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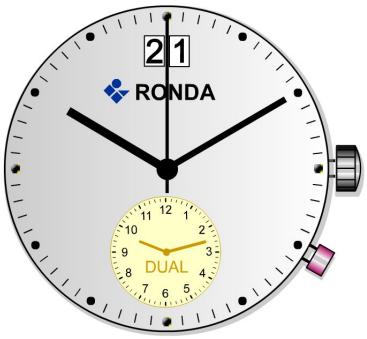
Technical Instructions 4210.B

Specification

11 ½'''



Dimensions and battery

ø Total	28.60 mm
ø Case fitting	28.00 mm
Movement height	4.40 mm
Movement rest	0.60 mm
Height of stem	1.90 mm
Stem: Thread / Distance	0.90 mm / 0.90 mm
Battery / Autonomy	Nr. 395 / 48 Months

Performances

	Small second (M2): 4.0 - 6.7 µNm
Torque T	Minute hand (M2): 200 - 300 µNm
	Counter (M4): 3.0 - 4.6 µNm
Operating temperature	0°C - 50°C
Res. against magn. fields	18.8 Oe = 1500 A/m
Resistance against shock	NIHS 91 - 10

Functions

Position I (crown)	Neutral
Position II (crown)	Setting the date (quick mode)
Position III (crown)	Setting Time and reference time
Pusher	Setting the 2nd time zone

CE

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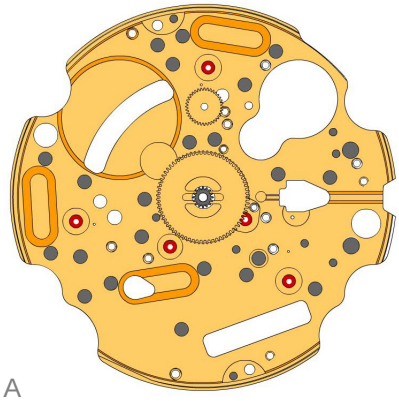
Assembling



A

1. 3305.282.CO — Cannon pinion with driver (Aig 2)

Moebius 8200 greace must be placed between the steel tube and the brass wheel. The steel tube must be placed into the center hole of the main plate.

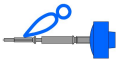
2. 3301.243 — Hour wheel (counter 24h)


3. 2030.017.CO — Centre bridge

Use one screw 4000.250 to fix the center bridge.

4. 3001.041 — Sliding pinion

The sliding ponion must be holded using a tweezers, untill the stem is inserted.

5. 3000.177.CO — Handsetting stem

Prior to the insertion of the stem, some greace must be placed on the square part of the stem.

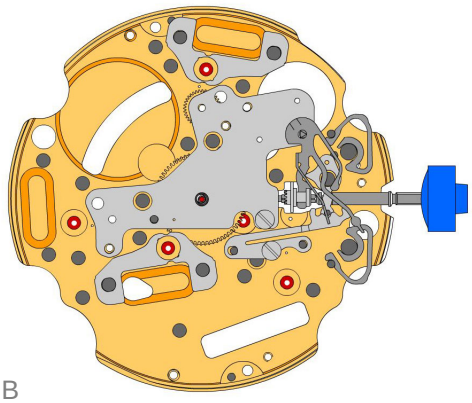
6. 3017.049 — Setting lever

The cam on the setting lever must be inserted into the cut out on the stem. (the setting lever must be greaced)

7. 3905.049 — Setting lever jumper (3 positions)

The setting lever jumper (3 positions) must be tensioned and inserted into the setting lever. Use one screw 4000.250 to fix the setting lever.

8. 4000.250 — Screw



B

9. 3015.070 — Yoke (3 positions)

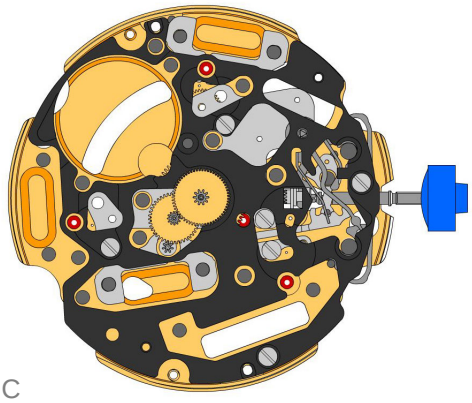
The yoke must be inserted below, into the cutout of the sliding pinion. The oposite end of the yoke must be positioned arround the pillar of setting lever. (Use Moebius 8200 to greaced the yoke)

10. 3406.030 — Pusher jumper

2 pieces. Use Jismaa 124 to greace the pusher jumper.

