

1104A (Seiko Salvia)

1) Specifications

Casing diameter	13.00 × 15.15mm
Height	4.30mm
Vibrations per hour	21,600
Indirect center second system	
movable stud holder (for correcting out-of-beat)	

2) Structure of casing parts

Either of the following two constructions is provided on the case.

2)-1 Case provided with dustproof pipe (Fig. 1)

A dustproof pipe is installed to prevent dust, shag, and so on from entering the crown portion.

2)-2 Case provided with dustproof plate ring (Fig. 2)

A plate ring having dustproof gasket and a dustproof plug is employed to completely guard the movement from the entry of dust, shag, and so on.

2)-3 Regular type case

3) Structure of movement

The following special features apply to the movement structure.

3)-1 Gear train and Mainspring

The conventional two-wheel type third wheel of the indirect center second has been improved to one wheel, and the size of the barrel has been enlarged, permitting the use of a mainspring with extended durability and large torque.

Transmission of force:

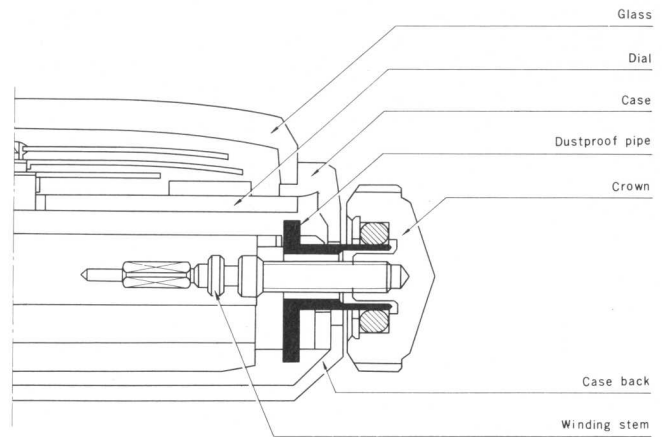
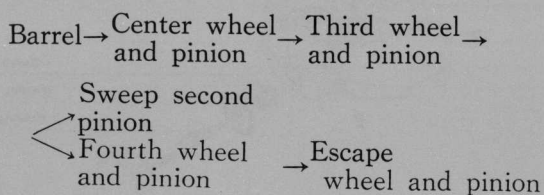


Fig. 1

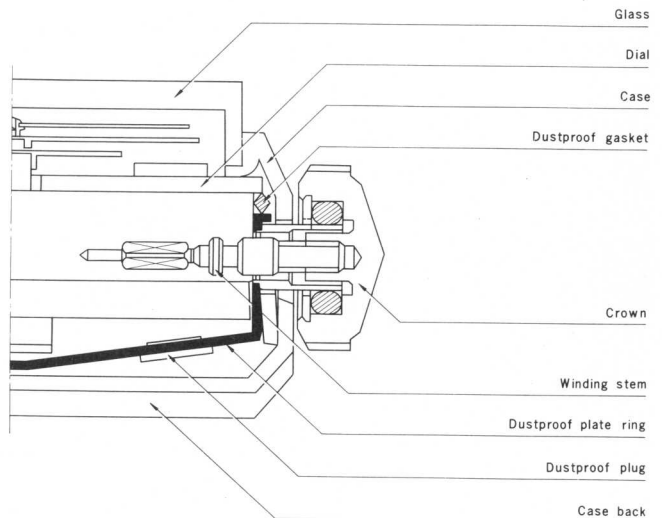


Fig. 2

3)-2 Escapement

To raise efficiency of the escapement, the parts are light weight and small sized, and a bridge type pallet cock is adopted for stabilization of the escapement.

3)-3 Balance complete

A balance having a large moment of inertia is adopted to ensure high precision and stabilization. Vibration of the balance is 21,600 times per hour (6 vibrations per second).

