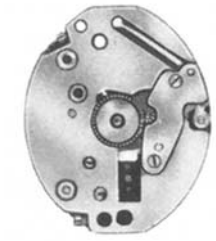
OMEGA

A COMPANY OF THE SWATCH GROUP

CALIBRE
1387
R 13 Q CORH CORM 3 jewels (13 x 15.15 x 2.3)

13.00 x 15.15 mm	
Movement height	2.30 mm
Jewel number Frequency	3 32'768 A/h



GENERAL DESCRIPTION

A new design in quartz watches with its reduced height, the simple device for time zone changes and the self-blocking gear train.

DISPLAY analogue with hands

FUNCTIONS hours, minutes

CORRECTIONS hours, minutes, second synchronization, totally electronic time zone change by a push-button recessed in the case middle at 3 o'clock

VARIATION DURING WEAR better than ± 5 seconds per month (adjusted to this tolerance if necessary)

RESISTANCE TO SHOCKS NIHS shocks : residual effect can be offset by frequency corrector

RESISTANCE TO MAGNETIC FIELDS better than 30 Oe

TEMPERATURE FUNCTIONING RANGE from 0° to 60° C

RUNNING TIME average of 2 years

CONSUMPTION average 0.35 µA
maximum 0.50 µA

YEAR OF CONSTRUCTION 1981

DIMENSIONS
Diameter 13.00 x 15.15 mm
height on movement 2.30 mm
height on battery 2.30 mm

MINIMUM FUNCTIONING VOLTAGE
≤ 1.35 V

BATTERY

REFERENCE 9934

TYPE silver oxide-zinc (low drain)
DIAMETER 6.80 mm
HEIGHT 1.60 mm
VOLTAGE 1.55 V
CAPACITY 15 mAh

ELECTRONIC MODULE

TYPE OF RESONATOR quartz tuning-fork

FREQUENCY 32768 Hz

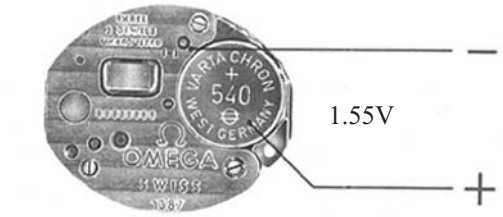
FREQUENCY CORRECTOR trimmer

MOTOR

TYPE electromagnetic with radial field, coil on the same level, step-by-step (2 steps per revolution, LAVET type)

DESIGN integrated, can be disassembled

1. DIAGNOSIS Motor impulses 1 per minute

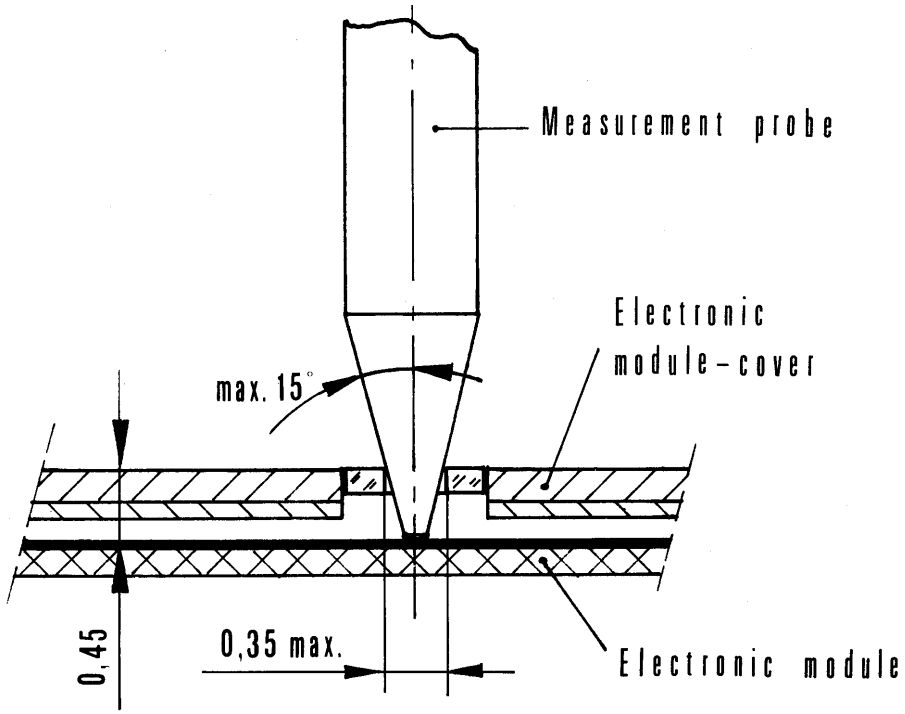
Controls	Measurements	Instruments
BATTERY VOLTAGE, battery fitted		
	1.55V	ALITEST Probes on "input" key V Ext
FREQUENCY battery fitted frequency corrector	between - 0.25 et + 0.05 s/d	DELTATEST key < 15 hz CAPTOR APU-2
MOTOR IMPULSES, battery fitted (see remark)	needle of the instrument oscillates each minute	ALITEST Probes on "input" key V Ext
MOTOR COIL RESISTANCE, without battery Control also without electronic module	between 1.6 - 1.8 KΩ	ALITEST Probes on "input" key KΩ
CONSUMPTION, without battery without motor impulse	maxi 0.50 µA	ALITEST Probes on "output" KEYS µA 1.55V
MINIMUM FUNCTIONING VOLTAGE, without battery 32 Hz rapid advance (press on corrector)	≤ 1.20 V	ALITEST Probes on "output" key VUadj Uadj

Remark concerning DIAGNOSIS

Tooling measurement probes

The measurements of the motor impulse and the coil resistance are made with the electronic module cover assembled. The points of the measurement probes should be sufficiently small in diameter to pass through the jewel holes of the electronic module-cover.

