

TECHNICAL INFORMATION

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Cal. No. 6760*



 **CITIZEN**

CONTENTS

§1. INTRODUCTION AND OVERVIEW	1
§2. SPECIFICATIONS	1
§3. OPERATION METHOD	2
1. USING THE WATCH	2
2. MAIN COMPONENTS AND FUNCTIONS	2
3. SETTING THE TIME	4
4. SETTING THE CALENDAR	5
5. SWITCHING MODES	6
6. NORMAL DISPLAY	7
7. ALARM I	8
8. ALARM II	9
9. LOCAL TIME	10
10. LOCAL TIME ALARM (LOCAL AL)	11
11. SECONDS SETTING	12
12. SOUND MONITORING	13
13. INITIAL MONITORING	13
14. INITIAL SETTING	14
15. MOVEMENT	15
4. FITTING PROCEDURE OF HANDS	16
1. PREPARATION FOR FITTING THE HANDS	16
2. FITTING OF DIAL	17
3. FITTING OF HANDS	17
4. MOUNTING OF MODULE IN CASE	18
5. REPLACING OF POWER CELL	19
6. PRECAUTIONS FOR DISASSEMBLING AND ASSEMBLING	19
1. ARRANGEMENT OF WHEELS ON DIAL SIDE	20
7. DISASSEMBLY AND ASSEMBLY OF THE MODULE	21
8. INSPECTION AND ADJUSTMENT METHOD OF MODULE	25

§1. INTRODUCTION AND OVERVIEW

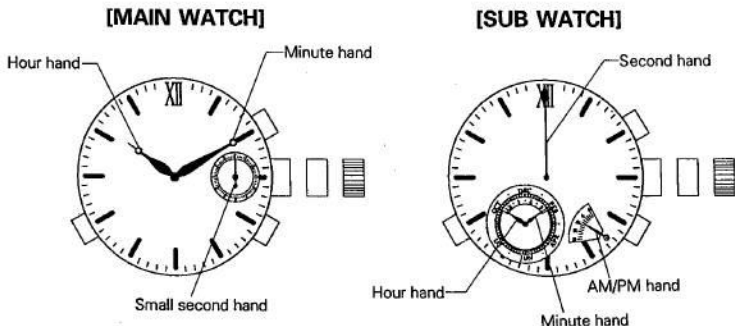
- This analog **CITIZEN** quartz watch is designed around the normal time, alarm local time and calendar functions with a special audible repeater time feature.
- **THE REPEATER** function lets you determine the current time by simple use of the watch's buttons.
- **THE CALENDAR** adjustment is fully automatic calendar.
- **ALARM FUNCTIONS**
- **ALARM I** lets you set the desired alarm time quickly and easily. The alarm rings once at the set time and then cancels the alarm setting.
- **ALARM II (DAILY ALARM)** uses a different sound for morning, afternoon and night.
- The **LOCAL TIME ALARM (LOCAL AL)** rings everyday at the set time.
- **THE LOCAL TIME** settings can be made in 30-minute increments.

§2. SPECIFICATIONS

Caliber No.	6760
Type	Multi-hand analog quartz watch
Accuracy	±20 seconds per month at normal temperatures 5°C to 35°C/(41°F to 95°F)
Effective temperature range	0°C to 60°C; 32°F to 140°F
Converters	Bipolar step motors (4 pcs)
Additional features	<ul style="list-style-type: none"> • Hand display calendar Day, date (normal display): Month, leap year display dependent on push button switching Leap year/end-of-month automatic adjustment • Alarm I: Alarm rings once at set time • Alarm II: Alarm rings everyday at set time (daily alarm) • Local time Hour/minute, AM/PM indication, 30-minute increment settings • Local time alarm: Alarm rings everyday at set (local) time Local time alarm can all be set in one-minute increments • Repeater: Two different sound chimes for hour and minute signals are used to indicate the current time • Sound monitor: Allows confirmation of all Alarm I, II, Local time alarm sound • Other: Time settings in complete warning indication Initial setting in complete warning indication
Battery	1 Silveroxide cell Battery No.: 280-44 (SR927W)
Battery life	about 2 years <ul style="list-style-type: none"> • Alarm I (10 sec): once/2 days • Alarm II (16 sec): once/day • Local time alarm (15 sec): once/day • Time signal chime (17 sec): once/day • Time life of the battery is dependent on the amount of alarm use
IC	1 CMOS-LSI

53. OPERATION METHOD

1. USING THE WATCH



Set the **Main watch** and **Sub watch** to the current time (See "3. Setting the time page" 4).

The time signal chime (repeater) is activated based on the sub watch. This feature will not function properly if the Sub watch is not set.

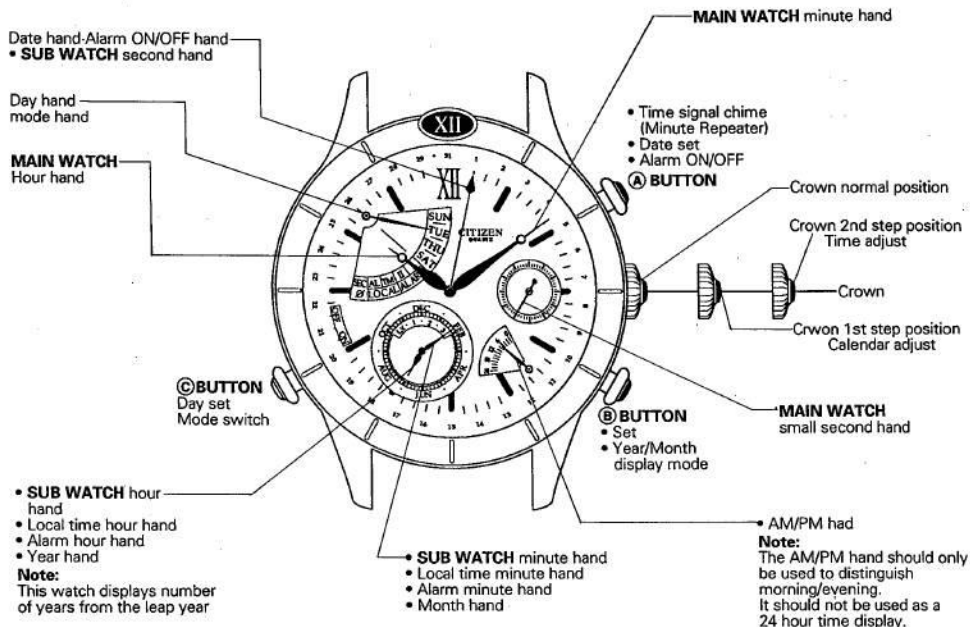
If there is a one minute time difference (plus or minus) between the time signal chime and the main watch time setting, reset the sub watch to the same time as the MAIN WATCH.

(Example) If the time signal chime is one minute slow, set the SUB WATCH forward one minute.

Wearing the watchband

- If the watch is worn too tightly it may be difficult to clearly hear the Watch sounds.
- Allow a space of one finger between the watch and your wrist for best results.

2. MAIN COMPONENTS AND FUNCTIONS



Button Functions

CROWN	MODE	Ⓐ BUTTON	Ⓑ BUTTON	Ⓒ BUTTON	CROWN ROTATION
NORMAL POSITION	Normal display	*Time signal chime	*Calendar display	Mode switch *Watch hand initial position monitor	—
	Calendar display	To normal display	To normal display	To normal display	—
	*Alarm I setting	Sound monitor (OFF) Cancelling the alarm (ON)	Alarm Setting	Mode Switch *Watch hand initial position monitor	—
	Alarm II setting	ON/OFF Switch Sound monitor	Alarm Setting	Mode Switch *Watch hand initial position monitor	—
	Local time setting	—	Local time hour setting	Mode Switch *Watch hand initial position monitor	—
	Local time alarm setting	ON/OFF Switch Sound monitor	Local time alarm setting	Mode Switch *Watch hand initial position monitor	—
	Seconds setting	Seconds setting		Day setting	—
1ST STEP POSITION	Calendar setting	Date setting	Leap year year/ month setting		—
2ND STEP POSITION	Time setting	Sub watch second setting	Sub watch hour/ minute setting		Main watch hour/ minute setting

*Press and hold down

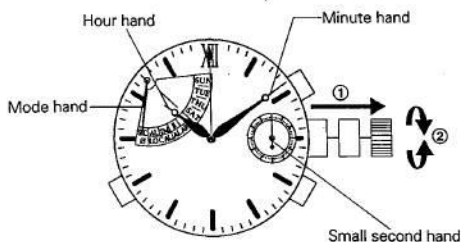
Hand Functions

CROWN	MODE	MAIN WATCH HOUR MINUTE SECOND	UB WATCH HOUR MINUTE	AM/PM HAND	DATE HAND	MODE HAND
NORMAL POSITION	Normal mode	Main watch hour minute second	Local time hour minute	Local AM/PM	date	day
	Calendar Display	4	(Main watch) year month		4	4
	Alarm I set	4	Alarm hour minute	Alarm AM/PM	ON	ALARM I
		4	(Main watch) hour minute	(Main watch) AM/PM	OFF	ALARM I
	Alarm II set	4	Alarm hour minute	Alarm AM/PM	ON/OFF	ALARM
	Local time set	4	Local time hour minute	Local time AM/PM	at 312 O'clock	LOCAL TM
	Local Alarm set	4	Local time alarm hour minute	Alarm AM/PM	ON/OFF	LOCAL AL
Second setting	4	(Sub watch) hour minute	MAIN WATCH AM/PM	(Sub watch) second	SEC 0	
1ST STEP POSITION	Calendar setting	4	Year month	—	date	Day
2ND STEP POSITION	Time setting	4	(Sub watch) hour minute	Sub watch AM/PM	(Sub watch) second	SEC 0

3. SETTING THE TIME

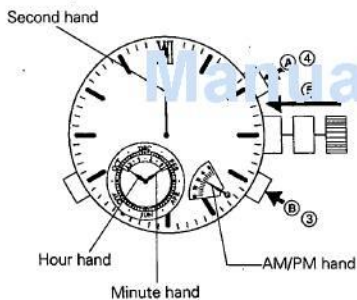
When setting the current time it is essential to set both the main watch and sub watch to the same time. If the sub watch is not matched to the main watch, the Repeater will not sound properly.

