

2406A (2409, 2415, 2418 derived from this calibre)

(1) Specifications

Casing diameter	19.00mm
Height	4.58mm
Vibrations per hour	28,800

(8 beats per second)

Automatic winding (with auxiliary hand winding mechanism)

Setting wheel lever system

Calendar (day, date, Bilingual change-over mechanism for day indication and Instant day and date setting mechanism)

(2) Features

Thin and dress type automatic, multifunctional winding watch

Movement size is designed in two types for Ladies' and Gents' watch as 24 series calibres list below.

High-Vibration watch with stabilized time accuracy

By adopting a high-vibration mechanism (8 beats), exceptional timing accuracy is maintained. Winding capacity, which is the life of the automatic winding watch, has been ingeniously devised, creating a reliable timepiece.

Simple day & date setting mechanism

The day and date setting mechanism is also compactly designed around the second setting lever. This makes it extremely easy to disassemble and assemble the parts, and the regularity of the day and date mechanism maintained with steadiness.

(3) Disassembling and Assembling

Disassemble watch as in Fig. ① → ⑤⑨

Assemble watch as in Fig. ⑤⑨ → ①








MOVEMENT




(4) Lubrication

The following symbols in the illustrated figures indicate the types of oil, the quantities to be applied, and the lubricating points.

Types of oil

-  SEIKO watch oil S-6
-  SEIKO watch oil S-4
-  SEIKO watch oil S-3
-  Moebius synt-A-Lube
-  Moebius synt-V-Lube

Oil quantity

-  : Extremely small quantity
-  : Normal quantity
-  : Sufficient quantity

24 SERIES CALIBRES AND THEIR FEATURES

Calibre No.	Casing diameter (mm)	Height (mm)	Train wheel Mechanism		Calendar			Day date correcting	
			hour & minute hands	Sweep second	Date	Day	Bilingual change-over mechanism	Date correcting	Day correcting
2406	19.0	4.5		o	o	o	o	o	o
2415	19.0	4.5	o		o			o	
2409	24.0	4.5		o	o	o	o	o	o
2418	24.0	4.5	o		o			o	

2406A Calendar and Setting Mechanisms

- ① Second, minute, hour hands
- ② Dial screw
- ③ Dial
- ④ Holding ring for dial

Dial washer ⑤

Hour wheel ring ⑥

Day star with dial disk ⑦

Calendar mechanism

- ⑧ Day jumper screw (2pcs)
- ⑨ Day jumper
- ⑩ Date jumper
- ⑪ Date dial
- ⑫ Hour wheel
- ⑬ Cannon pinion
- ⑭ Intermediate date wheel
- ⑮ Date driving wheel screw
- ⑯ Day finger ring
- ⑰ Day finger
- ⑱ Date finger
- ⑲ Date driving wheel

Setting mechanism

- Minute wheel bridge screw ⑳
- Minute wheel bridge ㉑
- Minute wheel ㉒
- Screw for setting wheel lever complete ㉓
- Holding ring for setting lever wheel complete ㉔
- Second-setting lever
Note: Refer to 2406-3- for checking and lubricating ㉕
- Setting lever spring screw ㉖
- Setting lever spring ㉗
- Setting lever ㉘
- Yoke ㉙

- Stem with crown ㉚
- Winding pinion ㉛
- Clutch wheel ㉜

Notes on disassembling and assembling

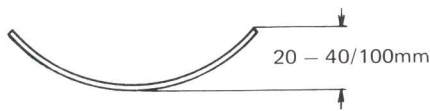
How to remove hands

Since the dial is thin and easy to bend, use a bow-type hand remover when detaching hands.



Dial washer

The bending should be 20/100 – 40/100mm (0.7 – 1.5 times thickness of dial)



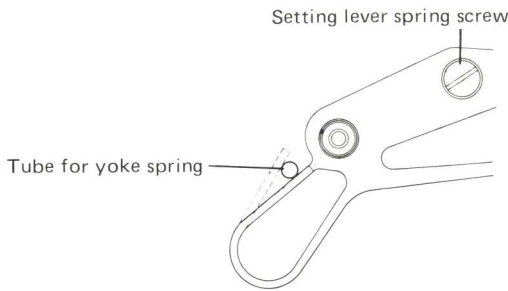
Hour wheel ring

This is used when shake of hour wheel (day star with dial disk) is more than 8/100mm. (When shaking is more than 1/4 dial thickness or thickness of day star with dial disk).

