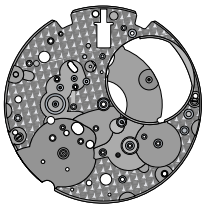
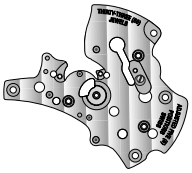
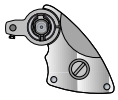
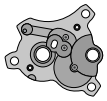
EMMYWATCH

VINTAGE RESTORATIONS

Omega 3313,3313A Movement Parts (2)

Compiled by EmmyWatch - https://www.emmywatch.com

Main plate, jewelled, rhodium-plated	Version	Reference	Chronograph bridge, rhodium-plated	Version	Reference
	3313A	722331310020		3313A	722331315040
					7223313A1504018
	3313B	7223313B10020		3313B	722331315040
Barrel bridge, jewelled	**Version**	**Reference**	**Barrel, complete**	**Version**	**Reference**
	3313A	722330310041		3313A	7223313A20015
	3313B			3313B	
Wheel train bridge, jewelled	**Version**	**Reference**	**Barrel drum + barrel cover**	**Version**	**Reference**
	3313A	722330310048		3313A	722330320040
	3313B			3313B	
Pallet bridge, Co-Axial	**Version**	**Reference**	**Barrel arbor**	**Version**	**Reference**
	3313A	7223313A10056		3313A	722330320060
	3313B			3313B	
Balance bridge, pre-assembled	**Version**	**Reference**	**Mainspring**	**Version**	**Reference**
	3313A	7223313A1005818		3313A	7223313A20100
	3313B	7223313B1005818		3313B	
Hammer operating limitation bridge	**Version**	**Reference**	**Oscillating weight, rhodium-plated**	**Version**	**Reference**
	3313A	722330310615		3313A	722331322019
	3313B			3313B	
Automatic device framework, jewelled	**Version**	**Reference**	**Intermediate wheel**	**Version**	**Reference**
	3313A	722330312030		3313A	722330330012
	3313B			3313B	
Automatic device bridge, pre-assembled	**Version**	**Reference**	**Great wheel**	**Version**	**Reference**
	3313A	722330312050		3313A	722330330014
	3313B			3313B	
Date indicator maintaining plate	**Version**	**Reference**	**Third wheel**	**Version**	**Reference**
	3313A	722330313105		3313A	722330330025
	3313B			3313B	

Second wheel	Version	Reference	Schock-absorber, upper	Version	Reference
	3313A	722330330027**		3313A	722330332025
	3313B			3313B	7223313B32027
Intermediate escape wheel	**Version**	**Reference**	**Schock-absorber, lower**	**Version**	**Reference**
	3313A	7223313A30039		3313A	7223313A70531
	3313B	7223313B30039		3313B	7223313B32068
Co-Axial wheel	**Version**	**Reference**	**In settings, upper**	**Version**	**Referenz**
	3313A	7222500B30040		3313A	7223303A32127
	3313B	7222500C30040		3313B	7223313B32127
Ratchet wheel	**Version**	**Reference**	**In settings, lower**	**Version**	**Reference**
	3313A	722330331022		3313A	7223303A32167
	3313B			3313B	7223313B32167
Crown wheel	**Version**	**Reference**	**Cap jewel, lower**	**Version**	**Reference**
	3313A	722330331023		3313A	7223303A32262
	3313B			3313B	
Minute wheel	**Version**	**Reference**	**Cap jewel, upper**	**Version**	**Reference**
	3313A	7223303310415S2		3313A	7223303A32325
	3313B			3313B	
Hour wheel	**Version**	**Reference**	**Schock-absorber spring, top**	**Version**	**Reference**
	3313A	722330331046**		3313A	7223303A32425
	3313B			3313B	
Cannon pinion with driving wheel	**Version**	**Reference**	**Schock-absorber spring, bottom**	**Version**	**Reference**
	3313A	722330331080**		3313A	7223303A32462
	3313B			3313B	
Motion work setting wheel	**Version**	**Reference**	**Ratchet wheel driving wheel**	**Version**	**Reference**
	3313A	722330331102		3313A	72233033203301
	3313B			3313B	
Winding pinion	**Version**	**Reference**	**Wig-wag pinion**	**Version**	**Reference**
	3313A	722330331120		3313A	722330332104
	3313B			3313B	
Sliding pinion	**Version**	**Reference**	**Stop pinion**	**Version**	**Reference**
	3313A	722330331121		3313A	722330332105
	3313B			3313B	
Reduction wheel	**Version**	**Reference**	**Intermediate date wheel**	**Version**	**Reference**
	3313A	7223303320315S2		3313A	722330333011
	3313B			3313B	

