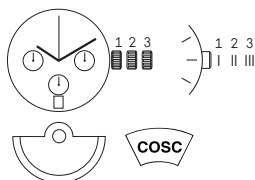
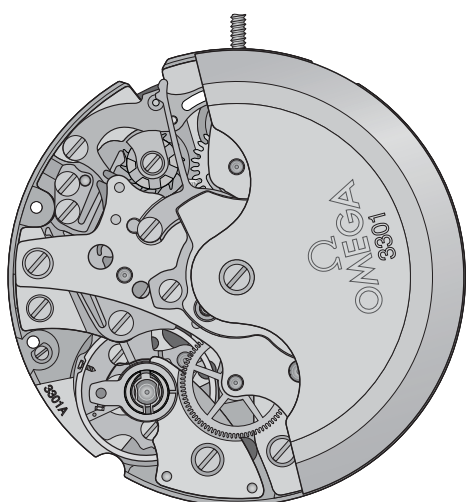
	Technical Guide		TG-19-C-045-E	C
	Made by: pelrom	Date: 12.09.2008	3	Modifications: see last page

CALIBRE 3301

	Version A	Version B
<p>12''' Ø 27 mm</p>		
Height on movement	6.85 mm	
Power reserve	52 h	
Number of jewels	33	
Frequency	4 Hz (28'800 A/h)	



Automatic movement, exclusive Omega chronograph, date, COSC certified, Swiss Pallet fork escapement. Chronograph system with column-wheel. 30-min. minute counter and 12-h hour counter + small second hand at 9 o'clock. Omega balance system without index.



	Page
Calibre 3301	1
General information for Calibre 3301	3-7
Exchange / Key points / Lubricants / Mandatory tools	3
Tightening and untightening torques according to screw thread size	3
Technical modifications on version «A» and «B»	4-5
Lubrication of crow wheel and the three driving wheels for ratchet wheel	6-7
Differences between the versions for Calibre 3301	8
Differences between the versions	8
Exploded views for Calibre 3301	9-13
Dial side	9
Movement side	10
Movement side	11
Movement side	12
Dial side	13
Spare parts list & illustrations for Calibre 3301	14-18
Spare parts & illustrations	14
Spare parts & illustrations	15
Spare parts & illustrations	16
Spare parts & illustrations	17
Spare parts & illustrations	18
Specific information for Calibre 3301	19-23
Chronograph wheel function / Description of chronograph system	19
Chronograph setting	20
Runners for hand setting and hand setting force / Epilame coating	21
Instantaneous rate	22
Modifications of Technical Guide versions for Calibre 3301	23

General information for Calibre 3301

Balance bridge and chronograph bridge

The bridges with serial numbers are not available
(see CS-Info Calibre No 33). For exchange, see table:

Exchanges		With serial no
Version A	Chronograph bridge (ref. 722330115040N)	For exchanges always sent to Omega. Engravings at Omega within 4 weeks.

Exchanges		With serial no
Version B	Balance bridge (ref. 7223301B10058)	For exchanges always sent to Omega. Engravings at Omega within 4 weeks.

Key points

The three intermediate driving wheels for ratchet wheel (32.083) must be correctly lubricated with Moebius SYNT-HP-1300 Sans Colorant. Insufficient lubrication could lead to the formation of burrs or chips and hinder the correct winding of the barrel. Cleaning would not be sufficient to remove all this.
(see page 6 and 7).

Due to the movement construction, there are various screw lengths. To avoid problems at assembly, group identical screws together for cleaning.

Swiss pallet fork Escapement lubrication

See Working Instruction No 40.

Tightening and untightening torques according to screw thread size

Ø Screw	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

Mandatory tools:

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

Hand fitting

Movement holder for hand fitting
Hand fitting tool kit

Reference
507 0001
507 0011

Movement

Movement holder
Mainspring winder
Timing key

Reference
506 0001
502 150 0009
502 200 0501

Lubricants

Moebius SYNT-A-LUBE 9010 (2ml)
Moebius SYNT HP-1300 Sans Colorant
Moebius 9504
Moebius 9415
Moebius SYNT HP-500
Kluber P125


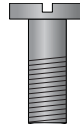
Reference
504 200 0001
504 5013
504 5014
504 100 0003
504 5012
504 1000071

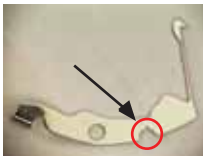

General information for Calibre 3301


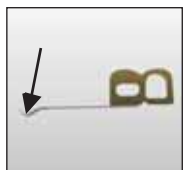
Date correction




Date correction should not be performed between 10 pm and 2 am.