11. 3622.039 — Stator (DUAL 6h and movment)

2 pieces



C

12. 3603.065 — Plastic bracket

Use 4 screws 4000.250

13. 4000.250 — Screw

14. 3715.094.RK — Rotor (centre and chrono)

Use an antimagnetic tweezers to place the 2 rotors.

15. 3147.047.CO — Intermediate wheel (chrono)


16. 3136.156.CO — Second wheel (height 2)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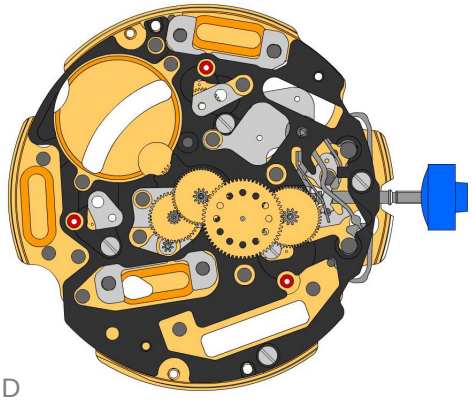


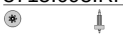
D

17. 3136.148.CO — Chronograph wheel (height 2)

18. 3122.056.CO — Third wheel

19. 2020.148 — Train wheel bridge
Attention: Prior to the fastening process of the bridge, all 7 pins of the wheels must be visible in the 7 holes in the bridge. Use 3 screws 4000.250.

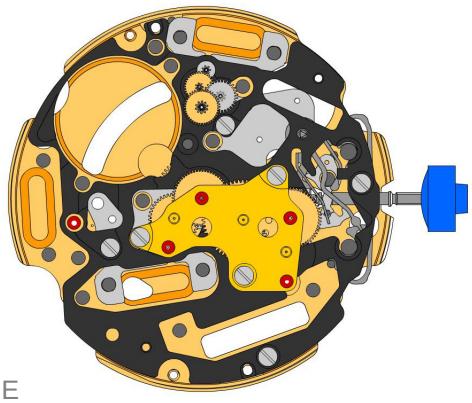
20. 3715.095.RK — Rotor (counter 6h and 9h)
Use an antimagnetic tweezers to place the rotor.



21. 3147.048.CO — Intermediate wheel (counter)

22. 3007.055.CO — Minute wheel (counter 24h)

23. 3402.007.CO — Minute counting wheel (24h)



E

24. 2020.149 — Counter train wheel bridge
Attention: Prior to the fastening process of the bridge, all 4 pins of the wheels must be visible in the 4 holes of the bridge. Use 3 screws 4000.250.

25. 4000.250 — Screw

26. 9014.000 — Moebius 9014
Use Moebius 9014 on bearing of all rubis

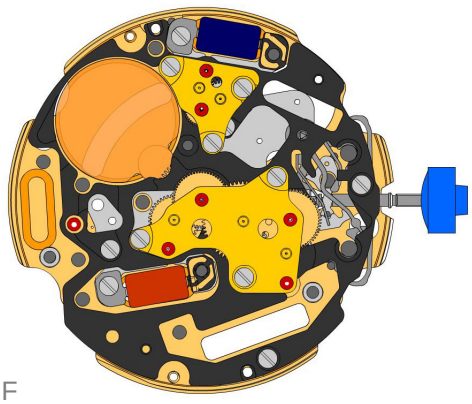
27. 3621.055.RK — Coil
The wire of the coil (red area) is very sensitiv to mechanical impacts. Hold the coil only ouside the red area.£Fix the coil by 1screw 4000.250.

28. 3621.054.RK — Coil (movment)
The wire of the coil (red area) is very sensitiv to mechanical impacts. Hold the coil only ouside the red area.£Fix the coil by 1screw 4000.250.

