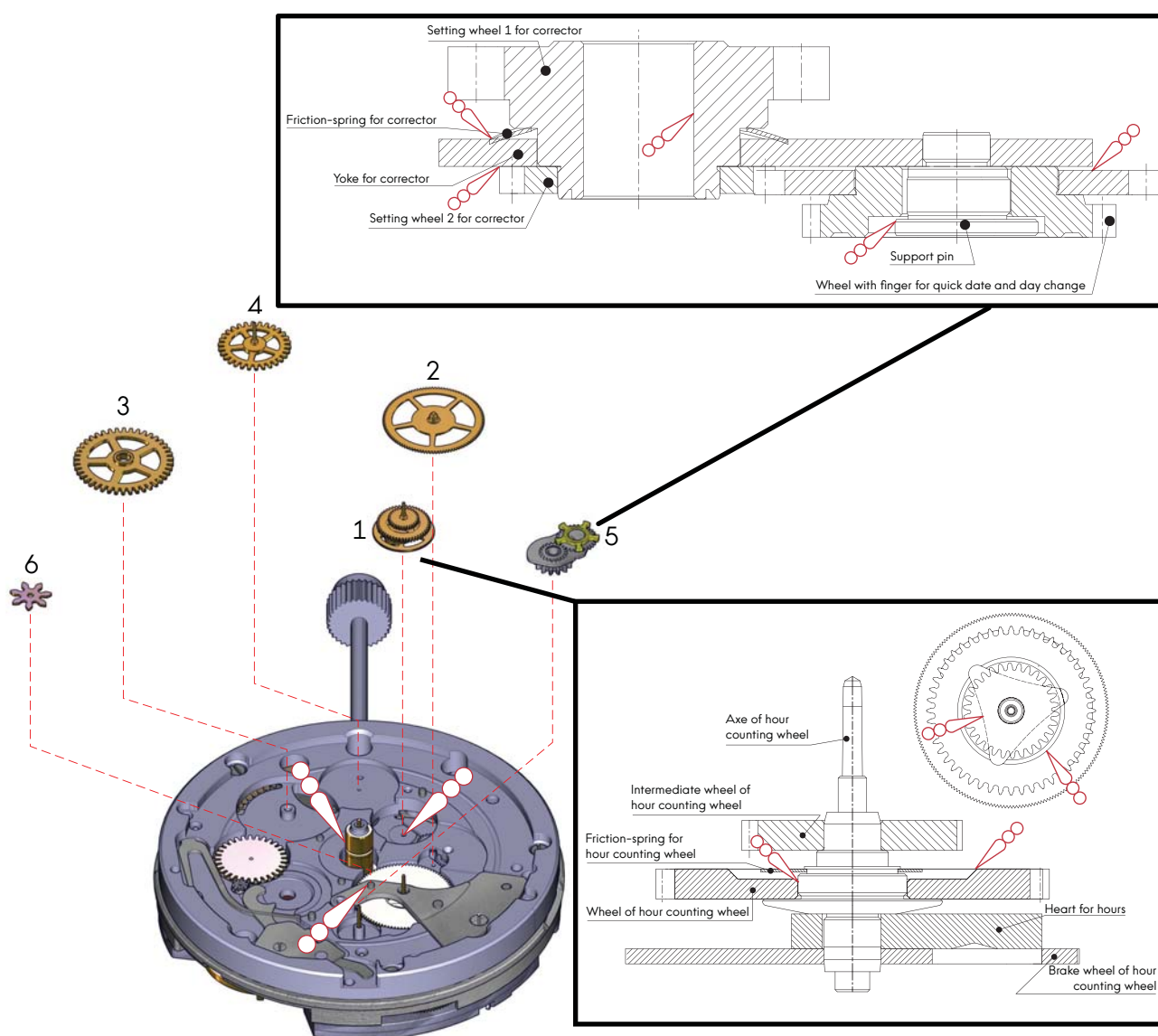




## Parts listed in order of assembly



1 = 35030*	4 = 35020*
2 = 33039	5 = 53204
3 = 35015	6 = 36100

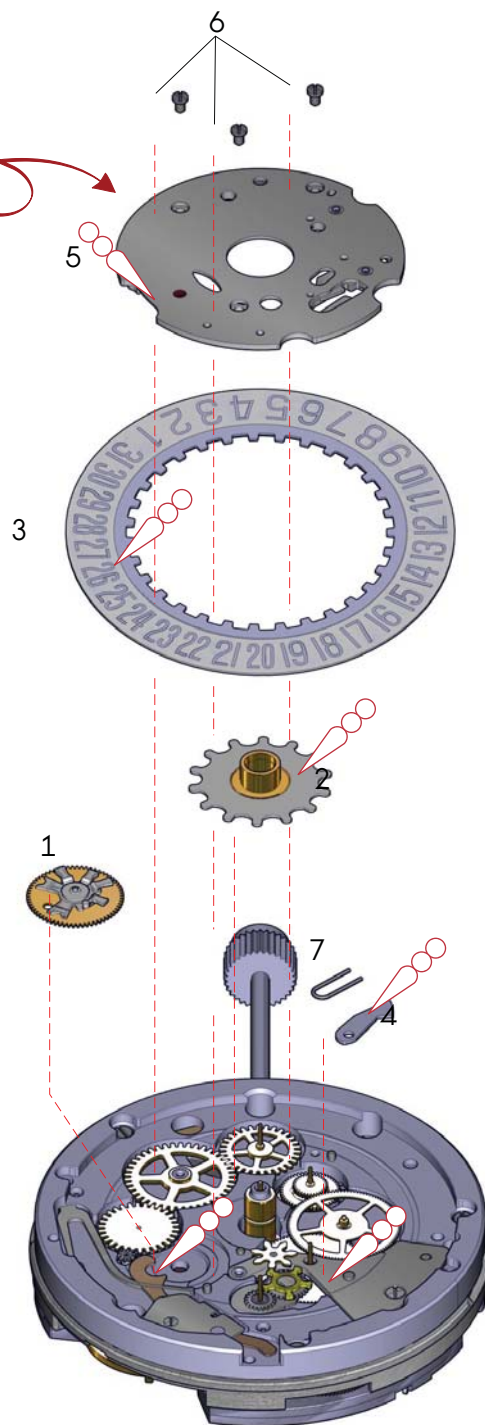
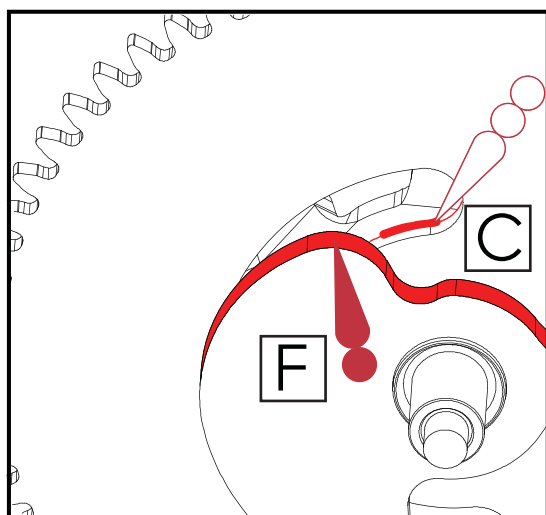
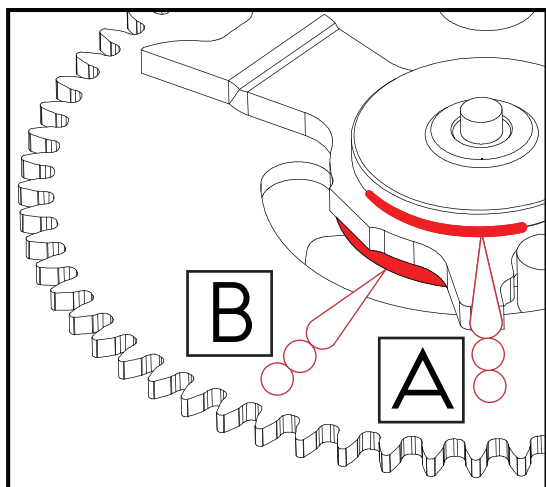
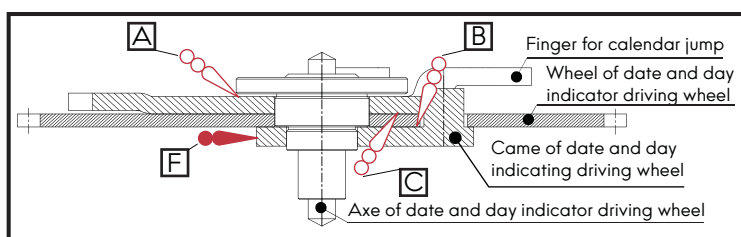
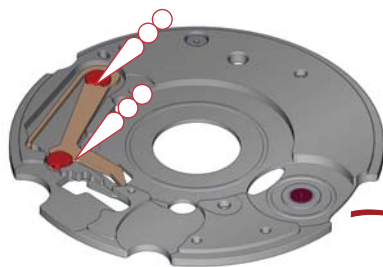
