AUTOMATIC CALIBER WITH ALARM SYSTEM
980 17.50 RA SC PC CAL CORR SON 19 jewels

<table>
<thead>
<tr>
<th>φ 30.80 mm</th>
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<tbody>
<tr>
<td>Running time</td>
</tr>
<tr>
<td>Jewel number</td>
</tr>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>Angle of lift of balance</td>
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</tbody>
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**Manipulation**

<table>
<thead>
<tr>
<th>Designation</th>
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<tbody>
<tr>
<td>1 1</td>
<td>MANUAL WINDING Movement - alarm system</td>
</tr>
<tr>
<td>2 1</td>
<td>ALARM SYSTEM CONNECTED Manual winding disconnected</td>
</tr>
<tr>
<td>3 1</td>
<td>SETTING OF ALARM (2 directions)</td>
</tr>
<tr>
<td>1 or 2 2</td>
<td>SETTING OF WATCH</td>
</tr>
</tbody>
</table>

A  Hour index for alarm system

B  Minute index for alarm system

C  Date corrector
1000 Plate
1101 Crown wheel
1106 Winding stem
1108 Winding pinion
1109 Setting lever
1113 Setting lever spring
1114 Setting wheel for minute wheel
1128 Upper hand setting wheel (2 pieces)
1129 Lower hand setting wheel (2 pieces)
1130 Setting wheel insulator
1132 Pressure spring for setting lever
1146 Upper hand setting yoke
1147 Upper hand setting yoke spring
1165 Ratchet winding wheel
1166 Lower hand setting yoke
1167 Lower hand setting yoke spring
1218 Cannon pinion
1231 Hour wheel
1246 Minute wheel
1503 Date jumper
1625 Date jumper spring
1630 Date corrector
1634 Date indicator guard
1559 Double date setting wheel
1563 Cam spring for date indicator driving wheel
1564 Date indicator driving wheel
1655 Operating lever for date corrector
1566 Operating lever spring for date corrector
1580 Data indicator
7517 Date corrector rod
1621 Plate for release wheel
1622 Alarm operating lever
1624 Release device
1626 Spring for release device
1634 Time display module
1636 Hour indicator ring
1638 Fixed ring wheel for alarm system
1637 Connecting wheel for release wheel
2374 Screw for connecting wheel of release wheel
2457 Screw for date indicator guide
2459 Screw for upper hand setting yoke
2460 Screw for pressure spring for setting lever
2460 Screw for hand setting yoke spring, upper
2460 Screw for cam spring for date indicator driving wheel
2460 Screw for operating lever spring for date corrector
2461 Screw for setting lever spring
2461 Screw for release wheel plate
2462 Screw for hand setting yoke spring, lower
2462 Screw for date jumper spring
2462 Screw for spring of release device
2463 Screw for securing release device
2467 Screw for operating lever of date corrector

Important For basic caliber numbers applying to the above parts, please refer to our spare part catalogue.
1000 Plate
1002 Barrel and wheel train bridge (% plate bridge)
1005 Pallet cock
1010 Center cock
1015 Alarm bridge
1026 Rotor
1030 Balance cock
1031 Upper bridge for automatic device
1033 Lower bridge for automatic device
1100 Ratchet wheel
1200 Barrel with arbor

1216 Center wheel
1240 Third wheel
1274 Sweep second wheel, HO
1299 Supporting plate for sweep second wheel
1305 Escap wheel
1316 Pallet fork
1327 Balance
1331 Regulator ring
1332 Regulator pointer
1333 Adjuster for regulator
1346 Incabloc, lower
1347 Incabloc, upper
1363 Stud-holder

