6106A (Seiko Five Deluxe)

1. Specifications

Casing diameter	27.00 mm
Height	5.15 mm
Vibrations per hour	21,600

Automatic winding with sweep second

Calendar (day and date)

Second setting device

2. Automatic winding mechanism

2.-1 *Exploded view of automatic winding mechanism* (Fig. 1)

2.-2 *Transmission of force in automatic winding mechanism* (Fig. 2)

- An eccentric pin on a ball bearing performs circular motions by right and left rotations of the oscillating weight.
- The pawl lever performs reciprocative motions due to circular movement of the eccentric pin, and the pawl lever rotates the transmission wheel constantly in one direction.
- This motion is transmitted to the ratchet wheel from the transmission wheel; thus, the mainspring is wound.
- Since a pawl lever is adopted, whose actions transmit right and left rotations of the oscillating weight in one direction—magnifying the rotating force—and prevent reversal motion of the mainspring, this automatic winding mechanism is extremely simplified.
- In addition to the simplified construction, all automatic winding parts are set on the framework for automatic device; as a result, disassembling and reassembling are extremely easy.

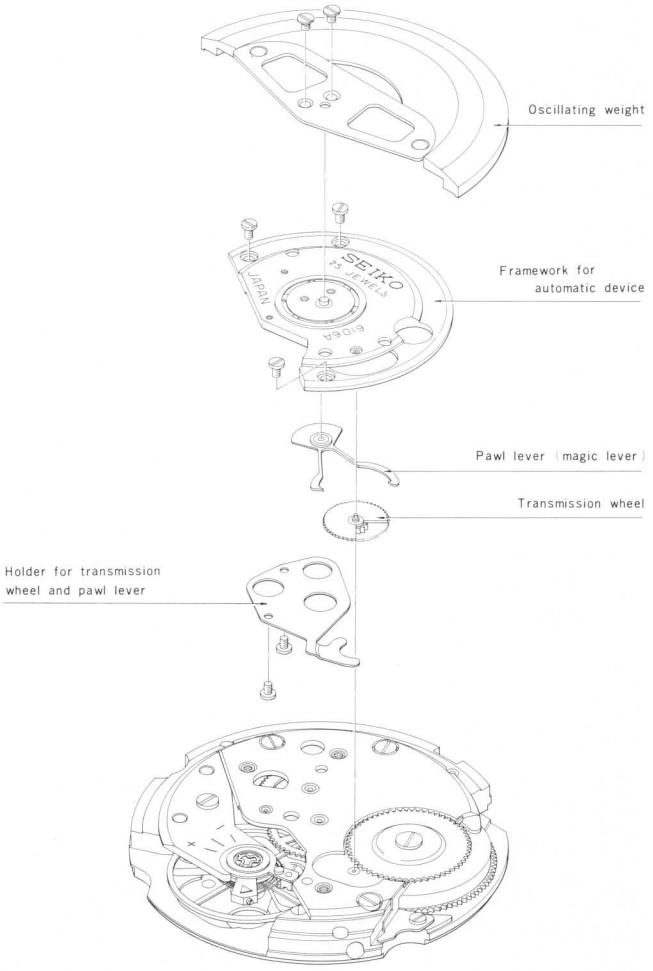
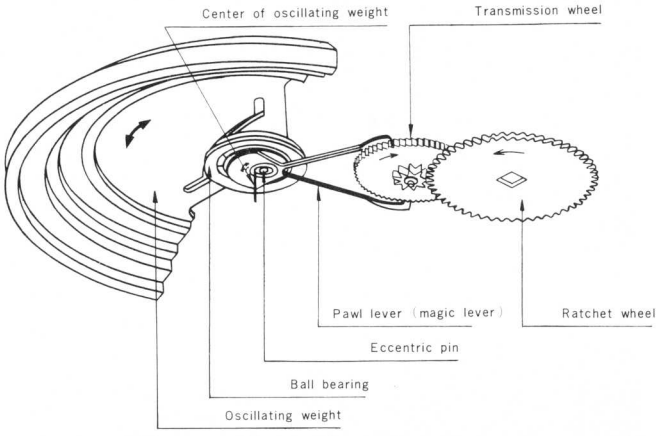


Fig. 1



Note : Since the ball bearing is attached firmly on the framework for automatic device, it cannot be removed.