29. 4000.250 — Screw

30. 3503.054 — Tube
2 pieces

31. 3603.034 — Battery insulator



F

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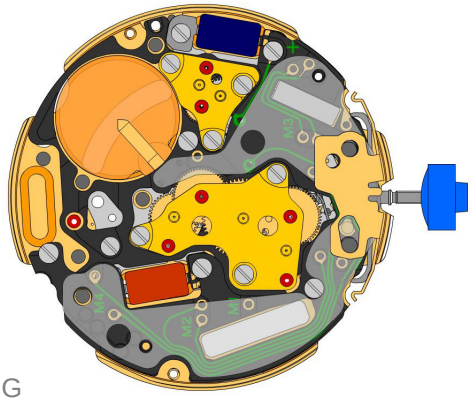
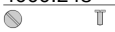


G

32. 3612.146.4210 Electronic module

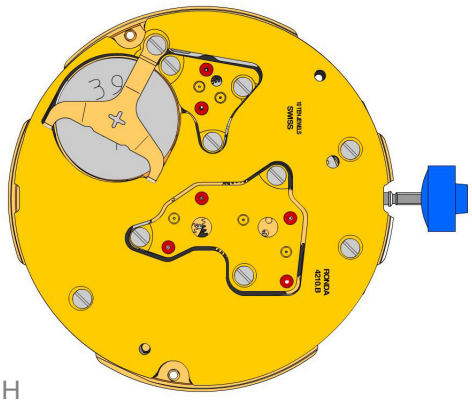
After assembly of the electronic module it is the best time to perform the electrical measurements. Use 5 screws 4000.248 to fix the electronic module.

33. 4000.248 Screw


34. 3603.069 Circuit insulator


35. 3601.107 Pusher contact spring

Make shure, that the pusher contact spring is placed correctly onto the pillars.



H

36. 2130.139.4210.B Electronic module cover (counter 6h)

Make shure, that the pusher contact spring is not displaced during attachment of the electronic module cover. Use 3 screws 4000.250 to fix the electronic module cover

37. 3600.010 Battery

Use a plastic tweezers to place the battery (to avoid short circuit of battery).

38. 3601.109 Bridle +

Insert the two brackets of the battery bridle under the electronic module cover and fasten the battery bridle by 1 screw 4000.250.

39. 4000.250 Screw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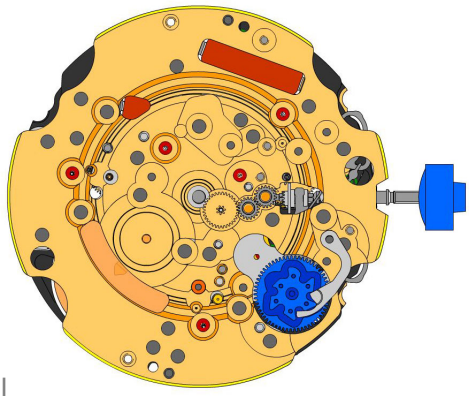
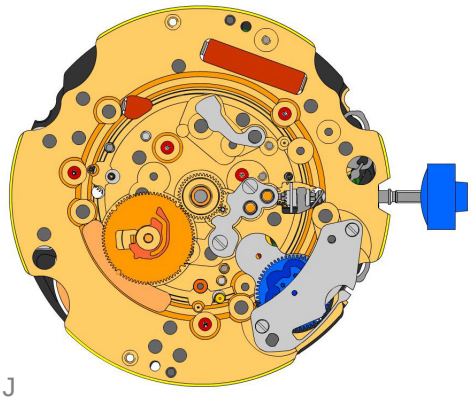


I



J

40. 2000.574.CO — Main plate

41. 9014.000 — Moebius 9014
Use Moebius 9014 on bearing of all rubis

42. 3004.164 — Setting wheel
Use Moebius 9020 on both setting wheels

43. 3007.054.CO — Minute wheel
Use Moebius 9020

44. 2130.143 — Minute train bridge
Use 2 screws 4000.305

45. 4000.305 — Screw

46. 3004.181 — Tens indicator driving wheel
The short tooth of the tens indicator driving wheel must point to the center of the movement.

47. 3500.059 — Tens jumper
Moebius 8200 greace must be placed between the tens jumper and the tens indicator driving wheel.

48. 2130.142 — Tens jumper maintaining plate
Make shure, that the tens indicator driving wheel is not blocked prior to the fastening process. Use 2 screws 4010.306. Place the spring loaded bracket outside of the tens jumper.

