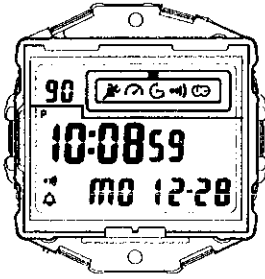
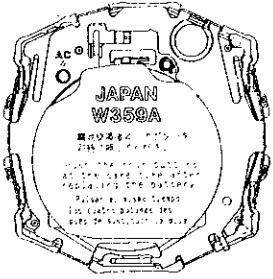


PARTS CATALOGUE/TECHNICAL GUIDE

Cal. W359A

[SPECIFICATIONS]

| Item | | Cal. No. | W359A |
|---------------------------------|------------------|----------|--|
| Module | | |   <p style="text-align: right;">(x 1.2)</p> |
| Module size | Outside diameter | | 29.4mm between 6 o'clock and 12 o'clock sides 28.7mm between 3 o'clock and 9 o'clock sides |
| | Height | | 5.3mm (5.9mm including the battery portion) |
| Display medium | | | Nematic Liquid Crystal, FEM (Field Effect Mode) |
| Liquid crystal driving system | | | 1/4 multiplex driving system |
| Display system | | | <ul style="list-style-type: none"> • Time/calendar display • Tachymeter display • Stopwatch display • Alarm display • Timer display • Dual time display |
| Additional mechanism | | | <ul style="list-style-type: none"> • Stopwatch auto start function • Hourly time signal • All segments light-up system • Circuit reset (By pressing four buttons at the same time) • Illuminating light |
| Loss/gain | | | Monthly rate at normal temperature range: less than 20 seconds |
| Regulation system | | | Nil |
| Measuring gate by quartz tester | | | Any gate can be used. |
| Battery | | | SEIKO CR2025, Matsushita CR2025 Battery life is approximately 5 years. Voltage: 3.0 V |

PARTS CATALOGUE

Cal. W359A

Disassembling procedures Figs. :

① → ⑩

Reassembling procedures Figs. :

