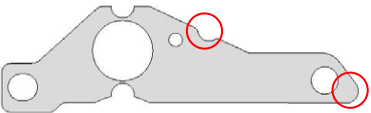
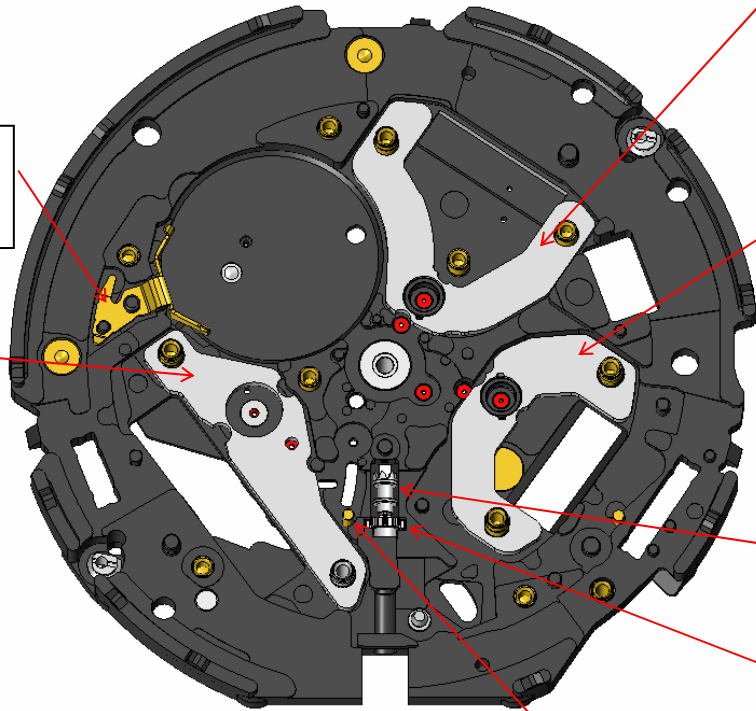
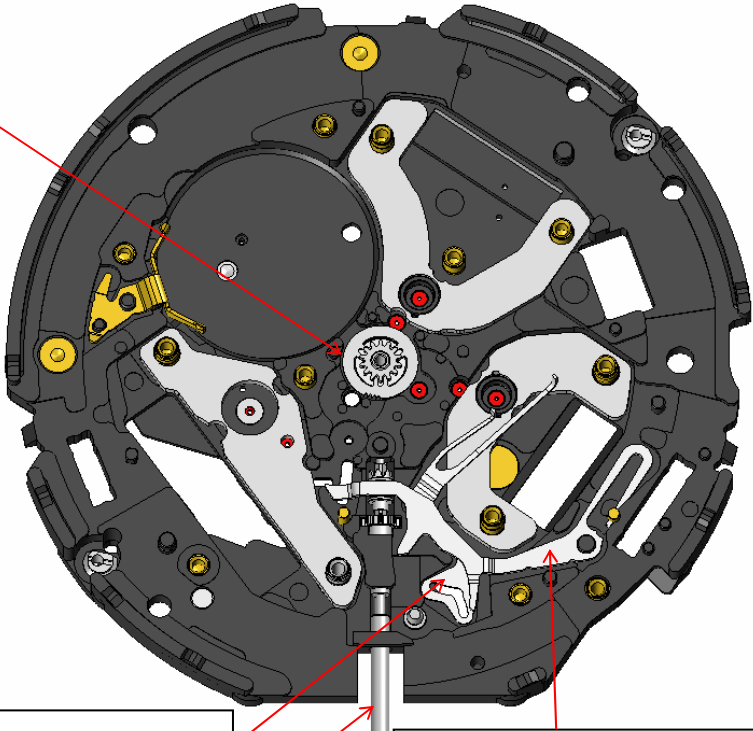

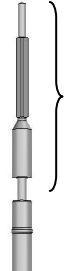
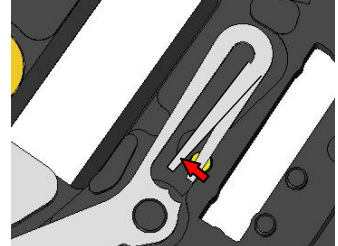


# 7D48 Technical Instruction

No.	PROSESS	ILLUSTRATIONS AND SPECIAL INSTRUCTIONS		
	<b>Assembling the switching unit</b>			
91	Set the main plate.	<p>&lt;91&gt; Set the main plate.</p>		
	↓			
90	Set the lead pin for RZ1.			
	↓			
89	Set the hour and minute stator.	<p>&lt;86&gt; Set the rechargeable battery connection (+).</p>		
	↓			
88	Set the second stator.		<p>&lt;88&gt; Set the second stator. *When mounting, take care not to distort or deform the second stator. (To prevent deterioration of the motor)</p>	
	↓			
87	Set the generating stator.	<p>&lt;87&gt; Set the generating stator. *Distinction from the 5J-series counterpart See the red-circled parts, which are shaped to identify the 7J-series generating stator.</p> 	<p>&lt;89&gt; Set the hour and minute stator. *When mounting, take care not to distort or deform the hour and minute stator. (To prevent deterioration of the motor.)</p>	
	↓			
86	Set the rechargeable battery connection (+).			
	↓		<p>&lt;84&gt; Set the clutch wheel.</p>	
85	Set the 1 <sup>st</sup> intermediate wheel for calendar corrector.	<p>*When mounting, take care not to distort or deform the generating stator. (To prevent deterioration of electric power generation)</p>		<p>&lt;85&gt; Set the 1st intermediate wheel for calendar corrector.</p>
	↓			
84	Set the clutch wheel.		<p>&lt;90&gt; Set the lead pin for RZ1. *Ensure that the lead pin for RZ1 is tightly mounted without any clearance.</p>	