<MAIN WATCH>



- 1 Pull the crown out to the 2nd step position when the small second hand is at 0 position (12 o'clock) and stops. When the crown is pulled out the 2nd stop, the mode hand points to "SEC 0".
* At the same time, the date hand changes to the SUB WATCH second hand and moves to the 0 (12 o'clock) position and stops.
- 2 Turn the crown to set the MAIN WATCH to the current time.

<SUB WATCH>



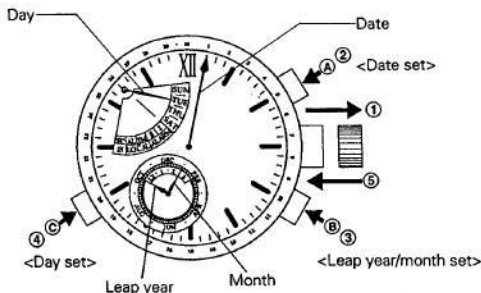
- 3 Press the B button to set the SUB WATCH to the current time.
* The time setting advances one minute each time the B button is pressed. Press and hold down the B button to quick advance the hour/minute hands.

Note:

The SUB WATCH hour/minute hands are synchronized with the AM/PM hand. Watch the AM/PM hand when adjusting the SUB WATCH time setting to ensure the proper setting is made.

- 4 If the SUB WATCH of second hand is not aligned with the "SEC 0" Position, press A button to set it to this position. Press the A button to advance the second hand in 1-second increments. Press and hold down the A button to quick-advance the second hand.
- 5 Push the crown in to the normal position at the desired time to start the watch running at the correct time. At this time, the SUB WATCH second hand returns to its normal function as the date hand. The mode hand switches to indicate the day, the hour and minute hands of the SUB WATCH switch to local time.

4. SETTING THE CALENDAR



① Pull the crown out to the 1st. step position.

At this Time, the local time hour/minute hands switches to the leap year/month hands.

- * The calendar hands advance one increment each time the (A) or (B) buttons is pressed.

Press and hold down the (A) or (B) button to quick-advanced the calendar hands.

② <Date set>

- Press the (A) button to set the date.

③ <Leap year/month set>

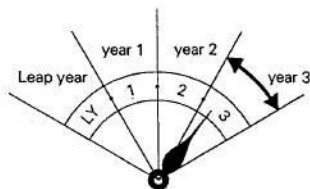
- Check the number of years following the leap year for the current year. (see below)
- Press the (B) button to set the leap year and month. The year hand is synchronized with the month hand.

☆ Reading the leap year display

The leap year and year following it are displayed as shown in the diagram. When the year hand is in the position →3←, the reading is "the third year following the leap year."

Leap year display

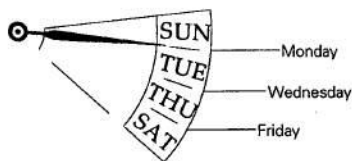
1991	Year 3	1995	Year 3	1999	Year 3
1992	Leap year	1996	Leap year	2000	Leap year
1993	Year 1	1997	Year 1	2001	Year 1
1994	Year 2	1998	Year 2	2002	Year 2



<Day set>

- Press the (C) button to set the day.
- Pressing the (C) button advances the hand one day at a time. Quick-advance is not a feature of this function.

☆ Reading the day display



The lines between the days listed on the day display represent the days not listed. Therefore, the line between 'Sun' and 'Tue' represents 'Monday', etc.

- ⑤ Push the crown all the way in to the normal position when adjustments are complete.

- * The calendar mode stops operation when the crown is left in the 1st. step position.

Adjustment-free calendar

This feature lets you use your watch without need to make end-of month or leap year adjustments.

Example:

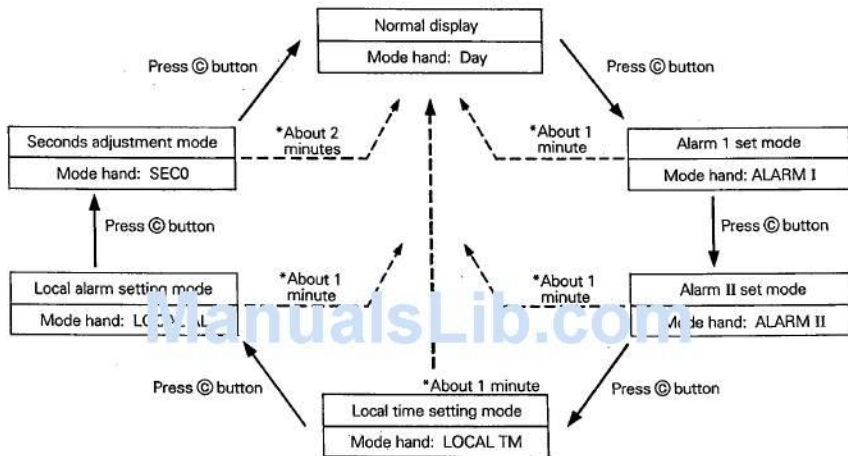
End of month: 11/30 – 12/1 Automatic adjustment

Leap year: 2/29 (Leap year) – 3/1 Automatic adjustment

2/28 – 3/1 Automatic adjustment

* The day setting does not change under this feature.

5. SWITCHING MODES



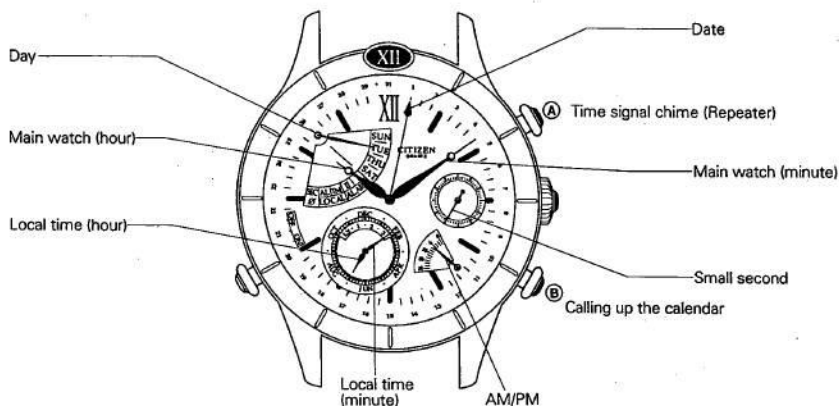
*There is no input the watch automatically returns to the normal display.

6. NORMAL DISPLAY

The normal time display appears as follows.

Example: Base time 10:09:00/TUE

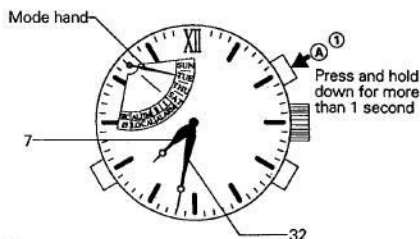
Local time PM7:09



- Press the (A) button to sound the time signal chime (see a following A)
- Press the (B) button to display the calendar (see page 3)

A. TIME SIGNAL CHIME (REPEATER)

The feature allows you to tell the current time by the watch's chime sound.



- Crown in the normal position
- * This feature will not work unless the mode hand is set to day (normal) display.
- ① Press and hold down the (A) button for more than 1 second to activate the chime sound. The repeater operates under the 12-hour system.

(Example)

You want to make the watch chime sound at 7:32.

- 1) **Hour sound:** One high-pitched chime sounds each second for each hour (7 times = 7 o'clock).
- 2) **Quarter sound:** One high and one low-pitched chime sounds each second ($1/4\text{HR} \times 2 = 30$ minutes).
- 3) **Minute sound:** One low-pitched chime sounds each second (2 times = 2 minutes).

By playing the above sound you know the time is now 7:32.

* Press the (A), (B) or (C) button while the chime is playing to stop the sound.