Standard probes with specially sharpened points can be used. Maxi diameter of probes to pass through the jewel hole : 0.35 mm.



2. DISASSEMBLY

Order of operations

battery

hands, dial (held by 2 dial screws)

electronic module cover

electronic module

battery clamp

coil fitted

wheel train

minute wheel train

DO NOT DISASSEMBLE THE STATOR

Remark Clean the bottom plate with the battery insulator.

3. CLEANING

3.1. Dry cleaning battery

electronic module

coil fitted

rotor (use cleaning paste for the rotor)

3.2. Cleaning by usual baths

all other components

4. ORDER OF ASSEMBLY AND CONTROLS

4.1. Wheel train assembly

1387
9000

1387
9415

1387
9247

1387
9005

2868
2X

4.2. Wheel train control

The wheel train is comprised of a unidirectional gear do not try to make it turn by moving one of its wheels. Simply check their axial clearance.

Owing to the magnetic force existing between the magnet and the stator, the rotor remains suspended between its two bearings.

Control the axial clearance of the rotor above and below.

4.3. Lubrication

 1.15 (Synt-A-Lube, 9010 blue)

Rotor jewels, above and below

4.4. Minute wheel train assembly

1387
9314

1387
9221

1387
9009

2869

2874

Remark The short screw 2869 of the minute wheel train bridge should be screwed close to the corrector.

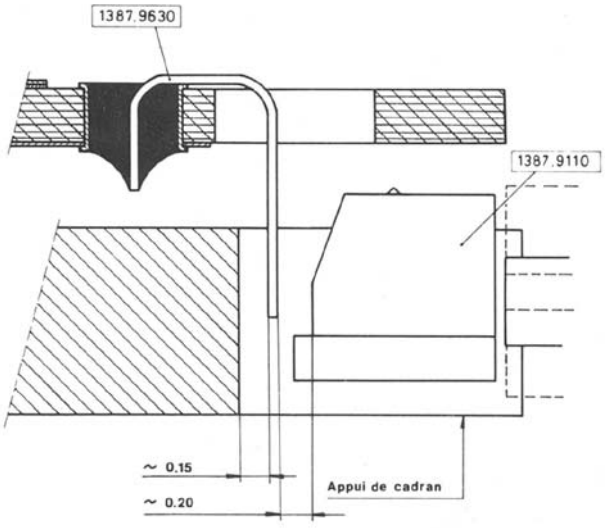
4.5. Coil and electronic module assembly

1387 9417	1387 9033	1387 9600	1387 9655	2734 3X

Guide with precision the electronic module as it is put in place at the level of the battery clamp.

Hold the electronic module around the screw-feet of the bottom plate for screwing.

4.6. Control of the contact clamp



1387.9110 corrector 1387.9630 contact clamp

Control the function of the corrector after each intervention. The positioning of the contact clamp must be strictly maintained.

Bend the contact clamp according to illustration without distorting it in the area of the soldered part.

Remark To assure good magnetic contact for the motor, the electronic module cover screws must be well locked.

5. CONTROLS AND ADJUSTMENTS
(see 1. Diagnosis)

Movement consumption, maxi 0.5 µA

Minimum functioning voltage ≤ 1.20 V

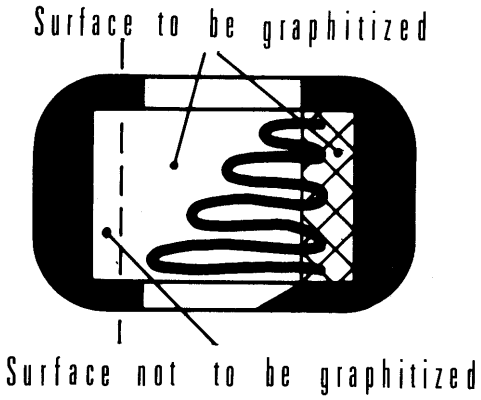
Adjustment of the frequency between - 0.25 and + 0.05 s/d

5.1. Adjustment of the frequency

The adjustment of the quartz frequency depends on the capacity of the condenser linked to the oscillator. The capacity of this condenser depends on the graphitized surface.

If the watch is running fast, add graphite to the condenser by means of an extremely hard pencil (6H). Remove any graphite wastes with cleaning paste.

If the watch is running slow, remove all the graphite from the condenser by means of a leather buff soaked with F 45 or equivalent solvent, then put graphite until the desired frequency is obtained. Avoid excessive pressure on the condenser to be graphitized.



5.2. Fitting the battery

Insert a fresh, checked battery taking care to place it in the movement with the + on top.

When the movement receives the battery voltage, the wheel train may turn for some time on rapid advance.

Life time calculator position "E"

6. EXTERIOR COMPONENTS

6.1. Uncasing

To uncase the watches without an enlarging ring, be careful not to use excessive force so as not to pull off the electronic module cover. It is advised to make the movement drop out.

6.2. Fitting dial and hands

Do not forget to put in place the hour wheel friction-spring no. 1387.9295 which does not appear in the list of spare parts. Its thickness is 0.09 mm and on no account should the tension be altered.

Tooling Omega piece-holder no. 1387.9000-5112

with decentralized support
with specifically shaped support
with adjustable support

The electronic module cover has a countersink allowing the passage of the support for driving-in the hands.

This decentralized fitting supports the buttom plate without touching the wheel train bridge.

The above-mentioned piece-holder must be used.

6.3. Casing up

Before casing, push the springless push button of the case towards the outside or outside the case.

The cases with an enlarging ring generally have a rapid corrector extension.

If the corrector extension has a pivot, it should be turned toward the inside.