ROLEX

Technical information
Information technique
Información técnica
Technische Information
Informazione tecnica

CALIBRE 3135
CALIBRE 3155
CALIBRE 3175
CALIBRE 3185

MONTRES ROLEX SA CH-1211 GENÈVE 24

CALIBRE 3135, pages 4 – 19
CALIBRE 3155, pages 20 – 25
CALIBRE 3175, pages 26 – 31
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LIST OF SPECIAL ROLEX TOOLS
(can be ordered from the Technical Information Department)

Ref. 2019 Microstella key
2106 Tool for fitting the spring for cam yoke
2111 Movement-holder
2139 Support for automatic device module
2140 Tip for extracting the stud for cam
2141 Riveting tool for the oscillating weight axle
2142 Mainspring winder

REMARKS

Date correctors

The date correctors (Nos. 3135-645 and 3155-645) are not interchangeable. To be distinguishable the correctors (No. 3135-645) for calibres 3135 and 3175 are nickel-plated, the correctors (No. 3155-645) for calibre 3155 are gilt.

Springs for cam yoke

The spring for cam yoke (No. 3155-635) for calibre 3155 is thicker than the spring for cam yoke (No. 3135-635) for calibres 3135, 3175 and 3185. They are 0.28 mm, respectively 0.21 mm thick. Moreover, the bend at one extremity makes them distinguishable, see Fig. 1.

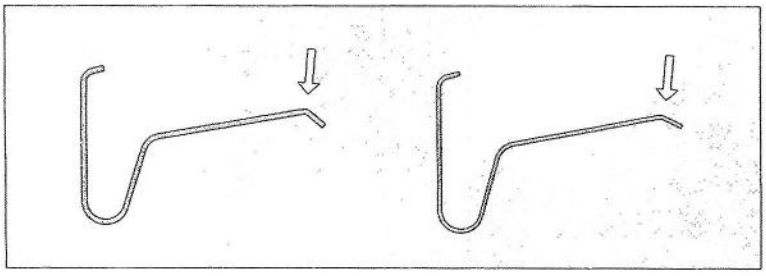


Fig. 1

Second wheels

The second wheel (No. 3155-360) for calibres 3155 and 3185 has a pivot-shank longer than the one of the second wheel (No. 3135-360) for calibres 3135 and 3175. The second wheels must be coated with Epilame.

Dials

The dials for calibres 3035 and 3075 can serve respectively for calibres 3135 and 3175, on condition that the feet are 2.40 mm long. Dial feet 2.60 mm long must be shortened. Dials for calibre 3055 can serve without modification for calibre 3155.

Lubrication

It is important, before assembling the movement, to refer to the lubricating charts where the points of lubrication and the type of lubricants to be used are shown.
In the text only the most particular points are mentioned.

Epilame coating

Coating with Epilame should be carried out as follows :
– Immerse the parts in Fixodrop* Epilame for at least two minutes.
– Dry under hot air (i.e. with a hairdryer) to avoid condensation.

* Can be ordered from the Technical Information Department.

CALIBRE 3135

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CALIBRE 3135

Technical characteristics

Date indicator mechanism with rapid corrector	Automatic winding
Centre second hand	Stop-second device
Annular balance with 2 pairs of Microstella timing nuts	Breguet hairspring

Shock-absorbers for balance and combined in-settings for escape wheel

Balance bridge adjustable in height by means of 2 nuts

– Overall diameter	28.50 mm
– Case-fitting diameter	28.10 mm
– Overall height, including automatic device module and date indicator mechanism	6.00 mm
– Number of jewels	31
– Frequency 4 Hz, i.e. vibrations per hour	28.800
– Angle of lift of the balance wheel	52°
– Box of spare parts	No. 03135

Movement seen from above (Fig. 2), idem without automatic device module (Fig. 3), seen from below with date indicator mechanism (Fig.4).

Scale 1.25 : 1



Fig. 2

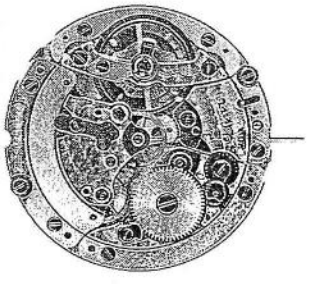


Fig. 3

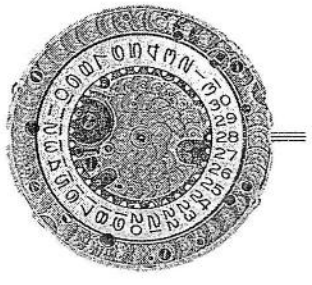
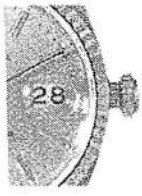


Fig. 4

FUNCTIONS OF THE WINDING STEM

Position 1:

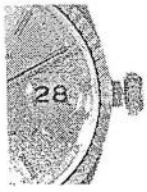
winding crown
unscrewed



winding by hand

Position 2:

winding crown
pulled out
to first catch

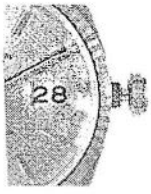


forward:
correction of
date indication

backward:
no function

Position 3:

winding crown
pulled out
to second catch



stop-second for
setting to time

1. UNCASING, DISMANTLING THE DATE INDICATOR MECHANISM AND THE MOVEMENT *

1.1. Remove the automatic device module (No. 3135-145), taking out the 2 screws (No. 3135-5110) of the automatic device module.

Dismantling and assembling the automatic device module, see pages 15 and 16.

1.2. Uncase the movement, remove the hands and the dial, then refit the winding stem.

1.3. Open the bolt of the date indicator seating and remove the date indicator (No. 3135-16100, respectively No. 3135-16200).

1.4. Remove the date indicator seating (No. 3135-600) fastened with 4 blue screws (No. 3135-5600), 3 screws on the circumference and the 4th one near the beak of the jumper.

1.5. Remove the hour wheel (No. 3135-280), the intermediate date wheel (No. 3135-670), the date corrector (No. 3135-645) and the intermediate date corrector wheel (No. 3135-639).

1.6. Remove the screw for date wheel (No. 3135-5625) and the finger for date (No. 3135-623), disengage the spring for cam yoke (No. 3135-635), remove the yoke for cam (No. 3135-633) with the jewel for yoke for cam (No. 3135-9633), the date wheel mounted (No. 3135-625) and the cannon pinion (No. 3135-270) – calibre 3175 (No. 3135-270).

The spring for cam yoke can be left in place.

1.7. Let down the mainspring.

1.8. Remove the balance guard (No. 3135-118), check the hairsping and the balance.

1.9. Loosen the screw for hairspring bridle (No. 3135-5452), remove the balance bridge (No. 3135-120), remove sideways the hairspring from the stud support (No. 3135-450). Tighten the screw for bridle again.

If it is necessary to remove the collet, the lever must rest on the rivet of the balance staff, see Fig. 5, page 8. Proceed carefully not to damage the balance.

* It is recommended that the movement should be pre-cleaned before it is dismantled. This first cleaning can be carried out with the sprung balance and the barrel left in place. This procedure enables the watchmaker to form a better judgement on the conditions of the movement parts. After complete dismantling and the exchange of the parts that need to be replaced a second cleaning is necessary before the movement is reassembled.

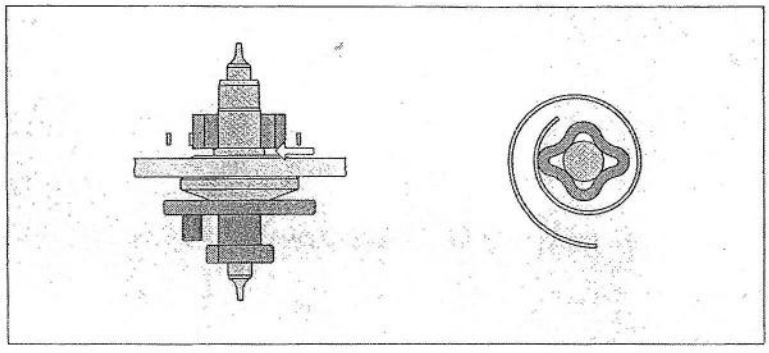


Fig. 5

1.10. Remove the pallet bridge (No. 3135-115) and the pallet fork (No. 3135-421).

As the functions of the escapment have been perfectly adjusted in the factory by the ROLEX specialists, they should not be modified unless it is absolutely necessary.

