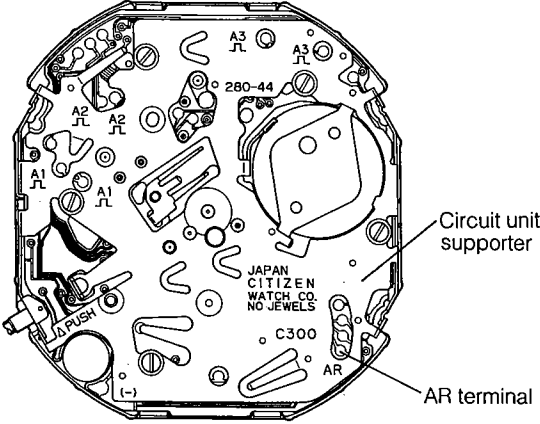
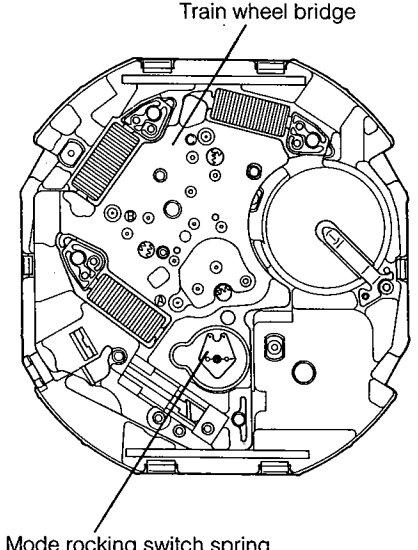
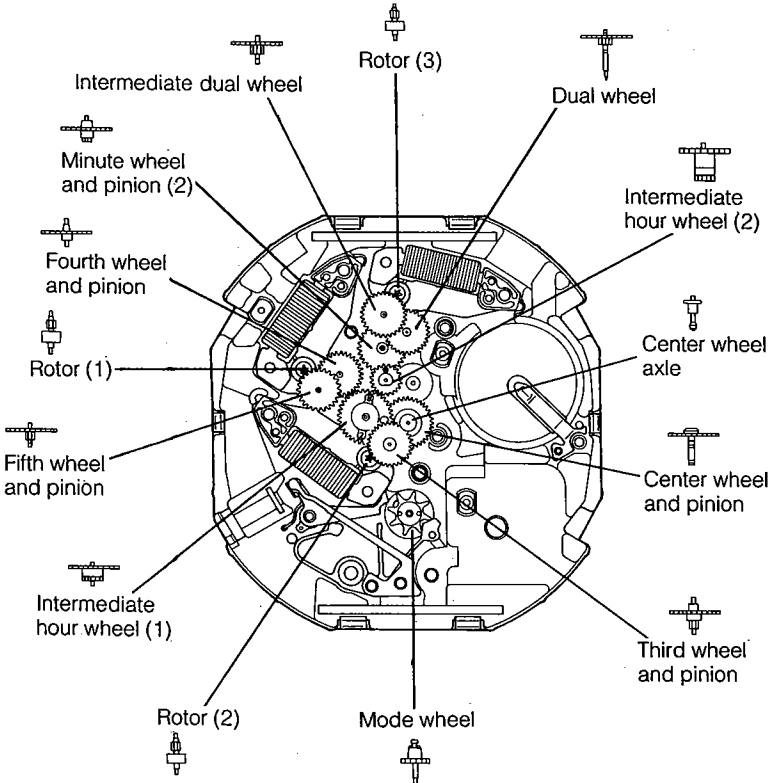
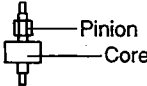