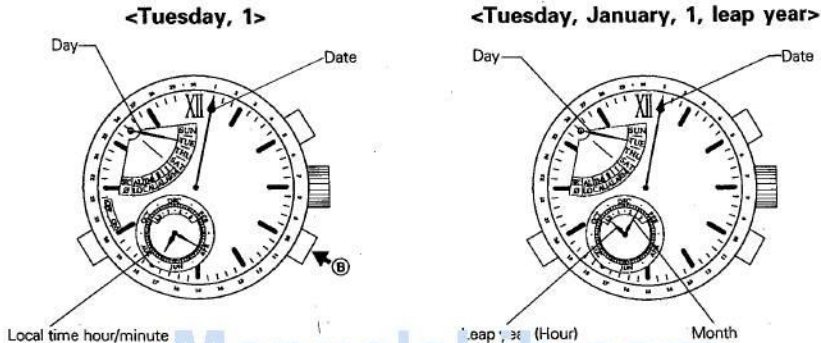
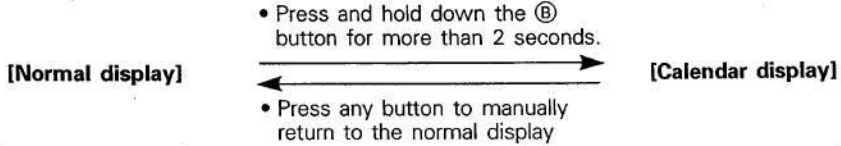
Note:

- The chime sound cannot be activated while the calendar is being displayed.
- The time is not set properly if the time display and chime sound are not synchronized. See "3. Setting the time" (page 4).

B. CALENDAR DISPLAY

The calendar feature displays the date and day of the week.

It is also possible to display the month and leap year calendar indications by using the watch's **(B)** button.



- Crown in the normal position
- Press and hold down the **(B)** button for more than 2 seconds to switch the Local time hour/minute hand to the leap year/month.

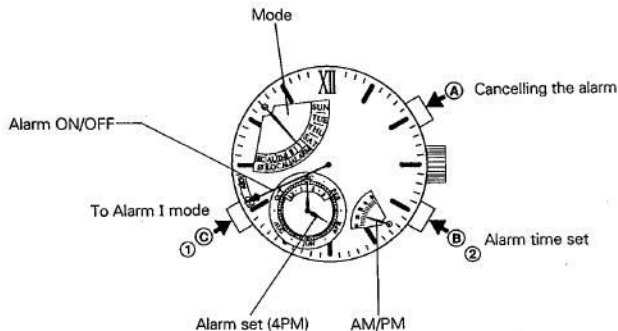
7. ALARM I

Alarm I Lets you set the desired alarm time quickly and easily.

The alarm rings once at the set time and then cancels the alarm setting.

Setting Alarm I

- The alarm can be set in one-minute increments.
- AM/PM can be determined with the AM/PM hand.
- Alarm hour/minute hands and AM/PM hand are synchronized.
- Press the **(B)** button once to advance the alarm hands one minute at a time.
- Press and hold down the **(B)** button to use the quick-advance feature.



- Crown in the normal position

(Example)

You want to set the alarm for 4 PM today.

- ① Press the (C) button to move the mode hand to the Alarm I position.
At this time the hour and minute hands of local time switch to the hour and minute hands showing current time.
- ② Press the (B) button and set the alarm to 4 PM. Always confirm the AM/PM hand to ensure the proper setting is made.
When pressed the (B) button the alarm ON/OFF hand indicates the ON state.

Note:

When the alarm is set between 12–12:30 AM, the alarm hand sweeps forward and back in a 30 minute arc and stops at the set time.
This is normal and does not indicate faulty movement.

- ③ Press the (C) button 5 times when the setting has been completed the mode hand return to the day display (normal mode).

Cancelling the alarm setting

Press the (A) button in the Alarm I mode to switch the alarm OFF.
At this time, the alarm set time returns to the current time display.

- ❖ If there is no input for about 1 minute the watch automatically returns from alarm I mode to the normal display.

[About the alarm I]

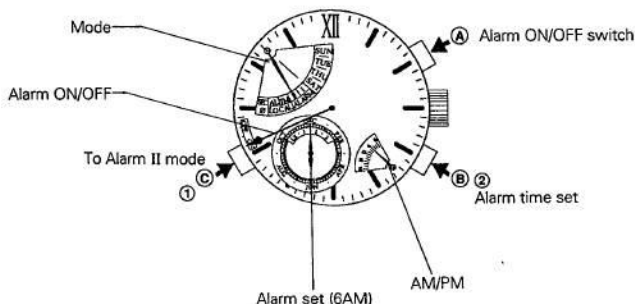
Alarm I rings for 10 seconds upon reaching the alarm set time. Press any button to stop the alarm once it has started chiming.

8. ALARM II

Alarm II (Daily alarm)This feature allows the alarm to ring everyday at the set time.

Setting the Daily alarm (Alarm II)

- The alarm can be set in one-minute increments.
- AM/PM can be determined with the AM/PM hand.
- Alarm hour/minute hands and AM/PM hand are synchronized.
- Press the (B) button once to advance the hands one minute at a time. Press and hold down the (B) button to use the quick-advance feature.



- **Crown in the normal position**

(Example)

You want to set the alarm for 6:00 AM everyday

- ① Press the **(C)** button to move the mode hand to the Alarm II position. At this time, the Local time hands switch to the alarm hour/minute set hands and the date hand switches to the Alarm ON/OFF function.
 - ② Press the **(B)** button and set the alarm to 6 AM. Always confirm the AM/PM hand to ensure the proper setting is made.
- Pressing the **(B)** button automatically moves the alarm ON/OFF hand to the ON position.

Note:

When the alarm is set between 12–12:30 midnight the alarm hands sweeps forward and back in a 30 minute arc and stops at the set time. This is normal and does not indicate faulty movement.

- ③ Press the **(C)** button 4 times when the setting is complete to move the mode hand back to the normal time display.

[About the Daily alarm (Alarm II)]

Depending on the time of day for which the alarm is set for the watch will sound 3 different alarms.

- **Refreshing sound:** From 4:00 AM to 11:59 AM (14–Second chime)
- **Vibrant sound:** From 12:00 NOON to 5:59 AM (15–Second chime)
- **Relaxing sound :** From 6:00 PM to 3:59 AM (16–Second chime)

Press any button to stop the alarm from chiming.

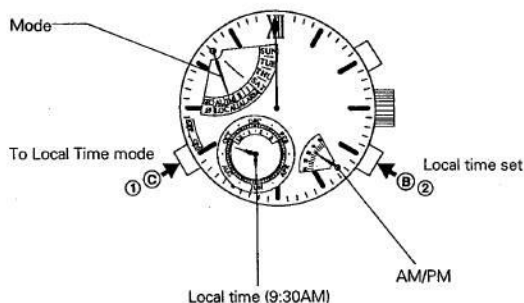
Cancelling the alarm setting

Press the **(A)** button in the Alarm II mode to switch the alarm OFF. If there is no input for about 1 minute, the watch automatically returns to the normal display.

9. LOCAL TIME

Setting Local Time

- Settings can be made in 30-minute increments.
- Local time hour/minute hands and AM/PM hand are synchronized.
- Press the **(B)** button once to advance in 30-minute increments. Press and hold down the **(B)** button to use quick-advance feature.



- **Crown in the normal position**

(Example)

You want to synchronize the current time in Tokyo (5:30 PM) with the local (current) time in Paris (9:30 AM)

- ① Press the **(C)** button to move the mode hand to the LOCAL TM position. At the same time, the date hand move to the 12 PM (31st) position.
- ② Press the **(B)** button and set the local time to 9:30 AM. Always confirm the AM/PM hand to ensure the proper setting is made.

Note:

When the local time is set between 12–12:30 midnight the local time hands sweeps forward and back in a 30 minute arc and stops at the set time. This is normal and does not indicate faulty movement.

- ③ Press the **(C)** button 3 times when the setting is complete to move the mode hand back to the Day (normal) mode position.

If there is no input for about 1 minute, the watch automatically returns to the normal display.

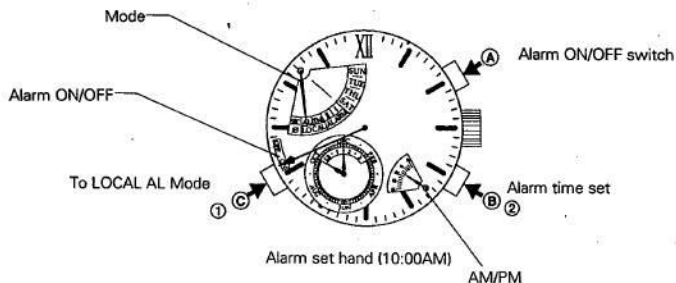
10. LOCAL TIME ALARM (LOCAL AL)

Local time alarm (Local AL).....This feature allows the alarm to ring everyday at the local time setting

Setting the Local time alarm

- The alarm can be set in one-minute increments.
- AM/PM can be determined with the AM/PM hand are synchronized.
- Press the **(B)** button once to advance the hands in one-minute increments.

Press and hold down the **(B)** button to use the quick-advance feature.



- Crown in the normal position.

(Example)

You want to set the alarm to sound at 10:00 AM Paris time.

- ① Press the **(C)** button to move the mode hand to the LOCAL AL position. At the same time, the Local time hands switch to the alarm hour/minute set hands and the date hand switches to the Alarm ON/OFF hand.
- ② Press the **(B)** button to set the alarm to 10 AM. Always confirm the AM/PM hand to ensure the proper setting is made.
- Pressing the **(B)** button automatically moves the alarm ON/OFF hand to the ON position.

