

如何使用精工音樂 4X4 機芯

適用型號 16 系列 16601A; 16602AA; 16603A; 16603AA

適用型號 15 系列: 15000W; 15001W; 15008WZZA; 15009WZZA

Appropriate process of fixing hands

适当的固定钟针的程序:

Adjust the hour hand shut at just 12 O' clock position by using hand setting knob with reference of indication through the small window at backside of movement.

透过机芯後背部之一个小圆窗, 可以参考指示的机芯时间, 先转动调针旋钮将时间设定於刚好 12:00

⑦ Fix the movement to the clock body.

将机芯安装在时钟的匣位內

⑧ Fix a hour hand to the movement shaft. (12 O' clock-position)

安装时针在时针轴上 (相对位置的时间是 12:00)

⑨ Fix a minute hand to the movement shaft. (0 minute-position)

安装分针在分针轴上 (相对位置的时间是 0 分钟)

● Fix the nut with holding the minute hand in order not the hand to move.

为了分针保持正确位置, 不让分针移动, 安装固定分针的螺母

⑩ Turn the hand-setting knob and set time at 6 O' clock in order to confirm all the procedure above was done completely.

转动调针旋钮, 调较时间到 6:00, 目的是检查之前的程序上是否完全做妥.

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*\*Inappropriate handling of movement*

*不適當的設置機芯過程上,*

*At fixing minute hand to the movement shaft*

於安装分针在分针管轴的过程上:

以下全是错误的安装方法, 所有工厂和主管必须特别留心 and 注意:

◆ *Turned a minute hand nut without holding the minute hand*

错误⇨曾经转动固定分针的螺母, 当其时却没有将分针固定於适当的位置上;

*At adjusting time after fixing hands*

错误⇨当锁定钟针後, 调整时间过程上:

◆ *Turned the minute hand or hour hand toward clockwise with Fingers:*

错误⇨曾经以手指顺时针方向转动分针或时针 (意指直接施力於钟针);

◆ *Turned hour hand with holding hand-setting knob*

错误⇨曾经转动时针, 当其时却施力於调针旋钮 (意指不觉间固定了调针旋钮);