HAND INSTALLATION PROCEDURE

Step	Explanatory illustration	Precautions
<p>① Perform the all-reset operation.</p>	 <p>The illustration shows the internal movement of a watch. Key components are labeled: 'A1 JL', 'A2 JL', 'A3 JL', '280-44' (the main movement), 'C.300', and 'AR'. A 'Circuit unit supporter' is shown as a small component near the movement, and an 'AR terminal' is indicated at the bottom right. Text in the center reads 'JAPAN CITIZEN WATCH CO. NO JEWELS'. A 'PUSH' button is also visible on the left side.</p>	<p>Short the circuit unit supporter to AR terminal for at least 2 seconds.</p>
<p>② Install the dial.</p>		
<p>③ Install the mode hands.</p>	<ol style="list-style-type: none"> ① Press the M button to select "TME" mode. ② If "TME" mode is selected, UTC (Universal Time Coordinated) is indicated in the position at 3-o'clock window. ③ Install the mode hand to the center of print of "TME". 	
<p>④ Install each hand.</p>	<ol style="list-style-type: none"> ① Press the M button to select "CHR" mode. ② Pull out the M button. ③ Install all the hands to the 24-hours position (Top). UTC hour and minute hands: Position of 24 hours and 00 minute (Top) Hour, minute and 24-hour hands: Position of 24 hours and 00 minute (Top) ④ Return the M button to the normal position. 	
<p>⑤ Put the module in the case.</p>		
<p>⑥ Confirm the zero position.</p>	<ol style="list-style-type: none"> ① Press the M button to select "CHR" mode. ② Pull out the M button. ③ If the zero position is deviated, correct it. (See the section of zero position adjustment.) 	

PRECAUTIONS FOR DISASSEMBLY AND ASSEMBLY

Disassembly procedure	Precautions
 <p>Train wheel bridge</p> <p>Mode rocking switch spring</p>	<p>The "Mode rocking switch spring" is set to the two dowels of the mode wheel. When assembling, confirm that the two holes of the "Mode rocking switch spring" are set to the two dowels of the mode wheel.</p>
 <p>Intermediate dual wheel</p> <p>Minute wheel and pinion (2)</p> <p>Fourth wheel and pinion</p> <p>Rotor (1)</p> <p>Fifth wheel and pinion</p> <p>Intermediate hour wheel (1)</p> <p>Rotor (2)</p> <p>Mode wheel</p> <p>Rotor (3)</p> <p>Dual wheel</p> <p>Intermediate hour wheel (2)</p> <p>Center wheel axle</p> <p>Center wheel and pinion</p> <p>Third wheel and pinion</p>	<p>★ Take every care when handling plastic parts.</p> <p>Rotors (1), (3): Pinion: White, Core: Gold</p> <p>Rotor (2): Pinion: Gold, Core: Gold</p>  <p>Pinion</p> <p>Core</p> <p>Coil unit (1), (2), (3): All are common.</p> <p>Stator (1), (2), (3): All are common.</p>