Date indicator driving wheel	Version	Reference	Winding stem	Version	Reference
	3313A 3313B	722330333020		3313A 3313B	722330351010
Date corrector intermediate setting wheel 1	**Version**	**Reference**	**Yoke**	**Version**	**Reference**
	3313A 3313B	7223303A33082		3313A 3313B	722330351050
Date corrector intermediate setting wheel 2	**Version**	**Reference**	**Rocking bar**	**Version**	**Reference**
	3313A 3313B	722330333083		3313A 3313B	722330351052
Chronograph wheel	**Version**	**Reference**	**Setting lever**	**Version**	**Reference**
	3313A 3313B	722330335010**		3313A 3313B	722330351083
Minute-counting wheel	**Version**	**Reference**	**Setting lever jumper**	**Version**	**Reference**
	3313A 3313B	722330335012**		3313A 3313B	722330351090
Hour-counting wheel	**Version**	**Reference**	**Click**	**Version**	**Reference**
	3313A 3313B	722330335030**		3313A 3313B	722330351120
Driving wheel for counters	**Version**	**Reference**	**Stop click**	**Version**	**Reference**
	3313A 3313B	722330335031		3313A 3313B	722330352053
Hour counter additional driving wheel 1	**Version**	**Reference**	**Date jumper**	**Version**	**Reference**
	3313A 3313B	722330335032		3313A 3313B	722330353080
Hour counter additional driving wheel 2	**Version**	**Reference**	**Date corrector**	**Version**	**Reference**
	3313A 3313B	722330335033		3313A 3313B	722330353200
Pallet fork	**Version**	**Reference**	**Column wheel operating lever**	**Version**	**Reference**
	3313A 3313B	7222500B40010 7222500C40010		3313A 3313B	722330355040
Balance complete with stud	**Version**	**Reference**	**Hammer operating lever**	**Version**	**Reference**
	3313A 3313B	722331340055 7223313B40055		3313A 3313B	7223303A55048
Stud support	**Version**	**Reference**	**Clutch rocker**	**Version**	**Reference**
	3313A 3313B	722330340210		3313A 3313B	722330355090

Clutch lever	Version	Reference	Hour wheel friction spring	Version	Reference
	3313A 3313B	722330355100		3313A 3313B	722330366220
Column wheel jumper	**Version**	**Reference**	**Crown wheel core**	**Version**	**Reference**
	3313A 3313B	722330355130		3313A 3313B	722330381136
Minute counter jumper	**Version**	**Reference**	**Dial fastener**	**Version**	**Reference**
	3313A 3313B	722330355143		3313A 3313B	722330370200
Chronograph column-wheel	**Version**	**Reference**	**Date indicator**	**Version**	**Reference**
	3313A 3313B	722330355180		3313A 3313B	722330391440*
Chronograph and minute hammer	**Version**	**Reference**	**Screw for stud**	**Version**	**Reference**
	3313A 3313B	722330355240		3313A 3313B	72233034002
Hour hammer	**Version**	**Reference**	**Screw for automatic device bridge**	**Version**	**Reference**
	3313A 3313B	722330355248		3313A 3313B	72233036003
Eccentric screw	**Version**	**Reference**	**Screw for hammer operating lever**	**Version**	**Reference**
	3313A 3313B	722330355445		3313A 3313B	72226016004
Balance stop lever	**Version**	**Reference**	**Screw for clutch rocker**	**Version**	**Reference**
	3313A 3313B	722330356070		3313A 3313B	72226016004
Click spring	**Version**	**Reference**	**Screw for clutch lever**	**Version**	**Reference**
	3313A 3313B	722330361080		3313A 3313B	72226016004
Yoke spring	**Version**	**Reference**	**Screw for Column wheel jumper**	**Version**	**Reference**
	3313A 3313B	722330361100		3313A 3313B	72226016004
Stop click spring	**Version**	**Reference**	**Screw for Minute counter jumper**	**Version**	**Reference**
	3313A 3313B	722330362101		3313A 3313B	72226016004
Date jumper spring	**Version**	**Reference**	**Screw for barrel bridge**	**Version**	**Reference**
	3313A 3313B	722330363030		3313A 3313B	72233036011
Column wheel operating lever spring	**Version**	**Reference**	**Screw for Hammer operating lever spring**	**Version**	**Reference**
	3313A 3313B	722330365040		3313A 3313B	7223612A6012
Hammer operating lever spring	**Version**	**Reference**	**Screw for ratchet wheel**	**Version**	**Reference**
	3313A 3313B	722330365047		3313A 3313B	72233036019