1.11. Remove the ratchet wheel (No. 3135-305), the yoke for sliding gear (No. 3135-217), the intermediate crown wheel (No. 3135-213), the core for intermediate crown wheel (No. 3135-212), the barrel bridge (No. 3135-105), the barrel (No. 3135-310) and take it to pieces.

1.12. Remove the winding bridge (No. 3135-130) – calibre 3155 (No. 3155-130) – calibre 3175 (No. 3175-130) – calibre 3185 (No. 3185-130) – and the spring for balance stop (No. 3135-245), then on the lower side of the bridge, the crown wheel (No. 3135-210) and the core for crown wheel (No. 3135-211).

1.13. Remove the train wheel bridge (No. 3135-110) fastened with 3 screws, the third wheel (No. 3135-340), the great wheel (No. 3135-330), the second wheel (No. 3135-360) – calibres 3155 and 3185 (No. 3155-360) – and the escape wheel (No. 3135-410).

1.14. Remove the minute pinion bridge (No. 3135-125) and the minute pinion (No. 3135-335).

1.15. Remove the cover for winding and setting mechanism (No. 3135-268), the minute wheel (No. 3135-260) – calibre 3155 (No. 3135-260) – calibres 3175 and 3185 (No. 3175-260) – the setting wheel (No. 3135-250) and the setting wheel (No. 3135-250) of the yoke for setting wheel.

1.16. Remove the jumper for setting wheel (No. 3135-230), the spring for setting lever (No. 3135-225), the setting lever (No. 3135-220), the yoke for setting wheel (No. 3135-266), the spring for yoke (No. 3135-241), the yoke for sliding pinion (No. 3135-240), the winding stem (No. 3135-201), the sliding pinion (No. 3135-205) and the winding pinion (No. 3135-204).

1.17. Dismantle the combined in-settings for escape wheel (No. 3135-0913) and the shock-absorbers for balance upper (No. 3135-0915) and lower (No. 95019-1).

2. ASSEMBLING THE MOVEMENT

For lubrication, see lubricating chart on page 12.

It is necessary to coat with Epilame the second wheel, the escape wheel and the pallet fork to prevent the lubricants from spreading.

2.1. Assemble and lubricate the upper and lower combined in-settings of the escape wheel.

The size of the oil drop should be equal to 2/3 of the diameter of the endstone.

2.2. Lubricate the upper and the lower pivots of the minute pinion, fit it in position with the bridge.

2.3. Lubricate the lower shoulder of the second wheel; the second-wheel pivot which works in the pivot-shank of the minute pinion must not be lubricated.

2.4. Fit the escape wheel, the second wheel, the great wheel, the third wheel and the train wheel bridge.

2.5. Fit underneath the winding bridge, the core for crown wheel and the crown wheel (flat toothing on the bridge side). Fit on the main plate the spring for balance stop, its opening in the stud and its round hole on top of the oblong cut of the plate, see Fig. 6. Fit the winding bridge.

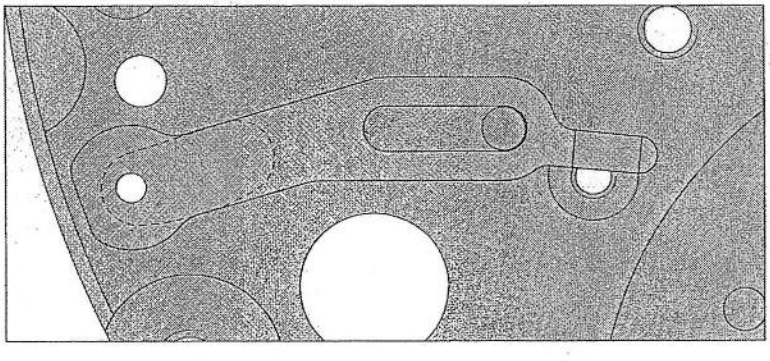


Fig. 6

2.6. Lubricate the inner wall of the barrel drum with Olyt grease (ROLEX MR1). The mainspring has undergone special lubrication treatment, but it should be slightly greased if it has been in the baths of a cleaning machine.

2.7. Assemble the barrel, fit it with the barrel bridge.

2.8. Lubricate the 2 pivoting points of the core for intermediate crown wheel, fit it as well as the intermediate crown wheel and the yoke for sliding gear.

2.9. Fit the winding pinion, the sliding pinion, the winding stem, the yoke for sliding pinion, the spring for yoke, the yoke for setting wheel, the setting lever, a pin of which must be inserted into the spring for balance stop and the other one into the yoke for setting wheel, then the spring for setting lever and the jumper for setting lever.

2.10. Fit the cannon pinion, do not press on the rim of the toothing, the minute wheel, the two setting wheels and the cover for winding and setting mechanism.

2.11. Lubricate the pivots of the wheels.

2.12. Fit the ratchet wheel.

2.13. Fit the pallet fork and the pallet bridge.

2.14. Wind slightly the mainspring and lubricate the pallet fork with Moebius grease 9415.

This grease is applied to the impulse plane of the pallet-stones starting with the exit-pallet. Deposit every 4-5 teeth an amount of grease at least equivalent to the quantity given by a medium size oiler. This type of lubrication can momentarily cause a fall of amplitude.

2.15. Lubricate, assemble and fit the shock-absorbers for balance. The size of the oil drop should be equal to 2/3 of the diameter of the endstone.

2.16. Fit the sprung balance wheel then the balance bridge, loosen the screw for hairspring bridle for stud holder. Place the bridle for stud holder at home. Tighten the screw for hairspring bridle (if the balance staff has been replaced do not omit to poise the balance wheel).

2.17. Check the balance endshake, which can be corrected by means of the 2 regulating nuts for balance bridge, see Fig. 7.

To alter the endshake, proceed as follows:

- Slightly loosen the balance bridge screws (No. 3135-5110)
- Screw or unscrew, according to what is necessary, the regulating nuts for balance bridge (No. 3135-5120); 1/8th of a turn makes about 0.01 mm.
- Tighten the screws of the balance bridge.