 Moebius SYNT HP-1300 Sans Colorant



## Parts listed in order of assembly

1 = 33020	5 = 13101
2 = 33121*	6 = 3555 (3x)
3 = 91440*	7 = 63030
4 = 53080	

 Moebius 9504  
 Moebius SYNT HP-1300 Sans Colorant



### Parts listed in order of assembly

1 = 22010

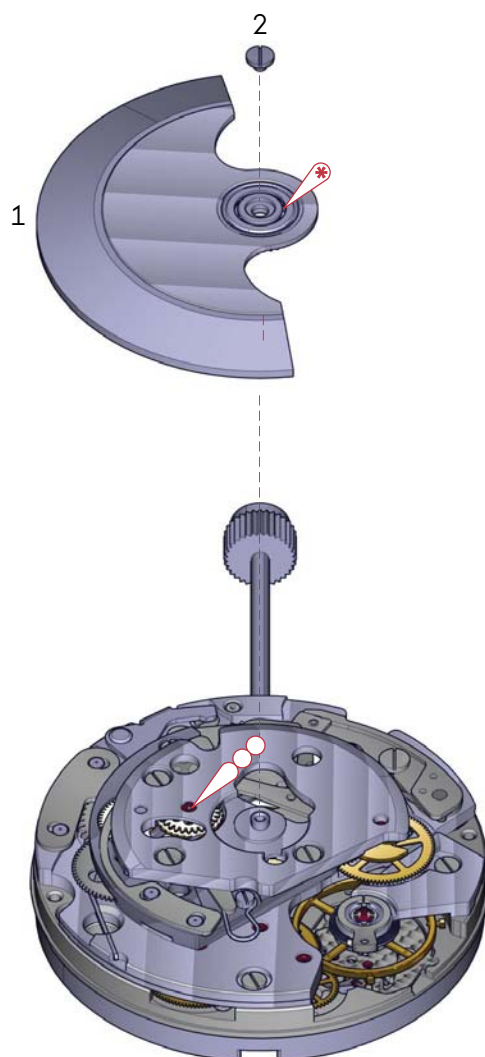
2 = 2841 (1x)