Disassembly procedure: ① → ④②

Assembly procedure: ④② → ①

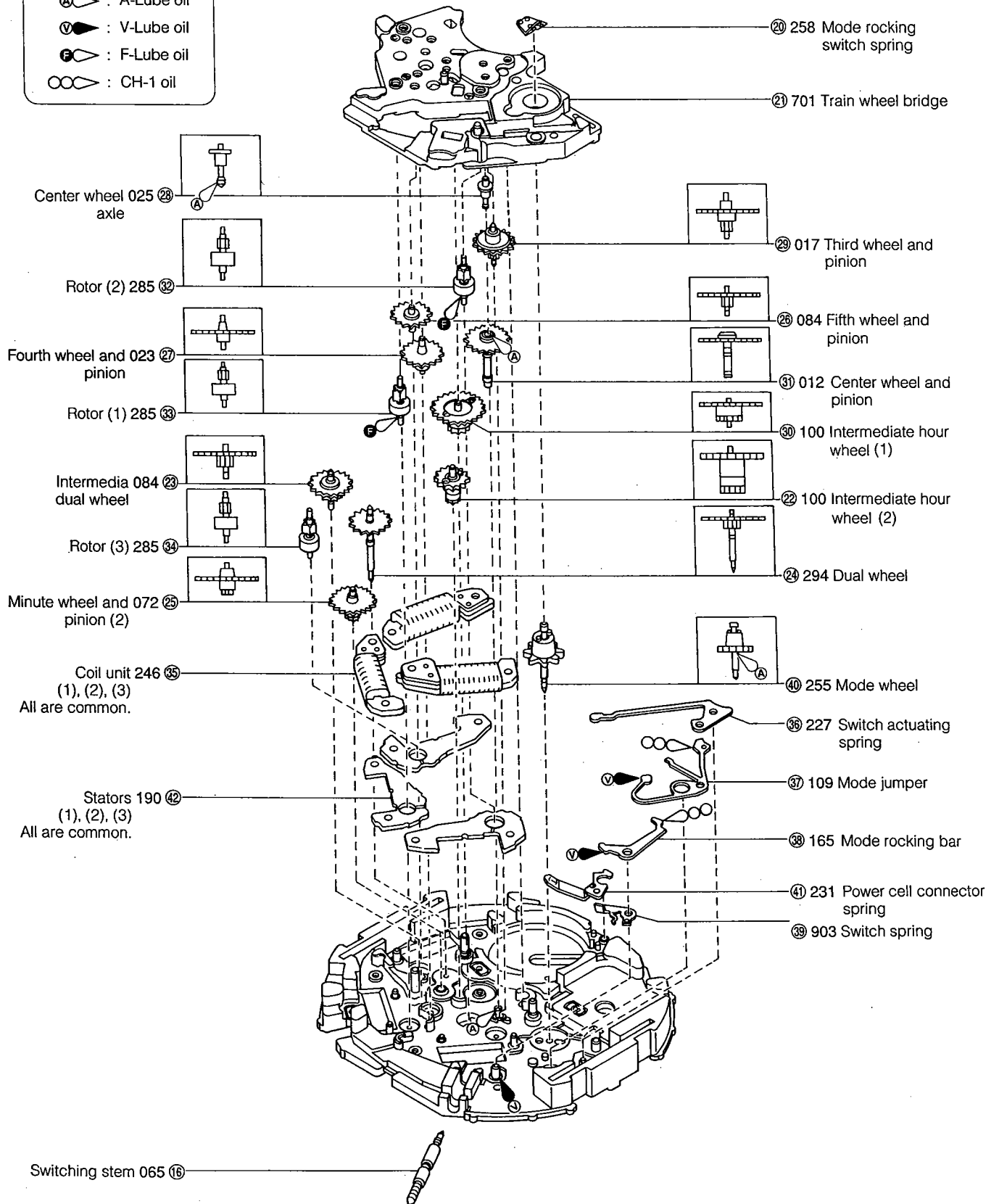
● Lubrication mark

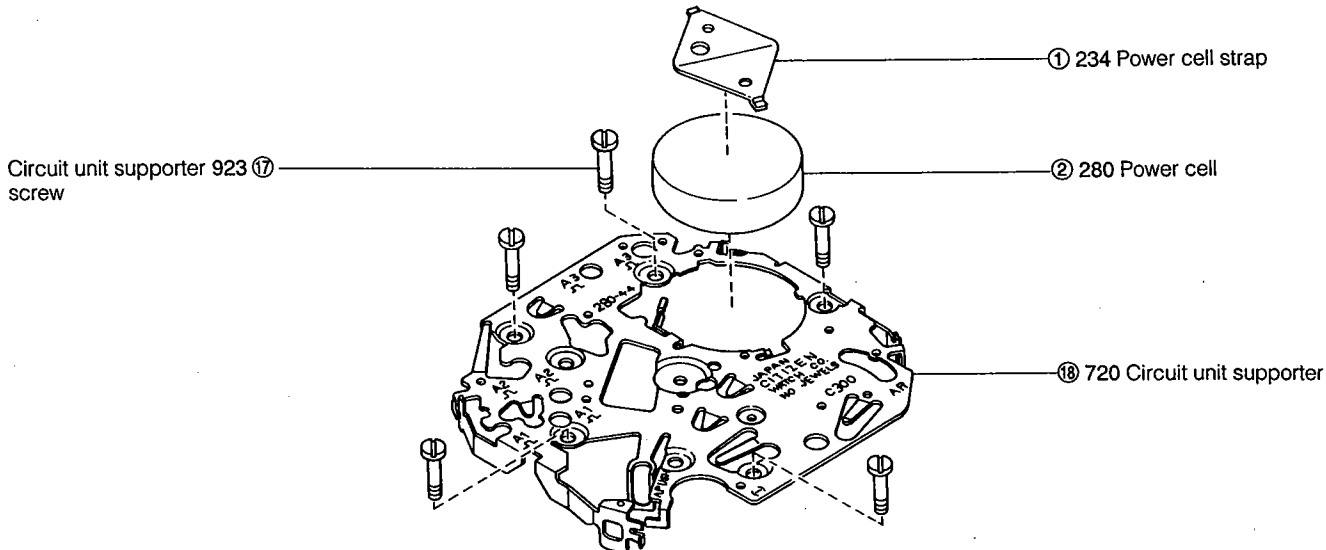
Ⓐ : A-Lube oil

