

# 6619A (Seiko Sportsmatic 5)

## 1) Specifications

Casing diameter	27.60 mm
Height	6.40 mm
Vibrations per hour	18,000
Automatic winding	
with sweep second	
Calendar (day & date)	

## 2) Automatic winding mechanism

### 2-1 Exploded view of automatic winding mechanism Fig. 1

### 2-2 Transmission of force in automatic winding mechanism. This mechanism is the most simplified now on the market and consists mainly of the pawl lever transmission wheel.

The oscillating weight may be rotated even by a slight arm motion, and its rotating torque is transmitted to the pawl lever by an eccentric pin fixed on the ball-bearing. Fig. 2

## 3) Calendar mechanism

### 3-1 Exploded view of calendar device Fig. 3

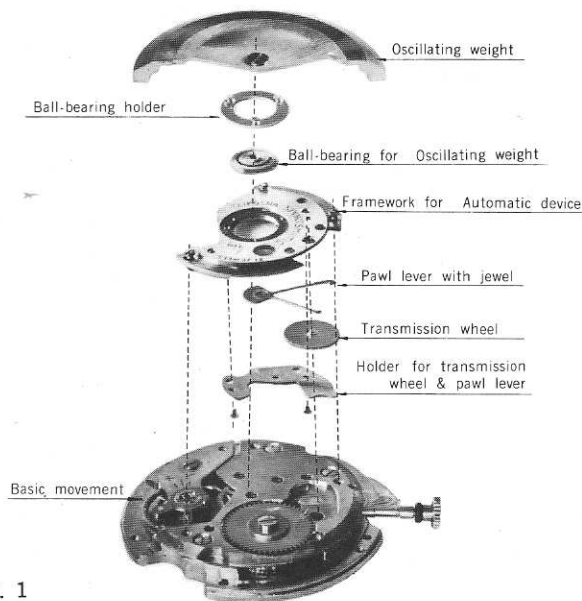


Fig. 1

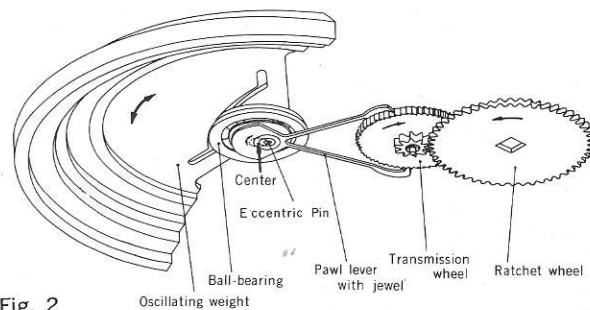


Fig. 2

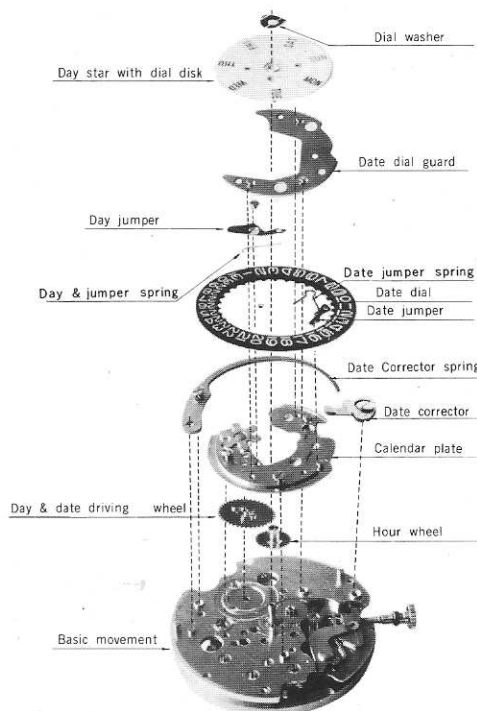


Fig. 3

**1) Date driving mechanism**

Hour wheel (Date wheel)  
 → Day & date driving wheel → Date  
 finger → Date dial

**2) Day driving mechanism**

Day & date driving wheel → Day finger  
 Day finger (pin) → Day driving wheel →  
 Day star (pin) → Day driving wheel →  
 Day star with dial disk

Fig. 4,

**3-2 Day and date setting**

- ❶ Pull out the crown and turn it until the correct day is obtained.
- ❷ Return the crown to its original position, then push in to advance the date.
- ❸ Date setting cannot be done from 9 p.m. to 2 a.m.