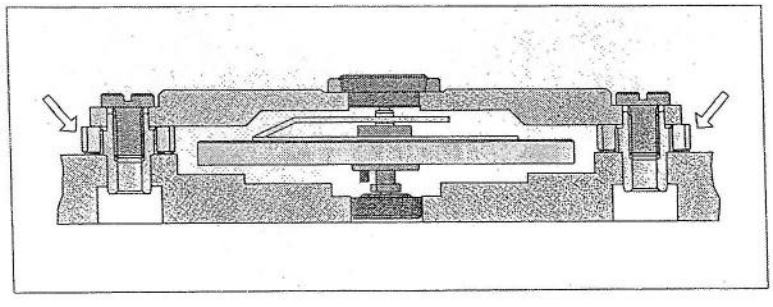


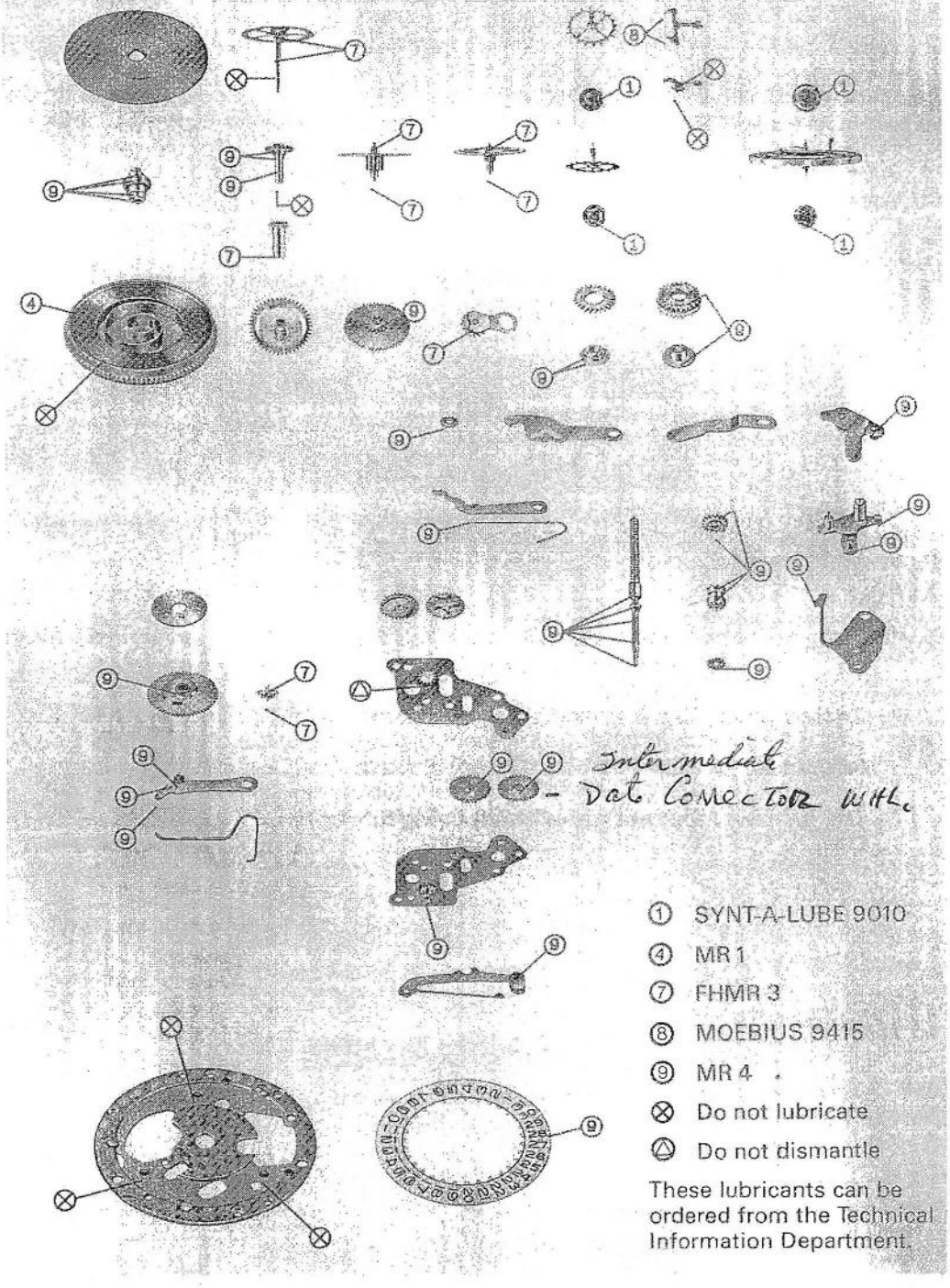
Fig. 7

2.18. Check the centring of the hairspring and its truth in the flat.

2.19. Fit the balance guard.

The balance must not run without being lubricated.

3. LUBRICATING CHART FOR THE MOVEMENT AND THE DATE INDICATOR MECHANISM



① SYNT-A-LUBE 9010
④ MR 1
⑦ FHMR 3
⑧ MOEBIUS 9415
⑨ MR 4 .
⊗ Do not lubricate
△ Do not dismantle

These lubricants can be ordered from the Technical Information Department.

4. TIMING

4.1. If necessary, adjust the beat by means of the stud holder after having loosened the screw for bridle for the stud holder (No. 3135-5115). Tighten the screw.

4.2. Check the rate and the amplitude of the balance on a watchtimer and an amplimeter, in the following positions:

9 H vertical, crown down

6 H vertical, crown left

3 H vertical, crown up

C H horizontal, dial up

F H horizontal, dial down

4.3. If necessary, correct the rate by means of the timing nuts, see page 14, with the Microstella key Ref. 2019, see Fig. 8.

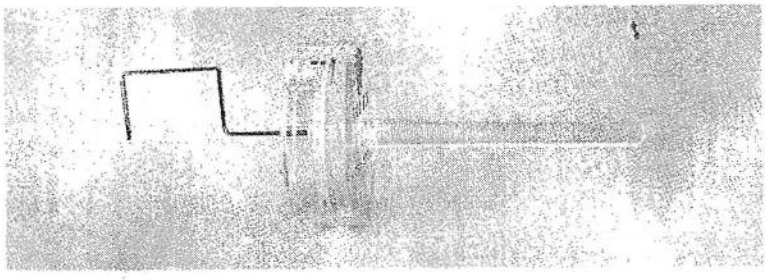


Fig. 8

It is indispensable to make an identical correction on 2 Microstella nuts that are placed opposite each other, so that the balance is not thrown out of poise.

4.4. Once the watch has been cased up and the automatic device module fitted, it is necessary to make 24 hours verifications in different positions and on a wrist-movement simulator. At this stage, a correction can always be made.

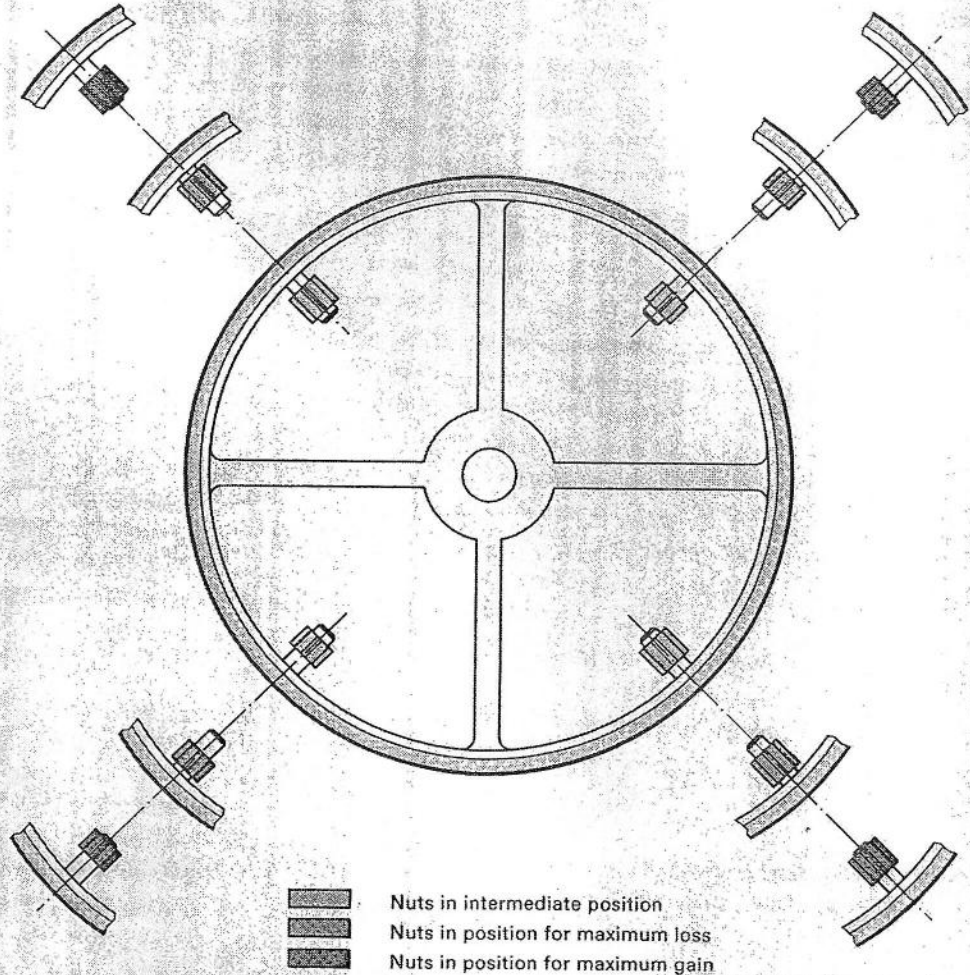
BALANCE DIAGRAM OF CALIBRES 3135–3185

The balance is equipped with 2 pairs of Microstella timing nuts in gold. So that they can be easily distinguished, 1 pair is short and the other one long.

1 DIVISION OF THE MICROSTELLA KEY ON 2 SHORT NUTS = 1 s/d

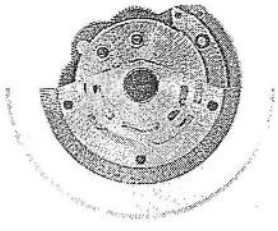
1 DIVISION OF THE MICROSTELLA KEY ON 2 LONG NUTS = 2 s/d

Correction range ± 150 s/d (seconds per day)



5. DISMANTLING AND ASSEMBLING THE AUTOMATIC DEVICE MODULE CALIBRES 3135–3185

Seen from above



Scale
1,25 : 1

Seen from below

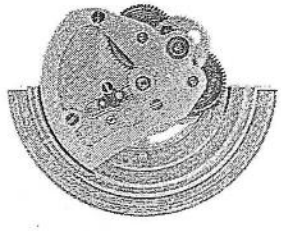


Fig. 9

Fig. 10

5.1. Checking the endshake of the reversing wheels mounted (No. 3135-540)

5.1.1. Check, by moving the pinion, the endshake of the reversing wheels. The endshake must range from 0.015 to 0.045 mm. If a correction has to be done move the jewels of the upper bridge of the automatic device (No. 3135-140).