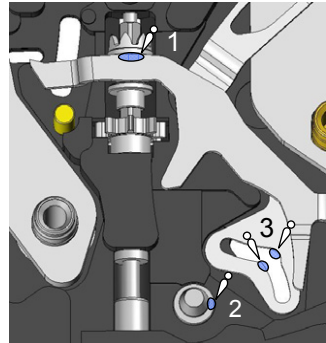


# 7D48 Technical Instruction

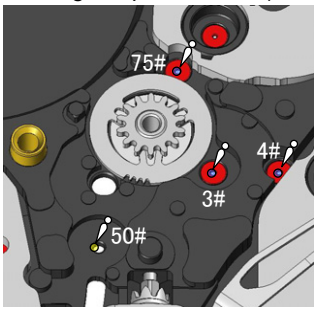
No.	PROCESS	ILLUSTRATIONS AND SPECIAL INSTRUCTIONS		
	<b>Assembling the switching unit</b>			
83	Set and lubricate the winding stem.			<p>&lt;82&gt; Set and lubricate the center wheel &amp; pinion.</p> <p>* Lubricating point: convex part (Refer to the illustration below.)</p> <p>*Type of oil, oil quantity: A0-3II-1 (To prevent parts from wearing)</p>
	↓			<p>*Lubricating point: inner edge of the ring (Refer to the illustration below.)</p>
82	Set and lubricate the center wheel & pinion.			<p>*Type of oil, oil quantity: A0-3II-1 (To prevent parts from wearing)</p>
	↓			<p>*Lubricating point: inner edge of the ring (Refer to the illustration below.)</p>
81	Set the train wheel setting lever.			<p>*Type of oil, oil quantity: A0-3II-1 (To prevent parts from wearing)</p>
	↓			
80	Set the yoke and hook the arm of it.			
	↓			<p>&lt;81&gt; <b>Set the train wheel setting lever.</b></p>
Lubricating points of the switching unit-1				<p>-Stem of the setting lever</p>
		<p>-Point of contact between the yoke and clutch wheel</p>	<p>3. <b>Guiding slit</b> of the train wheel setting lever</p> <p>*Type of oil, oil quantity: A0-3I-2 (To prevent parts from wearing)</p>	
		<p>-Lower pivots of the wheels (4#, 3#, 50#, 75#)</p>	<p>4. Lower pivots of the wheels (4#, 3#, 50#, 75#)</p> <p>*Type of oil, oil quantity: A0-3II-1 (To maintain good performance)</p>	
		<p>-<b>Guiding slit</b> of the train wheel setting lever</p>	<p>3. <b>Guiding slit</b> of the train wheel setting lever</p> <p>*Type of oil, oil quantity: A0-3I-2 (To prevent parts from wearing)</p>	
		<p>&lt;83&gt; Set and lubricate the winding stem.</p> <p>*Type of oil, oil quantity: A0-3 Lubricate the entire profile of the winding stem. <b>(To prevent parts from wearing)</b></p> <p>*Securely install the winding stem, giving it gentle rotations so that the flat face of the winding stem will be engaged with both the clutch wheel and the 1st intermediate wheel for calendar corrector.</p>	<p>4. Lower pivots of the wheels (4#, 3#, 50#, 75#)</p> <p>*Type of oil, oil quantity: A0-3II-1 (To maintain good performance)</p>	
		<p>Lubricating area</p>	<p>4. Lower pivots of the wheels (4#, 3#, 50#, 75#)</p> <p>*Type of oil, oil quantity: A0-3II-1 (To maintain good performance)</p>	
		<p>&lt;80&gt; Set the yoke and hook the arm of it. Securely set the arm of the yoke inside the pin, taking care not to <b>deform</b> or damage the yoke.</p>	<p>4. Lower pivots of the wheels (4#, 3#, 50#, 75#)</p> <p>*Type of oil, oil quantity: A0-3II-1 (To maintain good performance)</p>	
			<p>4. Lower pivots of the wheels (4#, 3#, 50#, 75#)</p> <p>*Type of oil, oil quantity: A0-3II-1 (To maintain good performance)</p>	
			<p>4. Lower pivots of the wheels (4#, 3#, 50#, 75#)</p> <p>*Type of oil, oil quantity: A0-3II-1 (To maintain good performance)</p>	