⑩ → ①

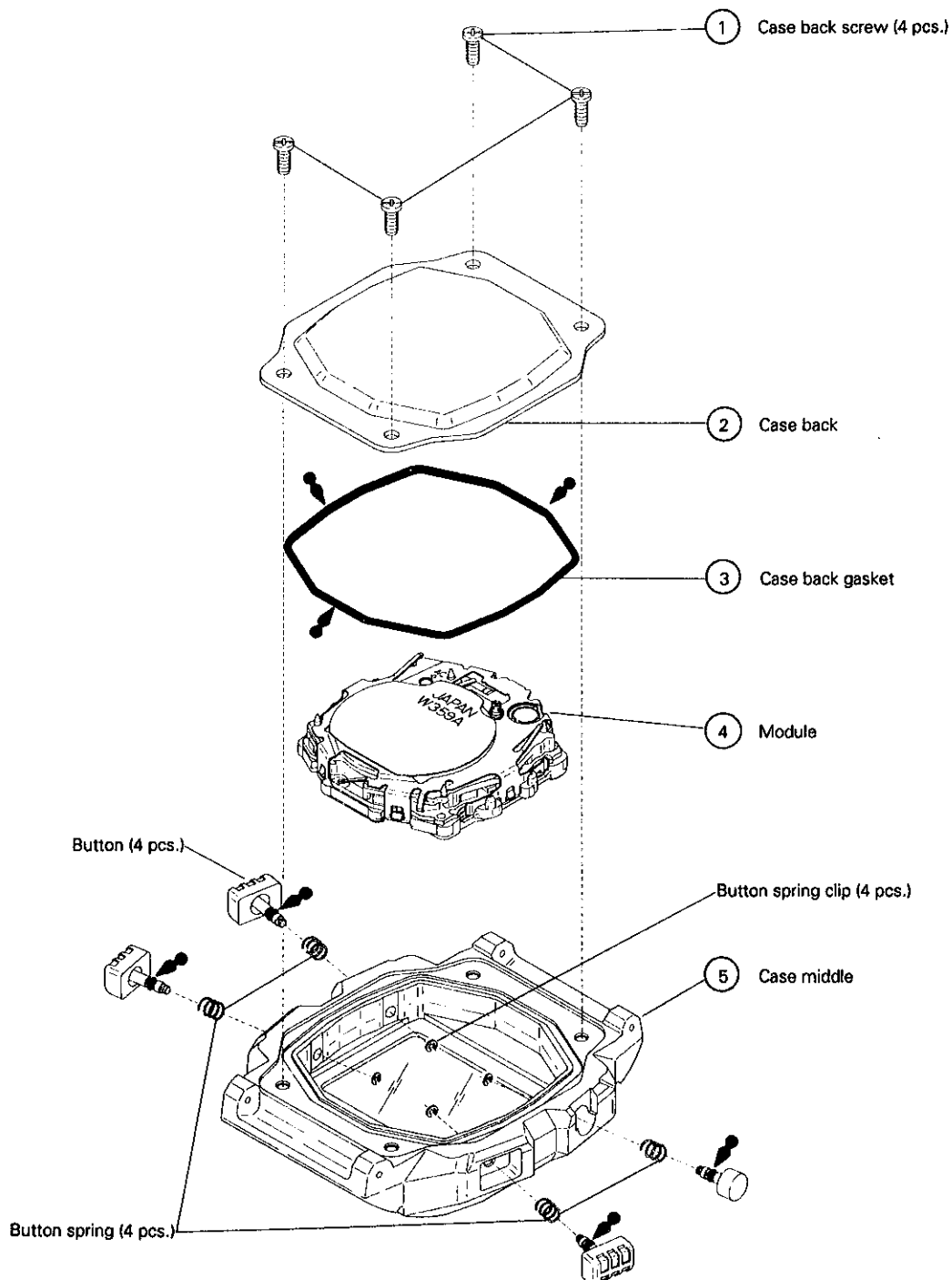
Lubricating:

Types of oil

Oil quantity

● Silicone oil 500,000 c.s.