Yoke spring (Clutch lever spring)

Set yoke spring at position shown in diagram.

When removing setting lever spring screw, be careful the screw will not spring out.

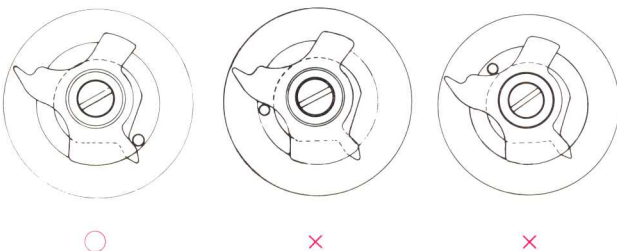


Pushing in cannon pinion

Push in cannon pinion after assembling barrel and train wheel bridge to prevent shake of center wheel and pinion from becoming excessive.

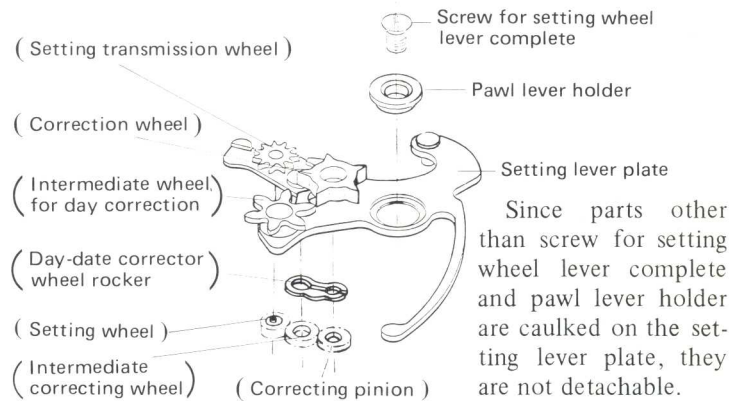
Assembling day finger and date finger

When assembling day finger, carefully note position of date driving wheel pin. Assemble date finger by placing bent surface upward.

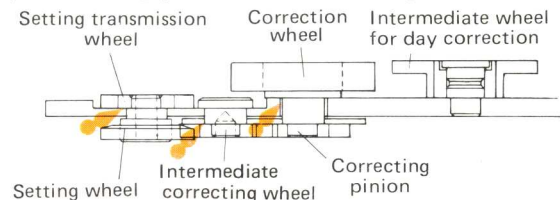


Checking on second-setting lever

1) Structure of second-setting lever



2) Lubricating points on second-setting lever

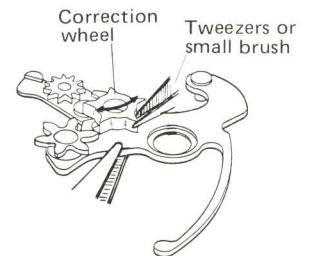


Apply oil from clearances between Second setting lever complete and Intermediate correcting wheel, Correcting pinion and Setting wheel.

3) Checking performance of day-date corrector wheel rocker

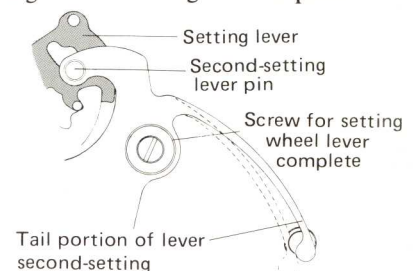
Before assembling second-setting lever, check day-date corrector wheel rocker to note whether or not it moves smoothly along the long hole when correction wheel is moved with a small brush or a pair of tweezers.

Note) If excessive oil is applied to day-date corrector wheel rocker, motion of day-date corrector wheel rocker will become defective due to adhesion of second-setting lever complete and day-date corrector wheel rocker.