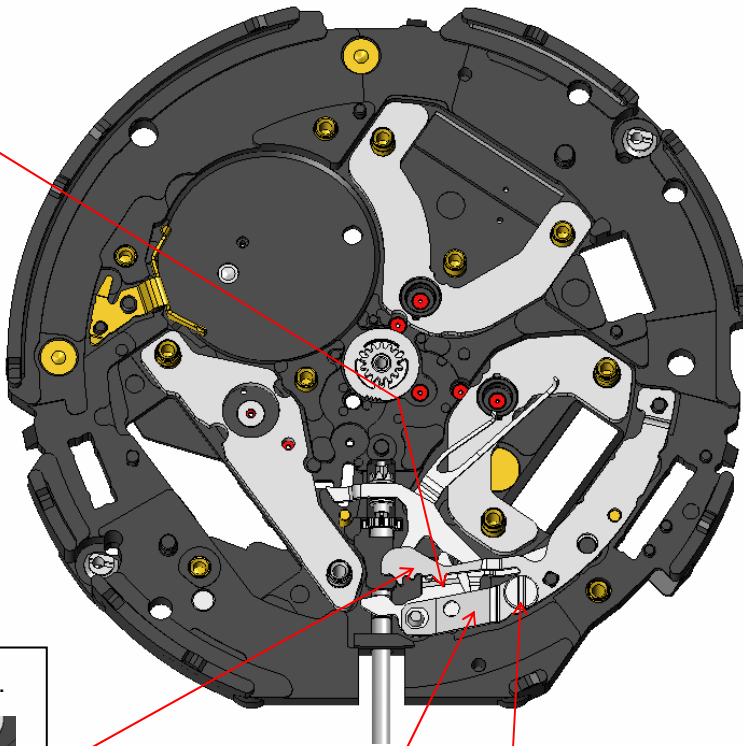
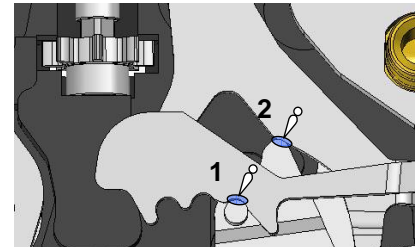
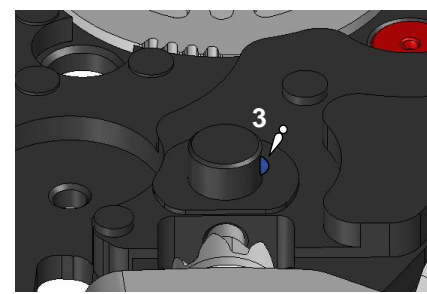
Lubricating points of the switching unit-1

- Point of contact between the yoke and clutch wheel  
\*Type of oil, oil quantity: A0-3III-1 (To prevent parts from wearing)

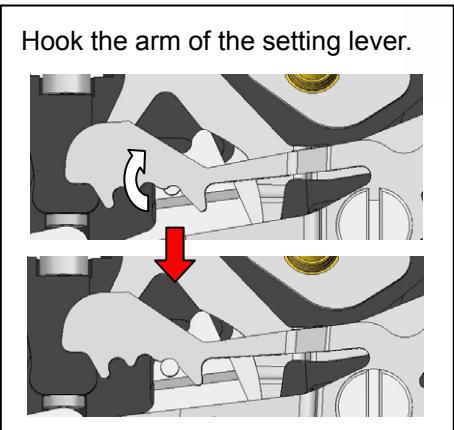
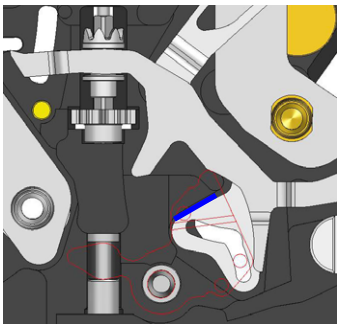


- Axes of the setting lever  
\*Type of oil, oil quantity: A0-3II-1 (To prevent parts from wearing)
- Guiding slit** of the train wheel setting lever  
\*Type of oil, oil quantity: A0-3I-2 (To prevent parts from wearing)
- Lower pivots of the wheels (4#, 3#, 50#, 75#)  
\*Type of oil, oil quantity: A0-3II-1 (To maintain good performance)



No.	PROCESS	ILLUSTRATIONS AND SPECIAL INSTRUCTIONS			
79	Set the setting lever. ↓	<p data-bbox="425 239 761 271">&lt;79&gt; Set the setting lever.</p> <p data-bbox="425 279 761 558">*Before setting the setting lever, put the train wheel setting lever inside the frame of the main plate (as illustrated in blue). This will make the engagement between the pin of the setting lever and the guiding slit of the train wheel setting lever easier.</p> 	<div data-bbox="1601 247 2139 287">Lubricating points of the switching unit-2</div> <ol data-bbox="1601 319 2139 574" style="list-style-type: none"> <li>1. Point of engagement between the yoke and setting lever *Type of oil, oil quantity: A0-3II-1 (To prevent parts from wearing)</li> <li>2. Point of contact between the yoke and setting lever *Type of oil, oil quantity: A0-3II-1 (To prevent parts from wearing)</li> </ol>  <ol data-bbox="1601 861 2139 957" style="list-style-type: none"> <li>3. Axis of the setting wheel *Type of oil, oil quantity: A0-3II-1 (To prevent parts from wearing)</li> </ol> 		
78	Set the setting lever spring. ↓				
77	Tighten the setting lever spring. (33#) ↓				
	Hook the arm of the setting lever. ↓				
	Lubricating points of the switching unit-2				
	-Point of engagement between the yoke and setting lever				
	-Point of contact between the yoke and setting lever				
	-Axis of the setting wheel				

<79> Set the setting lever.  
\*Before setting the setting lever, put the train wheel setting lever inside the frame of the main plate (as illustrated in blue). This will make the engagement between the pin of the setting lever and the guiding slit of the train wheel setting lever easier.

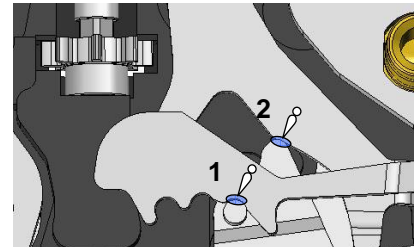


<78> Set the setting lever spring.