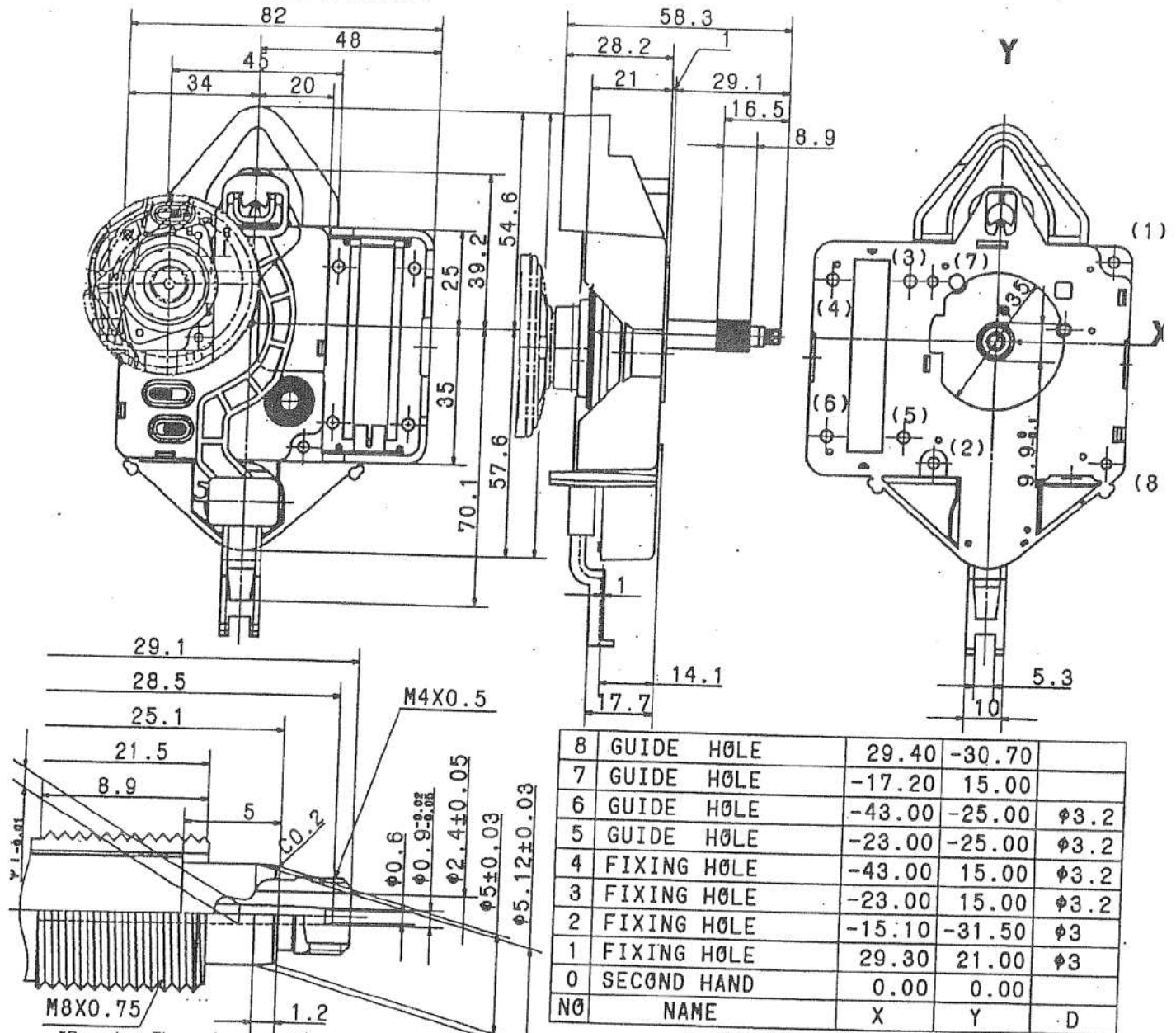
◆ *At touching hand for some chance*

错误⇨以手指直接或触碰; 不知情况下触动了钟针.

# QUARTZ CLOCK MOVEMENT (16602) 16602AA

- DUAL CHIME WESTMINSTER/WHITTINGTON
- HOURLY STRIKES FOLLOW THE HOURLY CHIME
- AUTOMATIC CHIME SILENCER(11:00 P.M~5:45 A.M)
- VOLUME CONTROL
- AUTOMATIC CHIME & STRIKE SETTING FEATURE
- PENDULUM & HANGER

SEIKO Precision (Hong Kong) Ltd.



\*Remark : There is a marking by cutting the part of plastic hour hand shaft on the 12:00 position"

## SPECIFICATIONS

Crystal Oscillator : 4,194,304Hz  
 Time Keeping : 0.7sec/day at 1.5V, 23°C  
 Operating Voltage : 1.3V to 1.7V  
 Operating Temperature : -10°C to 50°C  
 Weight : approx.70g w/o battery  
 Torque : second shaft : under 1.40gf-cm at 1.5V  
 : minute shaft : under 30gf-cm at 1.5V  
 Driving System : self-start/step-motor drive  
 Circuit Output Frequency : 0.5Hz  
 Rated Voltage : 1.5V  
 Battery Size : C size(IEC R14) 1 piece  
 Battery Life : 1 year  
 Average Current Consumption  
 : Time : under 170μA at 1.5V  
 : Chime : under 70mA at 1.5V  
 : Pendulum : under 150μA at 1.5V  
 at 350mm long, 50g weight  
 Weight Limit For The Hanger : under 2kg (clock in all)  
 Tolerance of Humidity : 3 months at 90% humidity at 40°C

Accuracy : ± 0.7 sec/day

## Striker Mechanism

Striking : every hour on the hour only  
 Chime : every hour on the hour  
 : measures 2, 3, 4 and 5  
 : every 15minutes measure 1  
 : every 30minutes measures 2 and 3  
 : every 45minutes measures 4, 5, and 1

