TECHNICAL GUIDE

&

PARTS CATALOGUE

Cal.NE15B

AUTOMATIC MECHANICAL

SII Products
### Cal. NE15B

**Item**

<table>
<thead>
<tr>
<th>Movement</th>
<th>Cal. No.</th>
<th>NE15B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outside diameter</strong></td>
<td><strong>Φ27.40mm</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Casing diameter</strong></td>
<td><strong>Φ27.00mm</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total height</strong></td>
<td><strong>5.32mm</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Time indication**

- 3 Hands (Hour, Minute, Second)
- Date Calendar

**Basic function**

- Manual winding
- Automatic winding with ball bearing
- Time setting with stop-second device
- Date display with quick date correction

**Frequency**

- 21,600 vibrations per hour

**Accuracy**

- **Static accuracy**: -15~+25 seconds per day
  - Measurement should be done within 10~60 minutes after fully wound up.
  - All measurements are made without the calendar in function.

#### Measurement position

- Direction of 3 positions: (1) Dial up (2) 9 o'clock up (3) 6 o'clock up

- **Lift angle**: 53 deg.

- **Measurement time**: 20 seconds
  - Equipment to be used: Witschi WATCH EXPERT

#### Posture difference

- Difference is under 45 seconds within max value and minimum value.
  - Measurement should be done within 10~60 minutes after fully wound up.
  - Direction of 4 positions:
    - (1) 12 o'clock up
    - (2) 9 o'clock up
    - (3) 6 o'clock up
    - (4) 3 o'clock up

- **Isochronisms (24h-0h)**: -10~+20 seconds per day
  - Direction of position: Dial up
  - Difference of static accuracy of 24h and 0h

**Duration time**

- More than 50 hours... Mainspring after fully wound up.
  - Posture to confirmation: Dial up

**Winding the mainspring**

- Fully wound up by turning the crown minimum 55 times.
- Fully wound up by turning the ratchet wheel screw 8 times.

**<< Complete Watch >>**

- A winding machine is needed to wind up the mainspring.

#### Full wind up conditions

- Rotary speed: 30 rpm
- Operating time: 60 minute

**Jewels**

- 24 jewels

**Crown position**

<table>
<thead>
<tr>
<th>Normal position</th>
<th>Left rotation</th>
<th>Free</th>
</tr>
</thead>
<tbody>
<tr>
<td>First click</td>
<td>Date setting</td>
<td>Free</td>
</tr>
<tr>
<td>Second click</td>
<td>Time setting</td>
<td>Free</td>
</tr>
</tbody>
</table>

**SII Products**
PARTS CATALOGUE

Disassembling procedures Figs. ① → ⑤  
Reassembling procedures Figs. ⑤ → ①

Type of oil
- Moebius 9010
- S-6
- S-4

Oil quantity mark
- NORMAL QUANTITY
- SUCCIDENT QUANTITY

① 0012 354
Date indicator maintaining plate screw

② 0808 183
Date indicator maintaining plate

③ Date dial

④ 0810 183
Date jumper

Moebius 9010 NORMAL QUANTITY
S-6 SUFFICIENT QUANTITY

Disassembling procedures Figs. ① → ⑤  
Reassembling procedures Figs. ⑤ → ①
Oscillating weight with ball bearing

Automatic train bridge screw

Balance bridge screw

Balance cock

Balance complete with stud

Second reduction wheel and pinion

Ratchet wheel screw

Ratchet wheel

Pallet bridge screw

Pallet bridge

Pallet fork

Upper shock absorbing spring

Upper shock absorbing cap jewel

Upper hole jewel frame for shock-absorber

Type of oil
- Moebius 9010

Oil quantity mark
- NORMAL QUANTITY
- SUFFICIENT QUANTITY
Refer to page 8 for oiling spot

Refer to page 10 for the assembling method.
**Type of oil**

<table>
<thead>
<tr>
<th>Moebius 9010</th>
<th>S-6</th>
<th>S-4</th>
</tr>
</thead>
</table>

**Oil quantity mark**

- **NORMAL QUANTITY**
- **SUFFICIENT QUANTITY**

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**Center wheel bridge screw**

**Center wheel bridge**

**Escape wheel and pinion**

**Center wheel and pinion with cannon pinion**

**Yoke spring screw**

**Yoke spring**

**Yoke**

**Setting lever**

**Balance stop lever**

*4 Refer to page 9 for oiling spot*

**Clutch wheel**

**Winding pinion**

**Winding stem**

**Date corrector setting transmission wheel A**

**Main plate**

SII Products
### 3 Date dial

<table>
<thead>
<tr>
<th>Parts code</th>
<th>Position of crown</th>
<th>Position of day frame</th>
<th>Color of letters</th>
<th>Color of background</th>
</tr>
</thead>
<tbody>
<tr>
<td>0878 208</td>
<td>3H</td>
<td>3H</td>
<td>Black</td>
<td>White</td>
</tr>
</tbody>
</table>