∇ : V-Lube oil

Ⓕ : F-Lube oil

⊖ : CH-1 oil



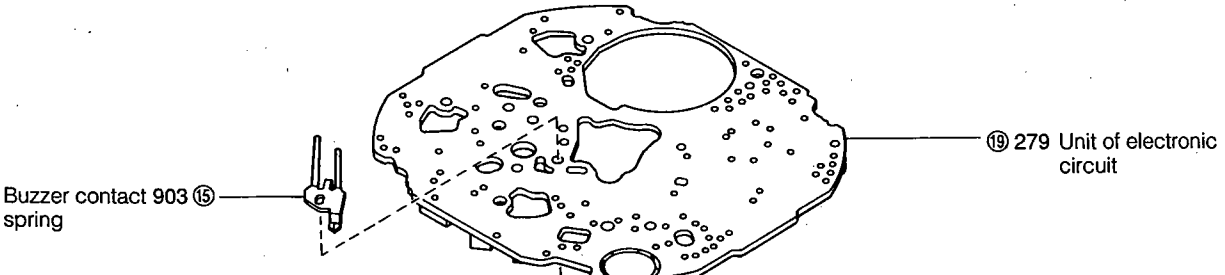


Circuit unit supporter 923 ⑰ screw

① 234 Power cell strap

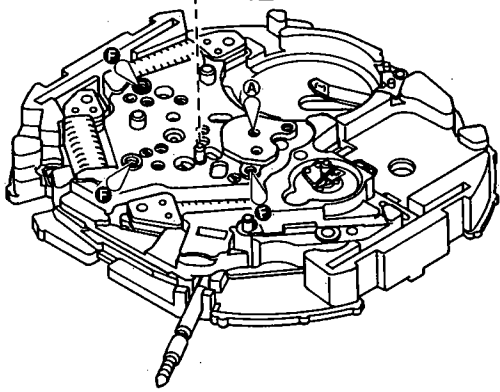