Fig. 2

3. Calendar mechanism

3.-1 *Exploded view of calendar mechanism* (Fig. 3)

3.-2 *Transmission of force in the calendar device*

Hour wheel → intermediate date wheel → date driving wheel → date finger → date dial
date driving wheel → day finger → day star with dial disk

(Fig. 3)

3.-3 *Day setting*

Day correction is performed by moving the hour hand between 10 p.m. and 1 a.m. repeatedly until the correct day appears.

3.-4 *Date setting*

When the crown in pushed repeatedly in an ordinary position, the date is quickly forwarded by interlocking action of the stem, setting lever, date corrector, date corrector finger, and date corrector spring. (Fig. 4)

3.-5 *Snap for day star with dial disk*

The position of day star with dial disk in the upper and lower directions is obtained by the snap for day star with dial disk. (Fig. 3)

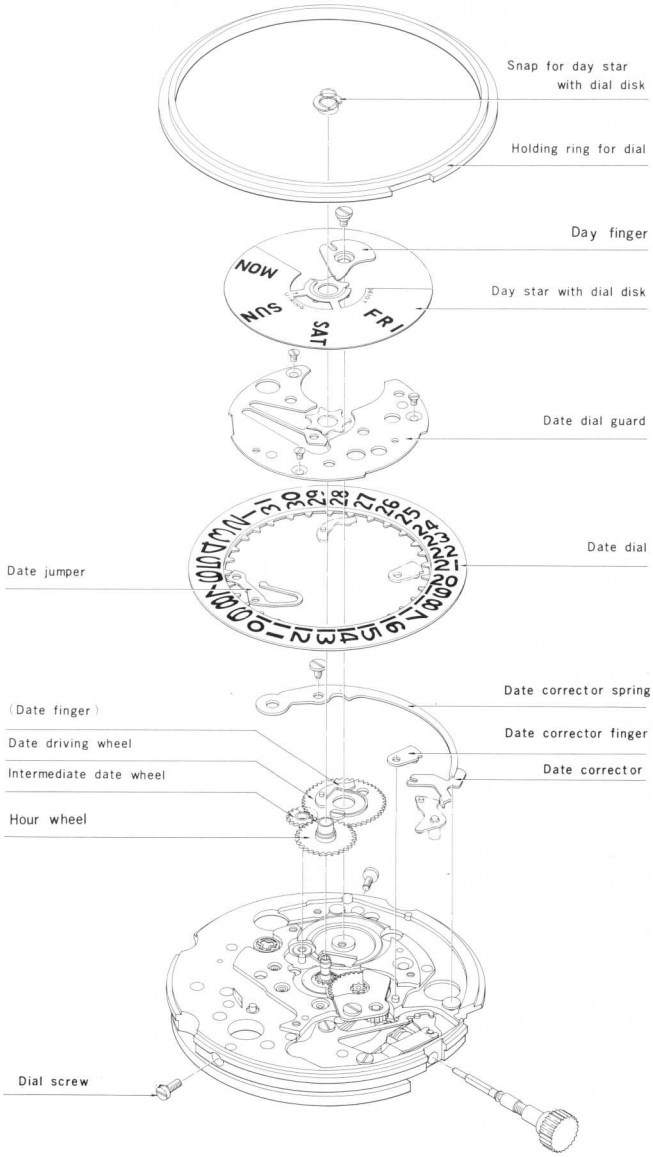


Fig. 3

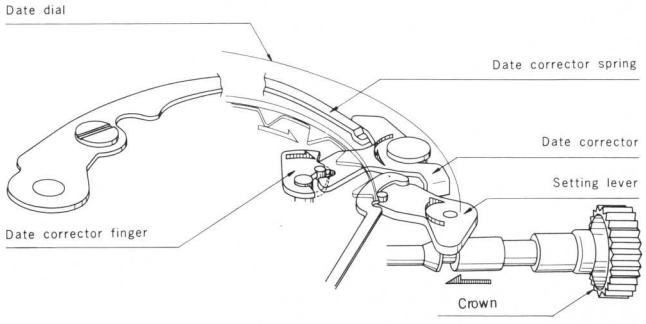


Fig. 4

4. Movement

4.-*1* Exploded view of movement

(Figs. 5 & 6)

4.-2 Second setting device

When the crown is pulled out to the second position, the sweep second hand stops because the second setting lever locks the balance wheel. (Fig. 7)

5. Disassembly, reassembly and checking

Refer to the following pages.