4) Basic movement (Fig. 3, 4)

5) Disassembly and Assembly

See p. 1104A-3~p.1104A-8

6) Checking

1. Space between hands
2. Revolve the crown
3. Rotation of the hands
4. Winding
5. Position of hour and minute hands (at 12 o'clock)
6. Smoothness of second hand rotation

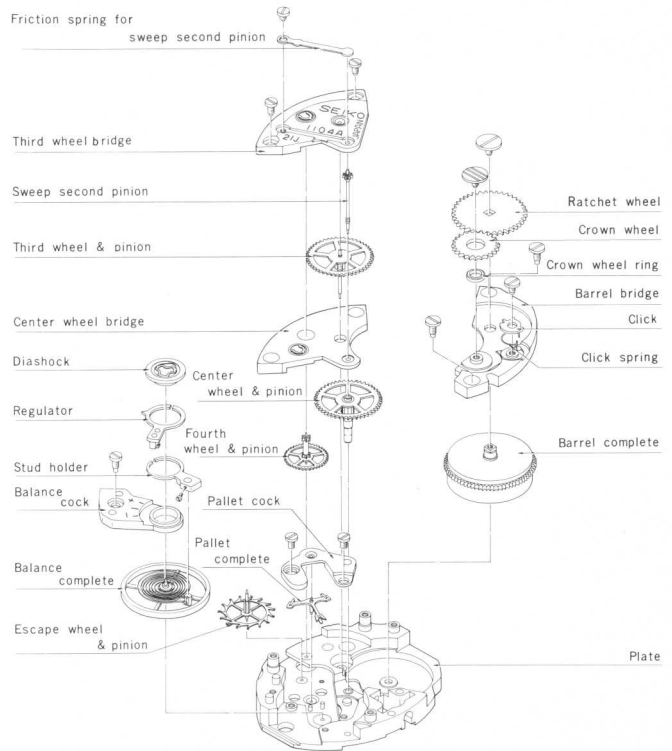


Fig. 3

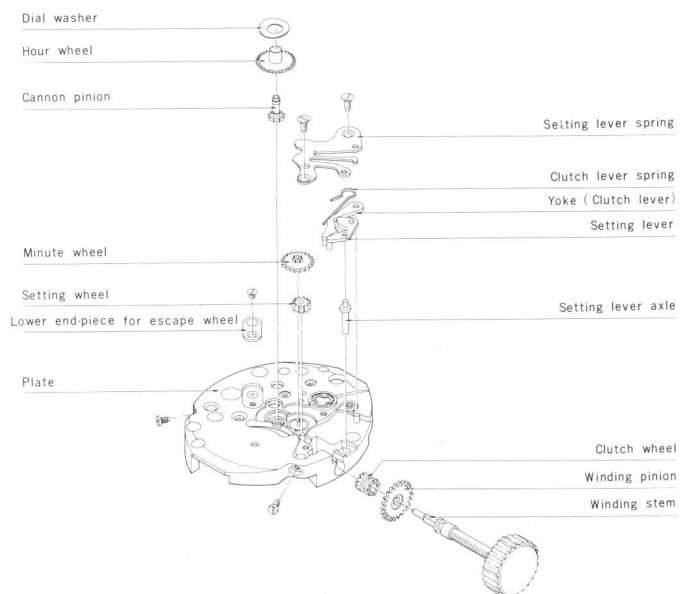
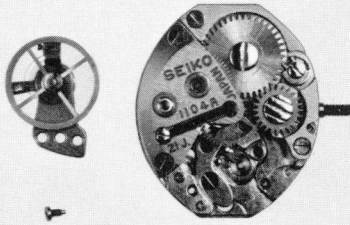
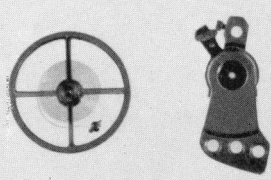


Fig. 4

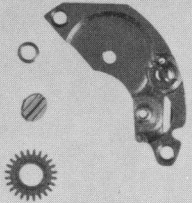
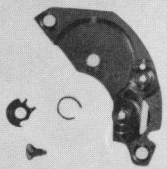
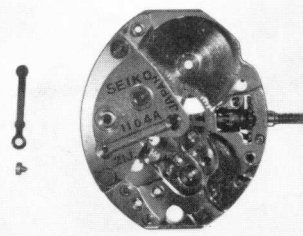
1104A Disassembly and assembly—continued