5.2. Dismantling the automatic device module (No. 3135-145)

5.2.1. Disengage the spring-clip for oscillating weight (No. 3135-560-1, respectively No. 3135-560-2 or No. 3135-560-3) without removing the bridle for spring-clip (No. 3135-561), remove the oscillating weight (No. 3135-570), the lower bridge for automatic device (No. 3135-135) fastened with 3 screws (No. 3135-5110), remove the driving wheel for ratchet wheel (No. 3135-510), the 2 reversing wheels (No. 3135-540) and the pinion for oscillating weight (No. 3135-550).

5.2.2. Proceed with cleaning.

5.3. Assembling the automatic device module

For lubrication, see lubricating chart on page 17.

It is necessary to coat the complete reversing wheels with Epilame to prevent the oil of the pivots from spreading.

Neither the clicks, nor the toothing of the reversing wheels are lubricated. The pivots and the pivot-shank of the wheels only should be lubricated.

5.3.1. Assemble the 2 reversing wheels, place them with the driving wheel for ratchet wheel and the pinion for oscillating weight on the upper bridge for automatic device and fit the lower bridge.

The endshake of the driving wheel for ratchet wheel must range from 0.02 to 0.06 mm. It can be set by moving the jewel of the lower bridge (A) for automatic device. The jewel of the barrel bridge (B) limits the side shake, see Fig. 11.

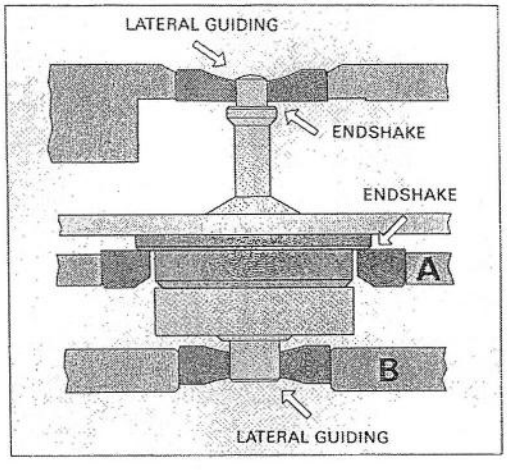
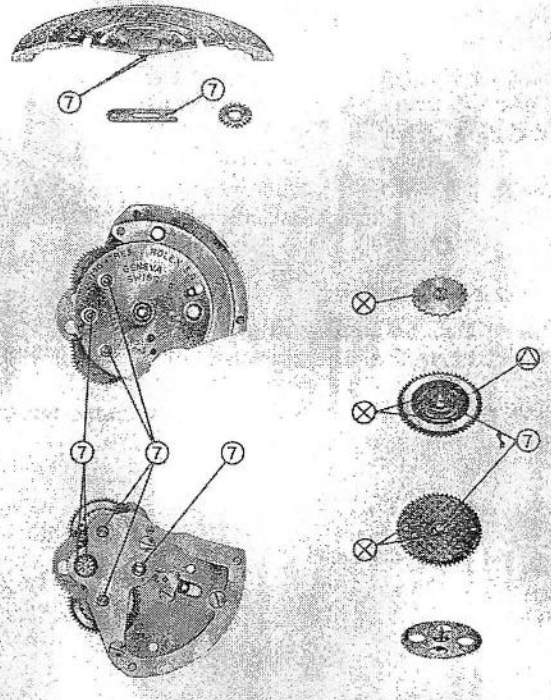


Fig. 11

5.3.2. Assemble bridges and oscillating weight and reengage the spring-clip. Check the liberty of the clicks while turning the driving wheel for ratched wheel. The sliding of the clicks must be smooth.

The endshake of the oscillating weight should not exceed 0.04 mm. It can only be adjusted by means of the spring-clip; clips of 3 different heights 0.165 mm (No. 3135-560-1), 0.180 mm (No. 3135-560-2) and 0.195 mm (No. 3135-560-3) are available.

6. LUBRICATING CHART FOR THE AUTOMATIC DEVICE MODULE CALIBRES 3135 - 3185



⑦ FHMR 3

⊗ Do not lubricate

△ Do not dismantle

This lubricant can be ordered from the Technical Information Department.

7. ASSEMBLING THE DATE INDICATOR MECHANISM AND FITTING THE DIAL AND THE HANDS

For lubrication, see lubricating chart on page 12.

7.1. Fit the date wheel mounted, cam on the upper side. Disengage the spring for cam yoke, fit the yoke for cam with the jewel on the upper side, the finger for date and the screw.

7.2. Fit the hour wheel, the intermediate date wheel, pinion on the lower side, the intermediate date corrector wheel and the date corrector.

The spring fixed under the date corrector should have a tension of 0.20 mm.

7.3. Fit the seating for date indicator (4 blue screws). Make sure that the intermediate date wheel pinion is correctly at home and the intermediate date corrector wheel in gear with the date corrector.

7.4. Lubricate slightly the rim of the date indicator (e.g. with a buff covered with a little grease) fit it, sliding it under the banking stops of the seating for date indicator while disengaging the beak of the jumper. Close the bolt. Check the functioning of the date corrector.

7.5. Fit the dial, drive its 2 screws very tight. Check the free action and the endshake of the hour wheel, as well as the changing of the date.

7.6. Fit the hands, preferably on the ROLEX movement-holder Ref. 2111, so that the date changes at midnight. Tolerance ± 1 minute.

8. CASING UP AND FITTING THE AUTOMATIC DEVICE MODULE CALIBRES 3135–3185

8.1. Fit the movement into the case, which should have been previously reconditioned (polishing and satin-finishing of case and bracelet, see our Technical Information No. 22 and water-resistance test). Insert the winding stem and screw the crown onto the tube in order to centre the movement.

8.2. Lock the case screws (No. 3135-5100) by unscrewing them. On some models there are bridles (No. 127) with screws for case (No. 166).

8.3. Fit the automatic device module, then wind the movement a few teeth of the ratched wheel in order to make sure that the ratchet wheel and its driving wheel are properly in gear. **Drive very tight the screws of the automatic device module.**

8.4. Check the freedom of the oscillating weight. Turn to and fro the oscillating weight to check the advance of the ratchet wheel.

8.5. Screw on and lock the case back, then carry out the final water-resistance test.

8.6. Check the changing of the date for calibres 3135, 3175 and 3185, the changing of the date and day for calibre 3155, the jump in both directions of the 12h-hand for calibre 3185. Check the working of the automatic device by means of a wrist-movement simulator.

CALIBRE 3155

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Casing up and fitting the automatic device module	19

CALIBRE 3155 – derived from calibre 3135

Technical characteristics

DAY-DATE calendar with rapid corrector

Automatic winding | Centre second hand | Stop-second device

Annular balance with 2 pairs of Microstella timing nuts | Breguet hairspring

Shock-absorbers for balance and combined in-settings for escape wheel

Balance bridge adjustable in height by means of 2 nuts

– Overall diameter	29.30 mm
– Case-fitting diameter	28.10 mm
– Overall height, including automatic device module and DAY-DATE calendar mechanism	6.45 mm
– Number of jewels	31
– Frequency 4 Hz, i.e. vibrations per hour	28.800
– Angle of lift of the balance wheel	52°
– Box of spare parts	No. 03155

Movement seen from above (Fig. 12), idem without automatic device module (Fig. 13) and seen from below with DAY-DATE calendar mechanism (Fig. 14).