Note:

When the alarm is set between 12–12:30 midnight the alarm hands sweeps forward and back in a 30 minute arc and stops at the set time. This is normal and does not indicate faulty movement.

- ③ Press the (C) button 2 times when the setting is complete to move the mode hand back to the day (normal) mode position.

[About the Local time alarm]

The local time alarm will sound at the set time for 16 seconds.

- * Press any button to stop the alarm from chiming.

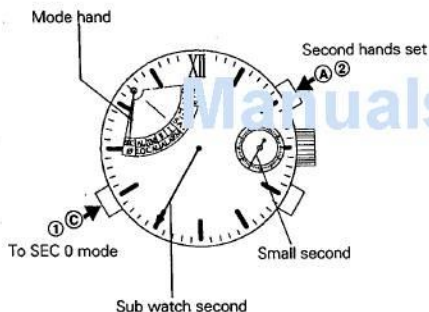
Canceling the alarm setting

Press the (A) button in the local time alarm mode to switch the alarm OFF.

- * If there is no input for about 1 minute, the watch automatically returns to the normal display.

11. SECONDS SETTING

Refer to the 'Seconds adjustment' entry below for instructions on adjusting the watch within a range of 1/2 minute.

Seconds adjustment





- Crown in the normal position

Synchronizing the MAIN and SUB WATCH second hands

- ① Press the (C) button to move the 'SEC 0' mode. The date hand switches to the SUB WATCH second hand function.
- ② Press the (A) button once at the sound of a time signal to synchronize both second hands as shown in the diagram below.
- ③ Press the (C) button when the setting is complete to move to the normal display.

(The mode hand displays the day mode)

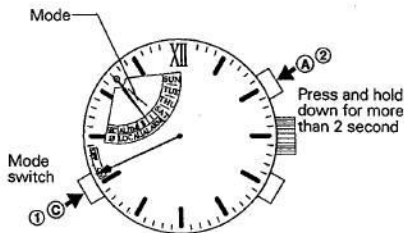
- * If there is no input for about 1 minute the watch automatically returns to the normal display.

	Second hand position	
	0-29 SEC	30-59 SEC
MAIN WATCH Second hand	 <p>Small second hand stops. Movement begins when SUB WATCH second hand reaches same position.</p>	 <p>Small second hand advance to the 0 position and begins movement. The minute hand advance one minute.</p>
SUB WATCH Second hand	 <p>Second hand returns to the 0 position and begins movement.</p>	 <p>Second hand advances to the 0 position and begins movement. The minute hand advances one minute.</p>

12. SOUND MONITOR

Sound monitorThe sound monitor feature is used to confirm the alarm sounds in the Alarm I, Alarm II and Local time alarm modes.

- Crown in the normal position
- ① Press the **(C)** button to move the mode hand to the alarm mode you want to monitor (Alarm I, Alarm II, Local time alarm).
- ② Press the **(A)** button for more than 2 seconds to activate the sound monitor.



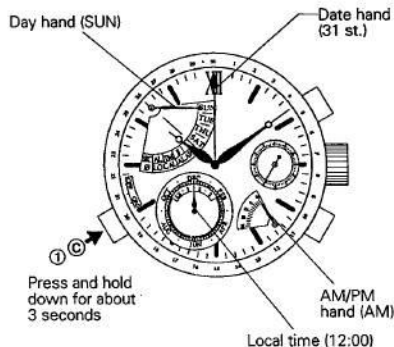
Note:

- Alarm I will only sound when the ON/OFF hand is in the OFF position.
- Alarm II: Whether the Local Time Alarm is set to ON or OFF, pressing button **(A)** for more than two seconds will activate the sound monitor. Caution should be exercised at this time because the Local Time Alarm switch setting will also be changes.

13. INITIAL POSITIONING

Positioning of the watch's handsThis feature allows you to check and confirm the proper position for each of the watch's hands.

Checking the position of the watch's hands.



- Crown in the normal position
- * This feature can be used with the mode hand in any position.
- 1 Press and hold down the **(C)** button for more than 3 seconds to move the hands to the following initial positions.

Date hand: 31
Day hand: SUN
Local time: 12:00
AM/PM hand: AM

If the hands do not move to the above positions. See "14. Initial setting". Page 14

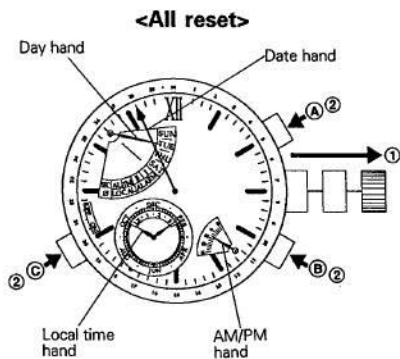
If there is no input for about 20 seconds the watch will automatically return to the normal display. Press the any button to manually return to the normal display.

14. INITIAL SETTING

If the calendar, local time or various alarm functions of the watch do not operate correctly, follow the procedures listed below.

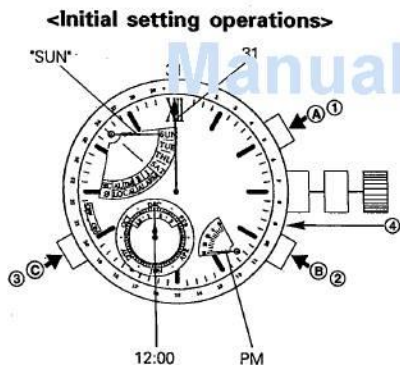
✱ These instructions should always be completed when new batteries are installed.

Resetting the position of the watch's hands.



- ① Pull the crown out to the 2nd step position (mode hand display: SEC0).
- ② Press and hold down the (A), (B) and (C) buttons simultaneously for more than 2 seconds.
- ③ Release all buttons to reset the watch's hands.

Confirmation beep will sound with the completion of this operation.



- Crown is in the 2nd step position
- ① Press the (A) button to set the date hand to the "31" position (12 o'clock).
- ② Press the (B) button to set the Local time hand to the 12 o'clock position and AM/PM hand to the "PM" position.
- ③ Press the (C) button to set the day hand to "SUN". The day hand may not align precisely with the SUN mark but this does not adversely effect normal watch operations.

Set the day hand to "SUN" even if the hand appears to be correctly positioned.

- ④ Push the crown in to the normal position to complete setting procedures. The AM/PM hand will automatically move to the "AM" position.
- After setting the hands to the initial position, first refer to section D of the manual, "SETTING THE TIME" (page 4), to set the watch hands to the correct time. Then, refer to section E, "SETTING THE CALENDAR" (page 5), and set the calendar to the correct date.

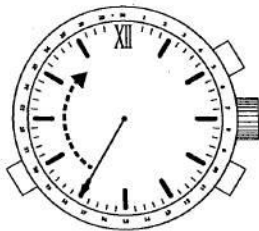
- ★ If the day hand cannot be set to "SUN," for initial setting.
In this case, connect it by the following method. It can be easily corrected.

<Correcting method>

1. Perform the all reset operation
Pull the crown to the second click, then push all the buttons at the same time for at least 2 seconds or more.
 2. Push the © button twice
Securely push the © button twice at the 8 o'clock position of the watch.
 3. Perform the all reset operation again
 4. Set the watch to the initial position
Set the date to "31" with the (A) button, the local time to 12:00 with the (B) button, the AM/PM hand to "PM", and the day to "SUN" with the © button.
 5. Set the time and calendar
- * If the watch is set to the initial position, it can be used normally.

15. MOVEMENT CHECK

1. Date hand quick-advances clockwise



- When the date hand quick-advances in a clockwise direction this indicates that the "time setting" between the Main watch and Sub watch was not successfully completed. See "3 Setting the time" (page 4) for further instruction.
(Time setting incomplete warning indication)

2. Date hand quick-advances counterclockwise



- When the date hand quick-advances in a counterclockwise direction this indicates that the Initial setting was not successfully completed. See "13. Initial Setting" (page 14) for further instruction.
(Initial Setting incomplete warning indication)

54. FITTING PROCEDURE OF HANDS

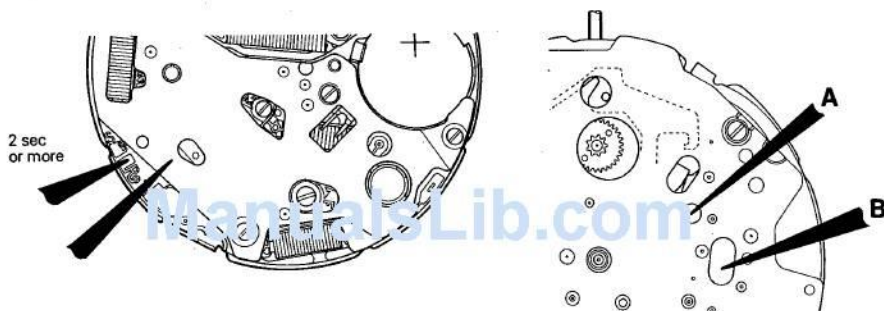
1. PREPARATION FOR FITTING THE HANDS

1) Confirm the crown is pulled out to the second click.