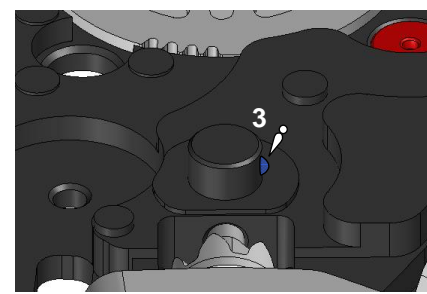
<77> Tighten the setting lever spring.

Lubricating points of the switching unit-2

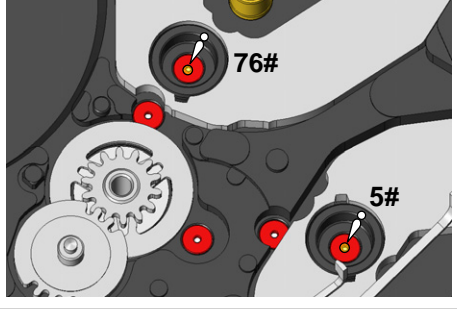
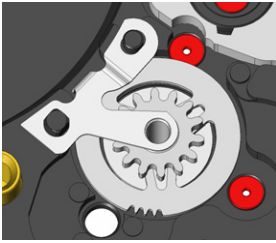
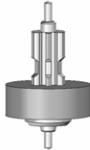
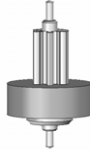
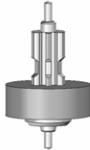
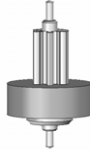
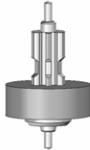
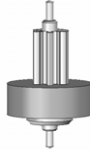
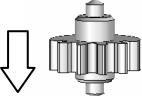
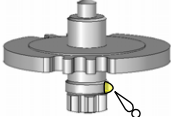
1. Point of engagement between the yoke and setting lever  
\*Type of oil, oil quantity: A0-3II-1  
(To prevent parts from wearing)
2. Point of contact between the yoke and setting lever  
\*Type of oil, oil quantity: A0-3II-1  
(To prevent parts from wearing)




3. Axis of the setting wheel  
\*Type of oil, oil quantity: A0-3II-1  
(To prevent parts from wearing)

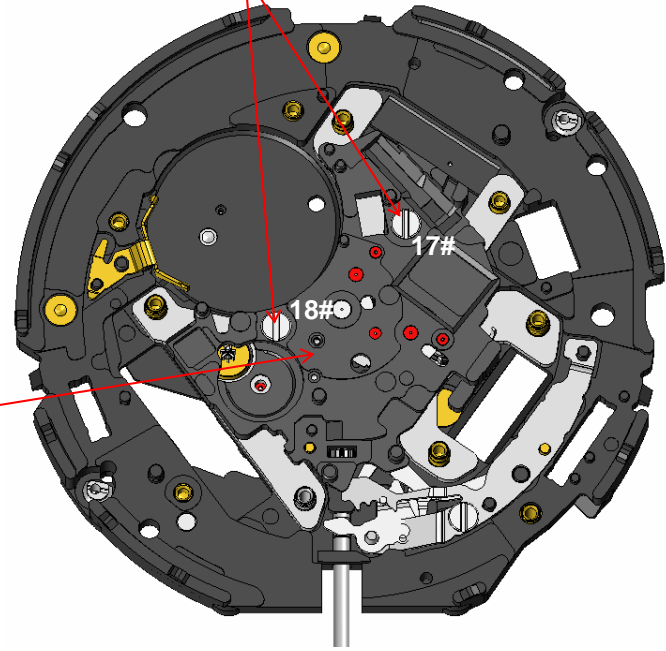
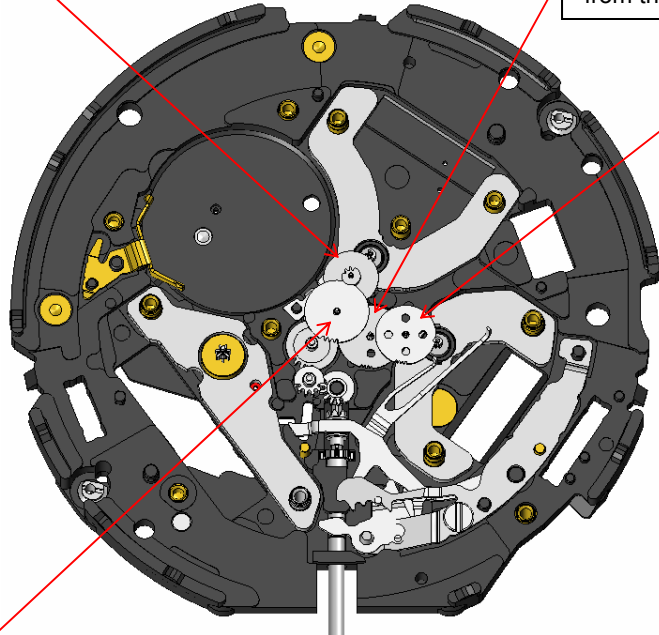