Technical modifications on version «A»



Screw for hammer-lever banking bridge				
Old version	Risk	New version	Improvements	Notes
72233036033	Broken screw head. Old screw length 1.90 mm with guide. Consequence: start/stop function no longer works. The head or the bridge can block the movement.	72233036034	New screw length 1.95 mm without guide, threaded to the end, stronger. New version since week 35/2004.	The new version must be fitted during a maintenance service. If the screw thread cannot be removed from the limitation bridge, the full barrel bridge must be replaced (ref. 722330310041).
				

Column wheel operating lever				
Old version	Risk	New version	Improvements	Notes
722330355040	The column wheel control can bend at the weakest place (see arrow). Consequence: start/stop function does not work.	722330355040	Stronger. New version since week 32/2003.	The new version must be fitted during a maintenance service. The circled part must under no circumstances be bent or modified!
				

Minute counter jumper				
Old version	Risk	New version	Improvements	Notes
722330355143	The jumper breaks at the place where it is bent. Consequence: the minute counter can no longer be reset to zero.	722330355143	Stronger. New version since week 32/2003.	The new version must be fitted during a maintenance service.
				

Hammer operating lever				
Old version	Risk	New version	Improvements	Notes
722330355047	The first execution can bend. The second execution with reset to zero too strong. In both cases, the chronograph hand is not reset correctly to zero.	7223303A55048	The new shape ensures correct resetting to zero and that the hand is held firmly. New version since week 32/2003.	The new version must be fitted during a maintenance service.
				
				

Technical modifications on version «A» and «B»

Rocking bar				
Old version	Risk	New version	Improvements	Notes
722330351052	The setting lever might bend due pressure on stem. Consequence: Malfunction of time setting function.	722330351052	The finger on rocking bar is decreasing this risk. New version available since 27/2008	The new version must automatically be assembled if this case happens.
				

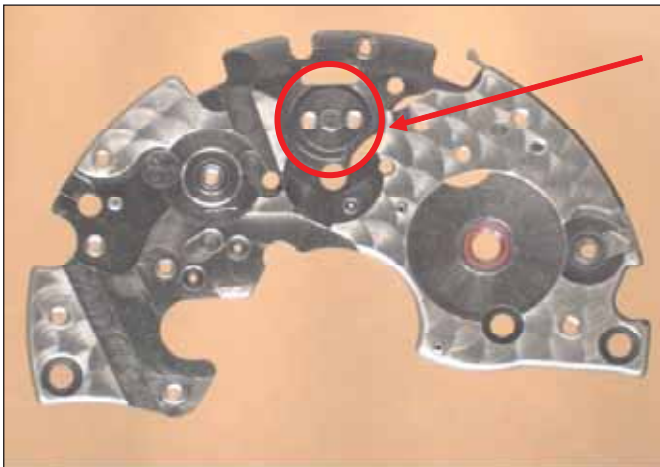
Customer Service lubrication of stud for crown wheel (31.023) and the 3 intermediate driving wheels for ratchet wheel (32.083):

With the aim of constantly improving the performances and reliability of Omega products, the lubrication in Customer Service has been updated.

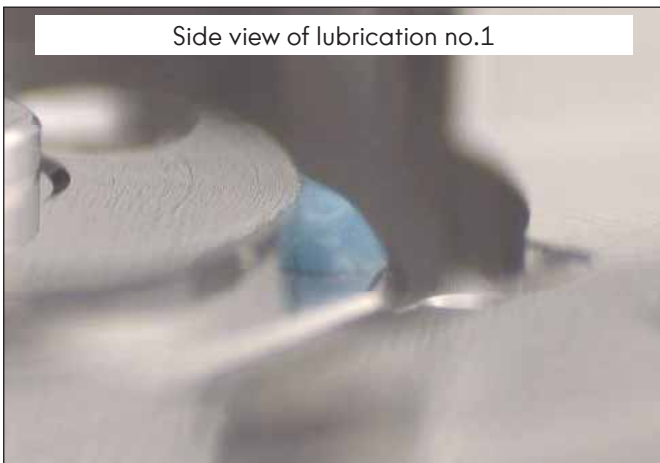
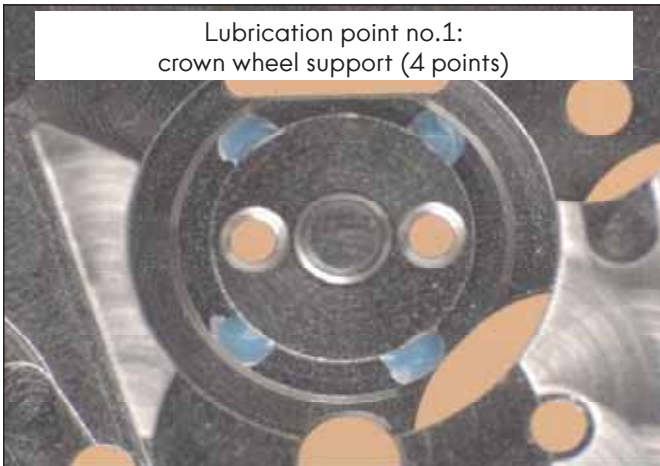
Amount of lubricant to be applied:

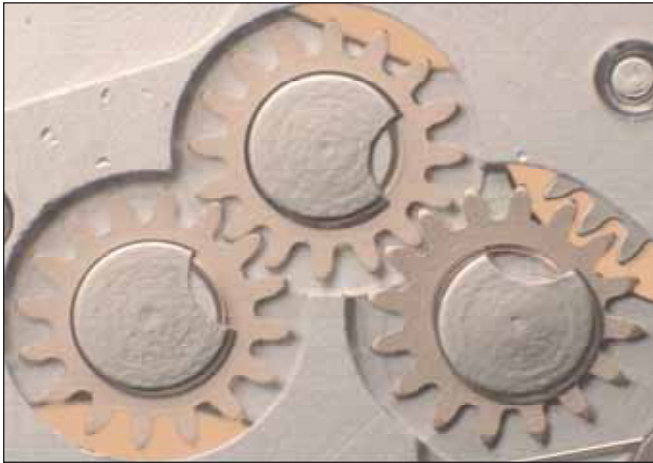
- On the crown wheel stud and the stud for the three ratchets intermediate driving wheels during a service.

Lubrication of stud for crown wheel (Moebius 9504)

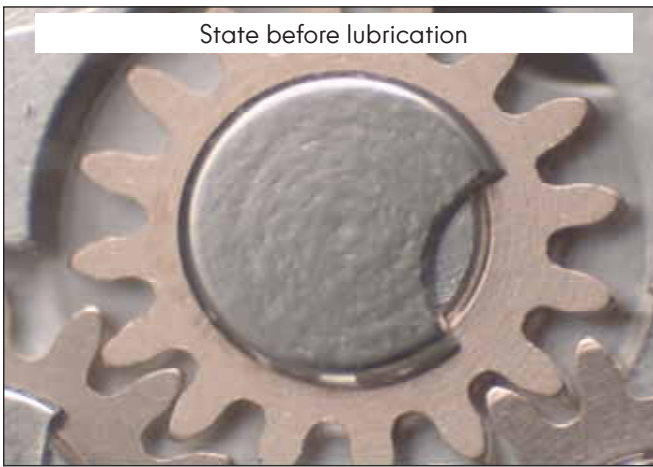


Stud for crown wheel

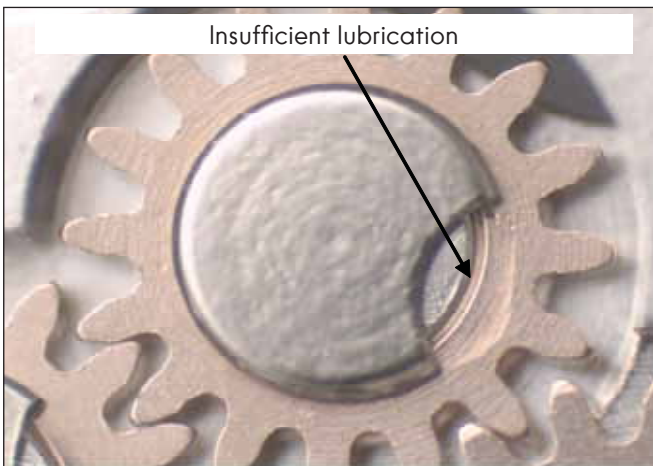




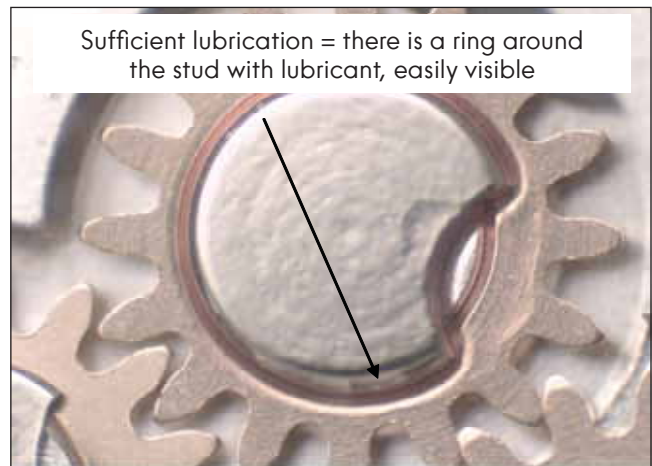
Lubrication of the 3 intermediate driving wheels for ratchet wheel (HP 1300 Sans Colorant)