Screw for column wheel operating lever	Version	Reference
	3313A 3313B	72233036022

Screw for oscillating weight blue	Version	Reference
	3313A 3313B	72233138200B

Screw for Hammer operating limitation bridge	Version	Reference
	3313A 3313B	72233036034

Screw for pallet bridge	Version	Reference
	3313A 3313B	72233038204

Screw for column wheel operating lever	Version	Reference
	3313A 3313B	72233036204

Screw for crown boss	Version	Reference
	3313A 3313B	72233036204

Screw for date indicator maintaining plate	Version	Reference
	3313A 3313B	72233036210

Screw for Setting lever jumper	Version	Reference
	3313A 3313B	72233036407

Screw for click	Version	Reference
	3313A 3313B	72233037008

Screw for chronograph bridge	Version	Reference
	3313A 3313B	72233037031

Screw for balance-bridge	Version	Reference
	3313A 3313B	72233037031

Screw for train wheel bridge	Version	Reference
	3313A 3313B	72233037031

Screw for barrel bridge	Version	Reference
	3313A 3313B	72233037031

Screw for chronograph bridge (smaller)	Version	Reference
	3313A 3313B	72233037033

Screw for automatic device bridge	Version	Reference
	3313A 3313B	72233037033

Screw for setting lever jumper	Version	Reference
	3313A 3313B	72233037035

Fig. 1.0a

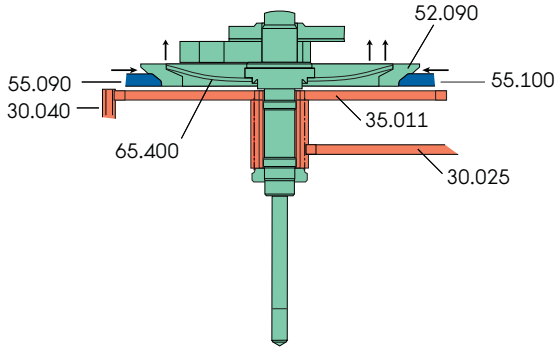
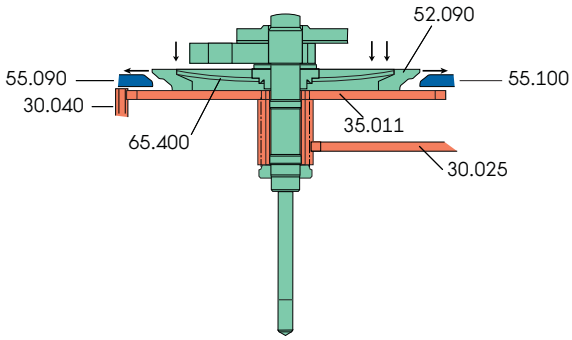


Fig. 1.0b



1.0 Chronograph wheel function

Chronograph wheel 35.010*
Chronograph wheel 35.010* is equipped with a coupling system by which the chronograph can be coupled with and uncoupled from the movement's gear-train.

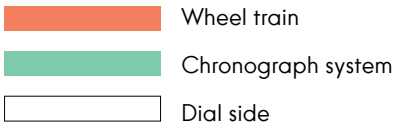
Do not clean
Chronograph wheel (35.010*):
The chronograph wheel can only be lubricated during the manufacturing process. Cleaning damages the lubrication and could leave cleaning solution residue at the chronograph wheel, which interferes with operating and timing.

Chronograph stoppage position
In chronograph stoppage position, clutch disc 52.090 is raised following clamping by clutch rocker 55.090 and clutch lever 55.100, thus avoiding contact with chronograph pinion 35.011 which is constantly coupled with the movement's gear-train.