Disassembly	1	BALANCE COCK	2	BALANCE	3	UNWINDING OF MAINSPRING
Method	<ol style="list-style-type: none"> 1) Remove balance cock screw 2) Remove balance cock 		<ol style="list-style-type: none"> 1) Turn regulator key with screwdriver and then remove spring 2) Loosen stud screw 3) Remove stud from balance cock 		<p>Disengage click and ratchet wheel from gearing with tweezers, and slowly unwind the spring</p>	
Remark	<p>Be careful not to bend hair spring</p>					
Photo						
Assembly	18	BALANCE COCK	17	BALANCE	16	ROTATION OF HANDS
Method	<ol style="list-style-type: none"> 1) Set balance cock with balance 2) Fasten balance cock screw 3) Check proper end shake of balance 		<ol style="list-style-type: none"> 1) Set balance on balance cock 2) Turn regulator key, so that hair spring is held 3) Fasten stud screw, so that stud head is kept above balance cock (in proper position) 		<ol style="list-style-type: none"> 1) Check the rotation of hands 2) Check end shake of pallet 	
Remark			<p>Carefully check centering of hair spring</p>			

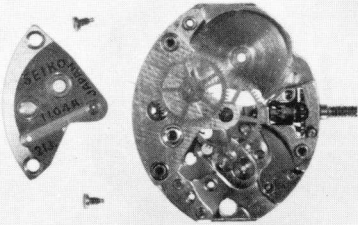
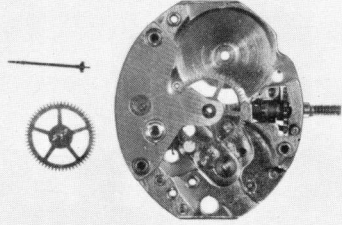
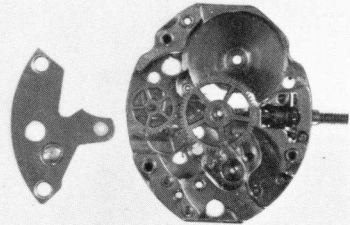
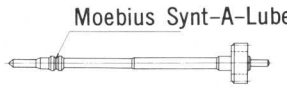
1104A Disassembly and assembly—continued

Disassembly	4	PALLET	5	RATCHET WHEEL	6	BARREL COMPLETE WITH ARBOR
	<ol style="list-style-type: none"> 1) Remove pallet cock screws (2 pcs) 2) Remove pallet cock 3) Remove pallet 		<ol style="list-style-type: none"> 1) Remove ratchet wheel screw 2) Remove ratchet wheel 		<ol style="list-style-type: none"> 1) Remove barrel bridge screws (2 pcs) 2) Remove barrel complete with arbor 	
					<p>As barrel is removed, be careful not to touch center wheel, and third wheel.</p>	
Assembly	15	PALLET	14	RATCHET WHEEL	13	BARREL COMPLETE
	<ol style="list-style-type: none"> 1) Lubricate pallet jewels (Moebius Synt-A-Lube) 2) Set pallet 3) Set pallet cock 4) Fasten pallet cock screws (2 pcs) 		<ol style="list-style-type: none"> 1) Set ratchet wheel 2) Fasten ratchet wheel screw 3) Check revolving condition of train wheels 		<ol style="list-style-type: none"> 1) Lubricate upper and lower pivots of barrel complete with arbor (watch oil S-4 or Moebius grease "Remontoires") 2) Set barrel complete with arbor 3) Set barrel bridge 4) Fasten barrel bridge screws (2 pcs) 	
	<p>Check that pallet pivots has been put in jewel holes, and then fasten bridge screw.</p>					

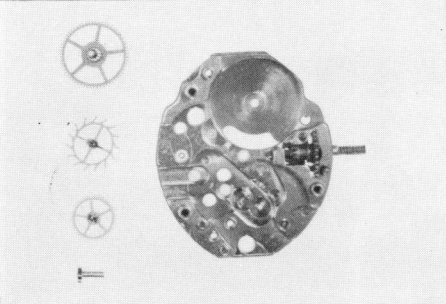
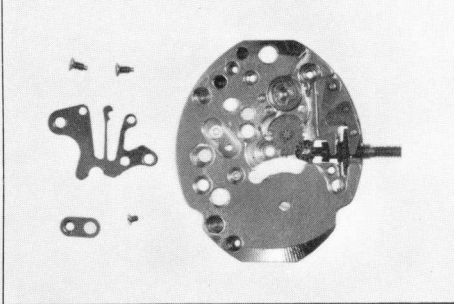
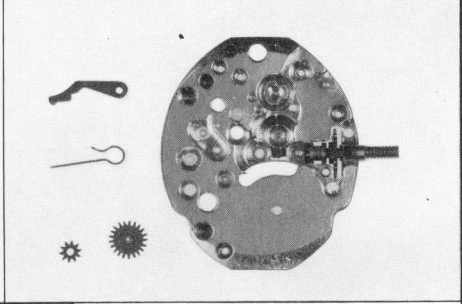
1104A Disassembly and assembly—continued

