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Technical Instructions 5020.B

Specification

12 ½'''





20 Mar 2006

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 (M1): 4.0 - 6.7 µNm
Torque T	Minute hand (M1): 200 - 300 μNm
	Counter (M2, 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 adjusting chrono hands
Pusher A	START / STOP / ADD
Pusher B	ZERO POSITIONING / SPLIT



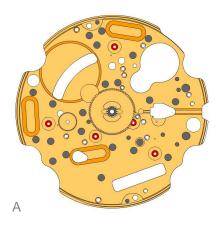
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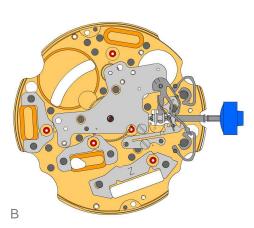


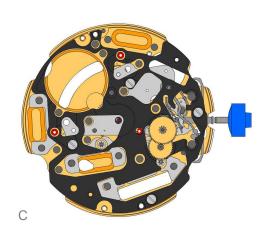


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Assembling

1. <u>2000.574.CO</u> Main plate



2. 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.

Hour wheel (counter 24h)

3. 3301.244 (O)

4. 2030.017.CO

Centre bridge
Use one screw 4000.250 to fix the center bridge.

5. <u>3001.041</u>

Sliding pinion

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

6. 3000.177.CO



Handsetting stem

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

Setting lever

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

8. <u>3905.049</u>

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.

9. 4000.250

Screw

10. <u>3015.076</u>

Yoke (3 positions)

The voke must be inserted below, into the cut out of the sliding pinion.

11. 3905.058

Yoke spring
The yoke spring must be positioned on the yoke. The opposite end of the yoke must be positioned around the pillar of setting lever. Use Moebius 8200 to grease the yoke.

12. 3406.030

Pusher jumper

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

13. 3622.040

Stator



Stator (counter 6h and chrono)

14. <u>3622.039</u>

15. 3603.065 Plastic bracket Use 4 screws 4000.250



16. 4000.250 Screw

17. <u>3715.094.RK</u>

Rotor (centre and chrono)

Use an antimagnetic tweezers to place the 2 rotors.

18. 3147.046.CO

Intermediate wheel



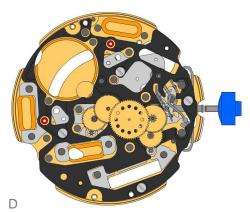
Second wheel (long)





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Assembling

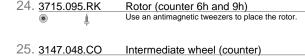
20. <u>3147.047.CO</u> Intermediate wheel (chrono)

21. 3136.144.CO Chronograph wheel (Aig 2)

22. <u>3122.056.CO</u> Third wheel

23. 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.

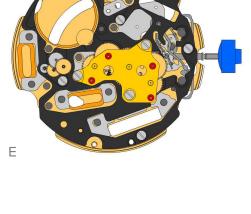


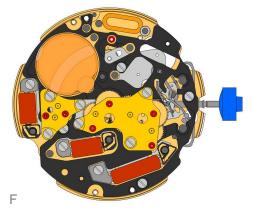
26. <u>3007.056.CO</u> Minute wheel (counter 24h)

27. 3402.008.CO Minute counting wheel (24h) (\bullet)

28. 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.

29. <u>4000.250</u> Screw





30. 9014.000 Moebius 9014 Use Moebius 9014 on bearing of all rubis Coil

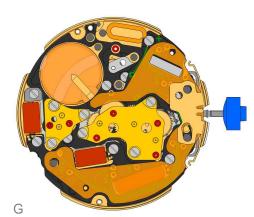
The wire of the coil (red area) is very sensitiv to mechanical impacts. Hold the coil only ouside the red area. Fix the coil by 1screw 4000.250. 31. 3621.053.RK Coil (counter 9h and chrono)

The wire of the coil (red area) is very sensitiv to mechanical impacts. Hold the coil only ouside the red area. 32. <u>3621.054.RK</u> 33. <u>3621.054.RK</u> Coil (counter 9h and chrono) The wire of the coil (red area) is very sensitiv to mechanical impacts. Hold the coil only ouside the red area. 34. 4000.250 Screw 35. 3503.054 Tube 36. <u>3603.034</u> Battery insulator