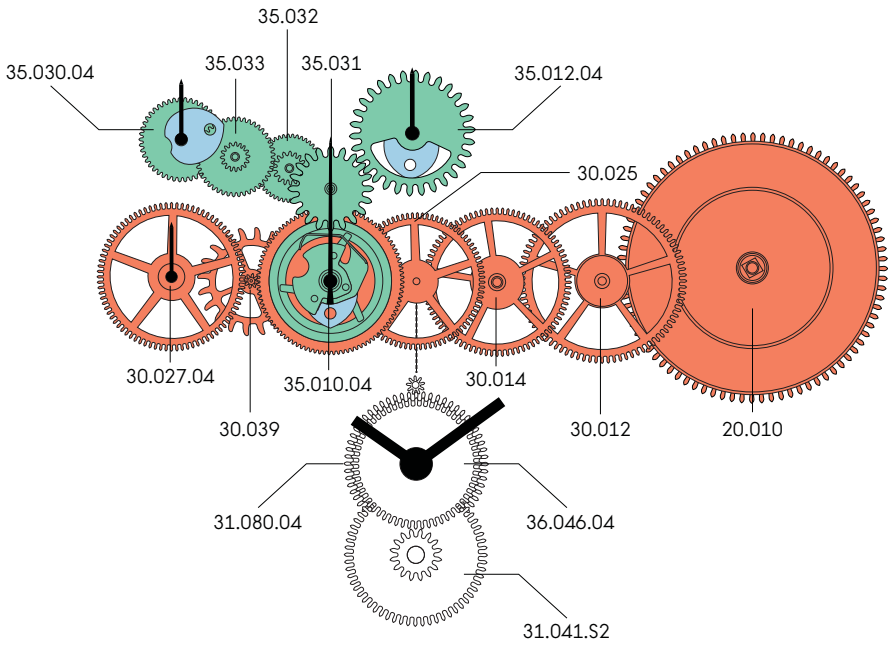
Chronograph operating position

In chronograph operating position, clutch disc 52.090 is released simultaneously by clutch rocker 55.090 and clutch lever 55.100. Pushed by chronograph wheel friction spring 65.400, it comes to rest on chronograph pinion 35.011 which will drive it in its travel.

Fig. 1.1

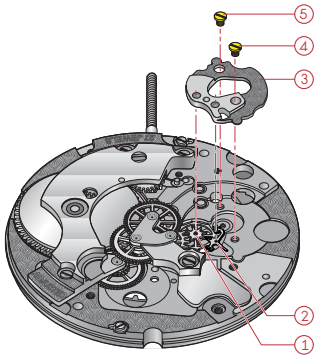


1.1 Description of chronograph system



2.0 Escapement and Balance bridge installation

Fig. 2.1

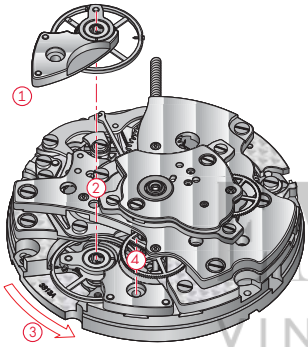


2.1 Escapement system installation

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.
5. The second screw (5) ensures that the bridge is held firmly in place.

Fig. 2.2

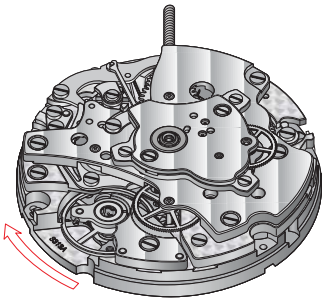


2.2 Ballance brigde installation

As the table roller is under the pallet fork, the balance must be assembled carefully.

1. Position the balance bridge with its balance, the position of the bridge must be in a 90° angle to its normal place.
2. Check the correct balance position. The pivots must be accurately fit into the shock-absorbers.
3. Turn the bridge carefully to its normal position.
4. Tighten the bridge screw.