- Keep the crown at the second click until the day hand, L/T hand, minute hand, and AM/PM hand have been fitted.

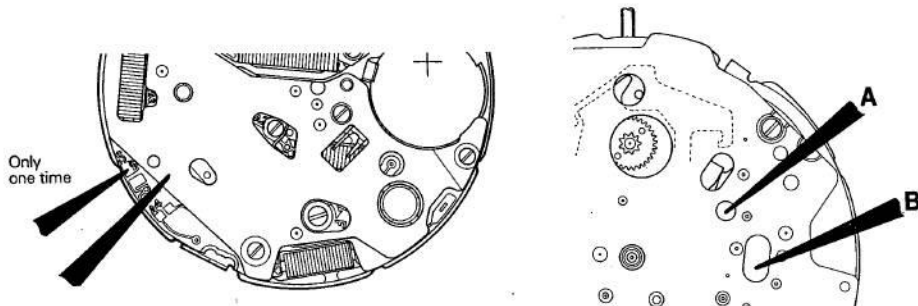
2) Perform the all reset operation (AR).

- Short the R pattern of the composite electronic circuit to the train wheel bridge (or anti-magnetic plate) with tweezers for at least 2 seconds or more.
- The AR operation is completed in 10 seconds after the tweezers are removed (Leave for at least 10 seconds).
- Confirm that the AR operation has started by observing the movement of the wheels (dial side) through the check hole (Part A or B).



3) Confirm the operation of the fitted hands (S-terminal input).

- Short the S pattern of the composite electronic circuit to the wheel train bridge (anti-magnetic plate) with tweezers.
- Be sure to short only one time. If you shorted two times by mistake, repeat the procedure from work step 2 (All reset).
- This operation is completed in about 1 minute. (Leave for at least 1 minute.)
- Confirm this operation by observing the movement of the wheel train through the check hole (Part B).

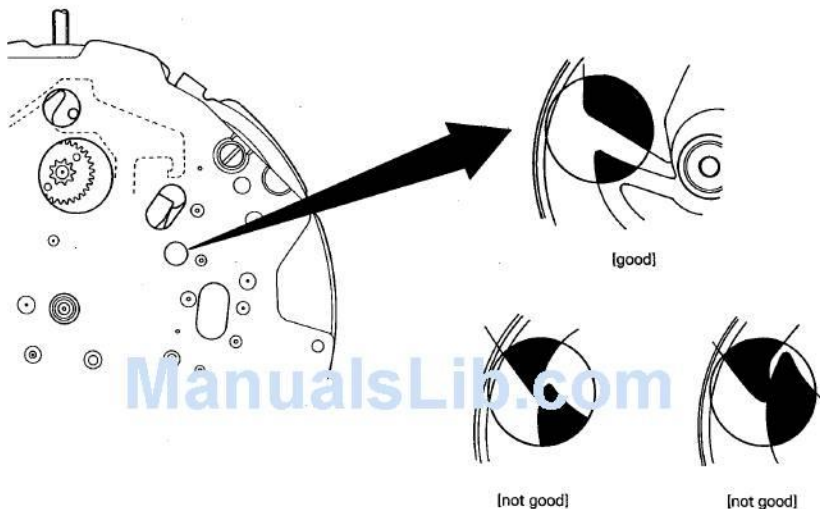


4) Repeat steps 2) and 3)

- Purpose: To heighten the accuracy of the initial positioning of L/T hour and minute hands.

5) Confirm the fitting positions of the hands.

- Confirm that steps 1 – 4 have been performed securely.
- Confirm that the intermediate Local time wheel I and II are positioned as shown below through the check hole.



2. FITTING OF DIAL

- 1) Set the dial to the module.

3. FITTING OF HANDS

1) Fit the day hand.

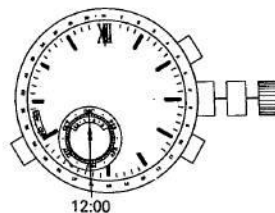
- Fit the day hand to the center of E of [SECO] in the second correction mode.
- Check the fitting position of the day hand.
In any case, if the day hand can be set to SUN by pressing the © button four time maximum, it is fitted correctly.

Note: If the fitting position of the day hand is not positioned correctly or it cannot be set to its initial position (SUN), re-install it. In this case, perform work steps 1 – 3 of "1. Preparation for fitting the hands" without fail.



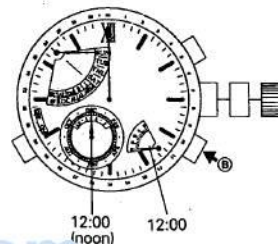
2) Fitting of L/T (Local Time) hour and minute hands.

- Fit the L/T hour hand 12 hour position
- Fit the L/T minute hand 12 hour position



3) Fit the AM/PM hand.

- Confirm the positions of the L/T hour and minute hands at 24:00.
 - a. Push the ⓑ button to turn the L/T hands to the position of 12:00 noon.
 - b. Fit the AM/PM hand to the 12-hour position.



4) Fitting of second hand

- Fit the second hand to the position of 0 second.

5) Fitting of hour and minute hands

- Fit the hour and minute hands as usual.

6) Fitting of date hand

- Fit the date hand to 31th (12-hour) position.

4. MOUNTING OF MODULE IN CASE

5. REPLACING OF POWER CELL

- * When replacing the power cell, remove two screw and shield plate.

When replacing the power cell, be sure to measure the current consumption with the module in the case. (Refer page 27)

- * If the power cell is replaced, the information in the IC of the watch is not matched to the position of each calendar hand.
- * Accordingly, the all reset and initial setting operation is necessary.


Note: If the day hand cannot be set to "SUN.", for initial setting, after the power cell is replaced, perform the following all reset operation and push the Ⓒ button two times. Perform the all reset operation, then set the calendar to the initial position again.

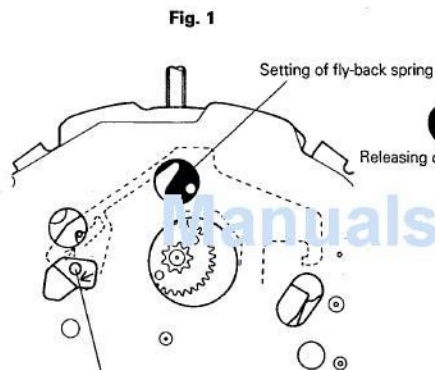
56. PRECAUTIONS FOR DISASSEMBLING AND ASSEMBLING

<Disassembling>

- Before removing the lower plate, release the fly-back spring (See releasing of fly-back spring in Fig. 1).
- Pry up the intermediate center wheel and pinion (II) with a screwdriver.

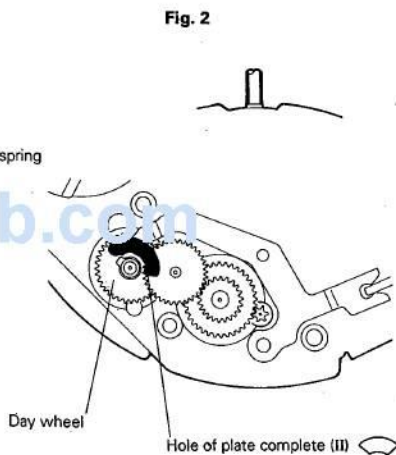
<Assembling>

- Set the projection under the day wheel into the hole  of the plate (II) (See Fig. 2).
- After the lower plate is installed, hitch the fly-back spring so that it will work (See setting of fly-back spring in Fig. 1).

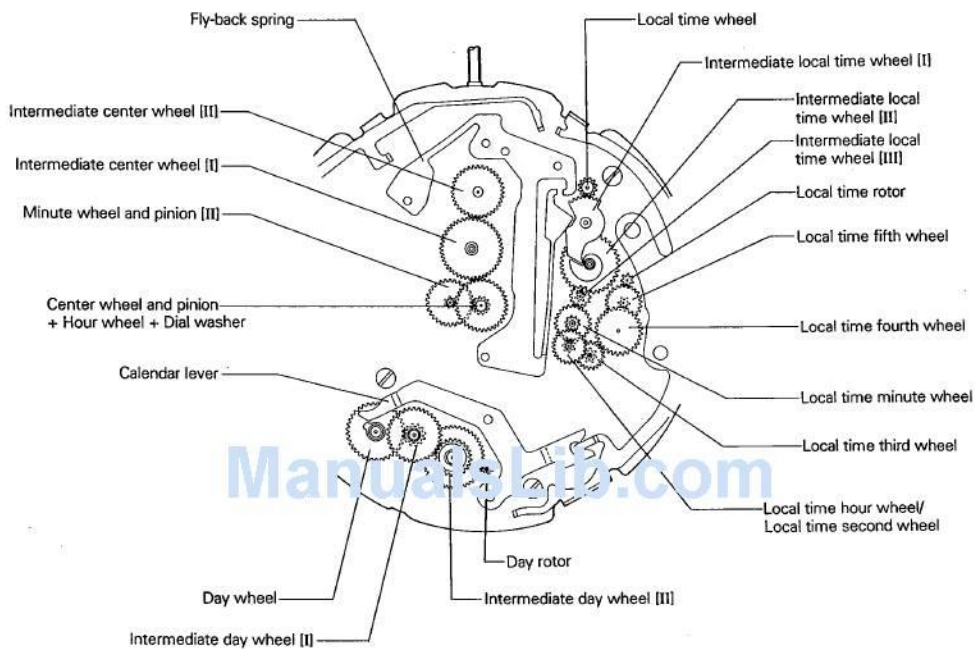


With tweezers

- If moved in direction of ←, the spring is set and it works.
- If moved in the direction of →, the spring is released and it does not work.