Disassembly	7	8	9
Method	CROWN WHEEL	CLICK AND CLICK SPRING	FRICTION SPRING FOR SWEEP SECOND PINION
Remark	<ol style="list-style-type: none"> 1) Remove crown wheel screw 2) Remove crown wheel 3) Remove crown wheel ring <p>Note that only crown wheel screw is left-threaded.</p>	<ol style="list-style-type: none"> 1) Remove click screw 2) Remove click 3) Remove click spring 	<ol style="list-style-type: none"> 1) Remove friction spring screw for sweep second pinion 2) Remove friction spring for sweep second pinion <p>Be careful not to deform friction spring for sweep second pinion.</p>
Photo			
Assembly	12	11	10
Method	CROWN WHEEL	CLICK AND CLICK SPRING	CANNON PINION
Remark	<ol style="list-style-type: none"> 1) Set crown wheel ring on the barrel bridge 2) Lubricate side of crown wheel ring (watch oil S-4 or Moebius grease "Remontoires") 3) Set crown wheel 4) Fasten crown wheel screw <p>Note : Three grooved screw means left thread screw.</p>	<ol style="list-style-type: none"> 1) Set click spring to the barrel bridge 2) Set click to the barrel bridge 3) Fasten click screw <p>Be careful that the click spring does not leap off</p>	<ol style="list-style-type: none"> 1) Lubricate lower pivot of center wheel and pinion (watch oil S-4 or Moebius grease "Remontoires") 2) Set cannon pinion

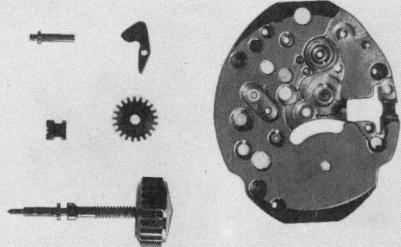
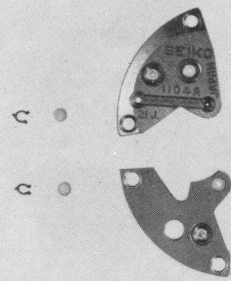
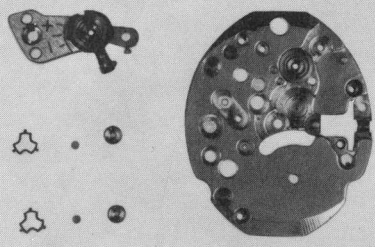
1104A Disassembly and assembly—continued

	10	11	12
Disassembly	THIRD WHEEL BRIDGE	SWEEP SECOND PINION THIRD WHEEL AND PINION	CENTER WHEEL BRIDGE
	<ol style="list-style-type: none"> 1) Remove third wheel bridge screws (2 pcs) 2) Remove third wheel bridge 	<ol style="list-style-type: none"> 1) Remove sweep second pinion 2) Remove third wheel and pinion 	<ol style="list-style-type: none"> 1) Remove center wheel bridge
	Remark		
Photo			
Assembly	9	8	7
	THIRD WHEEL BRIDGE	SWEEP SECOND PINION THIRD WHEEL AND PINION	CENTER WHEEL BRIDGE
	<ol style="list-style-type: none"> 1) Set third wheel bridge and screws (2 pcs) 2) Make sure that train wheels rotate smoothly and check end shake of each wheel and pinion 3) Lubricate upper pivot of third wheel and pinion (watch oil S-4) 4) Lubricate upper pivot of sweep second pinion (Moebius Synt-A-Lube) 5) Set friction spring for sweep second pinion and fasten screw 	<ol style="list-style-type: none"> 1) Set third wheel 2) Lubricate sweep second pinion and set it 	<ol style="list-style-type: none"> 1) Lubricate upper pivot of center wheel and pinion (watch oil S-4 or Moebius grease "Remontoires") 2) Set center wheel bridge
Remark	<p>Since its construction is purposely thin, pay attention to the friction spring for sweep second pinion to prevent warping, bending, breaking, and so on. Correctly install the friction spring for sweep second pinion on the recessed part of third wheel bridge; rounded center portion should be on the bottom of the recess.</p>	 <p style="text-align: center;">Moebius Synt-A-Lube</p>	