1420 Bearing for rotor
1437 Driving gear for ratchet wheel
1453 Large connecting wheel for winding gear
1454 Small connecting wheel for winding gear
1464 Winding gear
1466 Clamp of driving gear for ratchet wheel
1478 Differential
1600 Alarm ratchet wheel
1601 Alarm stop-click
1602 Alarm stop-click spring
1610 Alarm hammer with axle
1615 Alarm hammer, mounted
1616 Sounding ring
1638 Alarm stop finger
1639 Sounding ring support
2159 Screw for stud
2224 Screw for pallet cock
2453 Screw for barrel and wheel train bridge (% plate bridge)
2453 Screw for center cock
2453 Screw for alarm bridge
2464 Screw for balance cock
2465 Screw for upper bridge of automatic device
2466 Screw for supporting plate for sweep second wheel
2468 Screw for lower bridge of automatic device
2460 Screw for clamp of driving gear for ratchet wheel
2464 Screw for sounding ring
2466 Screw for alarm hammer weight
2466 Screw for alarm ratchet wheel
2468 Screw for alarm stop-click
2468 Screw for rotor
2468 Screw for rotor bearing

**Important** For basic caliber numbers applying to the above parts, please refer to our spare part catalogue.
DISASSEMBLING

Warning
When disassembling, remove the springs very carefully so as not to foul their winding.

2.1. UNCASING

Before removing the automatic unit, make the alarm ring. The alarm release button should be pushed in again completely.

2.1.1. Remove the automatic unit.

2.1.2. Let down the movement (to do this, wind by 1/5th turn of the stem, press the alarm stop-click 1601).

2.1.3. Uncase according to the usual procedure. The alarm operating lever stem is in 2 pieces, pull away the button. Press the setting lever axle 1109 in order to extract the winding stem 1106.

2.1.4. Align the indexes of the time display module 1634 on 12 h.; then remove the hands.

2.1.5. Remove the sounding ring 1616 and the sounding ring support 1639.

2.1.6. Remove the hour circle (lift in several places where the plate has clearance, so as not to foul the track).

Remove the hour indicator ring 1635.

2.1.7. Remove the time display module 1634. The latter must neither be disassembled nor cleaned by immersion. If not working correctly, it should be replaced.

2.2. DISASSEMBLING OF THE WHEEL TRAIN, DATE AND ALARM SYSTEMS

2.2.1. Check the strength of the indenting before disassembling; if necessary, re-tighten the cannon pinion 1218.

2.2.2. Remove: date indicator guard 1554 and date indicator 1580;
fixed ring wheel for alarm system 1636;
plate for release wheel 1621
hour wheel 1231 and double date setting wheel 1559;
date corrector - winding - alarm setting mechanisms.

2.2.3. Disassemble movement and clean all parts according to the usual procedure except: the winding gear 1464 which must not be cleaned by immersion. Pin its pivoting hole, clean the leaves of the pinion and the toothing in hard elderpith.

2.3. DISASSEMBLING OF THE AUTOMATIC UNIT

2.3.1. Remove:
the rotor 1026;
the lower bridge for automatic device 1033, the large connecting wheel for winding gear 1453 and the small connecting wheel for winding gear 1454;
the bearing for rotor 1420.

2.3.2. Clean all parts following the usual procedure except: the bearing for rotor 1420 which must not be submitted to ultra-sonic cleaning, but cleaned in benzine. Allow to dry in the air (do not pass it through sawdust).

ASSEMBLING OF THE AUTOMATIC UNIT

3.1. Place in position and screw the bearing for rotor 1420 on the upper bridge for automatic device 1031.

3.2. Oil (1.03) the rolling of the bearing for rotor 1420 and the toothing (1.02).

3.3. Oil (1.07) the post of the large connecting wheel for winding gear 1453, and the post of the small connecting wheel for winding gear 1454.

3.4. Check the freedom of the bearing for rotor 1420 (must not scratch).

3.5. Fit the large connecting wheel for winding gear 1453 and the small connecting wheel for winding gear 1454 (flat side uppermost) on the upper bridge for automatic device 1031.

3.6. Place in position and screw the lower bridge for automatic device 1033. Oil (1.07) the toothing of the large and small connecting wheels for winding gear 1453 and 1454.