Fig. 2.3

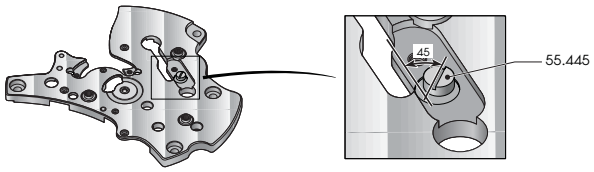


2.3 Disassembling the balance bridge

The balance bridge must be disassembled by removing the parts in the opposite order of procedure 2.2.
To avoid any risk of damaging the balance, the bridge has to be turned 90° degrees in the direction of the arrow. In this position the bridge may be disassembled without any risk.

3.0 Chronograph setting

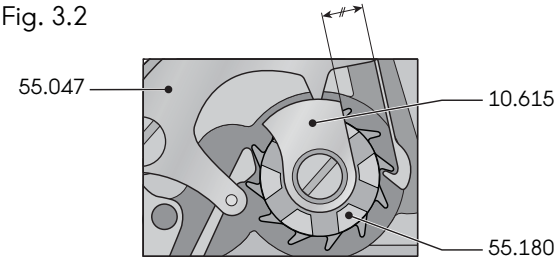
Fig. 3.1



3.1 Check on the eccentric screw for the counter jumper(55.445)

The eccentric screw (55.445) of the counter jumper (55.143) must be positioned as in the drawing. The slot of the eccentric screw (55.445) must form an angle of 45° in relation to the recess in the bridge. An additional correction is subsequently possible when the chronograph is being set.
Do not forget to place the hour hammer (55.248) under the bridge and lubricate it.

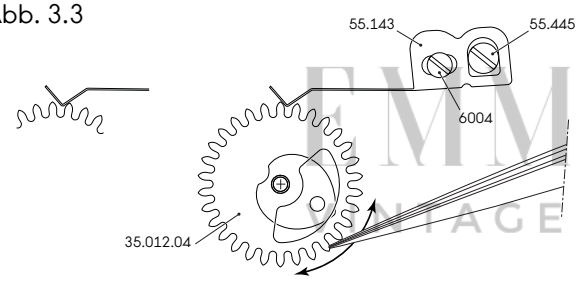
Fig. 3.2



3.2 Hammer-lever banking bridge (10.615)

The hammer-lever banking bridge (10.615) prevents the hammer operating lever (55.047) from moving into an unsuitable position.
It should be positioned above the hammer operating lever (55.047) and its straight flank should be parallel to the hammer operating lever spring (65.047).

Abb. 3.3



3.3 Check on position of minute counter (35.012*)

Place the chronograph in reset position. Using a plastic or brass point, move the minute counter (35.012*) slightly to the left and right. It is important that the minute counter should return correctly to its original position. With the eccentric screw (55.445), the position of the counter jumper (55.143) can be corrected.

Fig. 3.4 - Drawing 1

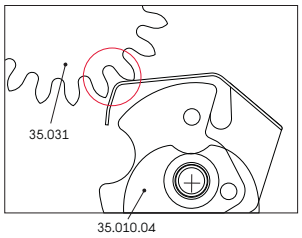
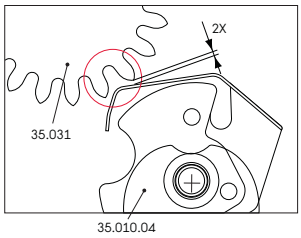


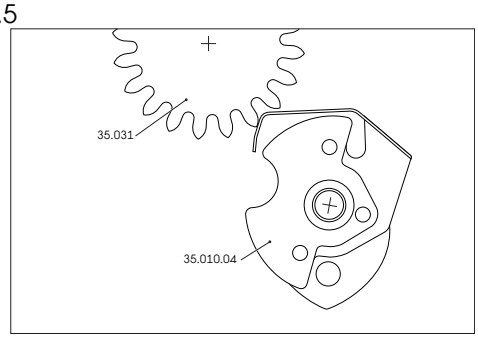
Fig. 3.4 - Drawing 2



3.4 Check on location of chronograph finger in reset position

Check the location of the chronograph finger in reset position. To ensure good synchronisation between the second counter and the minute counter, the chronograph finger should be between the position of «slight contact against the tooth» (see drawing 1) and a maximum distance of twice the thickness of the finger blade (see drawing 2).

Fig. 3.5



3.5 Chronograph finger operating safety

Put the chronograph in START position. Check that the minute counter jump is operating correctly by checking the penetration of the chronograph finger.