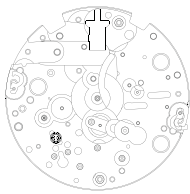

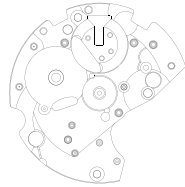
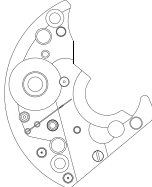







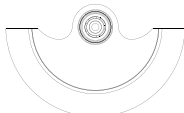
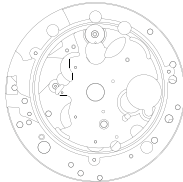





Moebius 9010































Moebius SYNT HP-1300 Sans Colorant























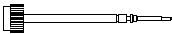







## Spare parts list for Calibre 3888

Main plate, pre-assembled	Version	Reference	Unlocking yoke maintaining plate	Version	Reference
	3888A	7223888A100207**		3888A	7223888A13109
Barrel and train wheel bridge assembled	Version	Reference	Chronographe bridge pre-assembled	Version	Reference
	3888A	7223888A1004118		3888A	7223888A1504018
Pallet fork bridge, pre-assembled	Version	Reference	Barrel, complete	Version	Reference
	3888A	7223888A1005718		3888A	7223888A20010
Balance bridge with number pre-assembled	Version	Reference	Barrel arbor	Version	Reference
	3888A	7223888A1005818		3888A	7223888A20061
Dial fastener	Version	Reference	Slipping mainspring	Version	Reference
	3888A	7223888A10300		3888A	7223888A20101
Automatic bridge pre-assembled	Version	Reference	Oscillating weight, pre-assembled	Version	Reference
	3888A	7223888A1205018		3888A	7223888A2201018
Calendar plate pre-assembled	Version	Reference	First wheel	Version	Reference
	3888A	7223888A1302118		3888A	7221150201/1
Day-counter bridge pre-assembled	Version	Reference	Intermediate train wheel	Version	Reference
	3888A	7223888A1304418		3888A	7223888A30025
Date mechanism maintaining plate	Version	Reference	Second wheel	Version	Reference
	3888A	7223888A13101		3888A	7223888A30027**














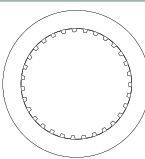


















## Spare parts list for Calibre 3888

Intermediate wheel for escapement	Version	Reference	Additional driving wheel minute counting wheel	Version	Reference
	3888A	7223888A30039		3888A	7223888A32036
Co-Axial wheel	Version	Reference	Reversing wheel	Version	Reference
	3888A	7223888A30040		3888A	72211501488
Ratchet wheel	Version	Reference	Day counting wheel	Version	Reference
	3888A	7221150415		3888A	7223888A33004**
Crown wheel	Version	Reference	Intermediate date wheel	Version	Reference
	3888A	7221150420		3888A	7223888A33011
Minute wheel	Version	Reference	Additional intermediate datewheel	Version	Reference
	3888A	7223888A31041		3888A	7223888A33012
Hour wheel	Version	Reference	Date+day indicator driving wheel	Version	Reference
	3888A	7223888A31046**		3888A	7223888A33020
Driving cannon pinion	Version	Reference	Day counter intermediate wheel	Version	Reference
	3888A	7221150240		3888A	7223888A33039
Cannon pinion	Version	Reference	Day star	Version	Reference
	3888A	7223888A31081**		3888A	7223888A33121**
Intermediate setting wheel	Version	Reference	Chronographe wheel	Version	Reference
	3888A	7223888A31101		3888A	7223888A35010**
Setting wheel	Version	Reference	Minute-counting wheel	Version	Reference
	3888A	7221150450		3888A	7223888A35012
Winding pinion	Version	Reference	Minute counting intermediate wheel	Version	Reference
	3888A	7223888A31120		3888A	7223888A35014
Sliding pinion	Version	Reference	Minute counting additional intermediate wheel	Version	Reference
	3888A	7221150407		3888A	7223888A35015
Reduction wheel	Version	Reference	Additional minute-counting wheel	Version	Reference
	3888A	72211501481		3888A	7223888A35020**
Ratchet driving wheel	Version	Reference	Hour counting wheel	Version	Reference
	3888A	72211501482		3888A	7223888A35030**