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Assembling

44. 4000.250

37. 3612.144.5020 Electronic module

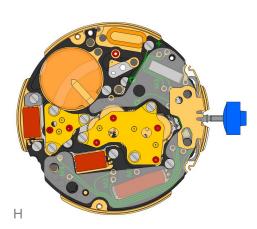
After assembly of the electronic module it is the best time to perform the electrical measurements. Use 5 screws 4000.248 to fix the electronic module.

38. 4000.248 Screw

39. 3603.069 Circuit insulator

40. 3601.107 Pusher contact spring

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



41. 2130.138.5020.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

42. 3600.010

Battery

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

43. 3601.109

Bridle +

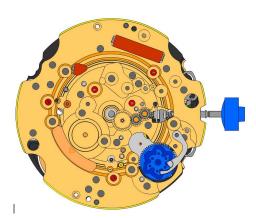
Insert the two brackets of the battery bridle under the electronic module cover and fasten the battery bridle by 1 screw 4000.250.

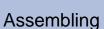
Screw

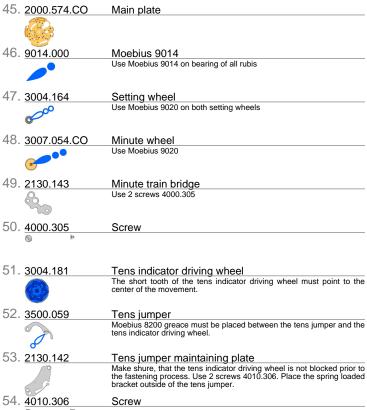


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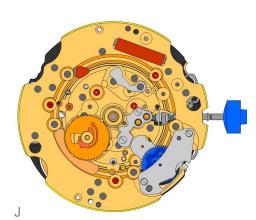
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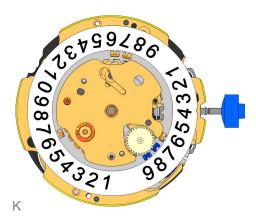


55. 3301.242	Hour wheel (Aig 2)
*	Use Moebius 9020
56. 3315.016	Hour wheel friction spring
O	Must be placed onto the hour wheel
57. 3004.176.CO	Date indicator driving wheel
•••	Moebius 9020 must be used in the center of this wheel
58. 3500.049	Date jumper
	Moebius 8200 greace must be placed between the date jumper and the date jumper spring



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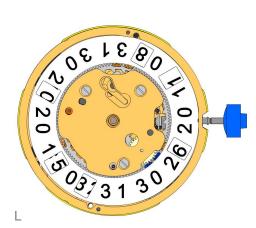
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Assembling

59. <u>3504.214.AD</u>	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).
60. <u>3147.054</u>	Tens intermediate wheel
CONTRACTOR OF THE PROPERTY OF	
61. 2130.141	Date indicator maintaining plate
	use 1 screw 4000.250
62. 3905.050	Date jumper spring
	Insert the spring into the opening of the date indicator maintaining plate



63.	3504.215.AD	Tens indicator (T3/G12) The "half moon" cut out on the tens indicator must point to the stem (position 3h).
64.	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 $$
65.	3506.072	Dial support
66.	4000.250	Screw
	■ T	
67.	9010.000	Moebius 8200
	0	Microgliss D5 can be used
68.	9018.000	Jismaa 124
	000	Greace Moebius or Microgliss D5 an be used
69.	9020.000	Moebius 9020