Scale 1.25 : 1

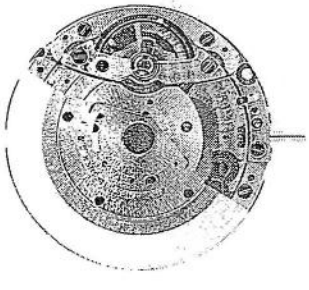


Fig. 12

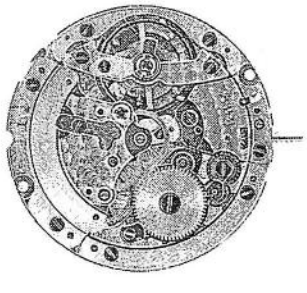


Fig. 13

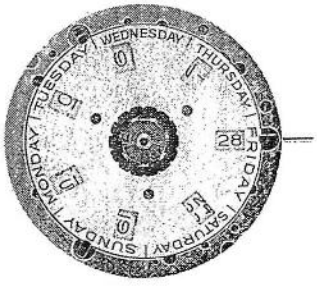


Fig. 14

FUNCTIONS OF THE WINDING STEM

Position 1:

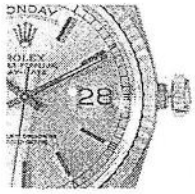
winding crown
unscrewed



winding by hand

Position 2:

winding crown
pulled out
to first catch

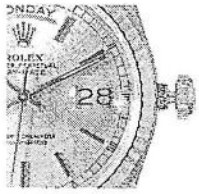


forward:
correction of
date indication

backward:
correction of
day indication

Position 3:

winding crown
pulled out
to second catch



stop-second for
setting to time

9. UNCASING, DISMANTLING THE DAY-DATE CALENDAR MECHANISM AND THE MOVEMENT

9.1. Remove the automatic device module (No. 3135-145) taking out the 2 screws (No. 3135-5110) of the automatic device module.

Dismantling and assembling the automatic device module, see pages 15 and 16.

9.2. Uncase the movement, remove the hands and the dial, then refit the winding stem.

9.3. Open the 3 bolts of the day indicator, remove the day indicator (No. 3155-17101, respectively No. 3155-17201), open the bolt of the date indicator, remove the date indicator (No. 3155-16100, respectively No. 3155-16200).

9.4. Drive the beak of the finger for calendar to the 6 o'clock position, see Fig. 15, while turning the winding stem, then remove the seating for indicator (No. 3155-600) fixed with 4 blue screws (No. 3135-5600), 3 on the circumference and the 4th one near the beak of the date jumper.

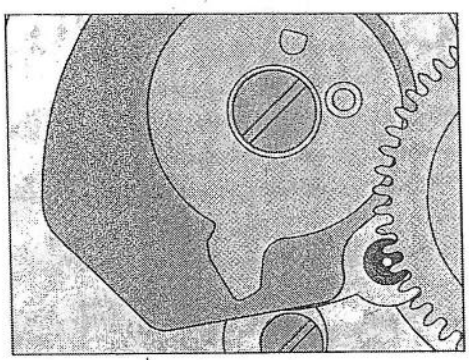


Fig. 15

9.5. Remove the hour wheel (No. 3155-280), the intermediate date wheel (No. 3155-670), the date corrector (No. 3155-645) and the intermediate date corrector wheel (No. 3135-639).

9.6. Remove the screw for date wheel (No. 3135-5625), the finger for calendar (No. 3155-626), disengage the spring for cam yoke (No. 3155-635), remove the yoke for cam (No. 3135-633) with the jewel for yoke for cam (No. 3135-9633), the date wheel mounted (No. 3135-625) and the cannon pinion (No. 3155-270). The spring for cam yoke can be left in place.

9.7. Proceed as from § 1.7.-1.17., pages 7 and 8.

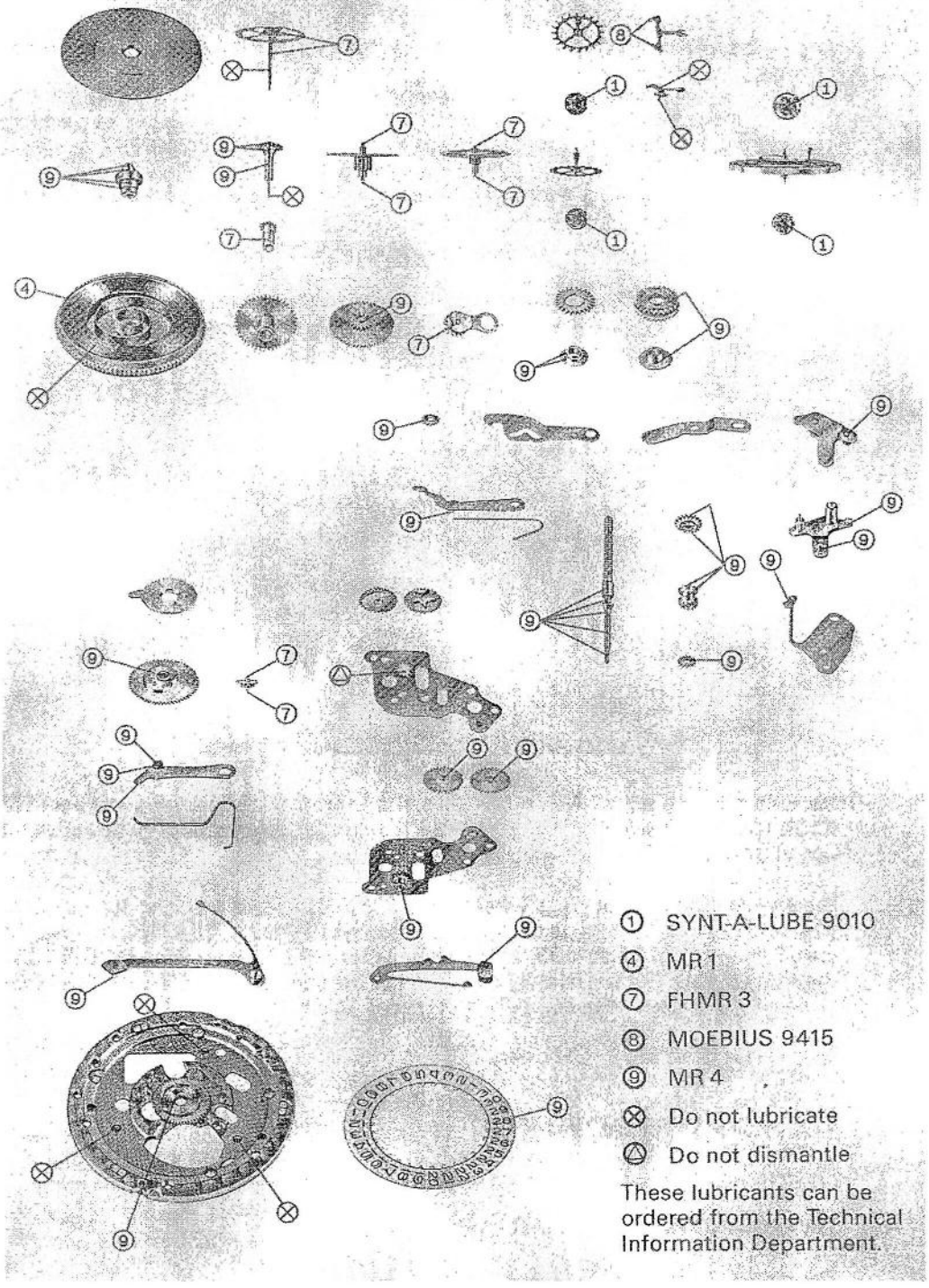
10. ASSEMBLING THE MOVEMENT

See chapter 2, pages 9-11.

11. TIMING AND BALANCE DIAGRAM

See pages 13 and 14.

12. LUBRICATING CHART FOR THE MOVEMENT AND THE DAY-DATE CALENDAR MECHANISM



① SYNT-A-LUBE 9010
④ MR 1
⑦ FHMR 3
⑧ MOEBIUS 9415
⑨ MR 4
⊗ Do not lubricate
△ Do not dismantle

These lubricants can be ordered from the Technical Information Department.

13. ASSEMBLING THE DAY-DATE CALENDAR MECHANISM AND FITTING THE DIAL AND THE HANDS

For lubrication, see lubricating chart on page 24.

13.1. Fit the date wheel mounted, cam on the upper side. Disengage the spring for came yoke, fit the yoke for cam with the jewel on the upper side, the finger for date and the screw. Drive the beak of finger for calendar to the 6 o'clock position.

13.2. Fit the hour wheel, the intermediate date wheel, pinion on the lower side, the intermediate date corrector wheel and the date corrector.