## Spare parts list for Calibre 3888

Hour counter intermediate wheel 1	Version	Reference	Setting lever jumper	Version	Reference
	3888A	7223888A35039		3888A	7221150445
Hour counter intermediate wheel 2	Version	Reference	Date unlocking yoke	Version	Reference
	3888A	7223888A35040		3888A	7223888A53040
Oscillating pinion 60 s	Version	Reference	Double corrector date + day	Version	Reference
	3888A	72211508086		3888A	7223888A53204
Intermediate wheel for corrector	Version	Reference	Operating lever, 2 functions	Version	Reference
	3888A	7223888A36051		3888A	72211508140
Double corrector setting wheel	Version	Reference	Hour hammer operating lever	Version	Reference
	3888A	7223888A36060		3888A	722115088670
Corrector driver	Version	Reference	Fly-back yoke	Version	Reference
	3888A	7223888A36100		3888A	72211508180
Pallet fork	Version	Reference	Hammer cam jumper	Version	Reference
	3888A	7228500A40010		3888A	72211508356
Switch	Version	Reference	Chronograph cam	Version	Reference
	3888A	72211508660		3888A	72211508171
Balance with timing screws, complet	Version	Reference	Clutch 60s, 2 functions	Version	Reference
	3888A	7223888A40050		3888A	72211508079
Stud support	Version	Reference	Hammer, 2 functions	Version	Reference
	3888A	7228500A40200		3888A	72211508220
Winding stem	Version	Reference	Hour end day hammer	Version	Reference
	3888A	7223888A5101023		3888A	7223888A55248
Yoke	Version	Reference	Lock, 2 functions	Version	Reference
	3888A	7221150435		3888A	72211548200ET
Rocking bar	Version	Reference	Hour counter lock	Version	Reference
	3888A	7221150437		3888A	7223888A55288
Setting lever	Version	Reference	Stop lever	Version	Reference
	3888A	7221150443/1		3888A	7223888A56070