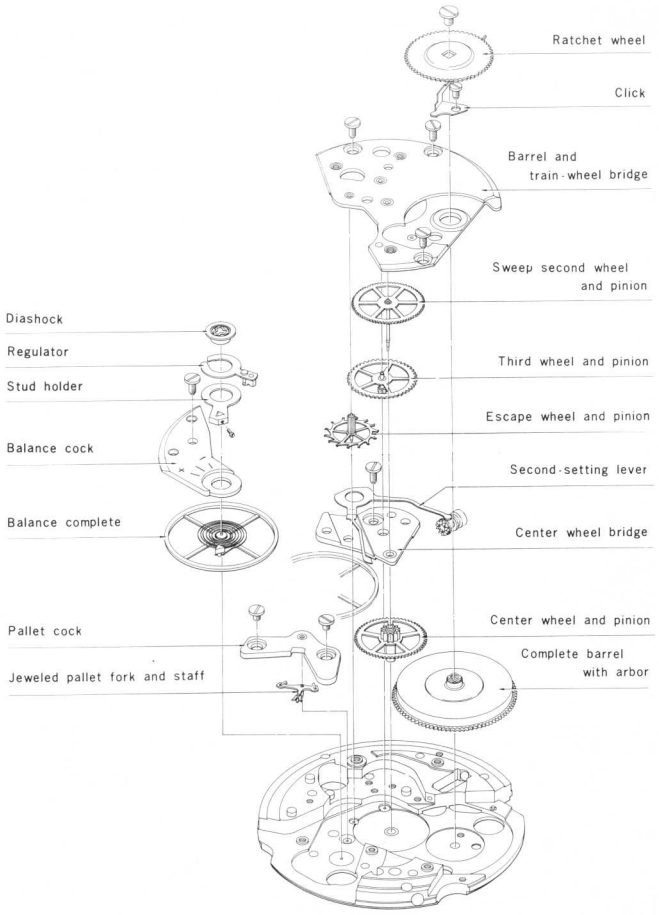


Fig. 5

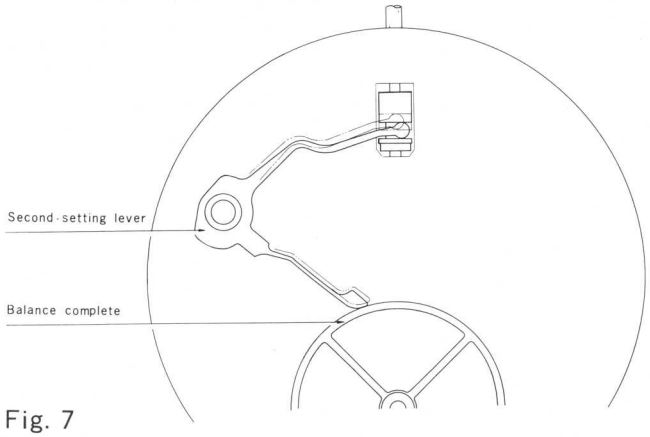


Fig. 7

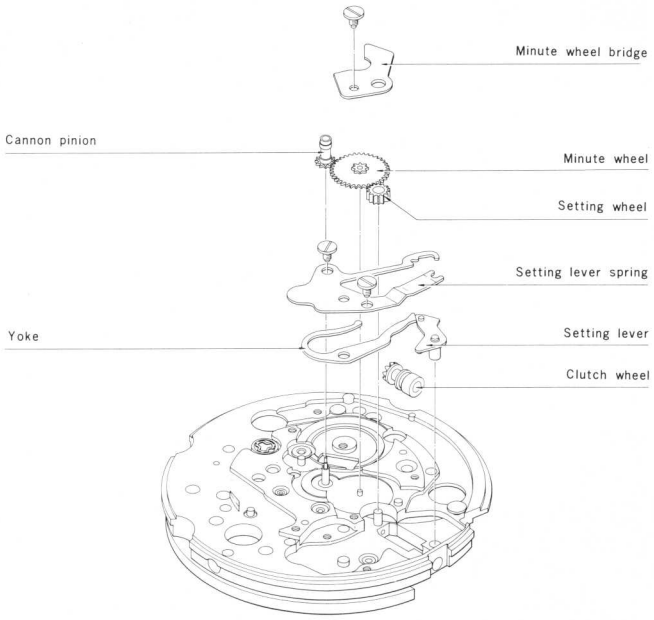
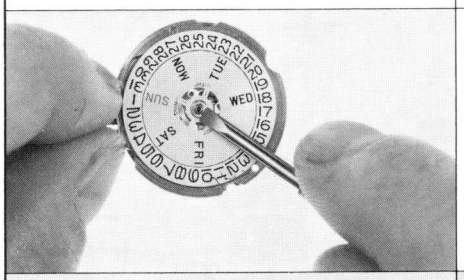
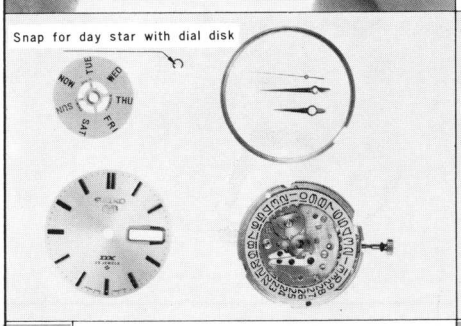
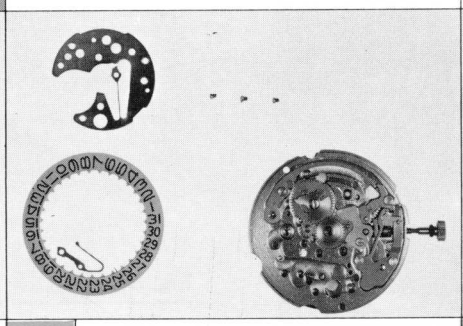
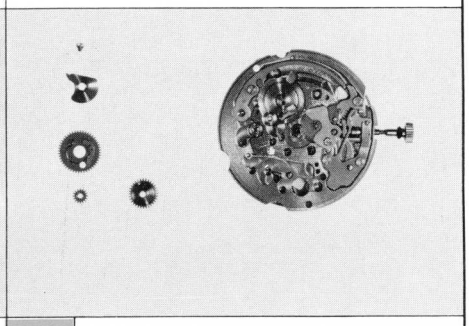
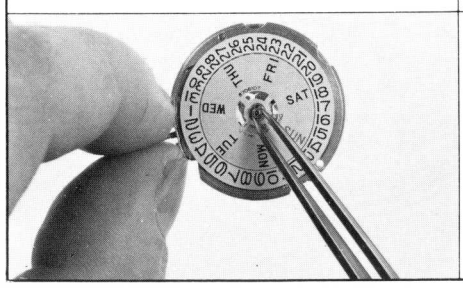
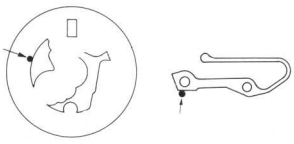
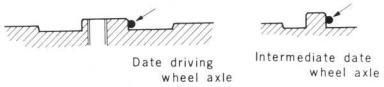


Fig. 6

Disassembly

	1 DIAL	2 DATE DIAL	3 DATE DRIVING WHEEL
Method	1) Remove sweep second, minute, and hour hands 2) Remove dial after loosening dial screw 3) Remove holding ring for dial 4) Remove snap for day star with dial disk (refer to photo in remarks). (Use small driver, then gradually pry open entire circumference to prevent deforming dial.)	1) Remove date dial guard screws (3 pcs.) 2) Remove date dial guard 3) Remove date dial 4) Remove date jumper	1) Remove hour wheel 2) Remove intermediate date wheel 3) Remove date driving wheel screw 4) Remove day finger 5) Remove date driving wheel
Remark		When removing date dial guard, sometimes date corrector finger will be dislodged with date dial guard.	
Photo			