<ARRANGEMENT OF WHEELS ON DIAL SIDE>

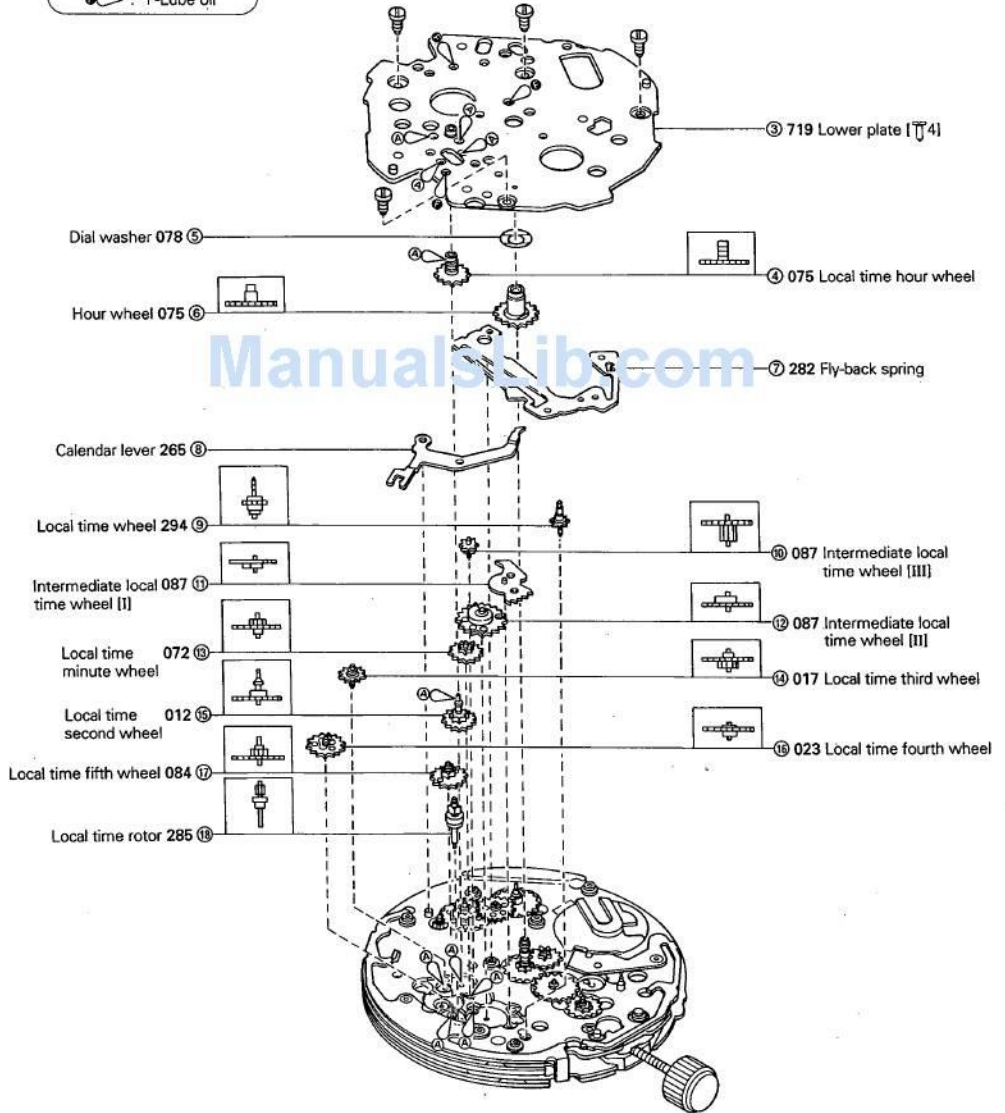


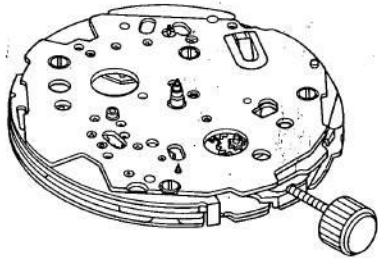
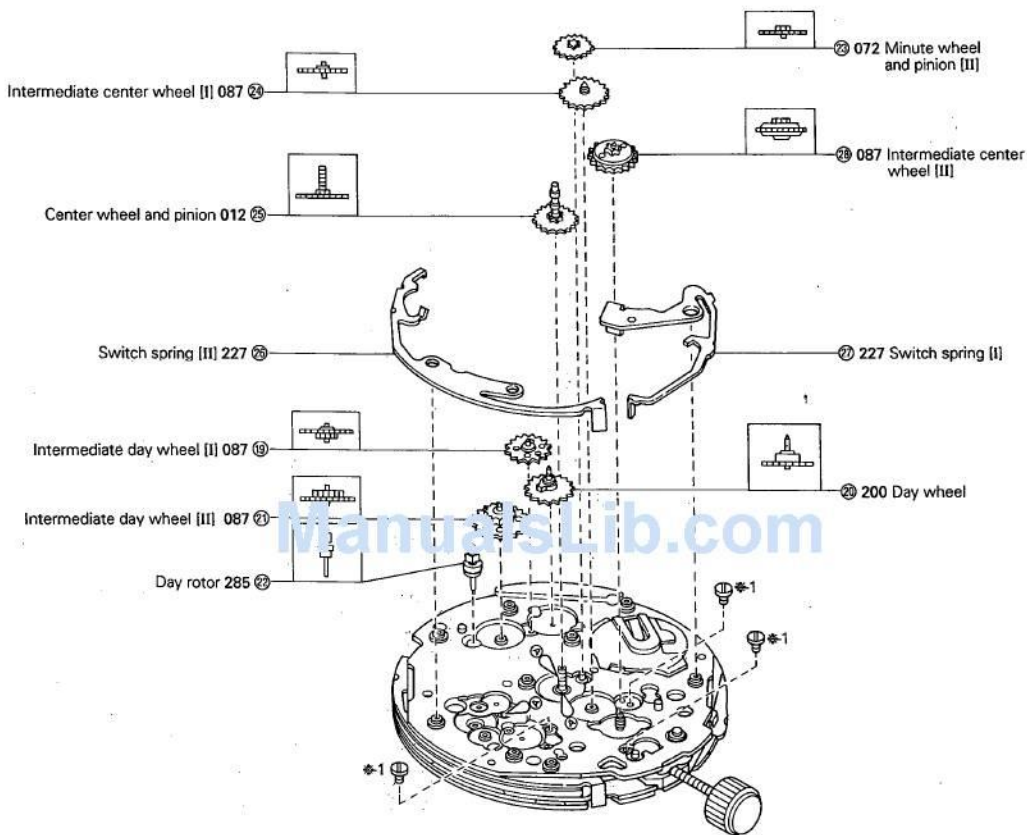
§7. DISASSEMBLY AND ASSEMBLY OF THE MODULE