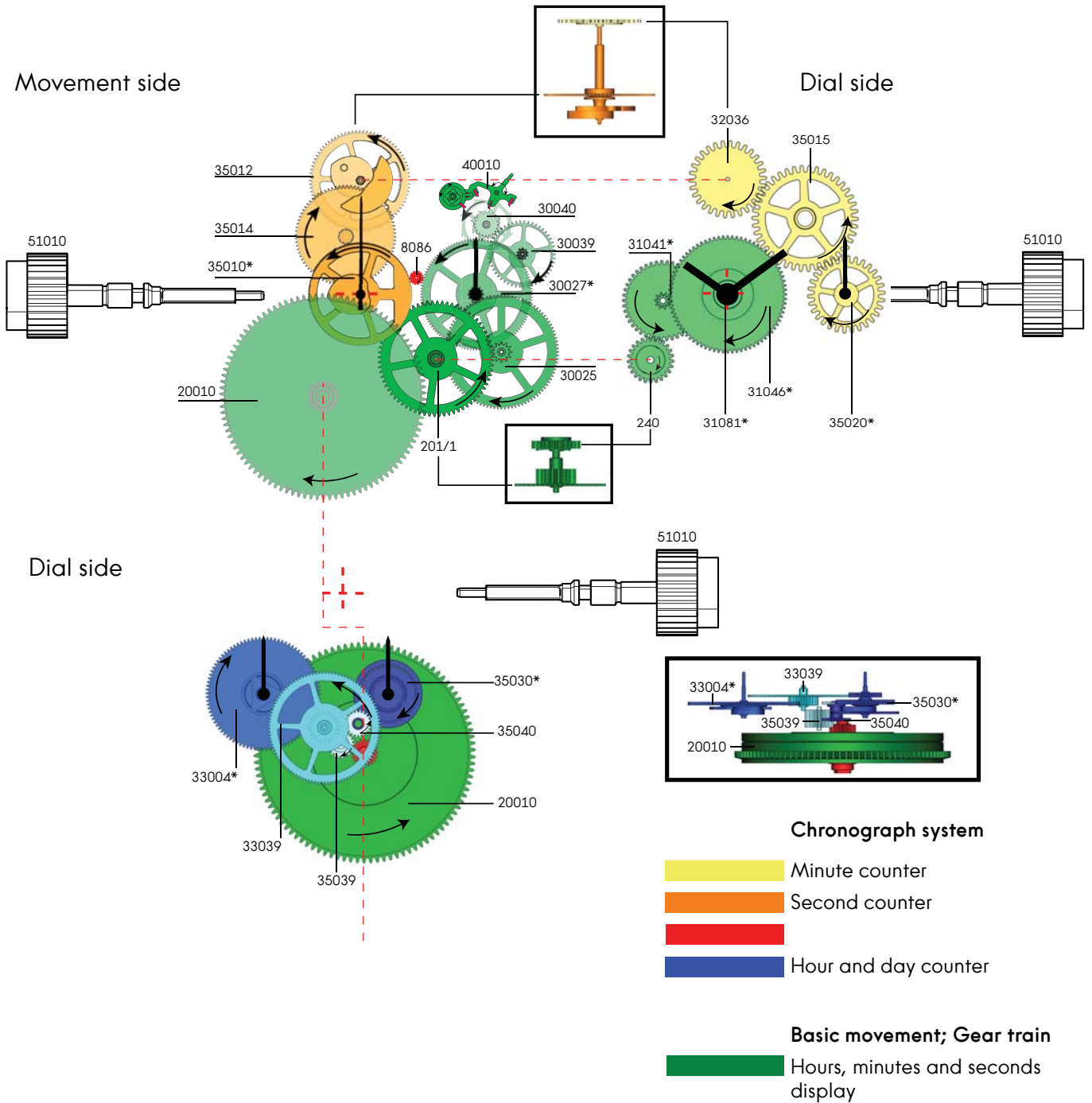
## Spare parts list for Calibre 3888

Clutch spring, 2 functions	Version	Reference	Click spring	Version	Reference
	3888A	72211508320		3888A	7221150434
Date jumper	Version	Reference	Shock-absorber spring, upper	Version	Reference
	3888A	7223888A53080		3888A	7228500A78004
Yoke spring	Version	Reference	Shock-absorber spring, lower	Version	Reference
	3888A	7223888A61100		3888A	7228500A78005
Yoke auxiliary spring	Version	Reference	Centre tube	Version	Reference
	3888A	7223888A61102		3888A	7221150161
Unlocking yoke spring	Version	Reference	Crown wheel core	Version	Reference
	3888A	7222610A63012		3888A	7221150423
Date jumper spring	Version	Reference	Fly-back lever stud	Version	Reference
	3888A	7223888A63030		3888A	72211508182
Operating lever spring, 2 functions	Version	Reference	Date indicator	Version	Reference
	3888A	72211508335		3888A	7223888A9144**
Hammer spring, 2 functions	Version	Reference	Screw for setting lever jumper	Version	Reference
	3888A	72211508350		3888A	72200002551/1
Hour hammer spring	Version	Reference	Screw for oscillating weight	Version	Reference
	3888A	72211508730		3888A	72200002841/1
Chronograph wheel friction	Version	Reference	Screw for unlocking yoke maintaining plate	Version	Reference
	3888A	7223888A65355		3888A	72200002988
Shock-absorber, upper	Version	Reference	Screw for barrel and train wheel bridge	Version	Reference
	3888A	7228500A70530		3888A	72200003453/1
Shock-absorber, lower	Version	Reference	Screw for automatic bridge	Version	Reference
	3888A	7228500A70531		3888A	72200003453/1
In-setting, upper	Version	Reference	Screw for chronograph bridge	Version	Reference
	3888A	7228500A70640		3888A	72200003453/1
In-setting, lower	Version	Reference	Screw for ratchet wheel	Version	Reference
	3888A	7228500A70641		3888A	72200003454/1
Cap jewel, upper	Version	Reference	Screw for operating lever	Version	Reference
	3888A	7228500A70900		3888A	72200003455/1
Cap jewel, lower	Version	Reference	Screw for chronograph cam	Version	Reference
	3888A	7228500A70901		3888A	72200003455/1



Screw for lock	Version	Reference
	3888A	72200003453/1
Screw for yoke spring	Version	Reference
	3888A	72200003453/1
Screw for crown wheel core	Version	Reference
	3888A	72200003454/1
Screw for balance bridge	Version	Reference
	3888A	72200003457/1
Screw for day-counter bridge	Version	Reference
	3888A	72211203504
Screw for pallet fork bridge	Version	Reference
	3888A	7228500A3537
Screw for pallet fork bridge	Version	Reference
	3888A	7228500A3538
Screw for stud	Version	Reference
	3888A	7228500A3547
Screw for calender plate	Version	Reference
	3888A	7223888A3554
Screw for date mechanism maintaining plate	Version	Reference
	3888A	7223888A3555
Screw for intermediate wheel for corrector	Version	Reference
	3888A	7223888A3556

## 1.0 Functioning system of movement

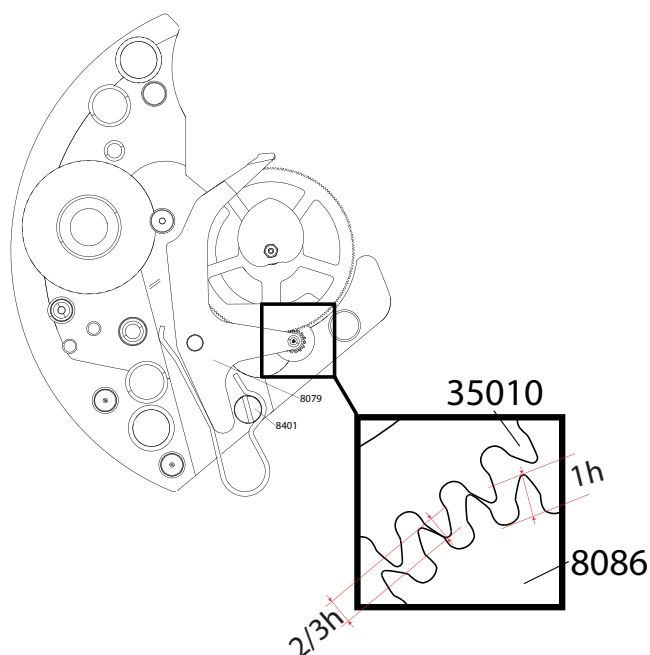


Reference	Descriptions of wheels with hands
30027**	Second wheel
31081**	Cannon pinion
33004**	Day counting wheel
35020**	Additional minute-counting wheel
35030**	Hour counting wheel

## 2.0 Chronograph wheel gearing setting with oscillating pinion

Set the teeth penetration according to the figure below using the eccentric (8401).

Check (after setting) on a complete revolution of the chronograph wheel (35010).