Assembly

	13 DIAL	12 DATE DIAL	11 DATE DRIVING WHEEL
Method	1) Set day star with dial disk, then assemble snap for day star with dial disk after interlocking it with day jumper (refer to photo in remarks) 2) Set holding ring for dial 3) Set dial and fasten dial screw 4) Set hour, minute, and sweep second hands 5) Check forwarding condition of day star with dial disk	1) Lubricate plate, date dial set position 2) Set date dial 3) Lubricate date jumper (refer to the lower drawing) 4) Set date jumper 5) Set date dial guard and fasten screws (3 pcs.) 6) Check condition of date corrector and date driving	1) Lubricate axles of intermediate date wheel and date driving wheel (Moebius Synt-A-Lube) 2) Set day driving finger on date driving wheel and fasten date driving wheel screw (stepped screw) 3) Set intermediate date wheel and hour wheel
Remark			

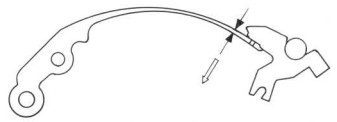
Disassembly

4 DATE CORRECTOR

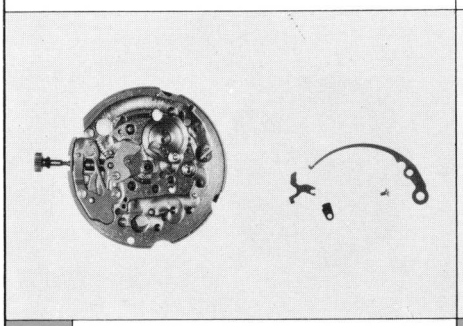
Method

1) Remove date corrector spring screw, then hold date corrector spring with tweezers and remove spring in direction of arrow (refer to lower drawing)
2) Remove date corrector finger
3) Remove date corrector

Remark



Photo



5 FRAMEWORK FOR AUTOMATIC DEVICE

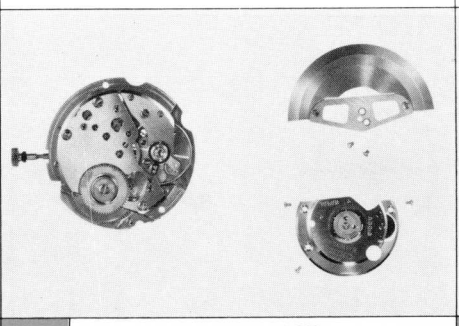
Method

1) Check winding condition of mainspring by revolving oscillating weight
2) Remove oscillating weight screws (2 pcs.)
3) Remove oscillating weight.
4) Remove screws (3 pcs.) then remove framework for automatic device

Remark

Checking) When making one slow revolution of oscillating weight while observing meshing of pawl lever and transmission wheel through an eye glass confirm whether or not slip in meshing exceeds four teeth. When slip is under four teeth, check shapes of eccentric pin and pawl lever.

Photo



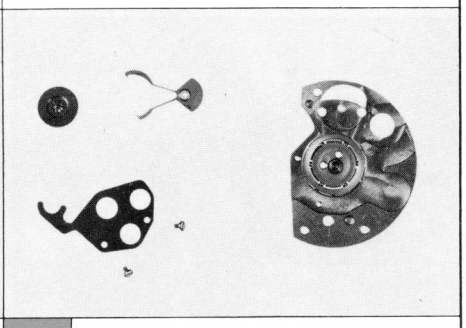
6 PAWL LEVER

Method

1) Remove holder screws (2 pcs.) for transmission wheel and pawl lever
2) Remove holder
3) Remove pawl lever and transmission wheel

Remark

Photo



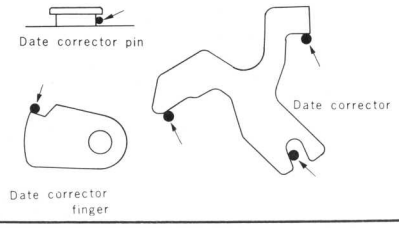
Assembly

10 DATE CORRECTOR

Method

1) Lubricate date corrector and date corrector pin (Moebius grease "Remontoires" or watch oil S-4)
2) Set date corrector
3) Set date corrector spring and fasten screw
4) Hold tip of date corrector spring with tweezers, then insert it under date corrector
5) Set date corrector finger
6) Lubricate date corrector finger (Moebius Synt-A-Lube)

Remark

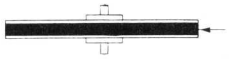


9 FRAMEWORK FOR AUTOMATIC DEVICE

Method

1) Set framework for automatic device and screws
2) Lubricate teeth and upper pivot of transmission wheel (watch oil S-4)
3) Set oscillating weight and its screws (2 pcs).
4) Check operating condition of automatic winding section. (Confirm that oscillating weight is not scraping framework; then confirm revolution of oscillating weight tilting movement in a fully-wound condition)