# 7D48 Technical Instruction

No.	PROSESS	ILLUSTRATIONS AND SPECIAL INSTRUCTIONS					
	<b>Assembling the wheels</b>						
	Lubricate the lower pivots of the wheels.	<p>Lubricate the lower pivots of the wheels.                      *Type of oil, oil quantity: A0-2II-1                      (To maintain good performance)</p> 					
	↓						
76	Set the spacer for center wheel and pinion.						
	↓						
75	Set and lubricate the minute wheel & pinion.						
	↓						
74	Set the intermediate minute wheel.						
	↓						
73	Set the setting wheel.	<p>&lt;76&gt; Set the spacer for center wheel and pinion.                      *Firmly press down the <b>point of engagement</b> to securely set it without any clearance.</p> 					
	↓						
72	Set the hour and minute rotor.						
	↓						
71	Set the second rotor.						
	↓						
70	Set the generating rotor.						
		<p>&lt;70&gt; Set the generating rotor.</p>					
		<p>&lt;71&gt; Set the second rotor.                      * Make sure to set the correct rotor. (The second rotor and the hour and minute rotor are different in their specification.)</p>					
		<p>&lt;72&gt; Set the hour and minute rotor.                      *Make sure to set the correct rotor. (The hour and minute rotor and the second rotor are different in their specification.)</p> <p>Distinction between the hour and minute rotor and the second rotor</p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: center;">Hour and minute rotor</td> <td style="text-align: center;">Second rotor</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table>		Hour and minute rotor	Second rotor		
Hour and minute rotor	Second rotor						
							
		<p>&lt;73&gt; Set the setting wheel.                      *The setting wheel is reversible.</p>					
		<p>&lt;74&gt; Set the intermediate minute wheel.                      *Make sure the intermediate minute wheel is put in the correct direction. (See the illustration below.)</p> 					
		<p>&lt;75&gt; Set and lubricate the minute wheel &amp; pinion.                      *Type of oil, oil quantity: A0-3II-1                      (To prevent parts from wearing)</p> 					


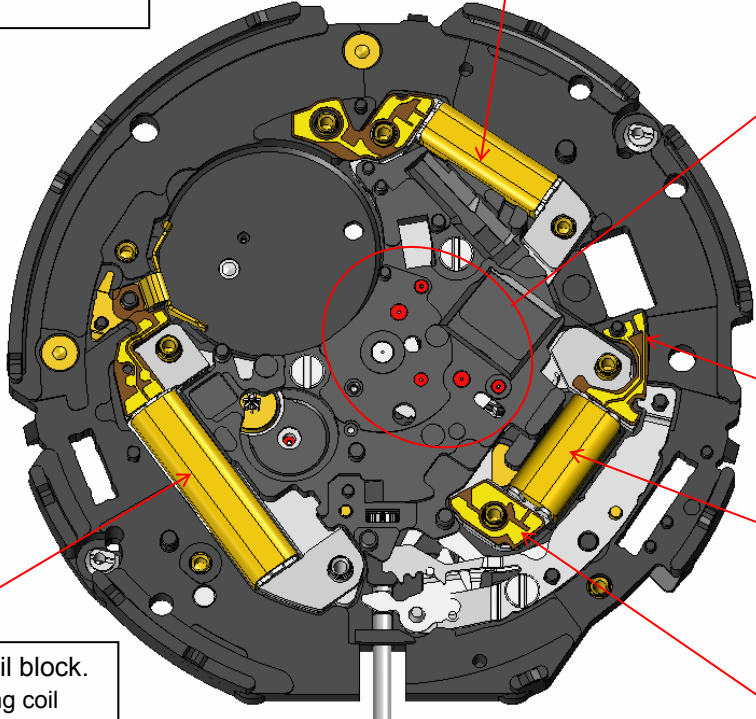
# 7D48 Technical Instruction

No.	PROSESS	ILLUSTRATIONS AND SPECIAL INSTRUCTIONS
69	Set the 3rd wheel & pinion.	<div data-bbox="450 261 1016 325" style="border: 1px solid black; padding: 5px;">                     &lt;67&gt; Set the intermediate second wheel.                 </div> <div data-bbox="1160 245 1800 359" style="border: 1px solid black; padding: 5px;">                     &lt;69&gt; Set the 3rd wheel &amp; pinion.                      * The 3rd wheel &amp; pinion has three holes for distinction from the 5J2-series counterpart.                 </div>
68	Set the 4th wheel & pinion.	<div data-bbox="1285 389 1975 512" style="border: 1px solid black; padding: 5px;">                     &lt;68&gt; Set the 4th wheel &amp; pinion.                      *The 4th wheel &amp; pinion has four holes for distinction from the 5J2- series counterpart.                 </div>
67	Set the intermediate second wheel.	
66	Lubricate the second wheel & pinion.	
65	Set the train wheel bridge and check the pivot hole.	
64	Tighten the train wheel bridge screw.	
		<div data-bbox="1621 592 2110 676" style="border: 1px solid black; padding: 5px;">                     &lt;64&gt; Tighten the train wheel bridge screw.                 </div>
		<div data-bbox="994 1091 1413 1171" style="border: 1px solid black; padding: 5px;">                     &lt;65&gt; Set the train wheel bridge and check the pivot hole.                 </div>
		<div data-bbox="405 986 949 1155" style="border: 1px solid black; padding: 5px;">                     &lt;66&gt; Lubricate the second wheel &amp; pinion.                      *Lubricating points: convex part (Refer to the illustration below.)                      *Type of oil, oil quantity: A0-3II-1 (To prevent parts from wearing)                 </div>
		<div data-bbox="443 1187 562 1422" style="text-align: center;">  </div> <div data-bbox="600 1203 936 1394" style="padding-left: 20px;">                     Lubricate with an appropriate amount of oil, as excessive lubrication may cause the second hand to wiggle while the watch resumes from power save mode.                 </div>