② 280 Power cell

⑱ 720 Circuit unit supporter

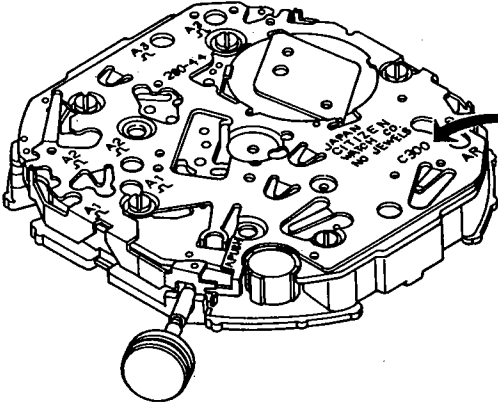


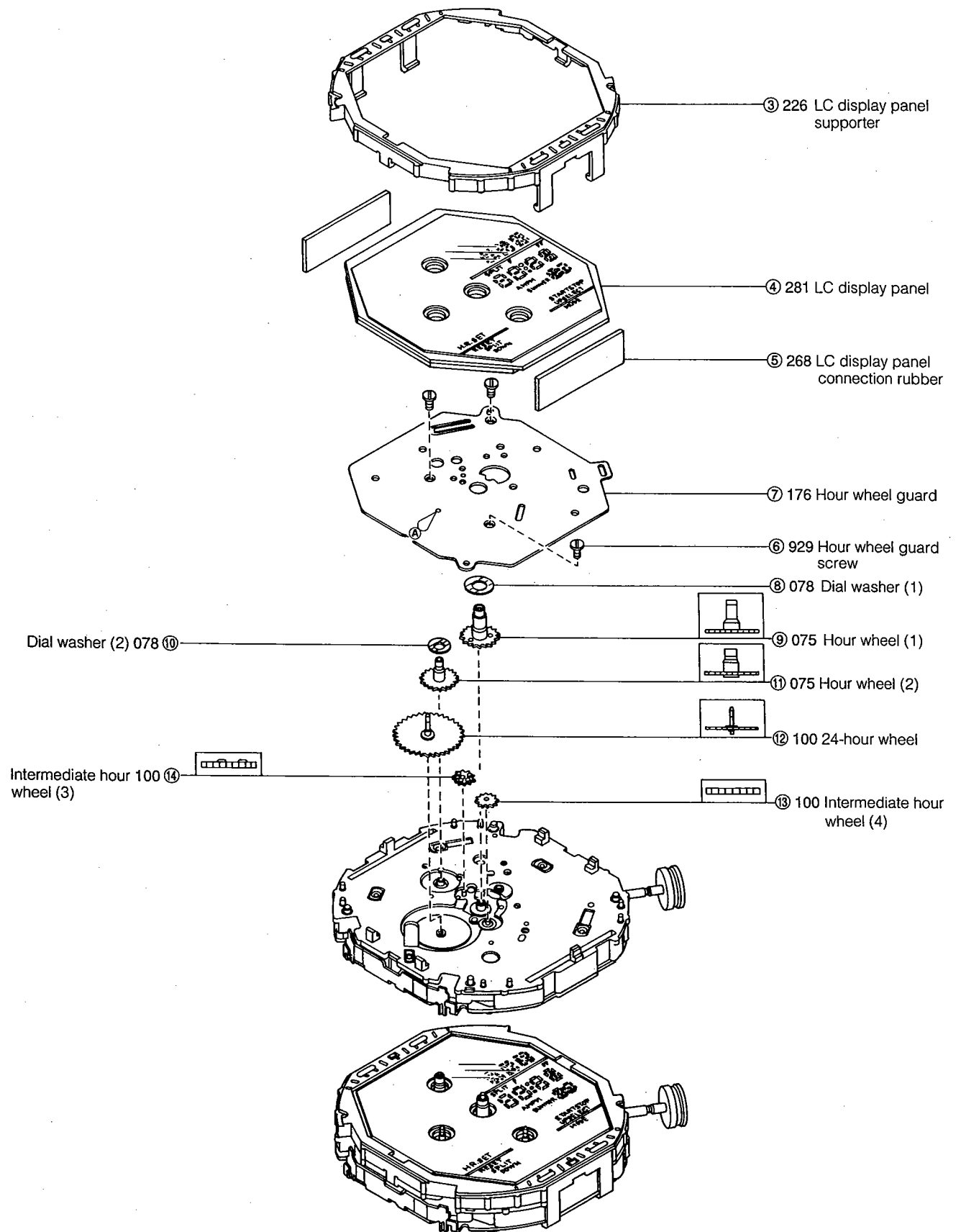
Buzzer contact 903 ⑮ spring