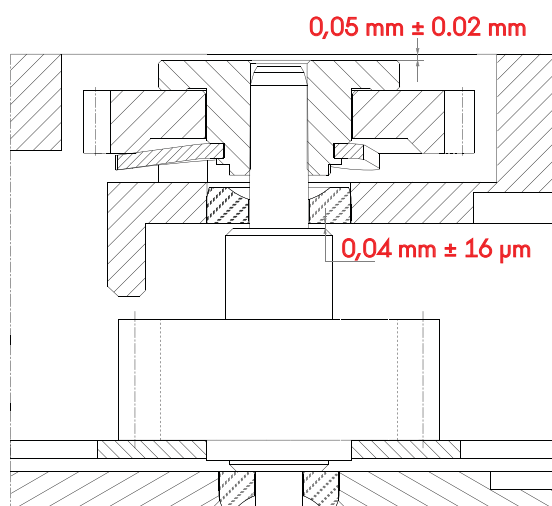
## 3.0 Driving cannon pinion assembly and disassembly

### 3.0.1 Driving cannon pinion assembly ref. 240

Once fitted, check the play of the first wheel.

### 3.0.2 Driving cannon pinion disassembly ref. 240

Remove driving cannon pinion assembly gently using levers for removing hairspring collets ref. 5022500011.



## 4.0 Additional driving wheel assembly and disassembly

### 4.0.1 Minute counter additional driving wheel assembly ref. 32036

Having fitted the additional driving wheel in place, please check the play of the minute counter wheel. The minute counter wheel jewel must be supported during pressing.

### 4.0.2 Minute counter additional driving wheel disassembly ref. 32036

Remove the additional driving wheel gently using levers for removing hairspring collets ref. 5022500011.

When the additional driving wheel is removed, replace it systematically with a new one to ensure it is held firmly on the staff.

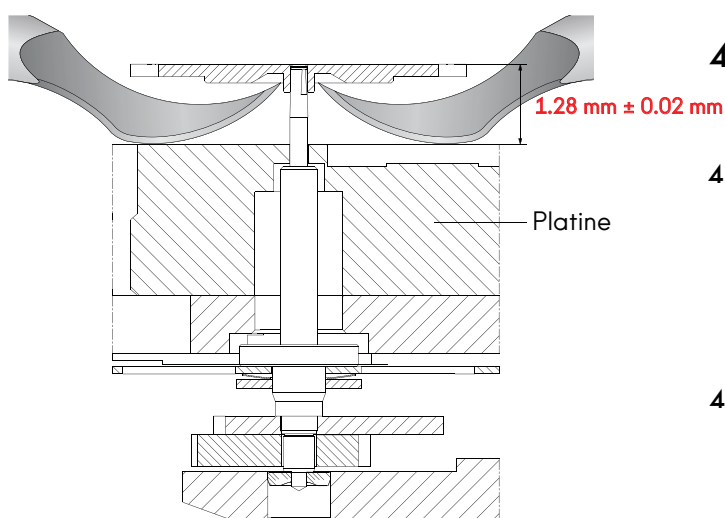
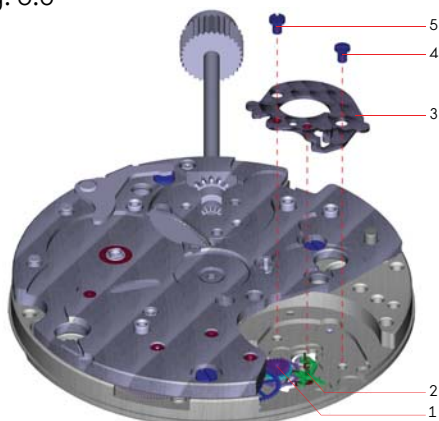


Fig. 5.0



## 5.0 Escapement system installation

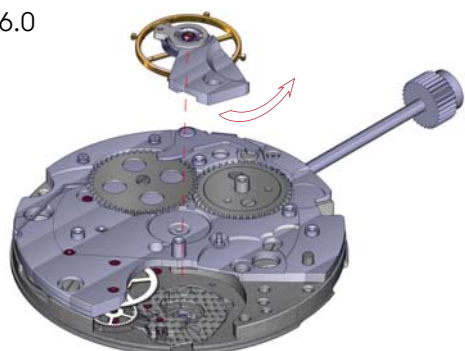
### Major points

After assembly, the escapement functions should be checked precisely with the relevant tool.

The pallet fork bridge holds the coaxial wheel in place as well as the pallet fork. The assembly order below must be respected for the escapement to function correctly:

1. Fit the coaxial wheel.
2. Fit the pallet fork.
3. Fit the pallet fork bridge and check that the respective pivots are firmly engaged in the housings.
4. **The assembly order for the two pallet fork bridge screws must be respected.** To position the pallet fork bridge, screw (4) must be screwed in first (conical head screw).
5. The second screw (5) ensures that the bridge is held firmly in place (flat head screw).

Fig. 6.0



## 6.0 Balance bridge installation

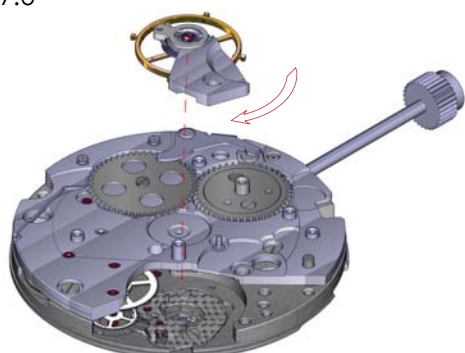
As the balance roller is located under the pallet fork, special care should be taken when fitting the balance.

1. Let down the movement
2. Position the pallet fork where locking takes place on the output pallet-stone, see diagram on page 8.
3. Install the balance and its bridge. The balance bridge must be positioned according to Fig. 6.0.  
Check that the balance is firmly in position and that the balance staff pivot is in its housing. Please also check that the impulse pin is in the middle of the pallet fork.
4. Turn the bridge (anti-clockwise) gently to its normal position, Figure 6.0.1.
5. Tighten the balance bridge screw.