**Note:** In models carrying the calibres 410 and 6606B, the date is advanced by moving the hands back and forth between 9 p.m. and 1 a.m.

**4) Basic movement**

Fig. 5 Fig. 6

**5) Disassembly and assembly**

See p. 6619A-3~p. 6619A-10

**6) Checking (after casing)**

- ❶ Space between hands
- ❷ Crown (by working)
- ❸ Rotation of hands
- ❹ Day and date setting
- ❺ Date changes around midnight ; day changes at 1 a.m.
- ❻ Positions of hour and minute hands at 12 o'clock
- ❼ Gasket placement
- ❽ Waterproof tests

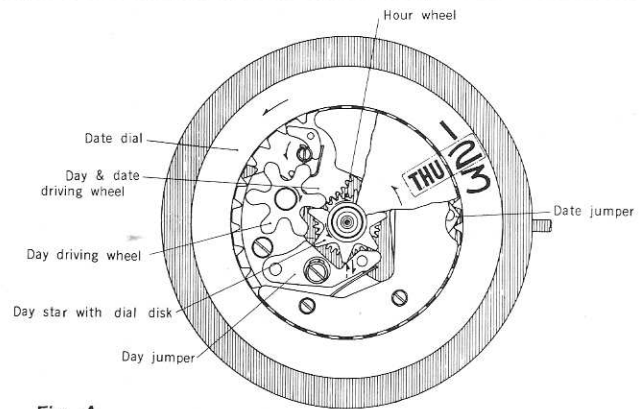


Fig. 4

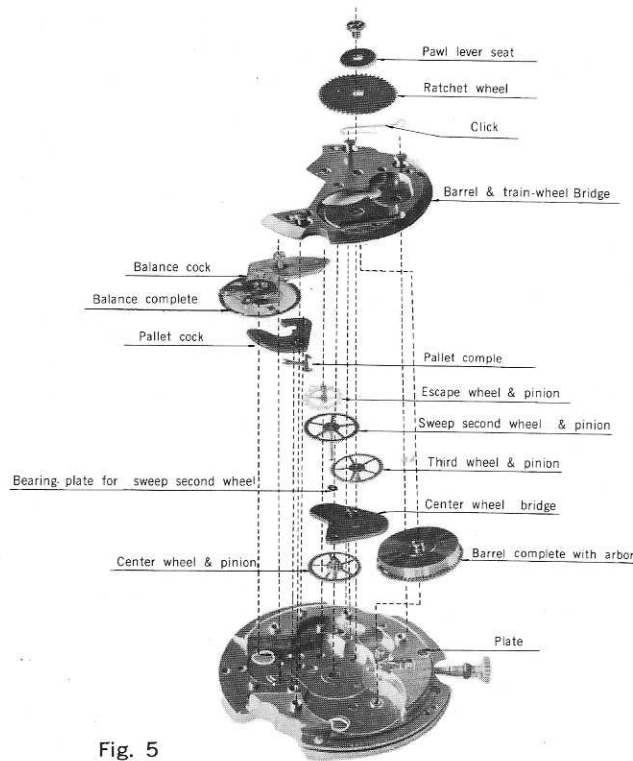


Fig. 5

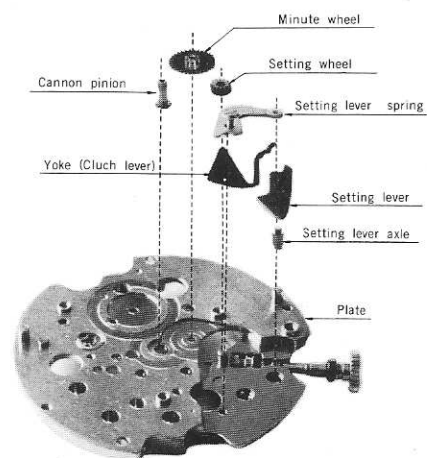

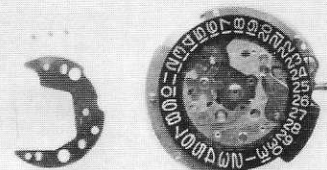
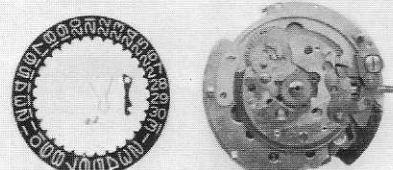