3.7. Fitting of the rotor 026 on the automatic unit will take place when casing-up is effected.

CHECKING OF THE PARTS

4.1. Barrel with arbor 1200. When completely wound, the mainspring should have a minimum development of 7 turns; if not, the mainspring 1208 should be replaced.
4.2. **Winding gear 1464.** Check its functioning.

![Diagram of winding gear 1464]

4.3. **Differential 1475.** Check deterioration of crown of differential and grease pivoting point of satellite before fitting differential 1475 on movement.

![Diagram of differential 1475]

4.4. Check condition of the other parts according to the usual procedure.

5. **FITTING OF THE WHEEL TRAIN**

**Note**

Oiling to be carried out during fitting operations is indicated below. For other oiling, please see 6.4.

5.1. **Grease** before fitting:

- support of ratchet wheel 1100 on the plate: 3 points (2.06);
- post of driving gear for ratchet wheel 1437 (2.06);
- toothing of ratchet wheel 1100 (2.06);
- toothing of driving gear for ratchet wheel 1437 (2.06).

5.2. **Fit** in the following order:

- ratchet wheel 1100;
- driving gear for ratchet wheel 1437;
- clamp of driving gear for ratchet wheel 1466;
- center wheel 1216;
- barrel with arbor 1200. **Take care** to see that the square of the arbor goes into the hole of the ratchet wheel 1100;
- center cock 1010. Oil (1.07) upper pivot of center wheel 1216;
- supporting plate for sweep second wheel 1299;
- third wheel 1240;
- escape wheel 1305;
- oil and fit sweep second wheel 1274 HO (see diagram below);
- barrel and wheel train bridge (3/4 plate bridge) 1002. Grease (2.01) upper pivot of barrel with arbor 1200 and alarm ratchet wheel fitting 1600;
- aileron stop finger 1638. Grease (2.01) bearing of aileron stop-click 1601;
- alarm stop-click spring 1602;
- alarm stop-click 1601;
- alarm ratchet wheel 1600. Tighten its screw 2466 in order to lock it.

6. **FITTING OF THE ALARM SYSTEM AND PALLET FORK**

6.1. **Fit** in the following order:

- alarm hammer, mounted, 1615;
- differential 1475;
- winding gear 1464;
- aileron bridge 1015. Before screwing the latter, make sure that the pinion of the winding gear 1464 is engaged in the satellite of the differential 1475;
- pallet fork 1316;
- pallet cock 1005.

6.2. **Check carefully** endshake of the hammer 1615: 0.02 mm max.

6.3. **Do not fit the balance 1327 et this stage, but only after the hand-fitting.**
6.4. **Lubrication of the movement**

**Upper** (bridge side) | **Lower** (dial side)
---|---
**Oil 1.02** | escape wheel 1305
sweep second wheel 1274 | balance 1327
escape wheel 1305 |
**Oil 1.06** | pallets 1316
pivoting of setting lever 1109 | center wheel 1216
toothed of alarm stop-click 1601 | third wheel 1240
toothed 1240 | differential 1475
third wheel 1240 | alarm hammer, mounted, 1615
differential 1475 |
Is not oiled | pallet fork 1316
Grease 2.01 | barrel with arbor 1200

7. REASSEMBLING OF THE TIME DISPLAY AND ALARM SYSTEMS, ALARM SETTING AND DATE MECHANISMS

7.1. PREPARATION OF PARTS BEFORE REASSEMBLING

7.1.1. Upper hand setting yoke 1146:

- grease (2.01) the 2 posts of the upper hand setting wheels 1128;
- grease (2.01) the post of the crown wheel 1101;
- fit the 2 upper hand setting wheels 1128 and the crown wheel 1101.

7.1.2. Hour wheel 1231:

- oil (1.07) the 3 catches (A);
- oil (1.07) the 3 blades (B), after having pushed the cam in completely;
- check freedom of cam (C);
- oil (1.07) the cam hole (D).