49. 4010.306 — Screw

50. 3301.242 — Hour wheel (Aig 2)
Use Moebius 9020

51. 3315.016 — Hour wheel friction spring
Must be placed onto the hour wheel

52. 3004.176.CO — Date indicator driving wheel
Moebius 9020 must be used in the center of this wheel

53. 3500.049 — Date jumper
Moebius 8200 greace must be placed between the date jumper and the date jumper spring

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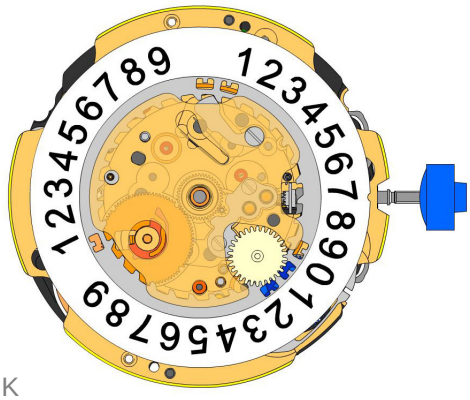


K

54. 3504.214.AD — Units indicator

Teaths must be greaced using Moebius 8200. The "half moon" cut out on the unit indicator must point to the stem (position 3h).

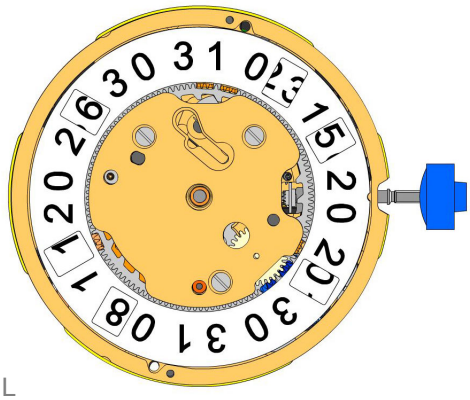
55. 3147.054 — Tens intermediate wheel


56. 2130.141 — Date indicator maintaining plate

use 1 screw 4000.250

57. 3905.050 — Date jumper spring

Insert the spring into the opening of the date indicator maintaining plate



L

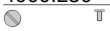
58. 3504.215.AD — Tens indicator (T3/G12)

The "half moon" cut out on the tens indicator must point to the stem (position 3h).

59. 2130.140 — Date mechanism maintaining plate

Assure that the tens intermediate wheel is not blocked, prior to the fastening process. Use 2 screws 4000.250 to fix the date indicator maintaining plate

60. 3506.072 — Dial support


61. 4000.250 — Screw


62. 9010.000 — Moebius 8200

Microgliss D5 can be used

63. 9018.000 — Jismaa 124

Greace Moebius or Microgliss D5 an be used

64. 9020.000 — Moebius 9020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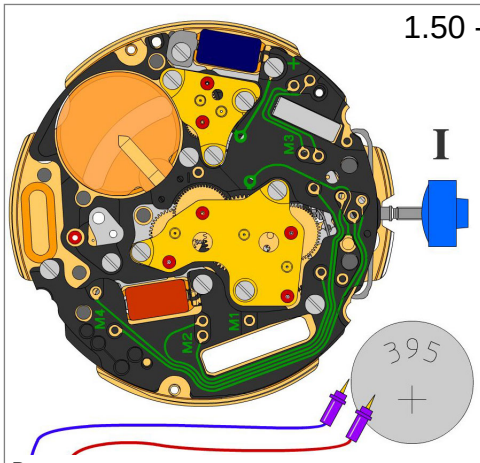
Technical Instructions 4210.B

Electrical checking

Voltage of battery

1.50 - 1.55 V

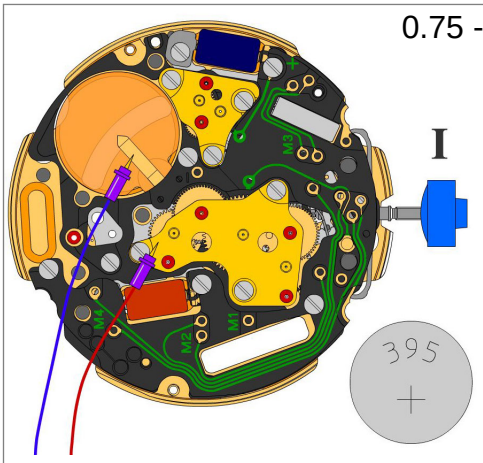


Battery test

Battery must be removed from movement

Consumption (M2) of movem. (Pos. I)