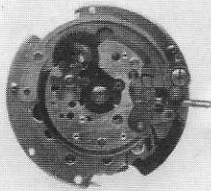
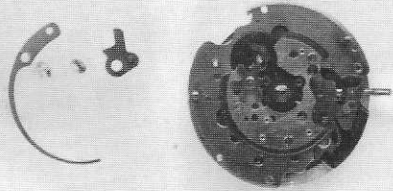
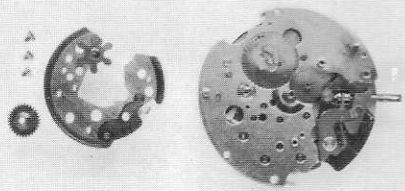
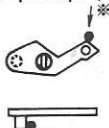




Fig. 6

## 6619A Disassembly and Assembly—continued

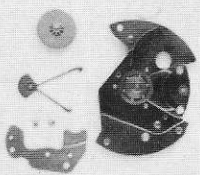
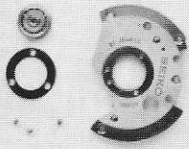
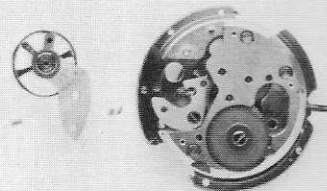
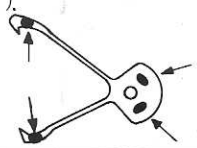
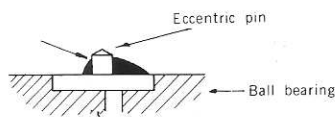
	<b>1</b>	<b>2</b>	<b>3</b>
<b>Disassembly</b>	<b>DAY STAR WITH DIAL DISK</b>	<b>DATE DIAL GUARD</b>	<b>DATE DIAL</b>
<b>Method</b>	<ol style="list-style-type: none"> <li>1) Remove dial washer</li> <li>2) Remove day star with dial disk</li> </ol>	<ol style="list-style-type: none"> <li>1) Remove date dial guard screws (3)</li> <li>2) Remove date dial guard</li> <li>3) Remove day jumper spring</li> </ol>	<ol style="list-style-type: none"> <li>1) Remove date jumper spring</li> <li>2) Remove date jumper</li> <li>3) Remove date dial</li> </ol>
<b>Remark</b>		Be careful that the day jumper spring does not leap off.	Be careful that the date jumper spring does not leap off.
<b>Photo</b>			
<b>Assembly</b>	<b>21</b>	<b>20</b>	<b>19</b>
<b>Method</b>	<ol style="list-style-type: none"> <li>1) Set day star with dial disk</li> <li>2) Set dial washer</li> </ol>	<ol style="list-style-type: none"> <li>1) Set day jumper spring into date dial guard</li> <li>2) Set date dial guard</li> <li>3) Fasten date dial guard screws (3)</li> </ol>	<ol style="list-style-type: none"> <li>1) Set date dial</li> <li>2) Set date jumper</li> <li>3) Lubricate date jumper when jumping action is not prompt (Moebius Synt-A-Lube)</li> <li>4) Set date jumper spring</li> </ol>
<b>Remark</b>		Check the condition of date correction device.	