7.1.3. Date corrector 1530:

![Diagram of date corrector](image)

7.1.4. Date indicator driving wheel 1564:

- grease

![Diagram of date indicator driving wheel](image)

7.2. **FIT** in the following order:

- grease (2.01) and fit the winding pinion 1108;
- grease (2.01) and fit the winding stem 1106;
- setting lever 1109;
- pressure spring for setting lever 1132;
- grease (2.01) and fit lower hand setting yoke spring 1167;
- lower hand setting yoke 1166;
- setting lever spring 1110.

7.3. **LUBRICATE** according to indications given below

![Diagram of lubrication points](image)
7.4. **FIT** in the following order:

- 2 lower hand setting wheels 1129;
- ratchet winding wheel 1165;
- oil (1.07) post of center wheel 1216;
- cannon pinion 1218;
- minute wheel 1246;
- setting wheel for minute wheel 1114;
- setting wheel insulator 1130;
- connecting wheel for release wheel 1637. Check its freedom after locking of screw 2374;
- upper hand setting yoke spring 1147. Check its freedom after locking of screw 2460;
- grease (2.01) notch of upper hand setting yoke spring 1147;

7.5. **LUBRICATE** according to indications given below:

- release device 1624;
- upper hand setting yoke 1146. Check its functioning;
- spring for release device 1625;
- date corrector rod 7517;
- date corrector 1530;
- alarm operating lever 1622;
- operating lever for date corrector 1565;
- operating lever spring for date corrector 1566;
- date jumper 1503;
- date jumper spring 1529;
- date indicator driving wheel 1564;
- cam spring for date indicator driving wheel 1563.
7.6. SETTING OF DATE MECHANISM AT GUIDE-MARK:

place in position for alarm setting;

turn date indicator driving wheel 1564 according to guide-mark (stamped on plate);

fit and turn hour wheel 1231 according to guide-mark (stamped on plate);

fit double date setting wheel 1559. Take care to keep these 2 wheels at the guide-marks.

Warning

Do not operate further the hand settings of the movement and alarm system in order to avoid alteration of the guide-mark for the date indicator wheel train.

7.7. PROCEED in the following order:

7.7.1. Fit: plate for release wheel 1621. Recheck positions of:

a) date indicator driving wheel 1564 with guide-mark on the plate;

b) guide-mark for hour wheel 1231 with that of plate for release wheel 1621 (in the initial series it is slightly staggered on the right).

7.7.2. Grease (2.01 underneath plate for release wheel 1621, the friction surfaces of: a) alarm operating lever 1622; b) upper hand setting yoke 1146.

7.7.3. Fit:

date indicator 1580;

date indicator guard 1554. To fit the latter, it is necessary to press on the operating lever for date corrector 1665 so as to make the date corrector 1530 rest against a tooth of the date indicator 1580.

7.8. CHECKING of the date mechanism:

ascertain that the date corrector 1530 withdraws from the toothing of the date indicator 1580. If such is not the case, tighten the spring of the date corrector.

7.9. PROCEED in the following order:

fit the fixed ring wheel for alarm system 1636;

oil according to indications below:

7.9.1. Oil (1.03) 3 teeth of date indicator 1580.

7.9.2. Grease time display module 1634 according to, indications below:

fit time display module 1634, indexes on 12 h. (see 2. 1. 4.);

fit hour indicator ring 1635;

fit hour circle. Position its countersink on the steady-pin of the plate (at 12 h.).

7.10. HAND-FITTING:

fit hour, minute and second hands;

check alarm release device: tol. ± 4 min.;

check date jump: tol. ± 10 min. If variation is greater, recheck setting to guide-mark of the date mechanism (7. 6.).

7.11. PROCEED in the following order:

fit balance 1327;

fit sounding ring support 1639 and sounding ring 1616;

fail enlargement ring;

case-up the movement;

make alarm ring;

remove upper bridge for automatic device 1031 and fit rotor 1026 on same;

fit automatic unit;

check automatic winding.