Disassemble procedure ① → ④⑤
 Assemble procedure ④⑤ → ①

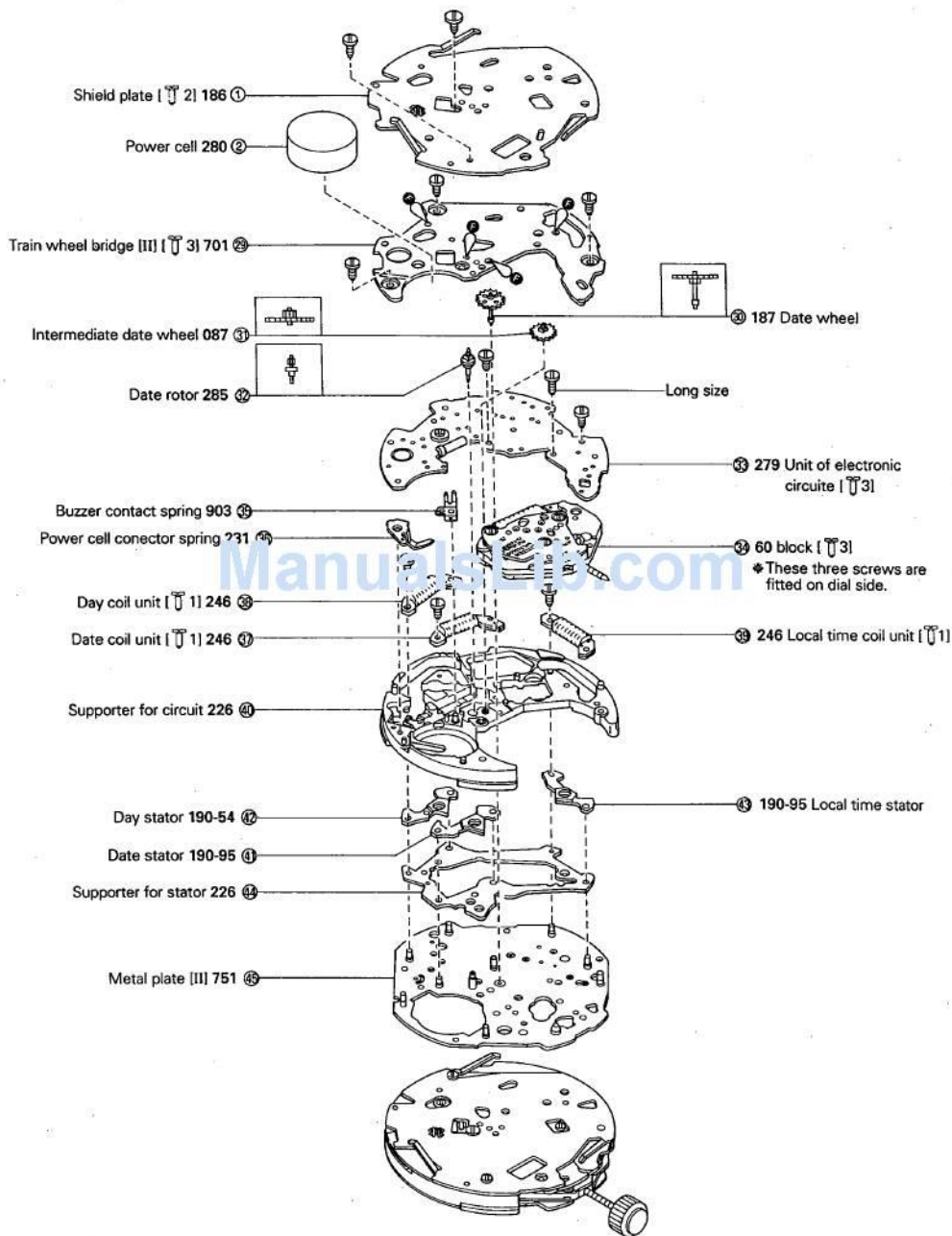
● Lubrication narjubgs

- ④ : A-Lube oil
- ⑤ : V-Lube oil
- ⑥ : CH-1 oil
- ⑦ : F-Lube oil

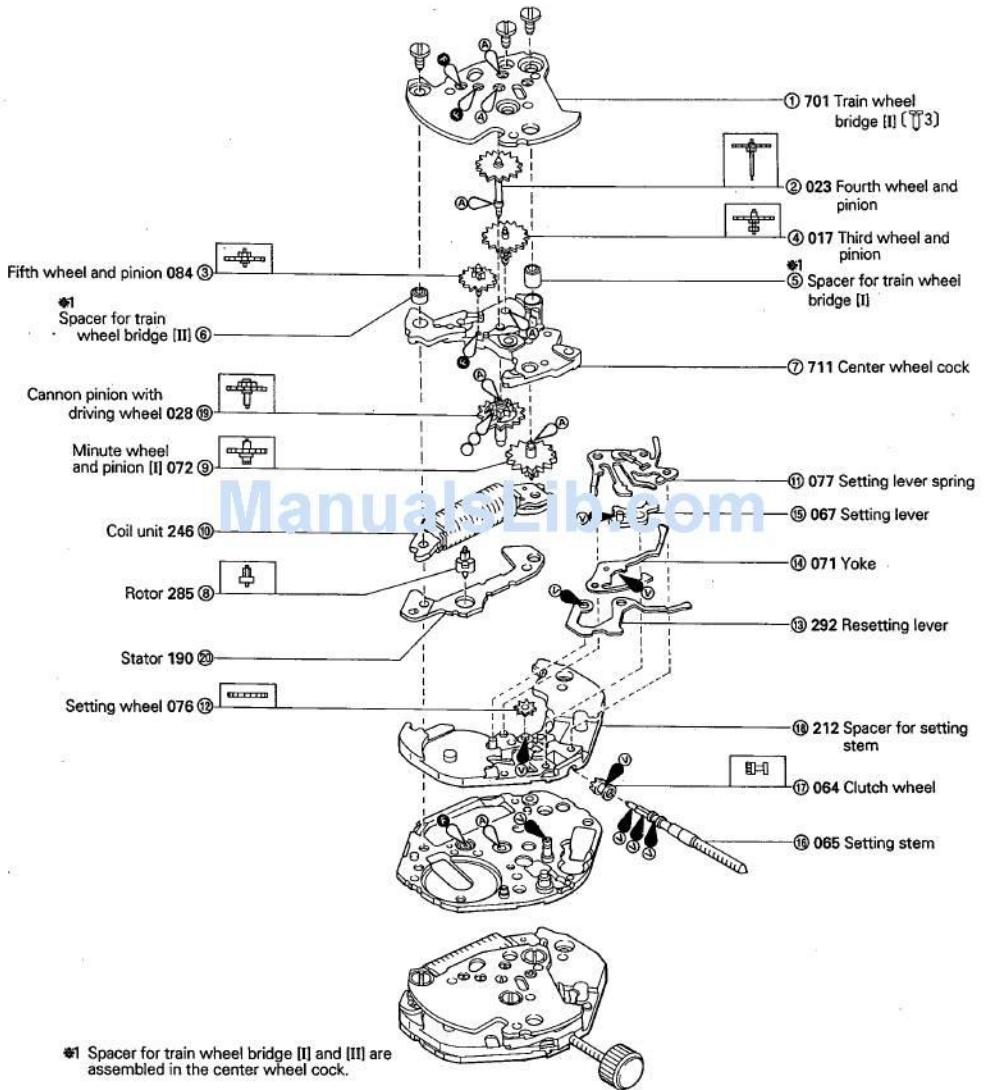




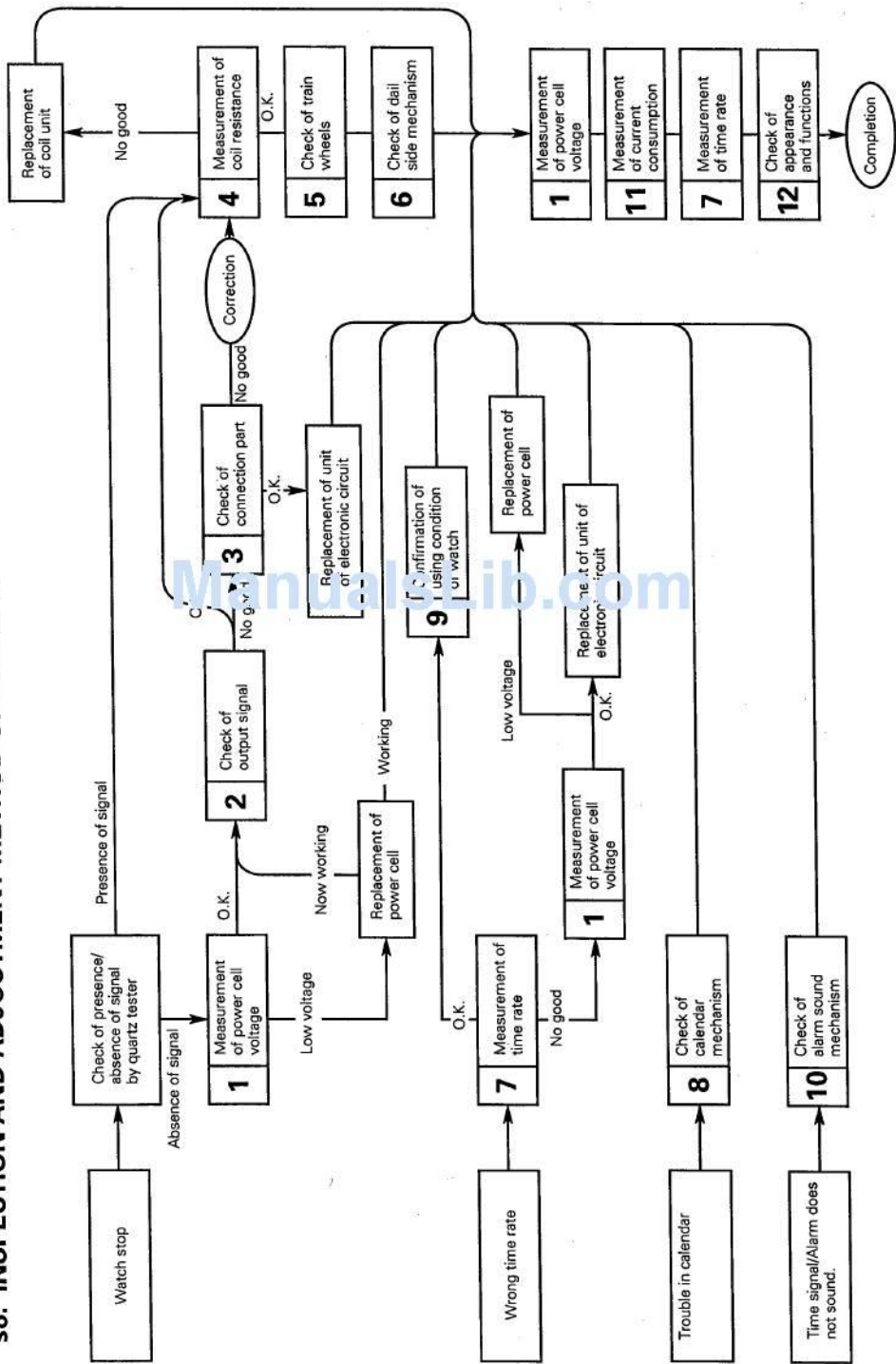
*1. Screws of plate complete [I].
After removing the switch spring [II],
remove these three screws.