3.6 Checking the minute jump

In the START position, drive the chronograph hand with a brass or plastic point until the minute jumps. The difference in relation to the position of the chronograph's seconds hand in the zero setting position has a tolerance of 2/5 second.
Check the function of the counter jumper (55.143) on the hand.

4.0 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)
Hour hand	507 0001	6	10	50	No
Minute hand		2	10	50	No
Chrono second hand in the centre		1	40	60	Yes
Second hand (small)		1	10	40	Yes
Hour counter hand		1	25	50	Yes
Minute counter hand		1	25	50	Yes

5.0 Epilame coating

5.1 Components that should not be epilam-treared after cleaning

Description	Reference	
Balance fitted on balance bridge	40055 + 10058°	
In settings, upper *	32127	
In settings, lower *	32167	
Pallet bridge, Co-Axial	10057	
Barrel***	20010	
Slipping mainspring	20100	
Pallet fork	40010	
Hour-counting wheel	35030*	
Chronograph wheel **	35010*	

*Do not treat the shock-absorber settings with epilam; the cap jewels should however be treated.
**Do not clean the chronograph wheel.
***Do not treat the complete barrel with epilam, only the drum, cover and arbour separately.

For additional information see Working Instructions No 27.

6.0 Instantaneous rate

6.1 Check of the instantaneous rate

Demagnetise the movement before the checks according to Working Instruction 34.

The timing of the movement has to be according to the Omega timing specification list.

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

Measure particularities according to instrument type used

Instrument type	Co-Axial 4 Hz calibres	Comments
Former Witschi instruments - Watch Expert (red case) - Wicomètre Professionnel - Chronoscope M1 (former version)	**Lift angle set to 30°** All measurements are correct.	
New Witschi instruments - Watch Expert II + III (white case) - Chronoscope M1 (updated version) - Chronoscope S1	**Lift angle set to 38°** All measurements are correct.	**Test mode:** **Parameters must be set to «Spe1»!**

Fig. 6.2

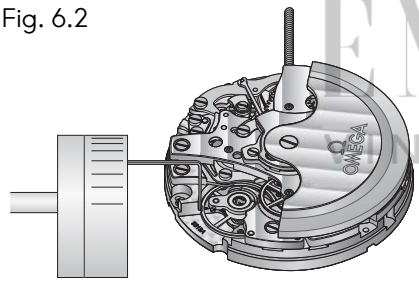
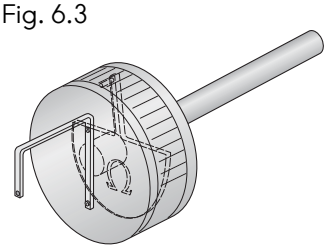
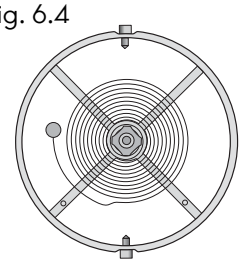


Fig. 6.3



REF. 502 200 0501

Fig. 6.4



6.2 Rate adjustment

A special timing key tool has been developed to adjust the rate even when the movement is cased in. The rate can be corrected according to the table below by turning the two balance screws a complete turn. A scale is found on the outside of the tool. A division corresponds to a rate correction of 1 second. (according to the table below). One screw is located between two arms on the balance which are specially marked by points (see Figure 6.4) for easy identification of each screw during the correction process.

Balance
The annular balance has two adjusting micro-screws. A slow rate deviation is corrected by tightening the micro-screws (towards the centre of the balance), which reduces its moment of inertia and makes it run faster. A fast rate deviation is corrected by loosening the micro-screws (away from the centre of the balance). This increases its moment of inertia and makes it run slower.

Important:
The rate is always corrected using **both adjustment screws** to prevent an unbalance of the balance.

Versions A & B identical
One correction revolution = 57 seconds
One graduation = 1 second

Technical Guide versions				
First version:	09.02.2005	Version A	Made by:	Pelrom
Second version:	17.06.2005	Version B		
Last version:	27.08.2008	Version C		Rendav

Modifications of Technical Guide version B	
Old version (A)	**New Version (B)**
Moebius Microgliss D5	Moebius SYNT-HP - 1300
Moebius 9501	Moebius 9504

Modifications of Technical Guide version C	
Old version (B)	**New version (C)**
	Update of exploded views Update of the lubrication points Diverse Information