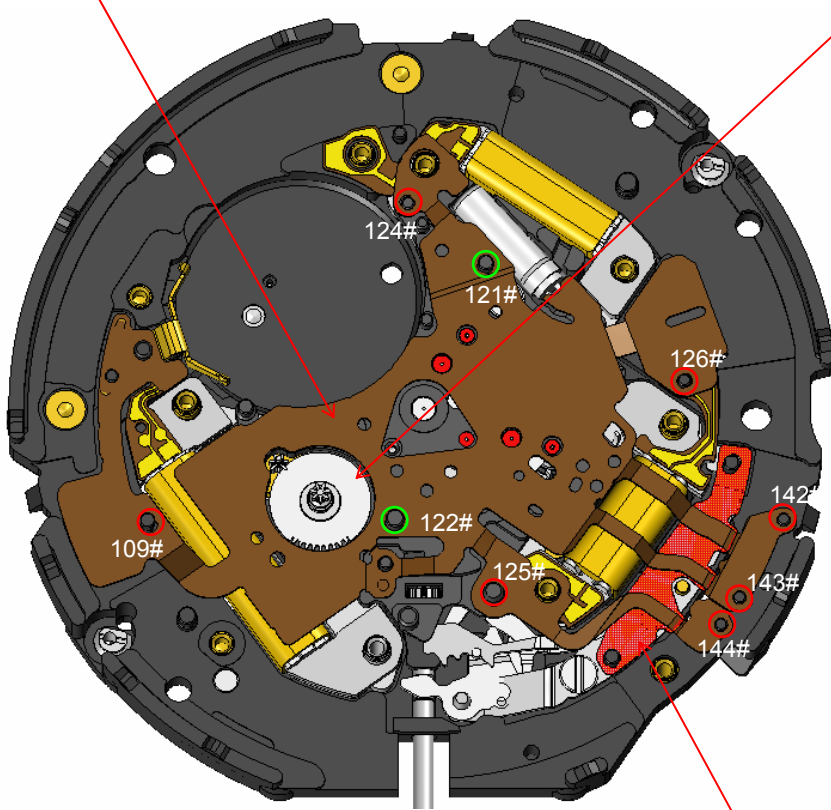
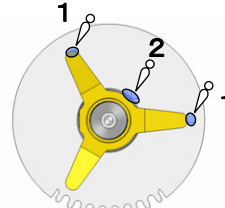
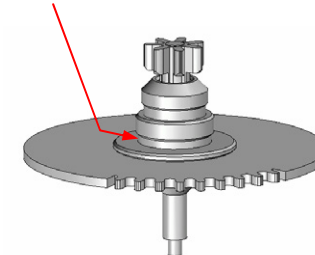




# 7D48 Technical Instruction

No.	PROSESS	ILLUSTRATIONS AND SPECIAL INSTRUCTIONS				
	Lubricate the upper pivots of the wheels. (5#, 76#, 4#, 3#, 74#, 75#, Tips of the teeth of the pinion of generating rotor 66#)	<p><b>Check each coil block resistance.</b></p> <p>*Measure the coil block resistance after securely installing each coil block to the movement.</p> <p>Hour and minute coil block Coil block for driving: 1.00kΩ–1.25kΩ Coil block for detection: 270Ω– 330Ω Second coil block 2.00kΩ – 2.45kΩ Generating coil block 360Ω – 420Ω</p>	<p>&lt;62&gt; Set the second coil block.</p> <p>*When mounting the second coil block, take care not to deform or deform the <b>coil block core</b>. (To prevent deterioration of the motor)</p>	<p>Lubricate the upper pivots of the wheels.</p> <p>◆ 5#, 76# *Type of oil, oil quantity: A0-2II-1 (To maintain good performance)</p> <p>◆ 4#, 3#, 74#, 75# *Type of oil, oil quantity: A0-3II-1 (To maintain good performance)</p> <p>◆ Tips of the teeth of the pinion of the generating rotor (66#) *Type of oil, oil quantity: A0-3II-2 (To prevent parts from wearing)</p> 		
63	↓ Set the hour and minute coil block.					<p>Pattern for checking the coil for detection</p>
62	↓ Set the second coil block.					
61	↓ Set the generating coil block.					<p>Pattern for checking the coil for driving</p>
	↓ Check each coil block resistance.		<p>&lt;61&gt; Set the generating coil block.</p> <p>*When mounting the generating coil block, take care not to deform or deform the <b>coil block core</b>. (To prevent deterioration of the motor)</p>			