State before lubrication

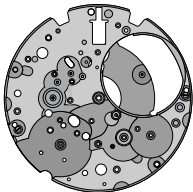
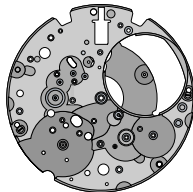
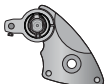
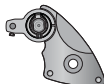












Insufficient lubrication



Sufficient lubrication = there is a ring around the stud with lubricant, easily visible

Differences between Calibre 3301A and 3301B

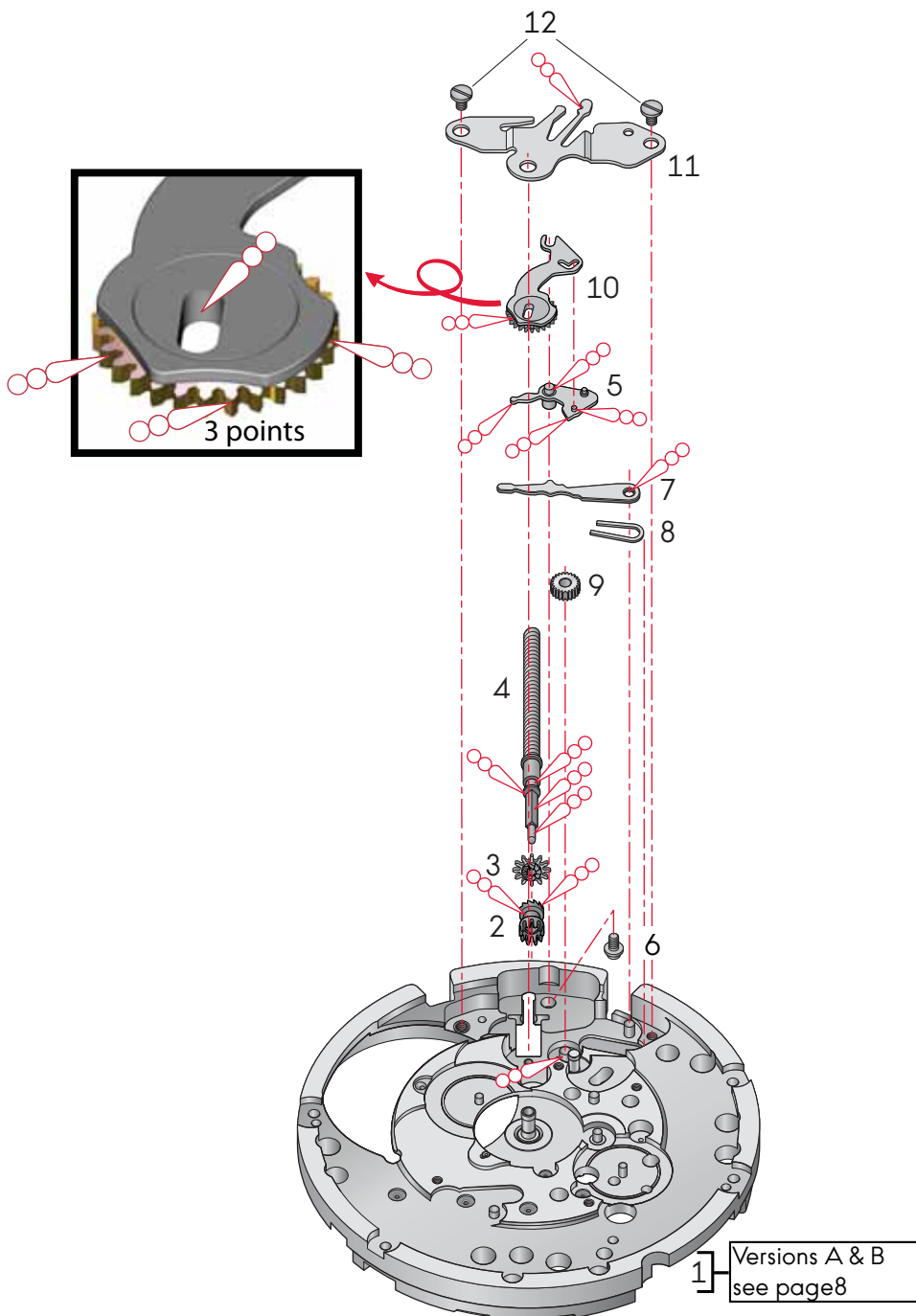
	3301A (4 Hz)	3301B (4 Hz)
Main plate	 Ref. 722330110020 Ø Hole for dial fastener: 0.80 mm	 Ref. 7223301B10020 Ø Hole for dial fastener: 1.00 mm
Balance bridge, complete	 Ref. 722330110058	 Ref. 7223301B10058
Balance, complete	 Ref. 722330340055 Cylindrical pivots Ø 0.08 mm	 Ref. 7223303B40055 Conical pivots Ø 0.07 mm
Shock-absorber, upper	 Ref. 722330332025 Jewel hole Ø 0.09 mm Nickel-plated	 Ref. 7223313B32027 Jewel hole Ø 0.08 mm Gold-plated
Shock-absorber, lower	 Ref. 722330332062 Jewel hole Ø 0.09 mm Nickel-plated	 Ref. 7223303B70531 Jewel hole Ø 0.08 mm Gold-plated
In setting, upper	 Ref. 7223303A32127 Jewel hole Ø 0.09 mm	 Ref. 7223313B32127 Jewel hole Ø 0.08 mm
In setting, lower	 Ref. 7223303A32167 Jewel hole Ø 0.09 mm	 Ref. 7223313B32167 Jewel hole Ø 0.08 mm