## 6619A Disassembly and Assembly—continued


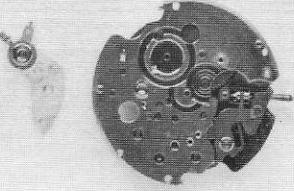
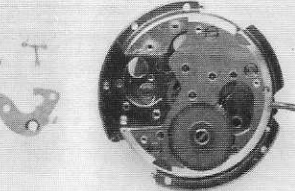
	<b>4</b>	<b>5</b>	<b>6</b>
<b>Disassembly</b>	<b>DAY JUMPER</b>	<b>DATE CORRECTOR</b>	<b>CALENDAR PLATE</b>
<b>Method</b>	<ol style="list-style-type: none"> <li>1) Remove day jumper screw</li> <li>2) Remove day jumper</li> </ol>	<ol style="list-style-type: none"> <li>1) Remove date corrector spring screw</li> <li>2) Remove date corrector spring</li> <li>3) Remove date corrector screw</li> <li>4) Remove date corrector</li> </ol>	<ol style="list-style-type: none"> <li>1) Remove calendar plate screws (3)</li> <li>2) Remove calendar plate</li> <li>3) Remove hour wheel</li> </ol>
<b>Remark</b>			
<b>Photo</b>			
<b>Assembly</b>	<b>18</b>	<b>17</b>	<b>16</b>
<b>Method</b>	<ol style="list-style-type: none"> <li>1) Set day jumper</li> <li>2) Fasten day jumper screw</li> </ol>	<ol style="list-style-type: none"> <li>1) Set date corrector</li> <li>2) Fasten date corrector screw</li> <li>3) Set date corrector spring</li> <li>4) Fasten date corrector spring screw</li> </ol>	<ol style="list-style-type: none"> <li>1) Set hour wheel</li> <li>2) Set calendar plate</li> <li>3) Fasten calendar plate screws (3)</li> </ol>
<b>Remark</b>	<p>Lubricate day jumper when jumping action is not prompt (Moebius Synt-A-Lube)</p>  <p>*Lubricate only on marked portions when jumping action is not prompt.</p>	<p>Lubricate date corrector axle and date corrector pin with Moebius grease "Remontoires" or watch oil S-4 (*Moebius Synt-A-Lube)</p> 	 <p>Lubricate cannon pinion (Moebius Synt-A-Lube)</p>



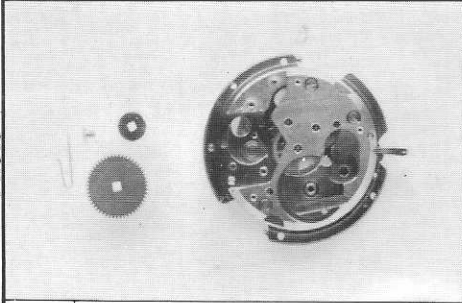
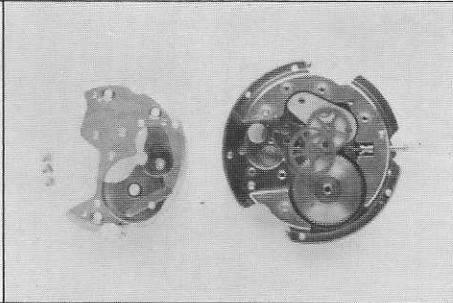
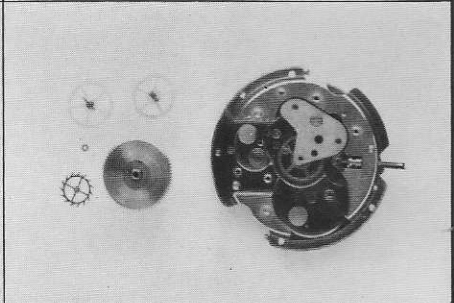
## 6619A Disassembly and Assembly—continued

	<b>10</b>	<b>11</b>	<b>12</b>
<b>Disassembly</b>	<b>HOLDER FOR TRANSMISSION WHEEL &amp; PAWL LEVER</b>	<b>BALL BEARING FOR OSCILLATING WEIGHT</b>	<b>BALANCE COCK</b>
<b>Method</b>	<ol style="list-style-type: none"> <li>1) Remove holder screws (2)</li> <li>2) Remove holder</li> <li>3) Remove pawl lever</li> <li>4) Remove transmission wheel</li> </ol>	<ol style="list-style-type: none"> <li>1) Remove ball bearing screws (3)</li> <li>2) Remove ball bearing holder</li> <li>3) Remove ball bearing</li> </ol>	<ol style="list-style-type: none"> <li>1) Remove balance cock screw</li> <li>2) Remove balance cock</li> </ol>
<b>Remark</b>	As to disengaging teeth of transmission wheel and pawl lever in gear, be careful not to deform the shape of pawl lever.	Do not disassemble ball bearing.	
<b>Photo</b>			
<b>Assembly</b>	<b>12</b>	<b>11</b>	<b>10</b>
<b>Method</b>	<ol style="list-style-type: none"> <li>1) Set transmission wheel</li> <li>2) Set pawl lever</li> <li>3) Set holder for transmission wheel and pawl lever</li> <li>4) Fasten holder screws (2)</li> </ol>	<ol style="list-style-type: none"> <li>1) Set ball bearing</li> <li>2) Set ball bearing holder</li> <li>3) Fasten ball bearing screws (3)</li> </ol>	<ol style="list-style-type: none"> <li>1) Set balance cock</li> <li>2) Fasten balance cock screw</li> </ol>
<b>Remark</b>	Lubricate upper jewel for transmission wheel, and pawl lever (watch oil S-4 or Moebius grease "Remontoires"). 	Lubricate ball bearing. Lubricate each of three balls (Moebius Synt-A-Lube). Lubricate eccentric pin (watch oil S-4). 	Check the condition of hair spring. Confirm end-shake of balance.