The spring fixed under the date corrector should have a tension of 0.20 mm.

13.3. Fit the seating for date indicator (4 blue screws) making sure that the intermediate date wheel is at home and that the intermediate date corrector wheel is in gear with the date corrector.

13.4. Lubricate slightly the rim of the date indicator (e.g. with a buff covered with a little grease) fit it, sliding it under the 3 banking stops of the seating while disengaging the beak of the date jumper. Close the bolt.

13.5. Fit the day indicator, placing one of the strokes printed on the indicator between 2 days opposite the guide mark located on the seating for indicator at 6 o'clock, see Fig. 14, page 21 (a window of the indicator must be situated at 3 o'clock). Close the 3 bolts. Check the functioning of the date corrector.

The gilt eccentric, apparent on the seating for indicator between 2 and 3 o'clock allows modifying the centring of the date indicator in the dial window. Check the changing of the date and day.

13.6. Fit the dial, drive its 2 screws very tight. Check the free action and the endshake of the hour wheel, as well as the changing of the date and day.

13.7. Fit the hands, preferably on the ROLEX movement-holder Ref. 2111, so that the date and the day change at midnight. Tolerance $\pm$ 1 minute.

14. DISMANTLING AND ASSEMBLING THE AUTOMATIC DEVICE MODULE

See chapter 5, pages 15 and 16.

15. LUBRICATING CHART FOR THE AUTOMATIC DEVICE MODULE

See page 17.

16. CASING UP AND FITTING THE AUTOMATIC DEVICE MODULE

See chapter 8, page 19.

CALIBRE 3175

CONTENTS

List of special ROLEX tools	2
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Timing and balance diagram	13 and 14
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Lubricating chart for the movement and the date indicator mechanism	31

CALIBRE 3175 – derived from calibre 3135

Technical characteristics

Date indicator mechanism with rapid corrector — Automatic winding

24-hour hand — Centre second hand — Stop-second device

Annular balance with 2 pairs of Microstella timing nuts — Breguet hairspring

Shock-absorbers for balance and combined in-settings for escape wheel

Balance bridge adjustable in height by means of 2 nuts

– Overall diameter	28.50 mm
– Case-fitting diameter	28.10 mm
– Overall height, including automatic device module and date indicator mechanism	6.00 mm
– Number of jewels	31
– Frequency 4 Hz, i.e. vibrations per hour	28.800
– Angle of lift of the balance wheel	52°
– Box of spare parts	No. 03155

Movement seen from above (Fig. 16), idem without automatic device module (Fig. 17) and seen from below with date indicator mechanism (Fig. 18).

Scale 1.25 : 1

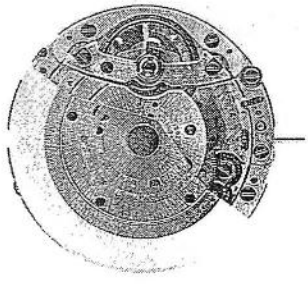


Fig. 16

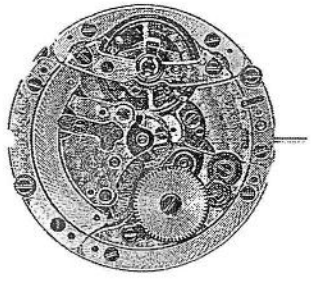


Fig. 17

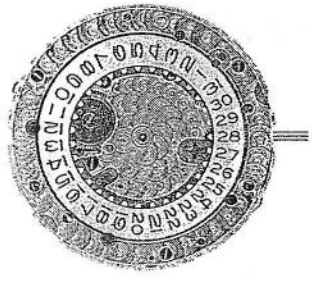


Fig. 18

FUNCTIONS OF THE WINDING STEM

Position 1:

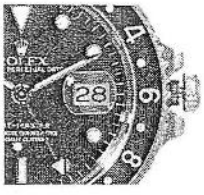
winding crown
unscrewed



winding by hand

Position 2:

winding crown
pulled out
to first catch

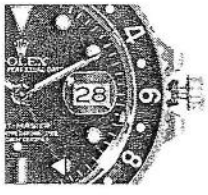


forward:
correction of
date indication

backward:
no function

Position 3:

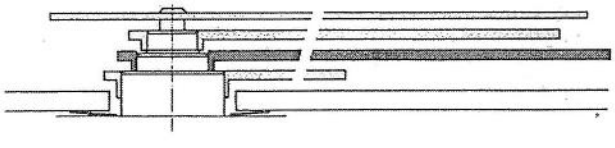
winding crown
pulled out
to second catch



stop-second for
setting to time

Lay-out of the hands :

second hand
minute hand
24-hour hand
12-hour hand



This lay-out allows for a gain in height.

17. UNCASING, DISMANTLING THE DATE INDICATOR MECHANISM AND THE MOVEMENT

17.1. See chapter 1, § 1.1.-1.4., page 7.

17.2. Remove the hour wheel 12h (No. 3175-284), with its friction spring of hour wheel (No. 5226), the hour wheel 24h (No. 3175-280), the intermediate date wheel (No. 3175-670) and the date corrector (No. 3135-645).

17.3. Proceed as from chapter 1, § 1.6.-1.17., pages 7 and 8.

18. ASSEMBLING THE MOVEMENT

See chapter 2, pages 9–11.

19. TIMING AND BALANCE DIAGRAM

See pages 13 and 14.

20. ASSEMBLING THE DATE INDICATOR MECHANISM AND FITTING THE DIAL AND THE HANDS

For lubrication, see lubricating chart on page 31.

20.1. Fit the date wheel mounted, cam on the upper side. Disengage the spring for cam yoke, fit the yoke for cam with the jewel on the upper side, the finger for date and the screw.

20.2. Fit the hour wheel 24h, the hour wheel 12h with its friction spring, the intermediate date wheel, pinion on the lower side, the intermediate date corrector wheel and the date corrector.

The spring fixed under the date corrector should have a tension of 0.20 mm.

20.3. Fit the seating for date indicator (4 blue screws). Make sure that the intermediate date wheel pinion is correctly at home and the intermediate date corrector wheel in gear with the corrector.

20.4. Lubricate slightly the rim of the date indicator (e.g. with a buff covered with a little grease) fit it, sliding it under the banking stops of the date indicator seating while disengaging the beak of the date jumper. Close the bolt. Check the functioning of the date corrector.

20.5. Fit the dial, drive its 2 screws very tight. Check the free action and the endshake of the hour wheel, as well as the changing of the date.

20.6. Fit the hands (12-hour, 24-hour, minute and second), preferably on the ROLEX movement-holder Ref. 2111, so that the date changes at midnight. Tolerance ± 1 minute.

21. DISMANTLING AND ASSEMBLING THE AUTOMATIC DEVICE MODULE

See chapter 5, pages 15 and 16.