# 7D48 Technical Instruction

No.	PROSESS	ILLUSTRATIONS AND SPECIAL INSTRUCTIONS
	<b>Assembling the circuit</b>	
60	Set the insulator for circuit block. ↓	<p>&lt;59&gt; Set the circuit block. *Firmly press down the <b>points of engagement</b> to securely set it in position.</p> <p>Positioning guide tubes : 121#, 124# (green-circled in the illustration.) <b>Points of engagement</b> : 109#, 124#, 125#, 126#, 142#, 143#, 144# (red-circled in the illustration)</p>
	Check the current consumption for the circuit block. ↓	
59	Set the circuit block. ↓	
58	Set and lubricate the intermediate wheel for generating rotor.	<p>&lt;58&gt; Set and lubricate the intermediate wheel for generating rotor. Position (1) shown in the illustration below *Type of oil, oil quantity: A0-3II-2 (To prevent parts from wearing) Position (2) shown in the illustration below *Type of oil, oil quantity: A0-3II-1 (To prevent parts from wearing)</p>  <p>*Distinction between the 7D-series intermediate wheel for generating rotor and the 5J-series counterpart At the position shown by the red arrow, the 7D-series intermediate wheel for generating rotor has a groove, while the 5J-series counterpart does not.</p>  
		<p>&lt;60&gt; Set the insulator for circuit block.</p>

# 7D48 Technical Instruction

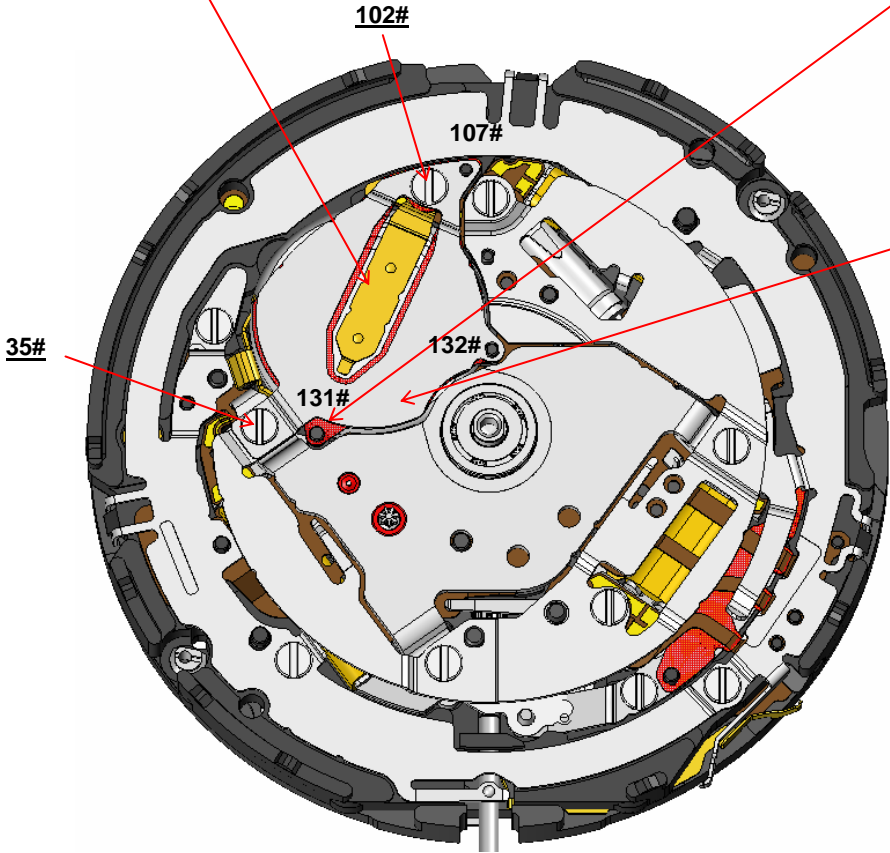
No.	PROSESS	ILLUSTRATIONS AND SPECIAL INSTRUCTIONS
57	Set the <b>oscillating weight bridge</b> and check the pivot hole.	
	↓	
56	Set the circuit block cover C.	
	↓	<div data-bbox="430 432 887 544" data-label="Text"> <p>&lt;57&gt; Set the <b>oscillating weight bridge</b> and check the pivot hole.</p> </div>
55	Tighten the circuit block cover C screws. (28#, 101#, 103#, 401#)	
	↓	
54	Set the circuit block cover D.	
		<div data-bbox="1697 280 2136 746" data-label="Image"> </div>
		<div data-bbox="430 1174 936 1294" data-label="Text"> <p>&lt;55&gt; Tighten the circuit block cover C screws. (28#, 101#, 103#, 401#)</p> </div>
		<div data-bbox="1585 1198 2024 1267" data-label="Text"> <p>&lt;54&gt; Set the circuit block cover D.</p> </div>