Fig. 6.0.1



Fig. 7.0



## 7.0 Disassembling the balance bridge

The balance bridge is always removed in the reverse direction of the procedure 6.0.

To avoid damaging the balance during disassembly, turn the balance bridge gently about 90° clockwise. The bridge may be removed without danger in this position.

## 8.0 Winding stem function

The crown has three positions:

1. **Normal position**, when worn: water-resistance is ensured by the crown leaning against the case.  
**Occasional winding**: wind the watch by means of the crown (position 1), if the watch has not been worn for 52 hours or more.
2. **Correcting the date**: pull the crown out to position 2, turn the crown forwards then push it into position 1.  
**Correcting the day**: pull the crown out to position 2, turn the crown backwards then push it into position 1.  
**Comment**: in this rapid mode, modifying the day is a two-stage operation. Make sure that the hand is centred at the end of the correction.
3. **Hand-setting**: hours-minutes-seconds.  
Pull the crown completely out to position 3. The second hand stops. Turn the crown forwards or backwards. Synchronise the seconds by pushing the crown into position 1 at the time signal.

### Chronograph functions:

4. **Pusher A**: start – stop, start – stop, etc.  
Timing to 1/8th of a second for up to 7 days.

**Pusher B**: reset (after a stop).

**Note**: The reset function can be carried out only after the stopping of the chronograph. Never push the chronograph's two pushers (A and B) simultaneously.

Fig. 8.0

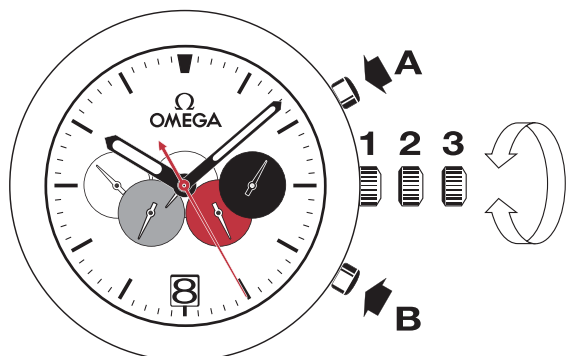
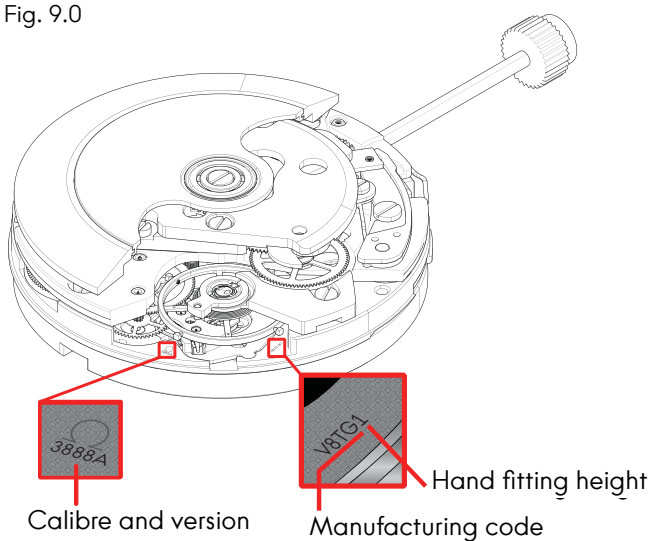


Fig. 9.0



## 9.0 Information on the movement

### 9.1.1 Calibre, version, manufacturing code and hand fitting height

As shown in Figure 9.0

### 9.1.2 Ordering spare parts

Movement spare parts should be ordered as follows, in figure 9.0

**Example:**

Cannon pinion with driving wheel 7223888A31081\*\*

**For this case:** 7223888A3108101

(see attached box : hand fitting height).










The final two figures indicated the hand height.

## 10.0 Runners for hand setting and hand setting force

Description	Movement holder for hand setting	No. of runners for hand setting	Minimum force (N)	Maximum force (N)	Support (jewel)
Day hand	507 0123	8	10	30	no
Hour hand		6	10	40	no
Minute hand		2	10	40	no
Second hand (small)		1	10	20	no
Chrono second hand		1	30	50	yes
Hour counter hand		1	10	30	no
Minute counter hand		1	10	30	no
Day counter hand		1	10	30	no

## 11.0 Components not requiring epilam coating

### 11.1 Components that should not be epilam-treated after cleaning

Description	Reference	
Balance fitted on balance bridge *	40050 + 10058°	
Balance complete	40050	
Pallet fork	40010	
In settings, upper *	70640	
In settings, lower *	70641	
Pallet fork bridge	1005718	
Barrel **	20010	
Slipping mainspring	20101	
Reversing wheel	1488	

\* Do not treat the shock-absorber settings with epilam; the cap jewels should however be treated.

\*\* Do not treat the complete barrel with epilam, only the drum, cover and arbour separately.

For additional information see Working Instructions No 27.