⑱ 279 Unit of electronic circuit

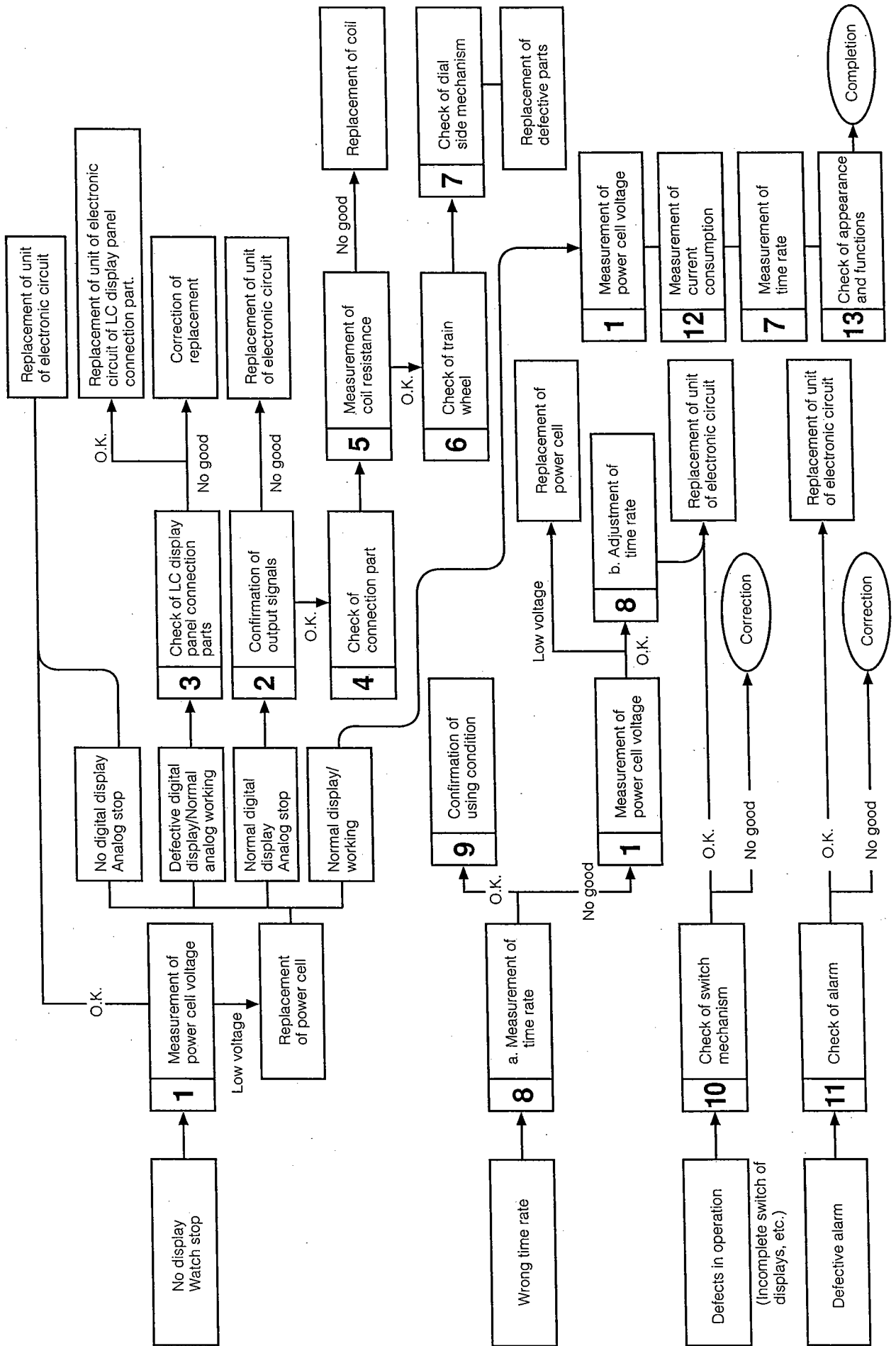


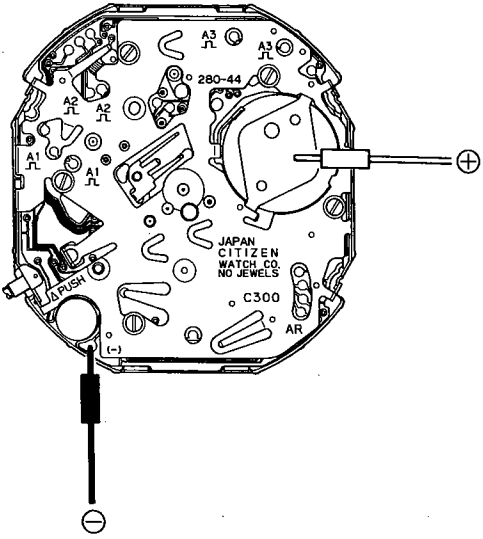
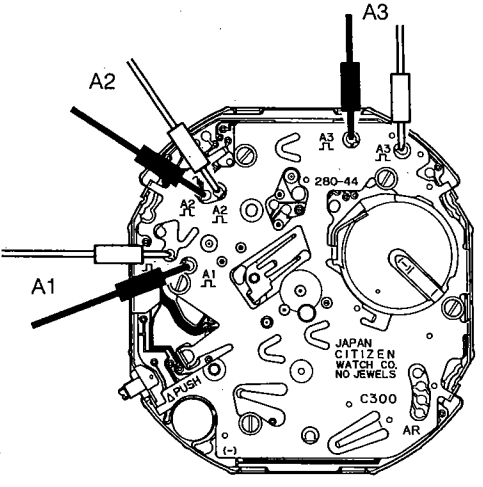
CALIBER NO.