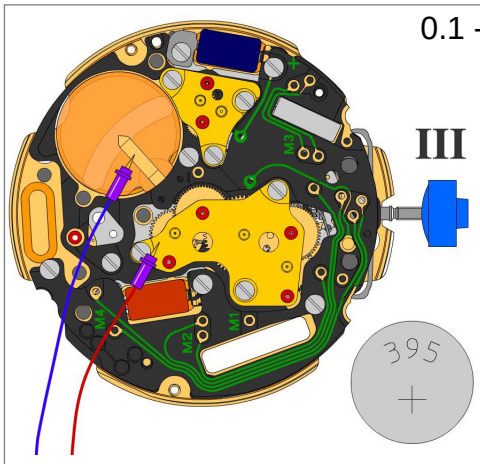
0.75 - 1.3 µA



Supply power from measurement equipment (1,55 V)

Consumption (M2) of movem. (Pos. III)

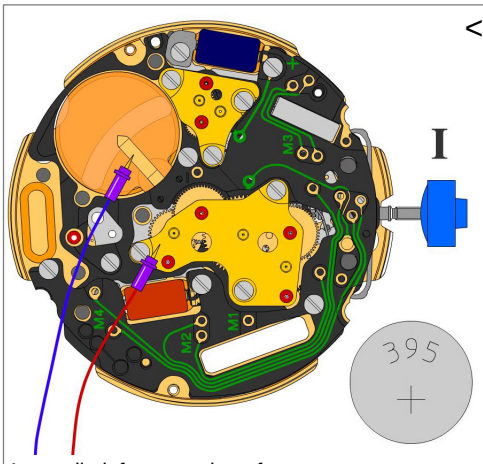
0.1 - 0.3 µA



Supply power from measurement equipment (1,55 V)

Lowest voltage for movement (M2)

<= 1.3 V

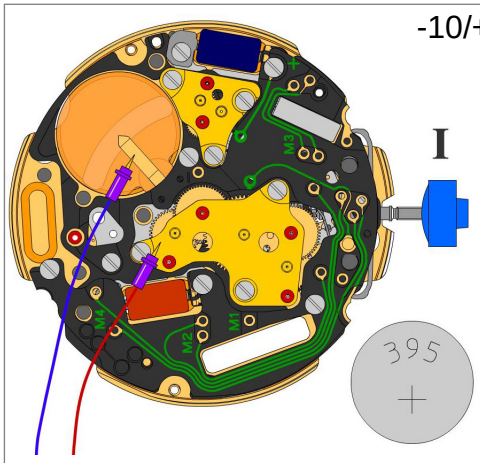


Lower limit for operation of movement

Adjust voltage on the measuring eqipement to 1.55 V. The slowly reduce the tension untill the movement stops

Accuracy (seconds / month)

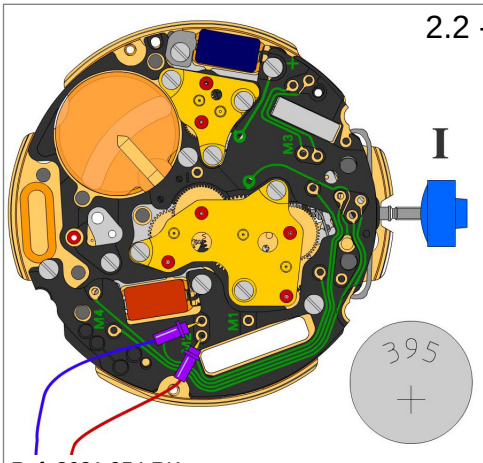
-10/+20 s/M



Check for a time of minimal 60 seconds

Resistance of the coil: Motor 2 (movment)

2.2 - 2.4 k?



Ref. 3621.054.RK

The resistance of the coil can be measured on the electronics (M2) or directly on the coils (electronic module must be removed).