Striking Accuracy : ± 30seconds

Striking Sound : electronic sounds

Types of Chime : westminster/whittington

Pendulum Drive : electro magnetic drive

Pendulum Length\* : under 120 ~ 350mm

Pendulum Weight : under 40 ~ 60g

\* between the center of the mov't dial and of the pendulum bob

## Allowed Hand

Second Minute Hour

Length : under 130mm 160mm 160mm

Weight : under 2g 6g 6g

Unbalance : under 0.15gf-cm 6gf-cm 6gf-cm

## Allowed angle of Inclination

Horizontal ± 3% Vertical ± 2%

REVISED

Oct 12, 2001





安裝機芯前，必須預先  
調較至早上 10:00

INSTRUCTIONS

- 1 6 6 0 1 A
- 1 6 6 0 2 A (ZZA)
- 1 6 6 0 3 A (ZZA)
- 1 6 3 0 0 A
- 1 6 3 0 1 A
- 1 6 3 0 3 A (ZZA)

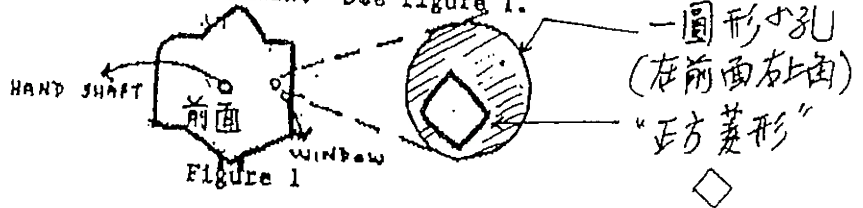
PART I

如何安裝機芯  
HOW TO ASSEMBLE THE MOVEMENT TO A CASE

步驟 1. Before assembling the movement to a case, the movement must be pre-set to the t of 10:00 by following the steps below:

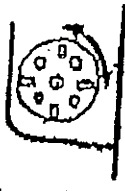
- ① 先裝上電池
- ② 轉動 (後面轉盤)
- a. Install one "c" size battery in the battery compartments.
- b. While looking at the front of the movement, turn the hand set knob until a square shape appears in the window. See figure 1.

直至看到“正方形”出現於小圓孔  
(其他形狀是  $\Delta$  或  $\circ$ )



Continue to turn the hand set knob in either direction (see figure 2) until square shape is positioned in the middle of the window.

請能以  
鐘面(順時針) 轉用較時  
表調較時間



繼續轉動轉盤直至“菱形”位於圓孔中心  
最後聽到“啲”一聲響，這位置最完美。  
(早上十時正)

NOTE: While turning the hand set knob you may hear a slight "click" sound. This is perfectly normal.

③ 調較其他的控制鍵。 c. Set the knobs and switches to the recommended positions as shown below:

如當時正確的時間在(清晨後)早上  
請撥至這位置。(在下午時段，則撥至晚上)

全日都打點 (音樂)

AM (00:00 AM) 至 11:59 AM

PM (12:00 PM) 至 23:59 PM

(1) Set switch

(2) Sound selector

(3) Volume control (middle position)

VOLUME

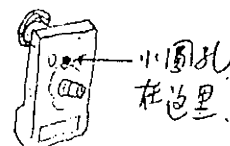
AM 和 PM 功能一樣，都是“午夜靜功能”

d. Mount the movement to a case with either a center fixation nut or screws.

From the small window you can see the following marks which indicate the each hour as under.

- 1:00 no mark ← 沒有標記
- 2:00  $\Delta$  ← 三角標記
- 3:00 no mark
- 4:00 no mark
- 5:00 no mark
- 6:00 no mark
- 7:00  $\circ$  ← 圓形標記
- 8:00 no mark
- 9:00 no mark
- 10:00  $\square$  ← 正方形標記
- 11:00  $\text{—}$  ← 長條標記
- 12:00 no mark

Alfa  
Fm: 郭先生  
(精工)



(註：請參考這安裝指引)