Parts listed in order of assembly





- | | |
|---------------|----------------|
| 1 = 10020 | 7 = 51050 |
| 2 = 31121 | 8 = 61100 |
| 3 = 31120 | 9 = 33082 |
| 4 = 51010 | 10 = 51052 |
| 5 = 51083 | 11 = 51090 |
| 6 = 6407 (1x) | 12 = 7035 (2x) |

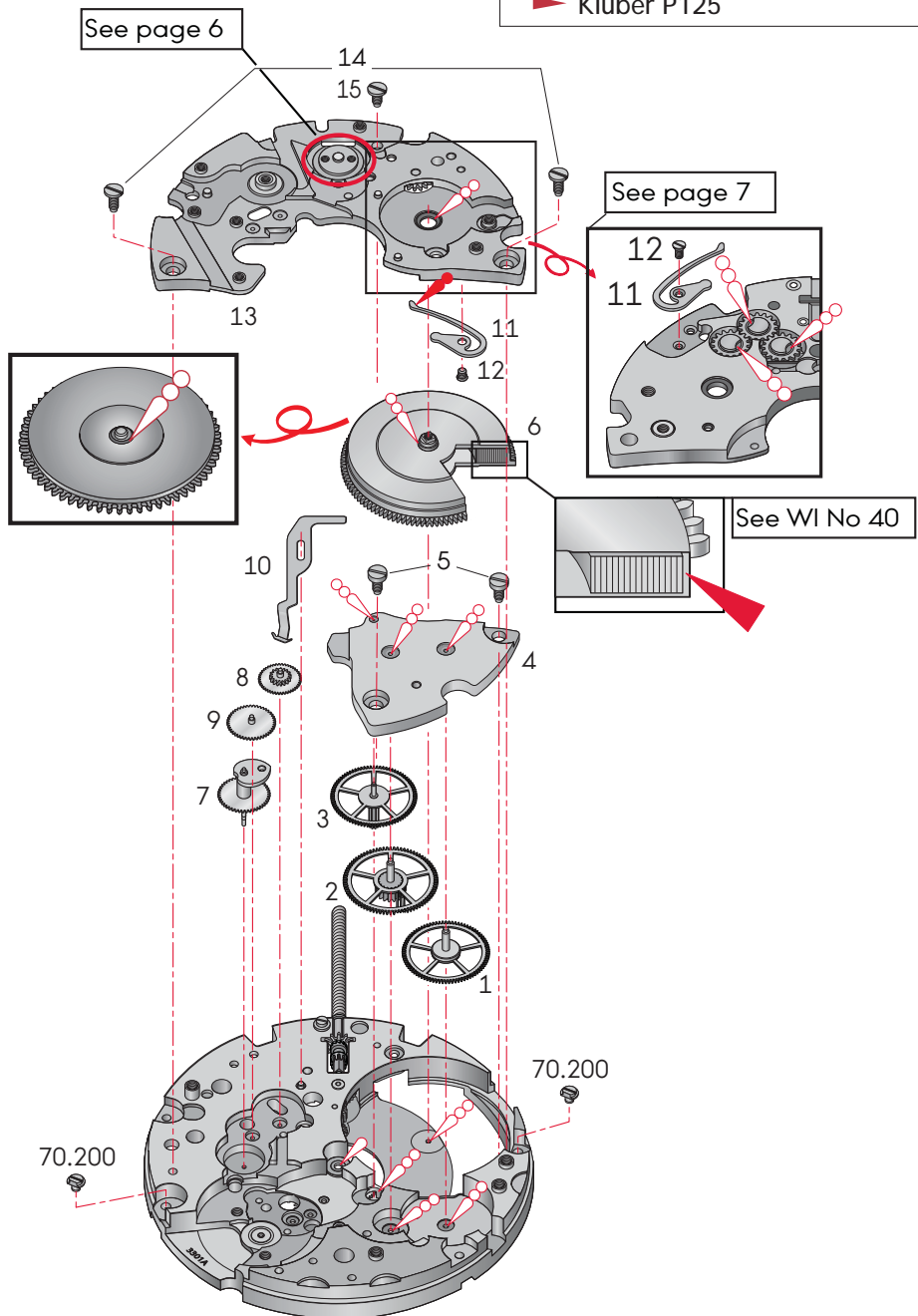
 Moebius SYNT HP-1300 Sans Colorant



Parts listed in order of assembly

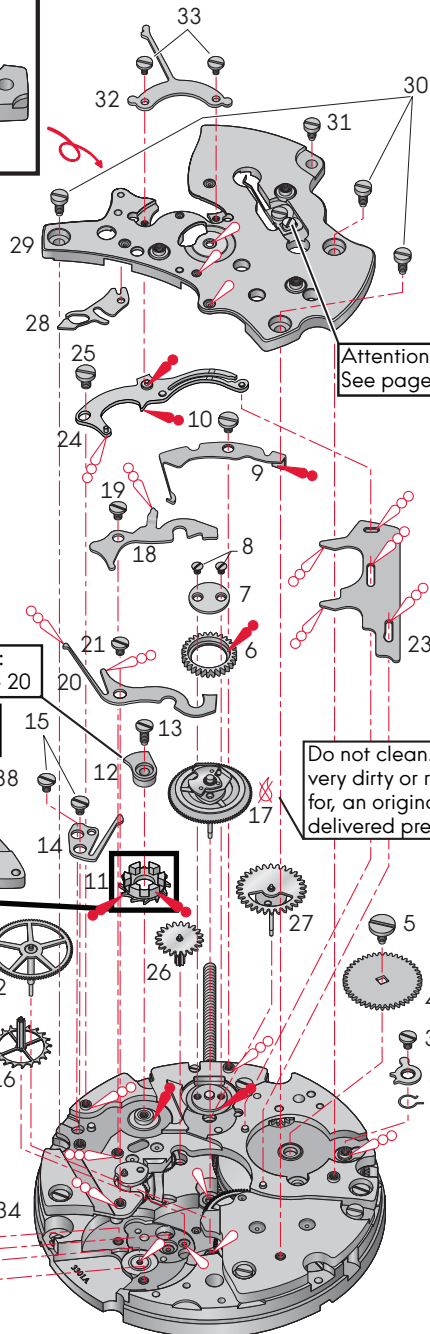
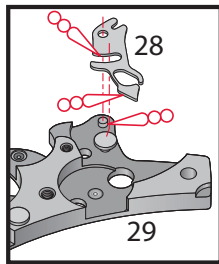
- | | |
|---------------|----------------|
| 1 = 30012 | 9 = 35033 |
| 2 = 30014 | 10 = 56070 |
| 3 = 30025 | 11 = 65040 |
| 4 = 10048 | 12 = 6204 (1x) |
| 5 = 7031 (2x) | 13 = 10041 |
| 6 = 20010 | 14 = 7031 (2x) |
| 7 = 35030 | 15 = 6011 (1x) |
| 8 = 35032 | |

-  Moebius SYNT HP-1300 Sans Colorant
-  Moebius SYNT-A-LUBE 9010
-  Moebius 9504
-  Kluber P125



Parts listed in order of assembly

1 = 61080	20 = 55090
2 = 51120	21 = 6004 (1x)
3 = 7008 (1x)	22 = 30027
4 = 31022	23 = 55240
5 = 6019 (1x)	24 = 55048
6 = 31023	25 = 6004 (1x)
7 = 81136	26 = 35031
8 = 6204 (2x)	27 = 35012
9 = 55040	28 = 55248
10 = 6022 (1x)	29 = 15040
11 = 55180	30 = 7031 (3x)
12 = 10615	31 = 7033 (1x)
13 = 6034 (1x)	32 = 65047
14 = 55130	33 = 6012 (2x)
15 = 6004 (2x)	34 = 40010
16 = 30040	35 = 10057
17 = 35010	36 = 8204 (2x)
18 = 55100	37 = 10058/40055
19 = 6004 (1x)	38 = 7031 (1x)



- Moebius SYNT HP-1300 Sans Colorant
- Moebius SYNT-A-LUBE 9010
- Moebius 9504
- Moebius 9415