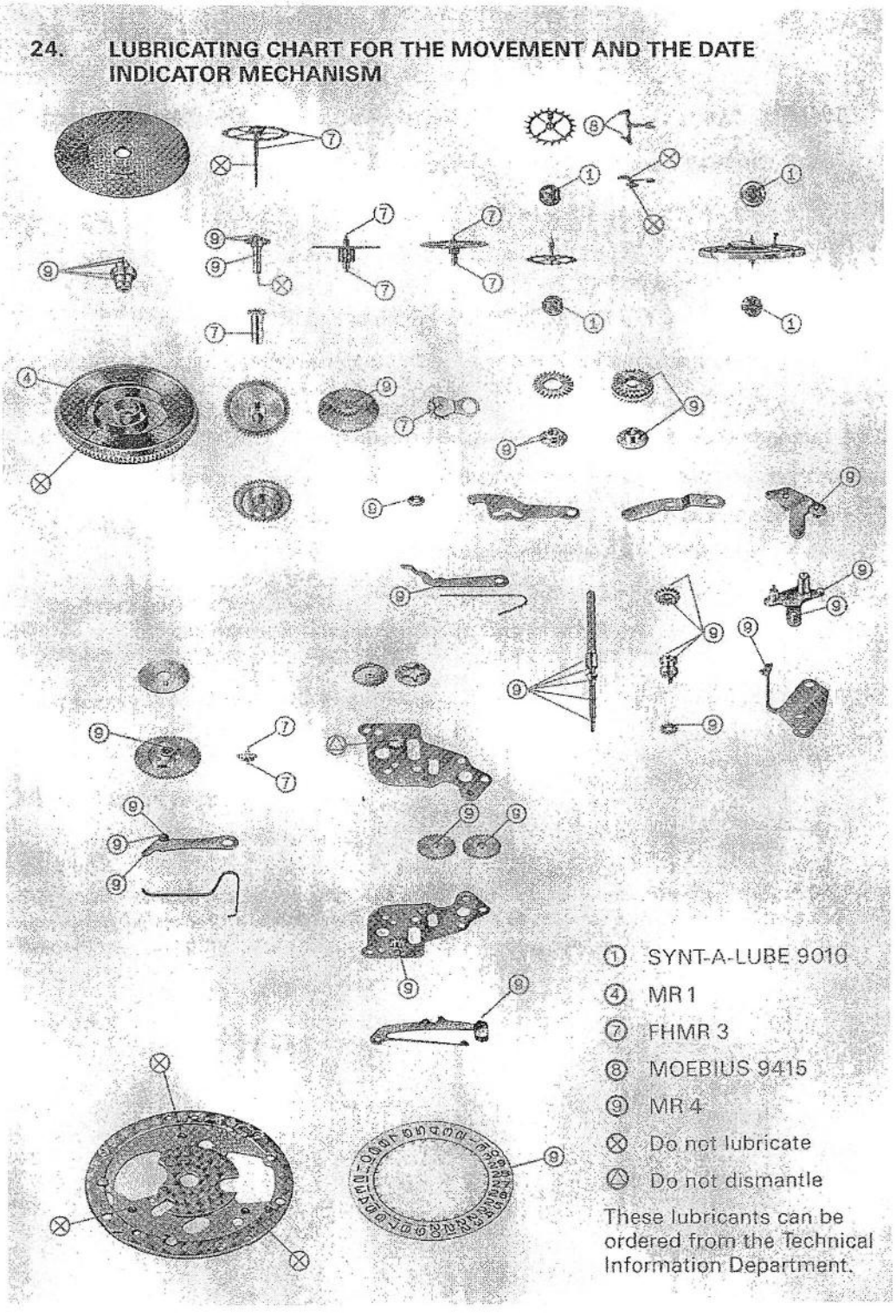
22. LUBRICATING CHART FOR THE AUTOMATIC DEVICE MODULE

See page 17.

23. CASING UP AND FITTING THE AUTOMATIC DEVICE MODULE

See chapter 8, page 19.

24. LUBRICATING CHART FOR THE MOVEMENT AND THE DATE INDICATOR MECHANISM



① SYNT-A-LUBE 9010
④ MR 1
⑦ FHMR 3
⑧ MOEBIUS 9415
⑨ MR 4
⊗ Do not lubricate
△ Do not dismantle

These lubricants can be ordered from the Technical Information Department.

CALIBRE 3185

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Assembling the date indicator mechanism and fitting the dial and the hands	38
Dismantling and assembling the automatic device module	15 and 16
Lubricating chart for the automatic device module	17
Casing up and fitting the automatic device module	19
Lubricating chart for the movement and the date indicator mechanism	39

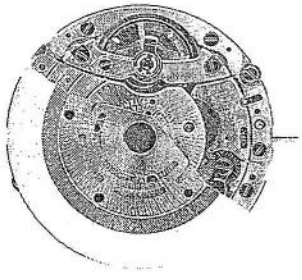


Fig. 19

Scale
1.25 : 1

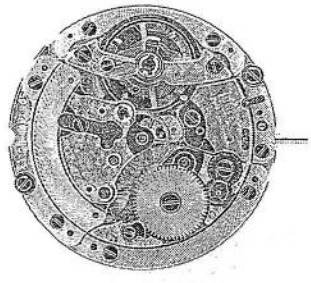


Fig. 20

CALIBRE 3185 – derived from calibre 3135

Technical characteristics

Device for setting to time-zones by one hour steps of the 12-hour hand

Date indicator mechanism	Semi-rapid correction of the date	Automatic winding
24-hour hand	Centre second hand	Stop-second device
Annular balance with 2 pairs of Microstella timing nuts		Breguet hairspring

Shock-absorbers for balance and combined in-settings for escape wheel

Balance bridge adjustable in height by means of 2 nuts

– Overall diameter	28.50 mm
– Case-fitting diameter	28.10 mm
– Overall height, including automatic device module and date indicator mechanism	6.40 mm
– Number of jewels	31
– Frequency 4 Hz, i.e. vibrations per hour	28.800
– Angle of lift of the balance wheel	52°
– Box of spare parts	No. 03155

Movement seen from above (Fig. 19),idem without automatic device module (Fig. 20), seen from below without date indicator (Fig. 21) idem without seating for date indicator but with the jumping hour module (Fig. 22).

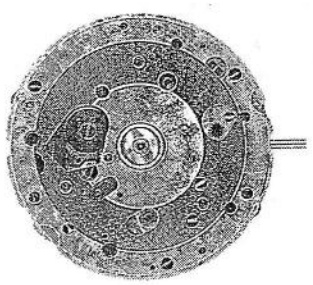


Fig. 21

Scale 1.25:1

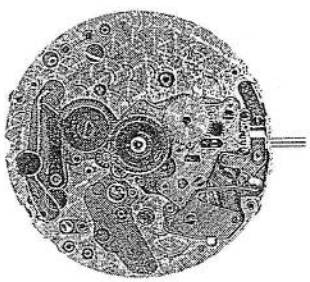
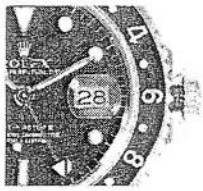


Fig. 22

FUNCTIONS OF THE WINDING STEM

Position 1:

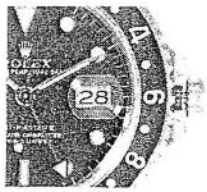
winding crown
unscrewed



winding by hand

Position 2:

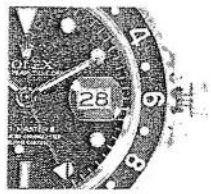
winding crown
pulled out
to first catch



changing to zone time by one hour steps of the 12h hand, either forward or backward, and correction of date, forward and backward, when passing midnight (semi-rapid correction)

Position 3:

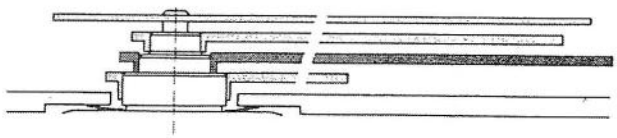
winding crown
pulled out
to second catch



stop-second for setting to time

Lay-out of the hands :

second hand
minute hand
24-hour hand
12-hour hand



This lay-out allows for a gain in height.

25. UNCASING, DISMANTLING THE DATE INDICATOR MECHANISM AND THE MOVEMENT

25.1. Remove the automatic device module (No. 3135-145), taking out the 2 screws (No. 3135-5110) of the automatic device module.

Dismantling and assembling the automatic device module, see pages 15 and 16.

25.2. Fit the winding stem (No. 3135-201) in position 1 or 2 and remove it from the movement, uncase the movement, remove the hands and the dial, then refit the winding stem.

25.3. Open the bolt of the date indicator seating and remove the date indicator (No. 3135-16100, respectively No. 3135-16200).

25.4. Remove the date indicator seating (No. 3185-600) fastened with 4 blue screws (No. 3135-5600), 3 screws on the circumference and a 4th one near the beak of the jumper.

25.5. Remove the hour wheel 12 h (No. 3185-284), with its friction spring of hour wheel (No. 5226), the intermediate date wheel (No. 3185-670), the module for jumping hour (No. 3185-660) and the corrector wheel (No. 3185-662).

25.6. Remove the screw for date wheel (No. 3135-5625) and the finger for date (No. 3185-623), disengage the spring for cam yoke (No. 3135-635), remove the yoke for cam (No. 3135-633) with the jewel for yoke for cam (No. 3135-9633), the date wheel mounted (No. 3185-625) and the cannon pinion (No. 3155-270).

The spring for cam yoke can be left in place.

25.7. Proceed as from chapter 1, § 1.7.-1.17., pages 5 and 6.

26. ASSEMBLING THE MOVEMENT

See chapter 2, pages 9-11.

27. TIMING AND BALANCE DIAGRAM

See pages 13 and 14.