1104A Disassembly and assembly—continued

Disassembly	13	14	15
Method	<p>CENTER WHEEL AND PINION FOURTH WHEEL AND PINION</p> <ol style="list-style-type: none"> 1) Remove fourth wheel and pinion 2) Remove cannon pinion 3) Remove center wheel and pinion 	<p>SETTING LEVER SPRING</p> <ol style="list-style-type: none"> 1) Remove screws for setting lever spring (2 pcs) 2) Remove setting lever spring 3) Remove lower end-piece screw for escape wheel 4) Remove lower end-piece for escape wheel 	<p>MINUTE WHEEL, SETTING WHEEL AND CLUTCH LEVER</p> <ol style="list-style-type: none"> 1) Remove minute wheel 2) Remove setting wheel 3) Remove clutch lever spring 4) Remove clutch lever
Remark	<p>Take out the cannon pinion vertically.</p>		
Photo			
Assembly	6	5	4
Method	<p>CENTER WHEEL AND PINION, FOURTH WHEEL AND PINION & ESCAPE WHEEL AND PINION</p> <ol style="list-style-type: none"> 1) Lubricate center lower jewel (watch oil S-4) 2) Set center wheel and pinion 3) Lubricate lower end-piece for escape wheel, and lower hole jewel of fourth wheel 4) Lubricate lower hole jewel of third wheel (watch oil S-4) 5) Set escape wheel, fourth wheel and pinion 	<p>SETTING LEVER SPRING</p> <ol style="list-style-type: none"> 1) Set setting lever spring and fasten screws (2 pcs) 2) Set lower end-piece for escape wheel and fasten screw 	<p>MINUTE WHEEL, SETTING WHEEL AND CLUTCH LEVER</p> <ol style="list-style-type: none"> 1) Set clutch lever and its spring 2) Lubricate minute wheel pivot, and setting wheel pin (watch oil S-4) 3) Set setting wheel and minute wheel
Remark		<p>First fasten the screw on side of winding wheel.</p>	

1104A Disassembly and assembly—continued

	16	17	18
	WINDING STEM	DIAFIX	DIASHOCK
Disassembly	<p>Method</p> <ol style="list-style-type: none"> 1) Remove setting lever 2) Remove setting lever axle 3) Remove winding stem 4) Remove clutch wheel, winding pinion 	<p>Method</p> <ol style="list-style-type: none"> 1) Remove Diafix spring 2) Remove cap jewel 	<p>Method</p> <ol style="list-style-type: none"> 1) Remove Diashock springs 2) Remove cap jewel 3) Remove hole jewel with frame
Remark			
Photo			
	3	2	1
	WINDING STEM	DIAFIX	DIASHOCK
Assembly	<p>Method</p> <ol style="list-style-type: none"> 1) Set winding pinion, clutch wheel 2) Lubricate winding stem and set it 3) Set setting lever axle, setting lever 4) Lubricate winding pinion and clutch wheel 5) Lubricate setting lever end, setting lever dowel 	<p>Method</p> <ol style="list-style-type: none"> 1) Set Diafix cap jewel in center wheel bridge and third wheel bridge 2) Set Diafix spring 3) Lubricate it from the other side 4) Extent of lubrication : (Moebius Synt-A-Lube) Dia. of cap jewels Max. 1/2 Min. 1/3 	<p>Method</p> <ol style="list-style-type: none"> 1) Place cap jewel with flat surface upward 2) Put drop of oil on its center, holding cap jewel with tweezers 3) Set Diashock hole jewel with frame directly over oiled cap jewel <p>(Moebius Synt-A-Lube) Dia. of hole jewel Max. 1/2 Min. 1/3</p> <ol style="list-style-type: none"> 4) Set Diashock frames in the plate and balance cock 5) Set Diashock spring
Remark	<p>Lubricate them watch oil S-4 or Moebius grease "Remontoires".</p>		