### List of screw

<table>
<thead>
<tr>
<th>No</th>
<th>Parts code</th>
<th>Parts name</th>
<th>Parts form</th>
<th>No</th>
<th>Parts code</th>
<th>Parts name</th>
<th>Parts form</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0012 354</td>
<td>Date indicator maintaining plate screw (x4)</td>
<td></td>
<td>6</td>
<td>0012 485</td>
<td>Guard for date corrector setting transmission wheel screw (x2)</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>Automatic train bridge screw (x2)</td>
<td></td>
<td>20</td>
<td>0012 919</td>
<td>Ratchet wheel screw</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>0012 168</td>
<td>Pallet bridge screw (x2)</td>
<td></td>
<td>23</td>
<td>0012 420</td>
<td>Balance bridge screw</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td></td>
<td>Lower plate for barrel and train wheel bridge screw</td>
<td></td>
<td>27</td>
<td></td>
<td>Barrel and train wheel bridge screw (x3)</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td></td>
<td>Center wheel bridge screw</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Oiling spot

- **Barrel and train wheel bridge with hole jewel frame**

- **Note**
  
  *2 After oiling, set lower plate for barrel and train wheel bridge & screw.

- **Lower plate for barrel and train wheel bridge**

- **Lower plate for barrel and train wheel bridge screw**

- **First reduction wheel**

- **Pawl lever**

- **Reduction wheel holder**

- **Type of oil**
  
<table>
<thead>
<tr>
<th>Type</th>
<th>Oil quantity mark</th>
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</thead>
<tbody>
<tr>
<td>Moebius 9010</td>
<td>NORMAL QUANTITY</td>
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<tr>
<td>S-6</td>
<td>SUFFICIENT QUANTITY</td>
</tr>
<tr>
<td>S-4</td>
<td></td>
</tr>
</tbody>
</table>

- **Oil quantity mark**

- **After oiling, set first reduction wheel & pawl lever & reduction wheel holder.**
2. Setting position of oscillating weight
   - Before assembling oscillating weight.
   Match the center of the oscillating weight and winding stem. Set the hole of first reduction wheel gear on the imaginary line toward the balance bridge guide pin.

3. To remove the winding stem
   1) Set the winding stem to normal position.
   2) Pull out the winding stem, while pushing "A"
4. Disassembling / assembling of the First reduction wheel

<< Disassembling >>

32 First reduction wheel

30 Reduction wheel holder

28 Barrel and train wheel bridge (back side)

<< Assembling >>

5. Disassembling / assembling of the Ratchet sliding wheel spring.

<< Disassembling >>

29 Ratchet sliding wheel spring

<< Assembling >>

28 Barrel and train wheel bridge with hole jewel frame

Remove the hook of the ratchet sliding wheel spring from barrel and train wheel bridge with hole jewel frame.

The hooks of ratchet sliding wheel spring are hung up on barrel and train wheel bridge with hole jewel frame.
6. Accuracy adjustment

Note:
- Regulator ... Time adjustment
- Stud support ... Beat error adjustment
- Regulator pin ... Gap adjustment of balance spring and regulator pin

Anticlockwise rotation  No clockwise rotation
7. To wind up the mainspring
<<Movement>>
The mainspring would be fully wound up by turning the ratchet wheel screw 8 times clockwise. (Manual winding or Screwdriver)

Manual winding ... Rotate crown clockwise at normal position by min 55 times. (Equal to ratchet wheel screw 8 times )
Screwdriver winding ... Turn the ratchet wheel screw 8 times clockwise.

8. How to attach hands
Place the movement directly on a flat metal plate or something similar to attach the hands.
We recommend the use of movement holder to attach hands.
For hands attachment, please use a special equipment.
When the movement receives a strong shock, it may be damaged.

9. Accuracy measurement condition
Static Accuracy: -15~+25 seconds per day
Measurement Conditions
1) Measurement should be done within 10~60 minutes after fully wound up.
2) Lift angle: 53 deg
3) Measurement position: (1) Dial up (2) 9 o'clock up (3) 6 o'clock up
4) Minimum measurement Time: 20 seconds
5) Stabilizing Time:
   Leave the watch for at least 20 seconds to stabilize after you change its measurement position.
1. Time setting
   1) Pull out the crown to the second click position.
   2) Turn the crown to set hour and minute hands.
      (Check that AM/PM is set correctly.)
   3) Push the crown back into the normal position.

2. Date setting
   1) Pull out the crown to the first click position.
   2) Turn the crown to left for date setting.
      * Do not set the calendar between 10:00 P.M. and 1:00 A.M. If the setting of the calendar is made during this period, the date will not change to the next date. Please set the calendar after changing the time other than the above period.
   3) Push the crown back into the normal position.

3. To wind up the mainspring
   a) Manual winding … Rotate the crown clockwise at normal position.
      Wind turning the ratchet wheel screw 8 times. It will start to move naturally after shaking slightly.
   b) To wind up with winding machine.
      Full wind up conditions
      · Rotary speed : 30 rpm
      · Operating time : 60 minutes