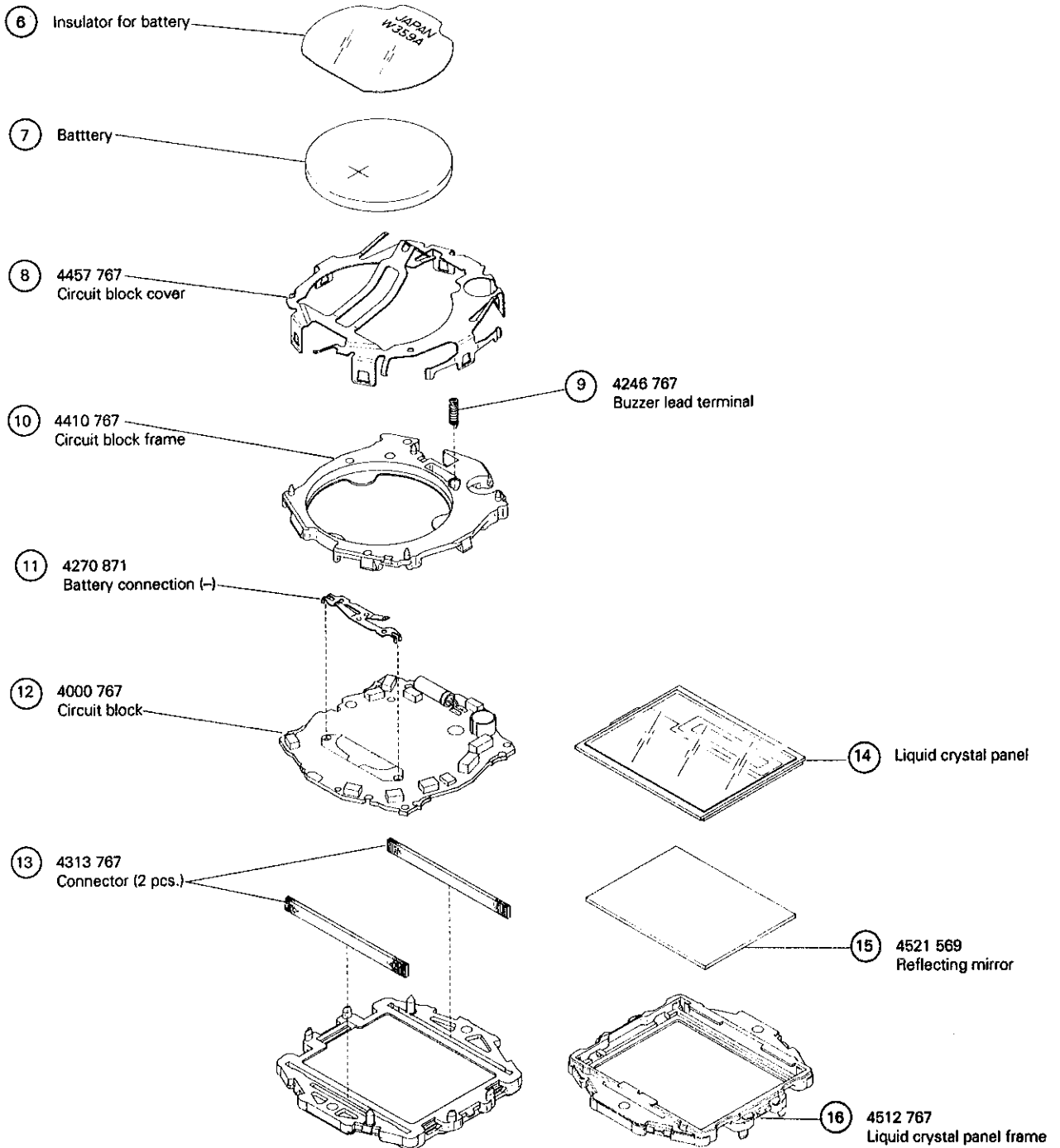
○ Normal quantity



• Other parts
Piezoelectric element 4589 650

PARTS CATALOGUE

Cal. W359A



Remarks:

- After reassembling the liquid crystal panel, reflecting mirror and liquid crystal panel frame, reverse the module to install the parts ⑬~⑥.

○ ➡ Please see the remarks on the following pages.

PARTS CATALOGUE

Cal. W359A

Remarks:

⑥ Insulator for battery

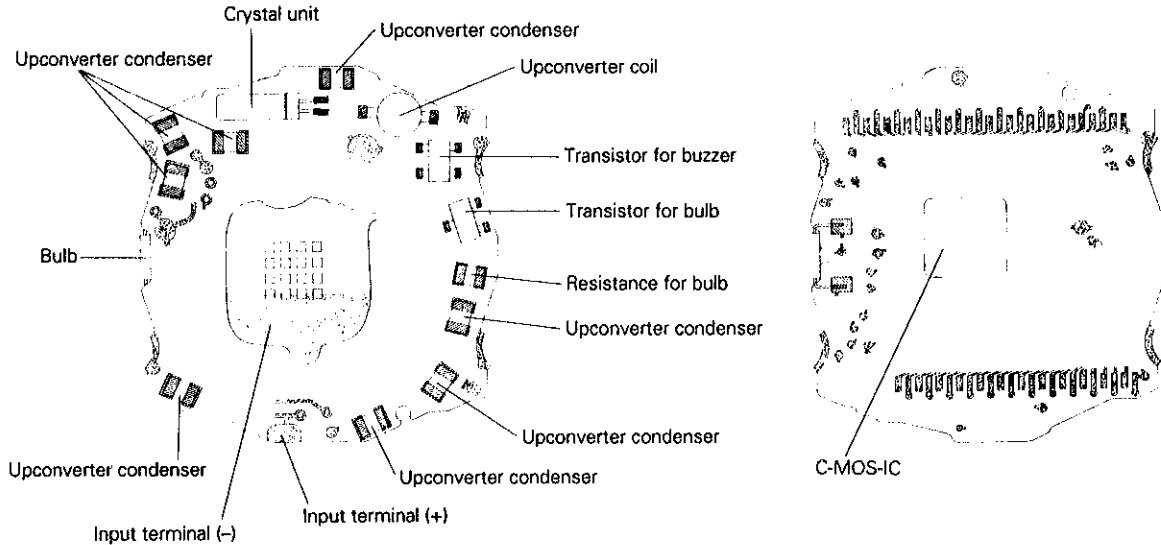
| | | |
|---|----------------|-----------------------|
| Part No. | 4216 760 | 4216 762 |
| Panel specifications | Standard model | Low temperature model |
| Operational temperature range for watch mechanism | -5°C ~ 50°C | -20°C ~ 50°C |
| Marking (Printed on insulator for battery) | W359A JAPAN | W359A JAPAN 1 |