4) Precautions on assembling second-setting lever to plate

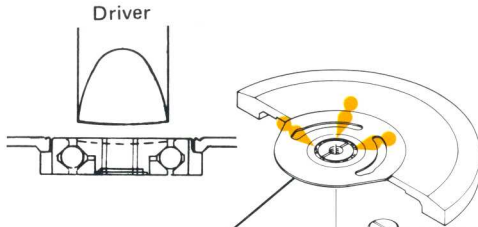
After setting second-setting lever pin in hole of setting lever and tightening screw for setting wheel lever complete, set second-setting lever by bending its tail portion in direction of arrow.



2406A Automatic winding, Train wheel, Escapement and Governor Mechanisms

Oscillating weight

- 1) Since groove of the oscillating weight screw has a curve, use a driver as shown on the right.
- 2) Be careful in pressing the oscillating weight screw here, since if forcibly pressed, the bearing axle may come off.



Automatic winding mechanism

33 Oscillating weight

34 Framework screw for automatic device (2pcs)

35 Framework for automatic device

36 Differential wheel

37 First reduction wheel

Train wheel mechanism

43 Third wheel & pinion

44 Sweep second wheel & pinion

45 Escape wheel

Escapement and Governor mechanism

55 Balance cock screw

56 Balance Complete

57 Pallet cock screw

58 Pallet cock

59 Pallet

Crown wheel screw 38

Crown wheel ring 39

Crown wheel 40

Barrel & train-wheel bridge screw (4 pcs) 41

Barrel & train-wheel bridge 42

Do not detach transmission wheel and first reverser idler (If you have to disassemble, refer to the next page)

(Second reduction wheel)
When lubricating, refer to the next page.

Friction spring screw for sweep second pinion 46

Friction spring for sweep second pinion 47

Sweep second pinion 48

Center wheel bridge screw 49

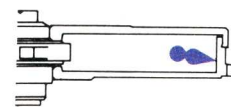
Center wheel bridge 50

Second reverser idler 51

Center wheel and pinion with cannon pinion 52

Ratchet wheel 53

Complete barrel with arbor 54

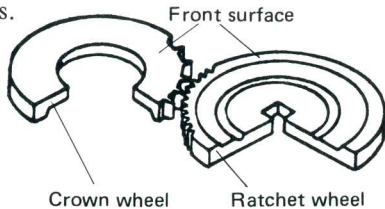


It is unnecessary to disassemble the complete barrel with arbor. When it is disassembled and washed inadvertently, use the SEIKO oil S-3.

Note on disassembling and assembling

Assembling crown wheel and ratchet wheel

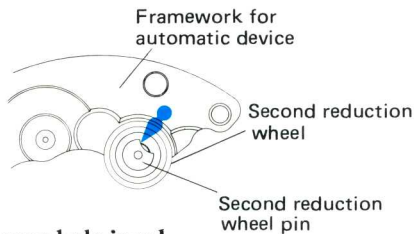
When assembling the crown wheel and the ratchet wheel, do not mistake their front with rear surfaces.



Framework for automatic device

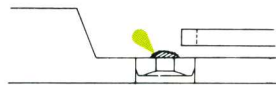
Since the second reduction wheel is caulked on the framework for automatic device, they are not detachable from each other.

Apply oil from this crescent-shaped groove of second reduction wheel pin.



Lubricating Third wheel lower hole jewel

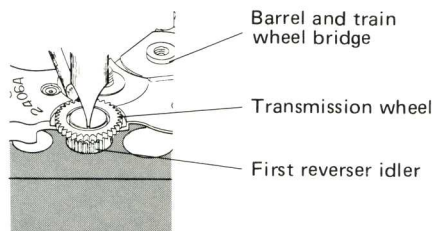
Since clearance between third wheel lower hole jewel and center wheel and pinion with cannon pinion is small, apply oil only in small quantity to third wheel lower hole jewel.