### 12.0 Technical data

#### 12.1 Winding time on Cyclotest (4 rpm)

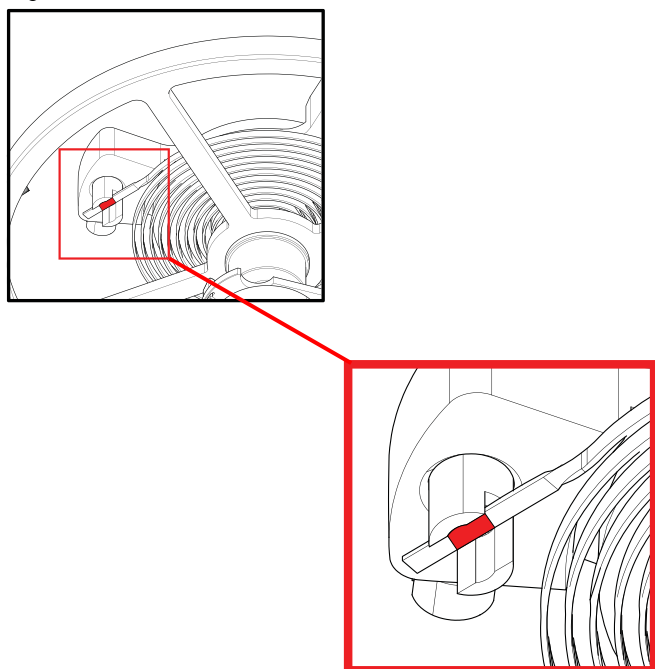
Complete winding takes 6 hours 20 minutes (movement stopped before the winding, stem in position 3).

#### 12.2 Instantaneous rate

##### 12.2.1 Control of instantaneous rate

Please consult Working Instructions 5 and 28 for instructions and tolerances.

Fig. 13.0



### 13.0 Fixation of the hairspring to the stud

The hairspring at its end is twisted 90° to increase rate stability as well as the hold of the hairspring in the stud. This geometry defines the active length of the balance-spring exactly. The length of the twisted part does not influence the active length of the spring. The frequency is not influenced by inaccuracies due to glue fixation problems. This system is patented.

**Do not touch this part of the sprung-balance.**



Fig. 14.0

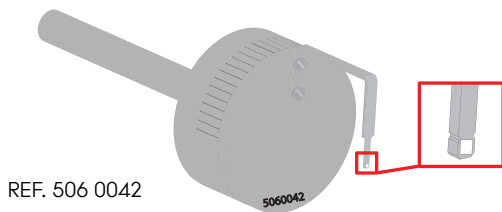


Fig. 14.01

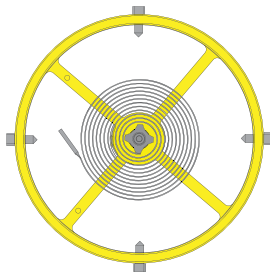
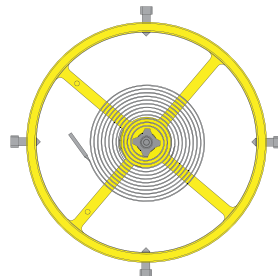


Fig. 14.02



## 14.0 Sprung-balance

The sprung-balance ref. 40050 has four regulating screws located on the outside of the balance rim. These screws work in pairs, in opposite positions.

One dot on the two adjoining balance arms marks the position of each pair of screws.

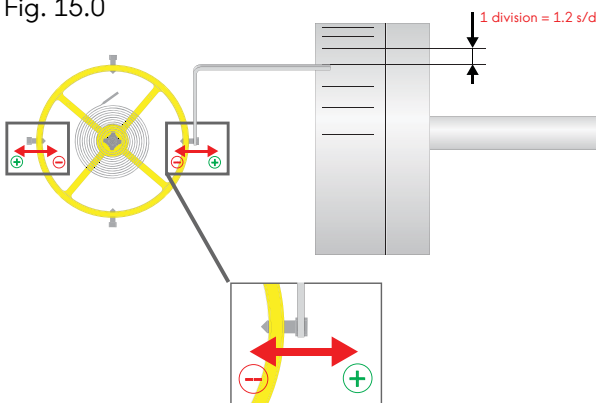
A rate deviation is corrected by moving one opposed pair of timing-screws (towards the centre of the balance, figure 14.01), which reduces its moment of inertia and makes it running faster. A gain of time is corrected by moving one opposed pair of timing-screws outwards (Figure 14.02), which increases its moment of inertia and makes it run slower.

### Special parameter settings

Instrument type	Coaxial, 4 Hz calibres	Comments
<b>Former Witschi instruments</b> - Watch Expert (red case) - Wicomètre Professionnel - Chronoscope M1 (former version)	Lift angle, set to 39°	<b>4 Hz calibres:</b> The frequency parameters (28'800 A/h) should be set manually so that instant-on is displayed correctly.
	The amplitude is not measured correctly	
<b>New Witschi instruments</b> - Watch Expert II and III (white case) - Chronoscope M1 (updated version) - Chronoscope S1, X1	Lift angle, set to 39°	<b>Test mode: parameters must be set for «Spe1»!</b>
	All measurements are correct	

## 15.0 Adjustment of the rate

Fig. 15.0



A special timing key tool has been developed to adjust the rate even when the movement is cased in (see point 5). A line on the scale on the outside of the tool corresponds to 1.2 s/d (Figure 15.0).

The correction is always made on the pair of opposed screws located between the non-engraved arms. The other pair of screws between the engraved arms is used for timing during production.



Timing corrections must always be made to the pair of timing-screws between the two, unmarked arms (Fig. 15.0) to prevent an unbalance of the balance.