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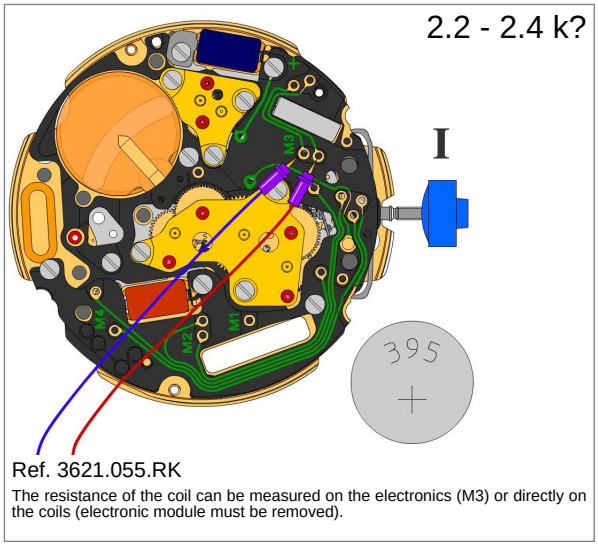
Electrical checking

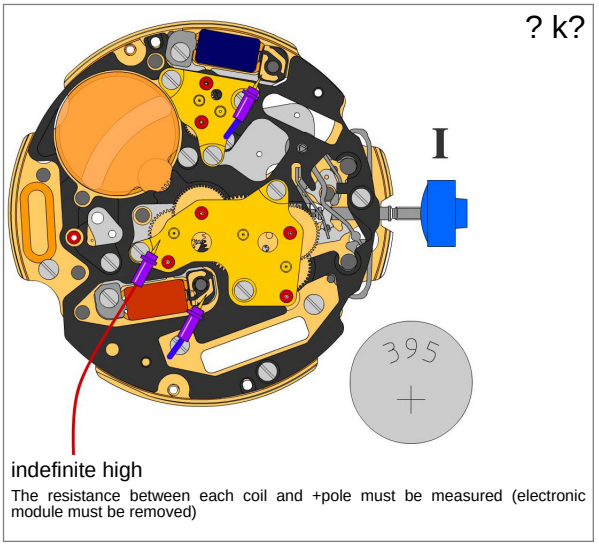
Resistance of the coil: motor 3 (DUAL)



Ref. 3621.055.RK

The resistance of the coil can be measured on the electronics (M3) or directly on the coils (electronic module must be removed).

Coil insulation: motor 2 and 3



indefinite high

The resistance between each coil and +pole must be measured (electronic module must be removed)

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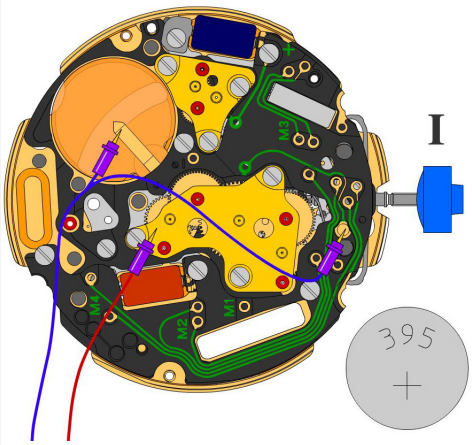
Technical Instructions 4210.B

Test of the motors

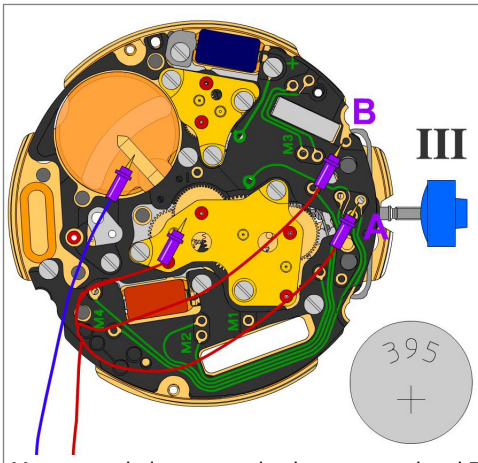
Accelerated test of movement (M1)



8 steps / sec.

To activate this test mode, the corresponding test point must be connected to the -Pole

Test M3 (DUAL)



Motor runs during connection between +pol and Point B

Reduce the supply voltage to 1.3V to check the function of M3. Connect point B to the +pole. After 2 seconds the motor starts turning.