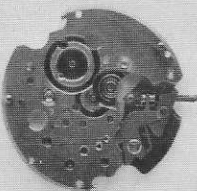
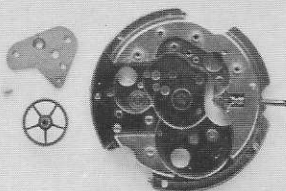
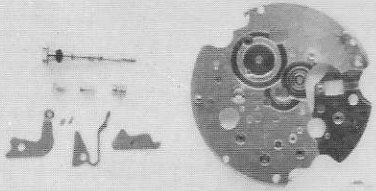
## 6619A Disassembly and Assembly—continued

<b>Disassembly</b>	<b>13</b>	<b>BALANCE FROM BALANCE COCK</b>	<b>14</b>
	<b>DIASHOCK FRAME</b>		<b>15</b>
	<b>PALLET</b>		
Method	<ol style="list-style-type: none"> <li>1) Loosen stud screw and remove stud from balance cock</li> <li>2) Remove balance by turning regulator key</li> </ol>	<ol style="list-style-type: none"> <li>1) Remove Diashock springs from plate and balance cock</li> <li>2) Remove cap jewel and hole jewel with frame and clean them with benzine or trichlorethlene</li> </ol>	<ol style="list-style-type: none"> <li>1) Remove pallet cock screw</li> <li>2) Remove pallet cock</li> <li>3) Remove pallet</li> </ol>
Remark	In case balance is removed, be careful not to distort the shape of the hair spring.	Cleaning liquid should be newly opened. Cleaning should be done carefully with a brush.	When pallet cock is removed, be careful that pallet staff is neither broken nor bent.
Photo			
<b>Assembly</b>	<b>9</b>	<b>BALANCE COMPLETE WITH STUD</b>	<b>8</b>
	<b>DIASHOCK FRAME</b>		<b>7</b>
	<b>PALLET</b>		
Method	<ol style="list-style-type: none"> <li>1) Set balance on balance cock</li> <li>2) Turn regulator key, so that hair spring is held</li> <li>3) Fasten stud screw, so that stud head is kept above stud holder (in proper position)</li> </ol>	<ol style="list-style-type: none"> <li>1) Place cap jewel with flat surface upward</li> <li>2) Put drop of oil on its center, holding cap jewel tweezers</li> <li>3) Set Diashock frame with holed jewel directly over oiled cap jewel</li> </ol>	<ol style="list-style-type: none"> <li>1) Lubricate pallet jewels</li> <li>2) Set pallet</li> <li>3) Set pallet cock</li> <li>4) Fasten pallet cock screw</li> </ol>
Remark		Extent of lubrication : (Moebius Synt-A-Lube) Dia. of hole jewels Max. 1/2 Min. 1/3	Lubricate pallet jewels. (Moebius Synt-A-Lube) After carefully confirming the setting of pallet pivot, fasten screw