Disassembling Transmission wheel and First reverser idler

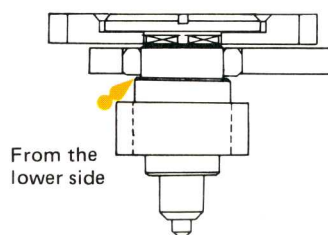
Do not detach transmission wheel and first reverser idler as they are difficult to assemble. Wash them together as they are, with the barrel and train wheel bridge.

If you have to disassemble, first place barrel and train wheel bridge on the reverting stake; and then insert first reverser idler in the hole of the reverting stake. Next, take them apart by loosening transmission wheel screw after inserting the tip of the screw-driver into the clearance between the teeth of transmission wheel and stopping its revolution.



Lubrication

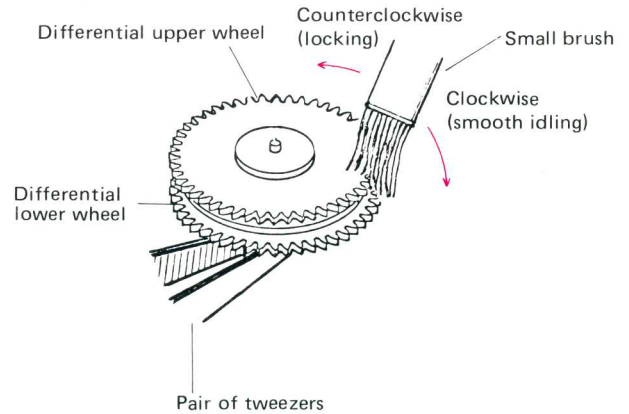
Lubricate them through clearance between barrel & train wheel bridge and first reverser idler.



Checking on locking and smooth idling of differential wheel

1) Checking on differential wheel

Using a small brush or soft material, confirm locking and smooth idling for both the upper and lower wheels before assembling differential wheel.



Facing the pinion lower side . . .

Clockwise . . . Revolves smoothly (SMOOTH IDLING)

Counterclockwise . . . Stops after moving slightly

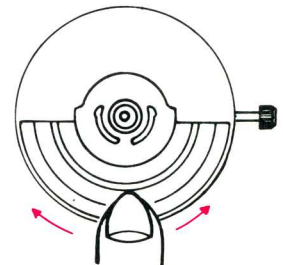
(LOCKING)

2) Checking on the differential wheel with oscillating weight smooth idling

Should oscillating weight revolve over 180° after the crown is wound 5 revolutions and released by 2.5 revolutions, this is a sign that some wheel motion is not functioning properly.

Check the following if this happens.

- Check on malfunction of the differential wheel
- Check if there is an insufficiency of shake in sections of automatic winding and train wheel



Checking on fault in locking

Turn differential wheel by moving oscillating weight clockwise and counterclockwise each 90° ten times alternately. At this time, should oscillating weight reverse over 45°, this indicates a malfunction in locking.

Clean differential wheel with benzine or S-clean.

It is not necessary to lubricate inside differential wheel which is self-greasing.

2406A Setting Mechanism

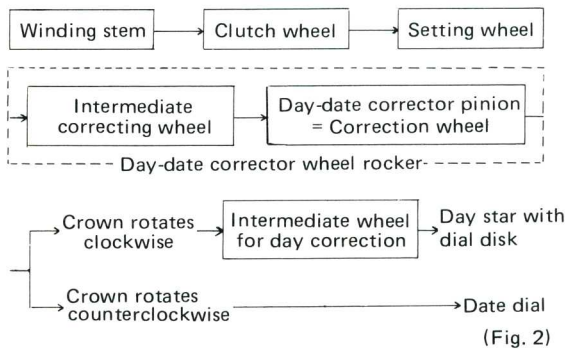
Normal position of crown (winding the mainspring)

In the position with winding pinion and clutch wheel interlocked, the mainspring is wound manually. (Fig. 1)

First click of crown (correction of day and date)

When clutch wheel and setting wheel are interlocked, and crown is rotated clockwise, day-date corrector wheel rocker moves toward day star with dial disk side, and permits day setting. (Fig. 2)

When crown is rotated counterclockwise, day-date corrector wheel rocker moves towards date dial, allowing date adjustment.