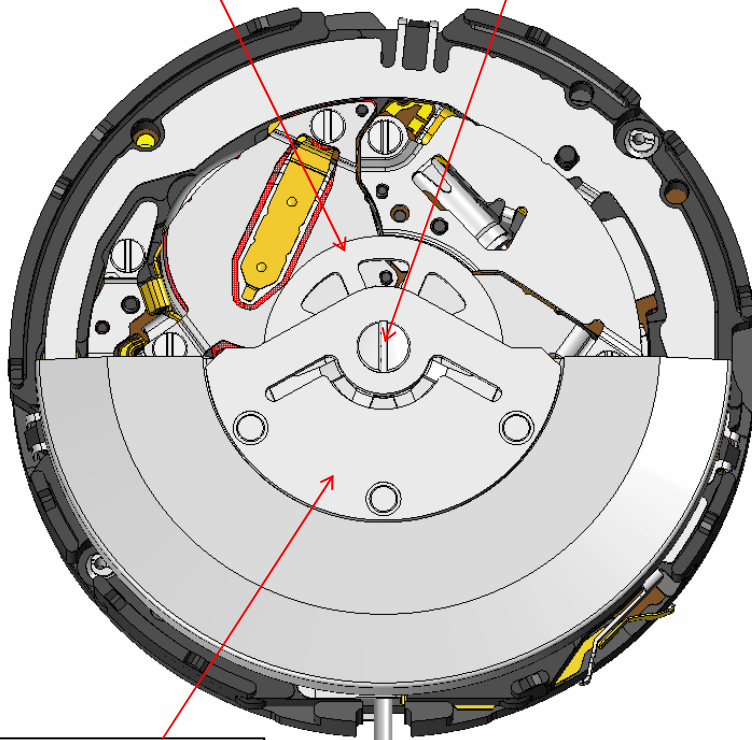


No.	PROSESS	ILLUSTRATIONS AND SPECIAL INSTRUCTIONS	
	Lubricate the upper pivots of the wheels. (66#, 65#, bearings of the wheels)	<div data-bbox="795 402 1500 1104" data-label="Image"> </div> <div data-bbox="1534 263 2139 1220" data-label="Complex-Block"> <p>Lubricate the upper pivots of the wheels.</p> <ol style="list-style-type: none"> <li>1. 66# upper pivot *Type of oil, oil quantity: A0-3II-2 (To prevent parts from wearing)</li> <li>2. 65# upper pivot *Type of oil, oil quantity: A0-3II-2 (To prevent parts from wearing)</li> <li>3. 65# pinion *Type of oil, oil quantity: A0-3II-3 (To prevent parts from wearing)</li> <li>4. Bearings of the wheels *Type of oil, oil quantity: A0-3II-3 (To prevent parts from wearing)</li> </ol> <p>Note) Additionally, you may lubricate the gap between the inner ring axis and the outer ring axis.</p> <div data-bbox="1624 813 2083 1204" data-label="Image"> </div> </div>	
	↓		
	Measure the current consumption.		

# 7D48 Technical Instruction

No.	PROSESS	ILLUSTRATIONS AND SPECIAL INSTRUCTIONS
	<b>Assembling the power section</b>	
7	Set the rechargeable battery unit. ↓	<div data-bbox="488 268 1283 440" style="border: 1px solid black; padding: 5px;"> <p>&lt;7&gt; Set the rechargeable battery unit. *Stretching out the plus terminal to mount the rechargeable battery unit. *Take care not to deform the minus terminal when removing the rechargeable battery unit. (Remove the battery portion first.)</p> </div>
6	Set the insulator for rechargeable battery. ↓	<div data-bbox="1518 400 2159 616" style="border: 1px solid black; padding: 5px;"> <p>&lt;6&gt; Set the insulator for rechargeable battery. *Firmly press down the <b>points of engagement</b> (132#, 107#) to securely set it in position. -Positioning guide tubes: 131#, 132# -<b>Points of engagement</b>: 132#, 107#</p> </div>
5	Set the rechargeable battery clamp. ↓	
4	Tighten the rechargeable battery clamp screws. (102#, 35#)	<div data-bbox="1536 676 2159 879" style="border: 1px solid black; padding: 5px;"> <p>&lt;5&gt; Set the rechargeable battery clamp. *Firmly press down the <b>point of engagement</b> (132#) to securely set it in position. -Positioning guide tubes: 132#, 107# -<b>Point of engagement</b>: 132#</p> </div>
		<div data-bbox="1536 1043 2136 1219" style="border: 1px solid black; padding: 5px;"> <p>&lt;4&gt; Tighten the rechargeable battery clamp screws. (102#, 35#)</p> </div>
		 <p>The diagram shows a top-down view of a circular battery compartment. A yellow battery unit is positioned in the center. Red arrows point from text boxes to specific parts: 102# (a screw on the top edge), 107# (a screw on the top edge), 131# (a red dot on the left side), 132# (a red dot on the left side), and 35# (a red dot on the left side). The battery unit has a yellow plus terminal and a red minus terminal.</p>

# 7D48 Technical Instruction

No.	PROCESS	ILLUSTRATIONS AND SPECIAL INSTRUCTIONS	
3	Set the oscillating weight wheel. ↓		
2	Set the oscillating weight. ↓		<div data-bbox="407 279 705 375" style="border: 1px solid black; padding: 2px;">&lt;3&gt; Set the oscillating weight wheel.</div> <div data-bbox="739 327 1265 399" style="border: 1px solid black; padding: 2px;">&lt;1&gt; Tighten the oscillating weight screw.</div>
1	Tighten the oscillating weight screw. ↓		
	Check the performance of power generation. ↓	<div data-bbox="1258 475 2011 630" style="border: 1px solid black; padding: 5px;">                     Check the performance of power generation.                      * The increase in voltage after spinning the oscillating weight should not be less than 50 mV.                 </div>	
	Check the movement of the oscillating weight. ↓	<div data-bbox="1258 694 2011 833" style="border: 1px solid black; padding: 5px;">                     Check the movement of the oscillating weight.                      *Ensure that the oscillating weight rotates smoothly without any friction or resistance.                 </div>	
	Charge the rechargeable battery.	<div data-bbox="1258 981 2011 1157" style="border: 1px solid black; padding: 5px;">                     Charge the rechargeable battery.                      * Charge the rechargeable battery until the voltage reaches 1.3V or higher by using a recharger or by your hand movement.                      (To check the PTP movement)                 </div>	
		<div data-bbox="421 1173 712 1268" style="border: 1px solid black; padding: 2px;">&lt;2&gt; Set the oscillating weight.</div>	