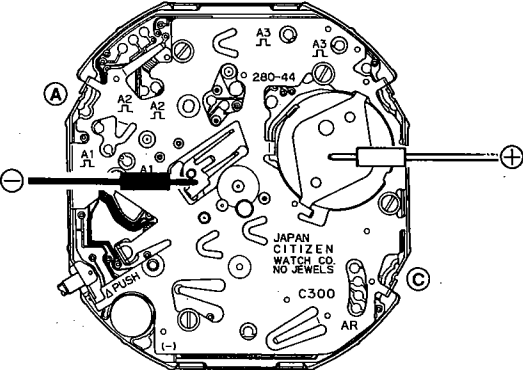
TROUBLESHOOTING AND ADJUSTMENT

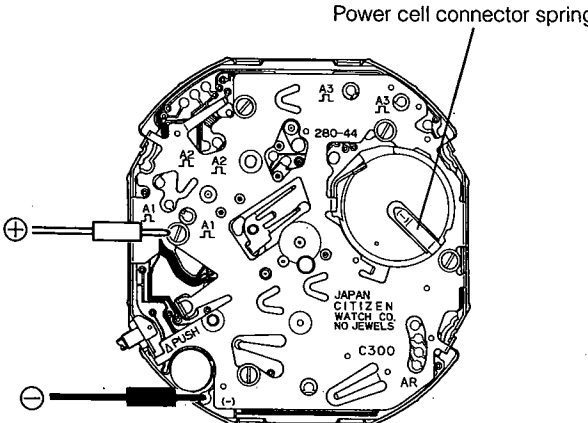
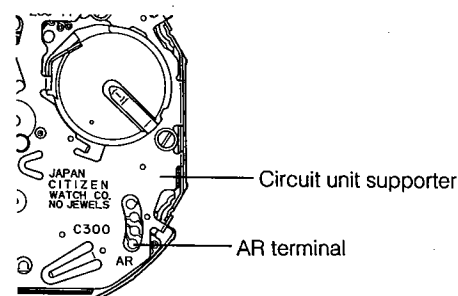


Check items	How to check	Result and treatments
<p>① Measurement of power cell voltage</p>	<p><Refer to Technical Manual, Basic Course: II-1-a></p> <p><Tester range: D.C 3 V></p> 	<ul style="list-style-type: none"> • Over 1.5 V → Nondefective • Under 1.5 V → Replace the power cell.
<p>② Confirmation of output signal</p>	<p><Refer to Technical Manual, Basic Course: II-1-b></p> <p>— Preparation for confirmation —</p> <ol style="list-style-type: none"> ① Press the (M) button to select "TME" mode. ② Press the (B) button for at least 2 seconds to set the watch under hand retract condition. <p>— Confirmation —</p> <ul style="list-style-type: none"> • Confirm the output signals of A1 and A2 while the hands are moving under hand retract condition. • Confirm the output signal of A3 after the hands finish moving under hand retract condition. <p>A1: Output signal of minute hand motor A2: Output signal of hour hand motor A3: Output signal of UTC hour/minute hand motor</p> <p><Tester range: D.C 3 V></p>  <p>(The tester lead pins have no polarity)</p>	<p>Tester pointer swings. → Nondefective</p> <p>Tester pointer does not swing → Check connections.</p>

Check items	How to check	Result and treatments
<p>③ Check of LC display panel connection parts</p>	<p><Refer to Technical Manual, Basic Course: II-2-a, Digital section></p> <p>— Preparation for check —</p> <p>Pull the (M) button and press the (A), (B) and (C) buttons at the same time, and all the segments light up. (If the (M) button is returned, this condition is reset.)</p> <p>— Check —</p> <ul style="list-style-type: none"> • Check of all segments Check all the segments for a defect. • Check of continuity of LC display panel, its connection rubber and plate complete Check each part for stain, breakage, etc. 	<ul style="list-style-type: none"> • The LC display panel, its connection rubber or plate complete is not installed normally → Re-install • There is dirt or stain → Remove dirt and stain • A part is cut, broken or scratched → Parts trouble
<p>④ Check of connection part</p>	<p><Refer to Technical Manual, Basic Course: II-2-a, Analog section></p>	
<p>⑤ Measurement of coil resistance</p>	<p><Refer to Technical Manual, Basic Course: II-1-c></p> <p>— Preparation for measurement —</p> <ul style="list-style-type: none"> • Remove the electronic circuit to measure the coil resistance. <p>— Measurement —</p> <ul style="list-style-type: none"> • The tester lead pins have no polarity. <div data-bbox="584 1155 1015 1585" data-label="Diagram"> </div> <p><Tester range: R x 10></p>	<ul style="list-style-type: none"> • Resistance each of coils (A), (B), (C) is 1.17 kΩ ~ 1.53 kΩ → Nondefective • Out of above range → Coil complete is defective
<p>⑥ Check of train wheel</p>	<p><Refer to Technical Manual, Basic Course: II-2-b></p> <ul style="list-style-type: none"> • Check the gears and rotors for dust and oil. • Check the plastic parts and pinions for crashing, deformation, bend of shaft, etc. 	