## 6619A Disassembly and Assembly— *continued*

<b>Disassembly</b>	<b>16</b>	<b>RATCHET WHEEL AND CLICK</b>	<b>17</b>	<b>BARREL AND TRAIN WHEEL BRIDGE</b>	<b>18</b>	<b>TRAIN WHEELS</b>
	<ol style="list-style-type: none"> <li>1) Remove ratchet wheel screw</li> <li>2) Remove ratchet wheel and pawl lever seat</li> <li>3) Remove click</li> </ol>		<ol style="list-style-type: none"> <li>1) Remove barrel &amp; train wheel bridge screws (3)</li> <li>2) Remove barrel &amp; train wheel bridge</li> </ol>		<ol style="list-style-type: none"> <li>1) Remove third, fourth, and escape wheels and pinions</li> <li>2) Remove barrel</li> <li>3) Remove bearing plate for sweep second wheel</li> </ol>	
					<p>Be careful not to lose bearing plate for sweep second wheel.</p>	
<b>Photo</b>						
<b>Assembly</b>	<b>6</b>	<b>CLICK AND RATCHET WHEEL</b>	<b>5</b>	<b>BARREL AND TRAIN WHEEL BRIDGE</b>	<b>4</b>	<b>TRAIN WHEELS</b>
	<ol style="list-style-type: none"> <li>1) Set click</li> <li>2) Set ratchet wheel</li> <li>3) Set pawl lever seat</li> <li>4) Fasten ratchet wheel screw</li> </ol>		<ol style="list-style-type: none"> <li>1) Set barrel &amp; train wheel bridge, inserting pivots into hole jewels</li> <li>2) Fasten bridge screws (3)</li> <li>3) Confirm that there are proper end-shakes</li> <li>4) Lubricate upper and lower pivots</li> </ol>		<ol style="list-style-type: none"> <li>1) Set barrel</li> <li>2) Set escape wheel &amp; pinion</li> <li>3) Set bearing plate for sweep second wheel</li> <li>4) Set sweep second wheel &amp; pinion</li> <li>5) Set third wheel &amp; pinion</li> </ol>	
			<p>After confirming the smooth turning of wheels, fasten screws.</p>		<p>Lubricate barrel arbor (watch oil S-4) Lubricate fourth wheel &amp; pinion (Moebius Synt-A-Lube).</p>	
<b>Remark</b>						

## 6619A Disassembly and Assembly—continued

	<b>19</b>	<b>20</b>	<b>21</b>
<b>Disassembly</b>	<b>CANNON PINION</b>	<b>CENTER WHEEL AND PINION</b>	<b>WINDING STEM</b>
<b>Method</b>	<ol style="list-style-type: none"> <li>1) Remove cannon pinion</li> </ol>	<ol style="list-style-type: none"> <li>1) Remove center wheel bridge screw</li> <li>2) Remove center wheel bridge</li> <li>3) Remove center wheel &amp; pinion</li> </ol>	<ol style="list-style-type: none"> <li>1) Remove screw for setting lever axle spring</li> <li>2) Remove setting lever axle spring</li> <li>3) Remove clutch lever</li> <li>4) Remove setting lever</li> <li>5) Remove setting lever axle</li> <li>6) Remove winding stem</li> <li>7) Remove clutch wheel</li> </ol>
<b>Remark</b>			
<b>Photo</b>			
<b>Assembly</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>Method</b>	<ol style="list-style-type: none"> <li>1) Set cannon pinion</li> </ol>	<ol style="list-style-type: none"> <li>1) Lubricate center wheel &amp; pinion</li> <li>2) Set center wheel &amp; pinion.</li> <li>3) Set center wheel bridge</li> <li>4) Fasten center wheel bridge screw</li> <li>5) Confirm that there is proper end-shake</li> </ol>	<ol style="list-style-type: none"> <li>1) Lubricate</li> <li>2) Set clutch wheel</li> <li>3) Set winding stem</li> <li>4) Set setting lever with axle</li> <li>5) Set clutch lever</li> <li>6) Set setting lever axle spring</li> <li>7) Fasten setting lever axle spring screw</li> </ol>
<b>Remark</b>		Lubricate center wheel & pinion watch oil S-4.	Places of lubrication (watch oil S-4 or Moebius grease "Remontoires").  Winding stem Clutch wheel Setting lever with axle Pin for setting wheel

# 6619A Disassembly and Assembly—continued

	22	CLEANING
Disassembly	Method	1) Clean all parts so far disassembled (for farther particulars see the item on CLEANING)
Remark		
Photo		
Method		
Assembly	Method	
Remark		