28. DISASSEMBLING AND ASSEMBLING THE JUMPING HOUR MODULE

The jumping hour module can be put not disassembled (Fig. 23) in the baths of the cleaning machine. If cleanliness obtained is satisfactory, the jumping hour module needs not to be disassembled.

The jumping hour module must be lubricated after cleaning, see § 28.3., page 37 and lubricating chart on page 39.

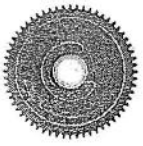


Fig. 23

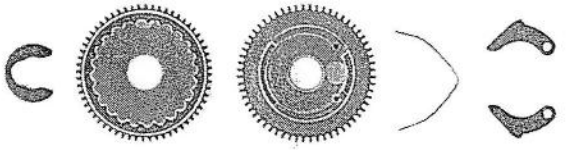


Fig. 24

28.1. Disassembling

The jumping hour module can be disassembled without difficulties, see Fig. 24. Nevertheless take care not to let the spring for jumping hour clicks get lost when disassembling. To avoid this, carry out process 28.1.2., e.g. in a benzine cup, even filled with benzine.

28.1.1. Remove the spring clip for jumping hour module (No. 5244).

28.1.2. Part the 24h-hour wheel (No. 3185-280) from the jumping hour wheel (No. 3185-656) with a sharp-pointed tool. Remove the spring for jumping hour clicks (No. 5243) and the 2 jumping hour clicks (No. 5242).

28.1.3. Clean these parts.

28.2. Assembling

28.2.1. Fit the jumping hour clicks home inside the circular banking of the 24-hour wheel.

28.2.2. Fit the spring for jumping hour clicks, first introducing the bent part, keep it firmly in its home and introduce one end of the spring then the other.

28.2.3. Place the jumping hour wheel mounted on the 24-hour wheel.

28.2.4. Introduce a sharp-pointed tool (e.g. oiler) between the jumping hour wheel and the 24-hour wheel to engage the 2 jumping hour clicks in the inner toothing of the jumping hour wheel mounted.

28.2.5. Fit the spring-clip for jumping hour module.

28.3. Lubricating

See lubricating chart on page 39.

Lubrication is done after the module has been put in place on the movement but before fitting the hour wheel. Fit temporarily the indicator seating to keep the module in gear.

Proceed as follows :

28.3.1. Pull the winding stem in position 2.

28.3.2. Bring the opening in the jewel of the jumping hour wheel over one click by turning the winding stem and lubricate the beak of the jumping hour click through the opening in the jewel, then proceed the same way to lubricate the second jumping hour click.

28.3.3. Check the functioning forward and backward of the jumping hour module.

29. ASSEMBLING THE DATE INDICATOR MECHANISM AND FITTING THE DIAL AND THE HANDS

For lubrication, see lubricating chart on page 39.

29.1. Fit the date wheel mounted, cam on the upper side. Disengage the spring for cam yoke, fit the yoke for cam with the jewel on the upper side, the finger for date and the screw.

29.2. Fit the jumping hour module, the intermediate date wheel, pinion on the lower side, the corrector wheel and the hour wheel 12h with its friction spring.

29.3. Fit the seating for date indicator (4 blue screws). Make sure that the intermediate date wheel pinion is correctly at home.

29.4. Lubricate slightly the rim of the date indicator (e.g. with a buff covered with a little grease) fit it, sliding it under the banking stops of the date indicator seating while disengaging the beak of the jumper. Close the bolt.

29.5. Check the freedom and the endshake of the hour wheel and the jumping hour module. Check the functioning forward and backward of the jumping hour module.

29.6. Fit the dial, drive its 2 screws very tight.

29.7. Fit the hands (12-hour, 24-hour, minute and second), preferably on the ROLEX movement holder Ref. 2111 so that the date changes at midnight. Tolerance ± 1 minute.

30. DISMANTLING AND ASSEMBLING THE AUTOMATIC DEVICE MODULE

See chapter 5, pages 15 and 16.

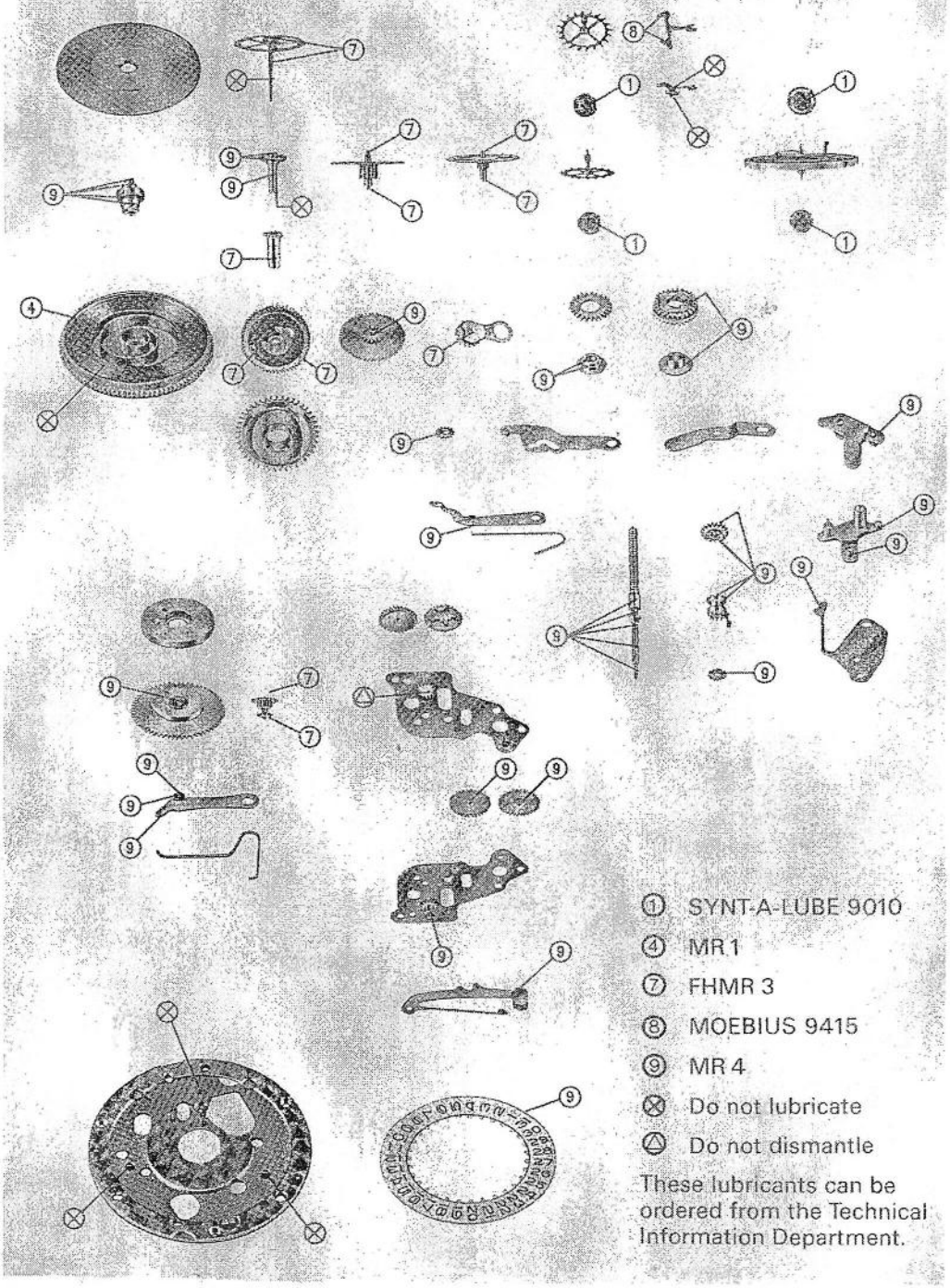
31. LUBRICATING CHART FOR THE AUTOMATIC DEVICE MODULE

See page 17.

32. CASING UP AND FITTING THE AUTOMATIC DEVICE MODULE

See chapter 8, page 19.

33. LUBRICATING CHART FOR THE MOVEMENT AND THE DATE INDICATOR MECHANISM



① SYNT-A-LUBE 9010
④ MR 1
⑦ FHMR 3
⑧ MOEBIUS 9415
⑨ MR 4
⊗ Do not lubricate
△ Do not dismantle

These lubricants can be ordered from the Technical Information Department.