Check items	How to check	Result and treatments
7 Check of dial-side mechanism	<p><Refer to Technical Manual, Basic Course: II-2-c></p> <ul style="list-style-type: none"> • Check the parts for deformation and confirm that they are lubricated well. 	
8 Measurement of time rate	<p>— Preparation for measurement —</p> <ol style="list-style-type: none"> ① Press the M button to select "TME" mode. ② Press the B button for at least 2 seconds to set the watch under hand retract condition. <p>— Measurement —</p> <p style="text-align: center;"><Measurement range: Analog 10 seconds></p> <ul style="list-style-type: none"> • The time rate cannot be adjusted. 	<ul style="list-style-type: none"> • Standard time rate → -0.3 ~ 0.7 sec/day • Out of standard range → Replace the power cell or unit of electronic circuit
9 Confirmation of using condition	<p><Refer to Technical Manual, Basic Course: II-2-e></p>	
10 Check of switch mechanism	<ol style="list-style-type: none"> ① Check of movement <ul style="list-style-type: none"> • Push the switch return spring of the circuit unit supporter with tweezers, etc. to bring it contact with the pattern of the plate complete to confirm the switching function. • Check for removal of the pattern from the electronic circuit and the switch return spring for deformation. ② Check of push buttons <ul style="list-style-type: none"> • Check the push buttons for deformation and dirt. <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin-top: 10px;"> <p>Caution: Apply silicone oil to the packings of the push buttons without fail. It is necessary for maintenance of water resistance and smooth operation.</p> </div>	<ul style="list-style-type: none"> • No problems in switch mechanism → Check the push buttons • Any push button is dirty or deformed → Clean or replace the push button

Check items	How to check	Result and treatments
<p>① Check of alarm</p>	<p><Refer to Technical Manual, Basic Course: II-1-d></p> <p>— Preparation for check —</p> <p>① Set the module in the case with the case back removed.</p> <p>② Press the (M) button to select "ALM" mode.</p> <p>— Check —</p> <p>③ Apply the positive (+) lead pin to the power cell surface and the negative (-) lead pin to the buzzer contact spring, and push and hold the (A) and (C) buttons simultaneously.</p>  <p style="text-align: center;"><Tester range: D.C. 0.3 V></p> <p>④ If the alarm output is normal, perform the following checks.</p> <ul style="list-style-type: none"> • Check the piezo-electric element of the vibrating plate for cracking and breakage. • Check the buzzer contact spring for bend and deformation. 	<ul style="list-style-type: none"> • Tester pointer does not swing → Electronic circuit is defective • Tester pointer swings → Nondefective <p style="text-align: center;">↓</p> <p style="text-align: center;">Go to ④.</p> <p style="text-align: center;">↓</p> <p>If no defects are found, install the buzzer contact spring correctly.</p>

Check items	How to check	Result and treatments
<p>⑫ Measurement of current consumption</p>	<p><Refer to Technical Manual, Basic Course: II-1-f></p> <p>— Preparation for measurement —</p> <ol style="list-style-type: none"> ① Set the power cell to the tester. ② Set the test lead pins to the module (Measurement is possible in any mode).  <p style="text-align: center;">Power cell connector spring</p> <p>* Use the minus pattern of the module. If the power cell connector spring is pushed too strongly, it will be shorted to the 24-hour wheel and current consumption cannot be measured correctly.</p> <p>— Measurement —</p> <ul style="list-style-type: none"> • Short the AR terminal to the circuit unit supporter to perform the all-reset operation. <p style="text-align: right;"><Tester range: D.C. 10 μA></p>  <p style="text-align: center;">Circuit unit supporter AR terminal</p> <p>* Precautions for measurement of current consumption</p> <ol style="list-style-type: none"> ① When the tester lead pins are applied, abnormally large current flows and the meter exceeds the maximum point for a moment. This does not indicate a trouble. In this case, start the measurement with the tester at a higher range, then change the range one step by one. ② If the movement is exposed to the light of an incandescent lamp or the sun, more current may be consumed and the watch may not function normally. 	<ul style="list-style-type: none"> • Standard → 1.3 μA max • Above the standard → Check and clean the train wheel and dial-side mechanism • Above the standard when measured again → Replace the unit of electronic circuit
<p>⑬ Check of appearance and functions</p>	<p><Refer to Technical Manual, Basic Course: II-2-f></p> <ul style="list-style-type: none"> • Check the inside of the case for dirt. • Confirm that each correcting switch works normally. • Confirm that all the segments are normal. 	