Remark

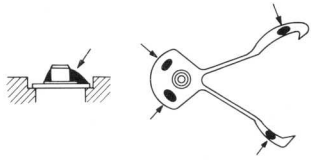


8 PAWL LEVER

Method

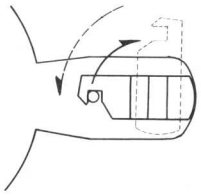
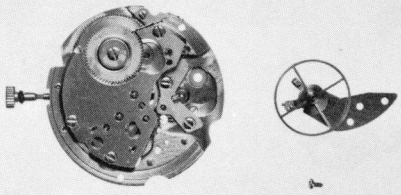
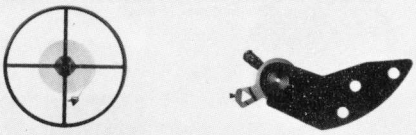
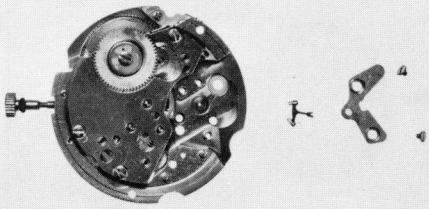
1) Lubricate ball-bearing (Moebius Synt-A-Lube at above three points)
2) Lubricate eccentric pin (watch oil S-4)
3) Set transmission wheel
4) Set pawl lever
5) Lubricate lower pivot of transmission wheel and pawl lever (watch oil S-4, Moebius grease "Remontoires")
6) Set holder for transmission wheel and pawl lever and fasten screws (2 pcs.)
7) Check to ensure pawl of pawl lever has not come off transmission wheel

Remark



Perform correct lubrication of eccentric pin

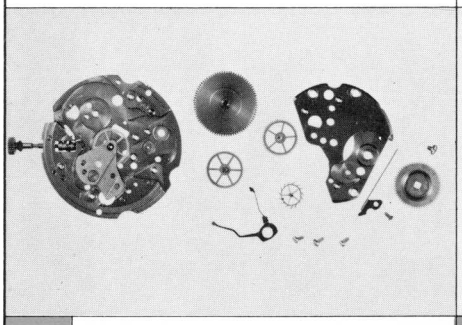
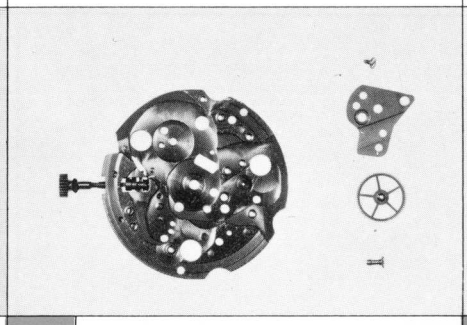
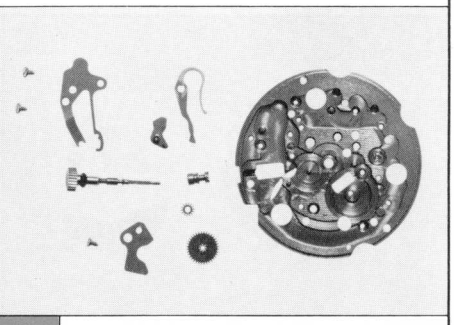
Disassembly

	7 BALANCE COCK	8 BALANCE COMPLETE	9 PALLET
Method	1) Remove balance cock screw 2) Remove balance cock	1) Turn regulator key in direction of arrow. (If regulator key is revolved in opposite direction, stud will become bent due to special shape of regulator key) 2) Loosen stud screw 3) Remove balance complete from cock	1) Loosen mainspring 2) Remove pallet cock 3) Remove pallet
Remark			
Photo			

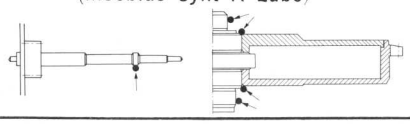
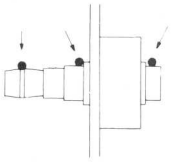
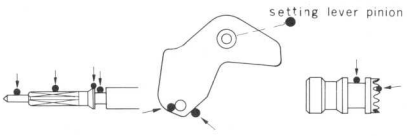
Assembly