Attention:
See page 20

Attention:
See page 20

Versions A & B
See page 8

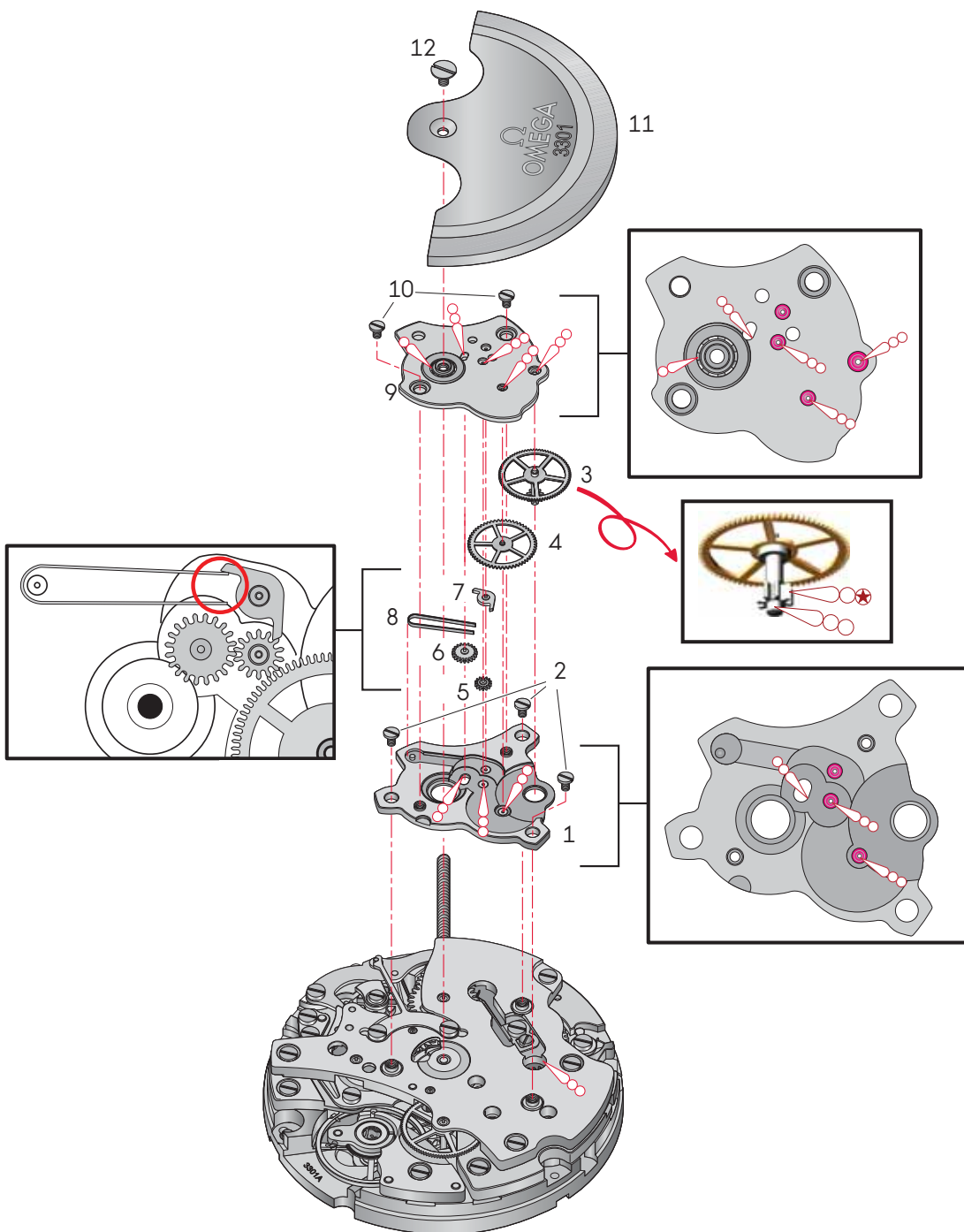
Do not clean. If the part is
very dirty or rusted, exchange
for, an original part which is
delivered prelubricated

4 points
on teeth
3 points
on column

Parts listed in order of assembly




1 = 12030	7 = 52053
2 = 7033 (3x)	8 = 62101
3 = 3203301	9 = 12050
4 = 32031S2	10 = 6003 (2x)
5 = 32105	11 = 22019
6 = 32104	12 = 8200 (1x)