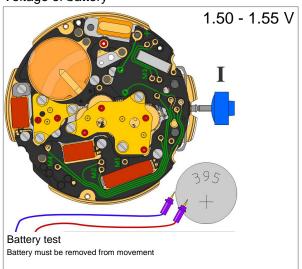
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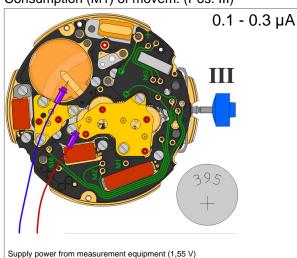
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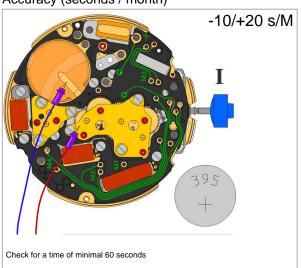
Voltage of battery



Consumption (M1) of movem. (Pos. III)



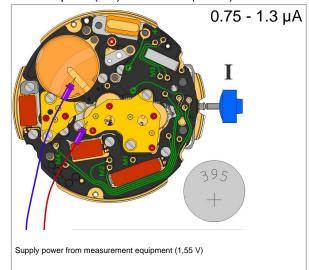
Accuracy (seconds / month)



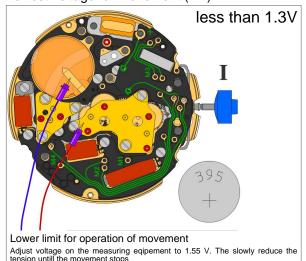
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Electrical checking

Consumption (M1) of movem. (Pos. I)

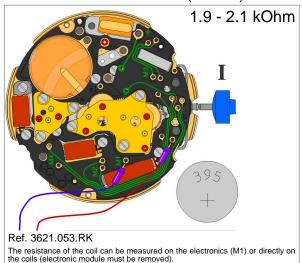


Lowest voltage for movement (M1)



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

Resistance of the coil: motor 1 (movem.)





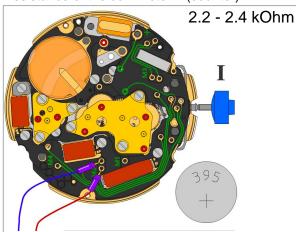
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Resistance of the coil: motor 2 (counter)



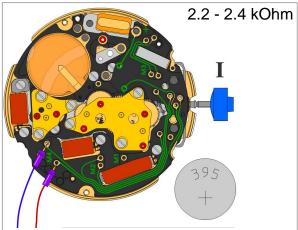
Ref. 3621.054.RK

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

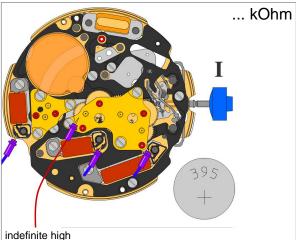
Resistance of the coil: motor 4 (counter)



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 1, 2 and 4



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



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Accelerated test of movement (M1)

1.55 V

8 steps / sec.

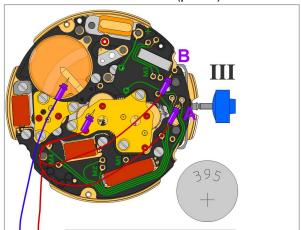
To activate this test mode, the corresponding test point must be connected to the -Pole

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Test of the motors

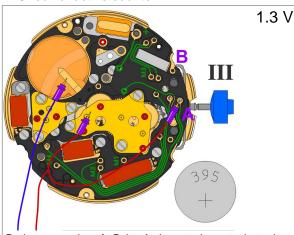
1. Activation of control mode (pos III)



During 1-3 the movement must by supplied continiously

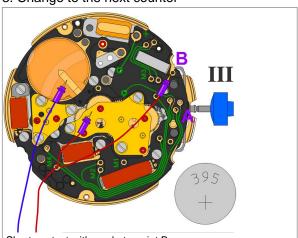
Connect points A + B simultaneous for min. 2 seconds to the +Pol. Do not interrupt the supply voltage - stem pos III)

2. Check of active counter



During connection of +Pol to A, the actual counter is turning. Reduced the supply voltage to 1.3V to check the proper function of the counter. If the power supply is disconnected, the control mode must be starded again section 1.

3. Change to the next counter



Short contact with +pole to point B

Change of active counter: M2-M3-M4-M2-M3- .After a timout of approx. 30 seconds since last contact, the control mode will be terminated.