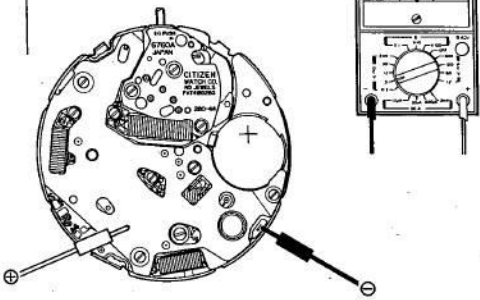
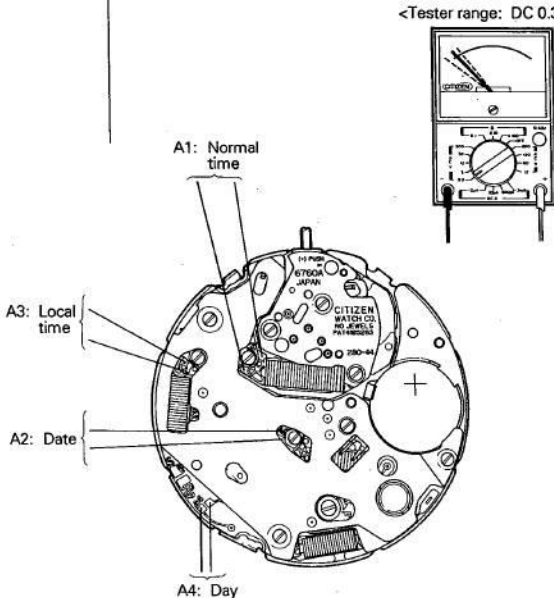


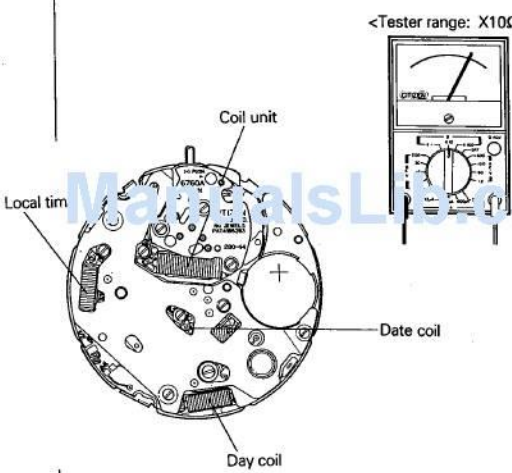
CAL. 604 block



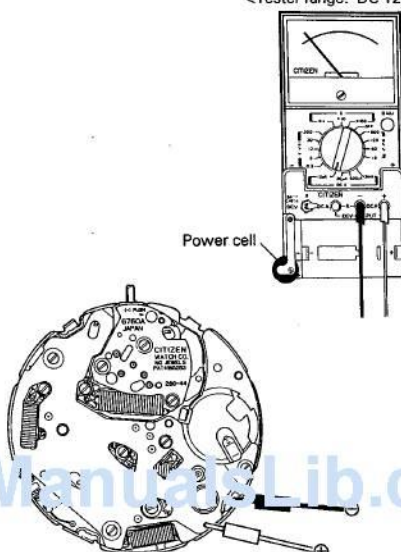
§8. INSPECTION AND ADJUSTMENT METHOD OF MODULE



Check items	Method	Results and repair procedure
<p>① Measurement of power cell voltage</p>	<p>* Refer to Technical Manual, Basic Course II-1-a for the setting procedure of the tester.</p> <p><Tester range: DC 3V></p> 	<ul style="list-style-type: none"> • Over 1.5 V → Non-defective • Under 1.5 V → Replace the power cell
<p>② Check of output Signal</p>	<p>* Refer to Technical Manual, Basic Course II-1-a for the setting procedure of the tester.</p> <p><Tester range: DC 0.3 V></p>  <ul style="list-style-type: none"> • Measure A1 output signal with the crown at the normal position. • When measuring the A2, A3, and A4, press and hold the (A), (B), and (C) buttons respectively. * Measure with the module installed in the case. 	<ul style="list-style-type: none"> • A1 output signal (Normal time) Tester pointer swings at interval of 1 sec. → OK • A2 output signal (Date) • A3 output signal (Local time) • A4 output signal (Day) Tester pointer swings. → OK

Check items	Method	Results and repair procedure
<p>③ Check of connection part</p>	<p>* Refer to the analog part of Technical Manual, Basic Course II-2-a.</p> <p>If the output signal cannot be obtained for checking, dust may be caught between electronic circuit unit and each part.</p> <p>When the fixing screws of the electronic circuit unit are loosened, the output signal may not be obtained. Tighten those screws securely.</p>	<ul style="list-style-type: none"> • Dust and dirt → Remove
<p>④ Measurement of coil resistance</p>	<p>* Refer to Technical Manual, Basic Course II-1-c for the setting procedure of the tester.</p> <div style="text-align: center;"> <p><Tester range: X10Ω></p>  </div>	<p>Resistance</p> <ul style="list-style-type: none"> • Coil unit 2.0 kΩ ~ 2.5 kΩ → Non-defective • Local time coil unit/Date coil unit/Day coil unit 1.3 kΩ ~ 1.7 kΩ → Non-defective
<p>⑤ Check of train wheel</p>	<p>* Refer to Technical Manual, Basic Course II-2-b.</p> <ol style="list-style-type: none"> 1. Confirm all the gears are meshed smoothly. 2. Confirm reset lever works securely. 3. Confirm all the parts are properly lubricated. 	
<p>⑥ Check of dial side mechanism (Calendar)</p>	<p>* Refer to Technical Manual, Basic Course II-2-c.</p>	

Check items	Method	Results and repair procedure
<p>7 Measurement/adjustment of time rate</p>	<p>* Refer to Technical Manual, Basic Course II-2-d.</p> <p>Measure the time with CITIZEN QUARTZ TESTER and adjust it if necessary.</p> <ul style="list-style-type: none"> • Measurement of time rate The major time can be measured with the tester in any range. • Adjustment of time rate Adjust the time rate with the trimmer condenser. <p>Do not measure the time rate under the direct sunlight or incandescent lamp. If measured under them, the time rate may shift and may not be measured correctly.</p>	
<p>8 Check of calendar mechanism</p>	<p>If the calendar is not correct, press the button for about 3 second (with the crown at the normal position), and the each calendar hand moves fast, then stops (for about 10 seconds). At this time, confirm that the calendar hands are at the following positions.</p> <ul style="list-style-type: none"> • Year/month, and date hands: 12 o'clock position (Top) • Day hand: 12 o'clock position 	<ul style="list-style-type: none"> • The calendar hands are not set to initial positions. → Perform initial setting.
<p>9 Confirmation of using condition of watch</p>	<p>[Refer to Technical Manual, Basic Course II-2-e.]</p>	
<p>10 Check of alarm sound mechanism</p>	<ul style="list-style-type: none"> • Check the buzzer contact spring for deformation. • Check the piezo-electric element for crack or breakage. 	<ul style="list-style-type: none"> • If any trouble is found by the check, replace the part. • If no troubles are found, replace the electro circuit unit.

Check items	Method	Results and repair procedure
<p>⑪ Measurement of current consumption</p>	<p>* Refer to Technical Manual, Basic Course II-1-f for the setting procedure of the tester.</p> <p style="text-align: center;"><Tester range: DC 12 μA></p>  <p style="text-align: center;">Power cell</p> <p>*Precautions in measurement of current consumption</p> <ol style="list-style-type: none"> 1. This watch is equipped with a load compensation circuit. This circuit adjusts the drive output according to the wave form obtained when the rotor rotates. This function works for 10 ~ 30 sec after the power cell is set. At this time, "abnormal current consumption" is indicated. In this case, wait for at least 30 sec to measure correctly. 2. If the module is exposed to the light of an incandescent lamp of the sun, much current may be consumed. The light of a fluorescent lamp does not affect the current consumption. 	<ul style="list-style-type: none"> • Under 1.3 μA → Non-defective • Perform this test with the module in the case. Measure the current consumption by the following method. • Measure the current consumption with the test lead bars kept applied. <ol style="list-style-type: none"> 1. Pull out the crown two steps. 2. Push the three buttons at the same time for at least 2 seconds (All reset). 3. Push the © button 2 or 3 times repeatedly. 4. Return the crown to the normal position and pull it out two steps again. 5. Return the crown to the normal position, and the current consumed by the module under ordinary condition can be measured. <p>* Be sure to perform initial setting after measurement of current consumption.</p>
<p>⑫ Check of appearance and functions</p>	<p>* Refer to Technical Manual, Basic Course II-2-f.</p> <ol style="list-style-type: none"> 1. Confirm there is not dust, dirt, etc. on the dial. 2. Confirm the crown works normally. 	

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