Second click of crown (setting time)

The second setting lever moves, pressed by setting lever and setting transmission wheel attached to setting wheel lever complete and interlocks with minute wheel. In this position, setting by hand is possible when crown is revolved. (Fig. 3)

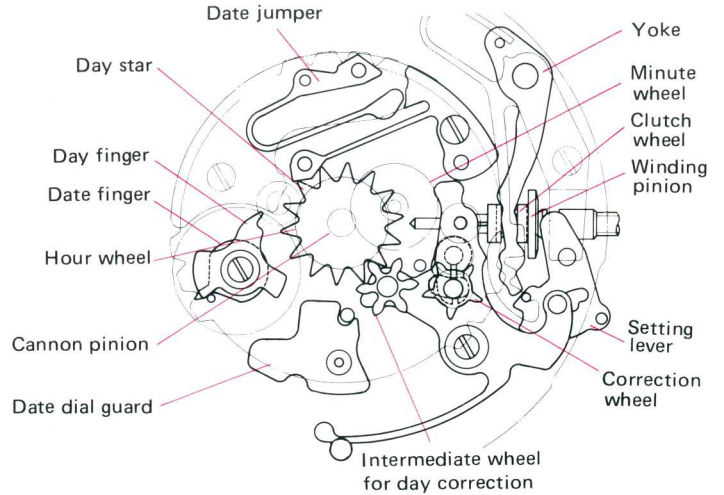
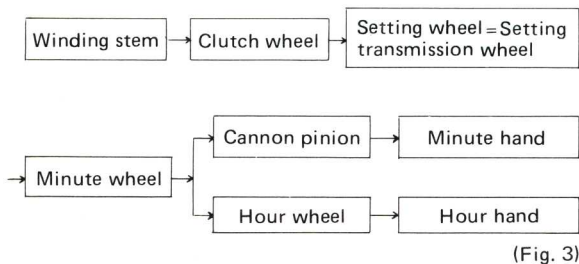


Fig. 1

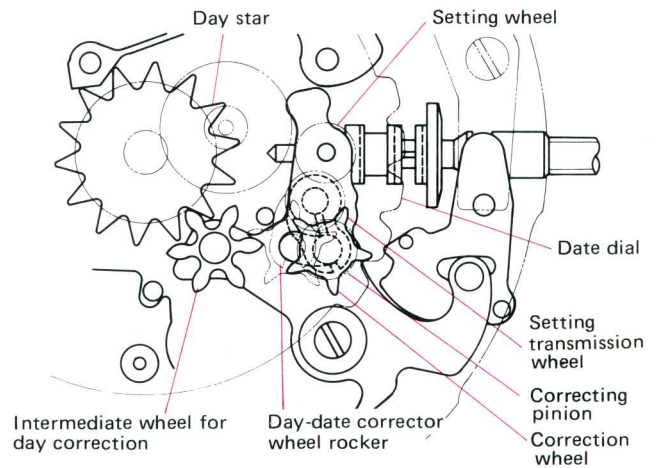


Fig. 2

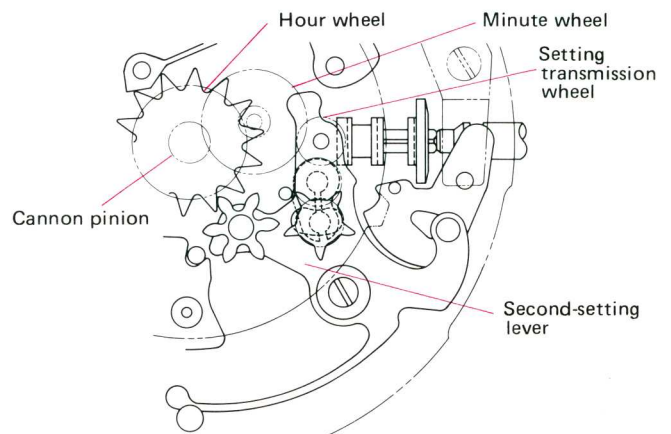


Fig. 3