⑭ Liquid crystal panel

| L/C panel No. | Mov't ref. No. | L/C panel color | Mode marks |
|---------------|----------------|-----------------|-----------------------------------|
| 4510 572 | UW35922 | Silver | English letters |
| 4510 574 | UW35921 | Silver | Pictures |
| 4520 570 | UW35923 | Silver | Pictures (Red graphic display) |
| 4520 571 | UW35924 | Silver | Pictures (Red mode marks) |
| 4510 573 | UW35926 | Gold | English letters |
| 4510 593 * | UW35920 | Silver | English letters |
| 4510 594 * | UW35925 | Gold | English letters |

* Low temperature model

I. STRUCTURE OF THE CIRCUIT BLOCK

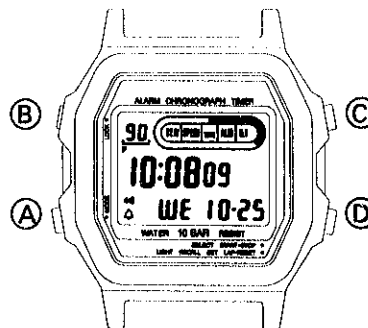
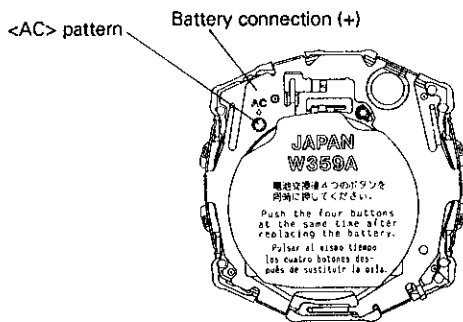


II. REMARKS ON INSTALLING THE BATTERY

- A necessary step after installing the battery

- After the battery is replaced with a new one, be sure to short-circuit the AC terminal and the battery connection (+) with tweezers, or press four buttons (A) (B) (C) and (D) at the same time to reset the circuit. Then, check that the displays will appear as follows:

| | |
|-----------------|--|
| Time/calendar : | 12:00'00" AM Monday, January 1, 1990 |
| Alarm : | 12:00 AM Alarm and hourly time signal are disengaged. |
| Dual time : | 12:00 AM |
| Stopwatch : | Reset to "00" Auto start time is reset to "00'00" |
| Tachymeter : | Reset to "00" Distance is set to "000.000 km" |
| Timer : | 00:00 |



Press four buttons at the same time.

- After installing the battery, be sure to reset the insulator for battery in position. Otherwise, the alarm may not ring.

III. REMARKS ON DISASSEMBLING AND REASSEMBLING

⑭ Liquid crystal panel

⑮ Reflecting mirror

⑯ Liquid crystal panel frame

- After reassembling the liquid crystal panel, reflecting mirror and liquid crystal panel frame, reverse the module to install the parts ⑬ ~ ⑥.

IV. VALUE CHECKING

• **Upconverter coil resistance:** $50\Omega \sim 90\Omega$

• **Current consumption**

For the whole of the module : less than $4.0\mu\text{A}$

For the circuit block alone : less than $3.0\mu\text{A}$