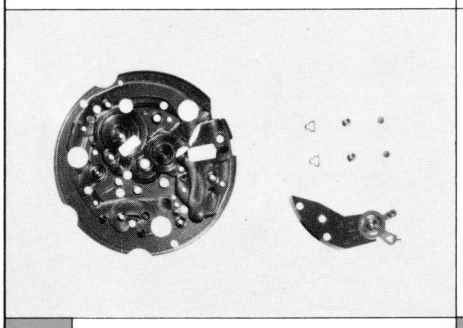
	7 BALANCE COCK	6 BALANCE COMPLETE	5 PALLET
Method	1) Set balance cock and fasten screw 2) Check condition of hairspring (for horizontality, unbalance) 3) Check second-setting condition	1) Set balance on balance cock, placing stud at hole of stud holder 2) Insert hairspring between regurator key and regulator pin, then turn regulator key in direction of arrow until it comes to correct position (Refer to drawing in disassembling remarks) (If turned excessively, balance will strike stud and may damage it)	1) Set pallet after lubricating pallet jewels (Moebius Synt-A-Lube) 2) Check pallet operating condition plus meshing of the jewel and escape wheel (A check of jewel meshing should be performed after slightly winding mainspring)
Remark	Do not perform assembly of balance complete at second position (during second-setting) of winding stem pull out; always perform it at first position	Do not widen space between regulator pin and regulator key. Do not deform hairspring.	

Disassembly

	10 TRAIN WHEELS	11 CENTER WHEEL AND PINION	12 SHIFTING MECHANISM
Method	1) Remove ratchet wheel 2) Remove click 3) Remove barrel & train wheel bridge 4) Remove sweep second & pinion, third wheel & pinion, escape wheel & pinion and barrel 5) Remove second-setting lever	1) Remove cannon pinion 2) Remove center wheel bridge 3) Remove center wheel and pinion	1) Remove minute wheel bridge 2) Remove minute wheel 3) Remove setting wheel 4) Remove setting lever spring 5) Remove yoke (clutch lever) 6) Remove setting lever 7) Remove winding stem, then remove clutch wheel
Remark			
Photo			

Assembly

	4 TRAIN WHEELS	3 CENTER WHEEL AND PINION	2 SHIFTING MECHANISM
Method	1) Set second setting lever (this time, crown should be set at first position) 2) Set barrel after lubricating barrel arbor (Moebius grease "Remontoires" or watch oil S-4) 3) Set third wheel & pinion, escape wheel & pinion 4) Set sweep second wheel & pinion after lubricating it (Moebius Synt-A-Lube) 5) Set barrel & train wheel bridge and its screws 6) Set click and its screw 7) Set ratchet wheel and its screw 8) Check revolving condition of train wheels 9) Lubricate each pivot or hole jewel on sweep second wheel & pinion, third wheel & pinion and escape wheel & pinion (Moebius Synt-A-Lube)	1) Set center wheel & pinion after lubricating it (Moebius grease "Remontoires" or watch oil S-4) 2) Set center wheel bridge and its screw 3) Set cannon pinion	1) Lubricate clutch wheel and winding stem, then set them on plate (Moebius grease "Remontoires" or watch oil S-4) 2) Set setting lever after lubricating (Moebius grease "Remontoires" or watch oil S-4) 3) Set yoke (clutch lever) 4) Set setting lever spring and its screw 5) Lubricate minute wheel pin, setting wheel axle, (Moebius Synt-A-Lube) 6) Set setting wheel 7) Set minute wheel, minute wheel bridge, and its screws
Remark			

	13 DIASHOCK	14 CLEANING	
Disassembly Method	1) Remove Diashock spring, cap jewel, and hole jewel with frame 2) Clean these parts	Clean all parts so far disassembled For further details refer to "Cleaning of parts"	
Disassembly Remark	Concerning disassembling procedures, refer to common items on Diashock		
Disassembly Photo			
	1 DIASHOCK		
Assembly Method	1) Set Diashock hole jewel frame, cap jewel, and spring on plate and balance cock 2) Lubricate these parts		
Assembly Remark	Concerning lubricating method and assembling method of plate for Diashock, refer to common items on Diashock		