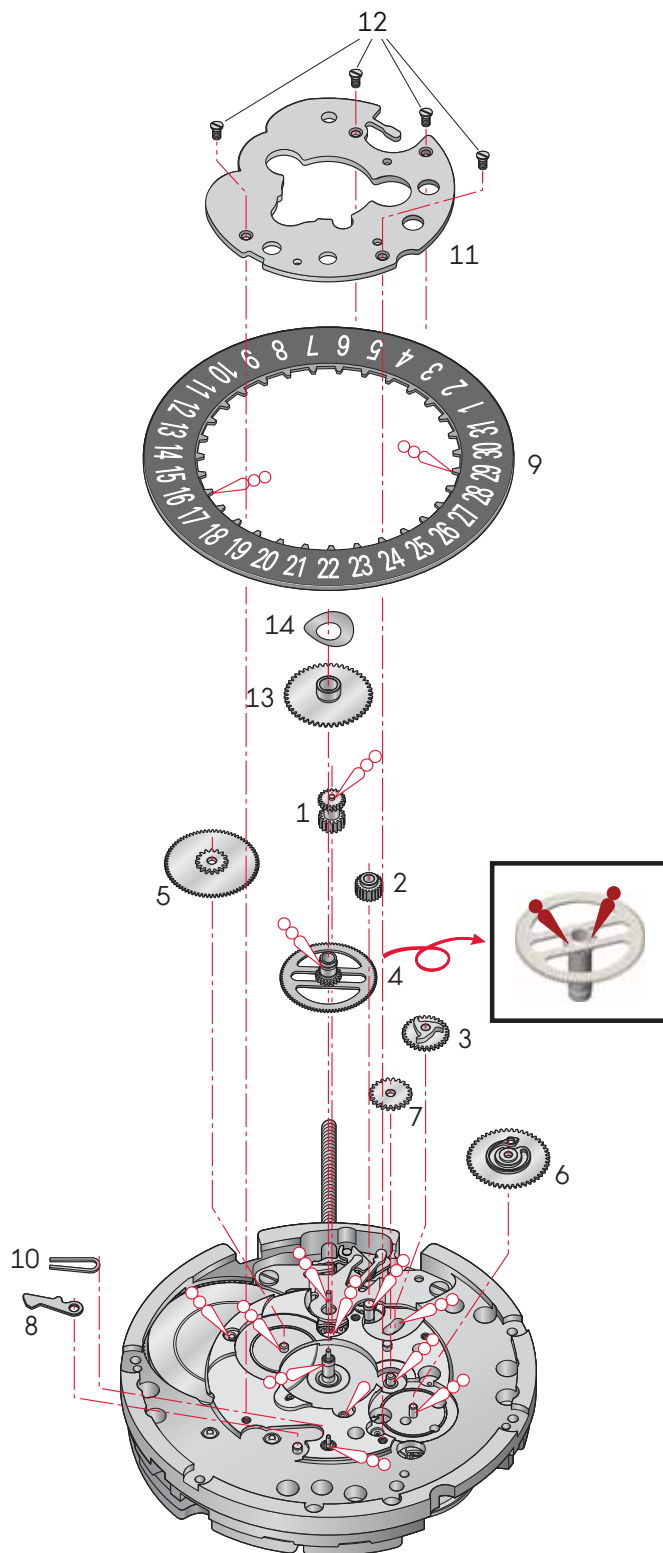
 **Moebius SYNT HP-500**
 **Moebius SYNT HP-1300 Sans Colorant**



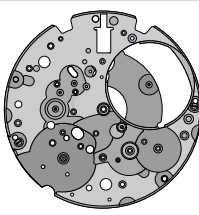
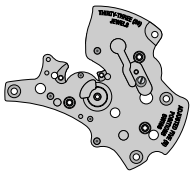


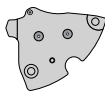



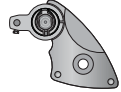



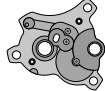





Parts listed in order of assembly

- | | |
|-------------|----------------|
| 1 = 31102 | 8 = 53080 |
| 2 = 33083 | 9 = 91440 |
| 3 = 53200 | 10 = 63030 |
| 4 = 31080 | 11 = 13105 |
| 5 = 31041S2 | 12 = 6210 (4x) |
| 6 = 33020 | 13 = 31046 |
| 7 = 33011 | 14 = 66220 |

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



Spare Parts list for Calibre 3301

Main Plate pre-assembled	Version	Reference	Chronograph bridge	Version	Reference
	3301A	722330110020		3301A	722330115040N
	3301B	7223301B10020		3301B	722330115040
Barrel bridge jewelled	Version	Reference	Barrel, complete	Version	Reference
	3301A	7223301A10041		3301A	722330320010
	3301B			3301B	
Wheel train bridge, jewelled	Version	Reference	Barrel drum + barrel cover	Version	Reference
	3301A	722330110048		3301A	722330320040
	3301B			3301B	
Pallet bridge	Version	Reference	Barrel arbor	Version	Reference
	3301A	722330310057		3301A	722330320060
	3301B			3301B	
Balance bridge, complete	Version	Reference	Mainspring with bridle	Version	Reference
	3301A	722330110058		3301A	722330320100
	3301B	7223301B10058		3301B	
Hammer operating limitation bridge	Version	Reference	Oscillating wheel	Version	Reference
	3301A	722330310615		3301A	722330122019
	3301B			3301B	
Automatic device framework, jewelled	Version	Reference	Intermediate wheel	Version	Reference
	3301A	722330312030		3301A	722330330012
	3301B			3301B	
Automatic device bridge	Version	Reference	Great wheel	Version	Reference
	3301A	722330112050		3301A	722330330014
	3301B			3301B	
Date indicator maintaining plate	Version	Reference	Third wheel	Version	Reference
	3301A	722330113105		3301A	722330330025
	3301B			3301B	