

# Dial Indicator Repair Kit

User's Manual  
No.99MAG006B5  
Series No.7823

## Introduction

Be sure to read this user's manual before using the tool to ensure correct usage.  
Store this manual in an easily accessible place after reading it.



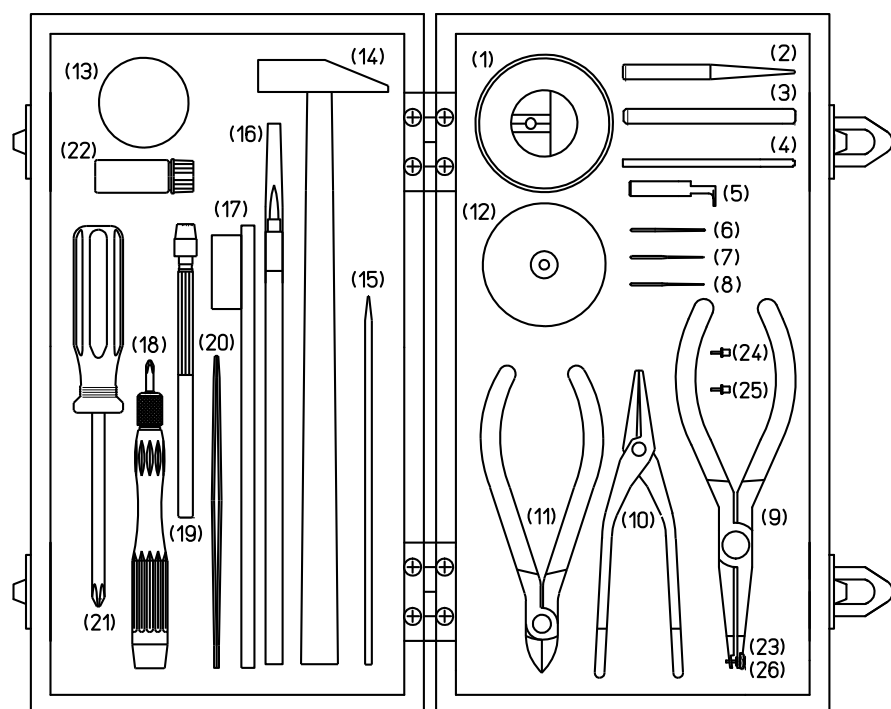
### CAUTION

- If using the sharp tools such as screw driver or tweezers, do not use them for other purpose than screwing or picking up object, so as not to be injured.
- Heavy items (spindle stage, stage for pin rest, etc.) must be handled carefully to avoid dropping them. Also be sure to avoid using a work area where items can easily fall off.
- Be careful to prevent grease or lubricant from getting into your eyes.

## [1] Nomenclature and Code No.

Nomenclature	Code No.	Nomenclature	Code No.
(1) Spindle stage	129730	(15) Spit	21JAA314
(2) Pin removing bar	129732	(16) Brush	901177
(3) Punch	129733	(17) Brush	901176
(4) Bearing metal adjuster	129734	(18) Philip and plane screw driver	901174
(5) Pinion stage	129735	(19) Pin vice	901175
(6) Reamer for pointer ( $\phi 1: 1/50$ taper)	129736	(20) Tweezers	129729
(7) Reamer for pointer ( $\phi 0.6: 1/50$ taper)	193702	(21) Philip screw driver, plastic	901173
(8) Reamer for pointer ( $\phi 0.5: 1/20$ taper)	21JAA273	(22) Lubricant	21JAA313
(9) Pointer remover	126628	(23) Pointer removing pin $\phi 0.8$	126630
(10) Pliers	901180	(24) Pointer removing pin $\phi 0.5$	126630B
(11) Nippers	901179	(25) Pointer removing pin $\phi 1.6$	126630C
(12) Stage for pin rest	129731	(26) Nut	100699
(13) Grease	901171	Wooden case	901182
(14) Hammer	901178	User's manual	99MAG006B

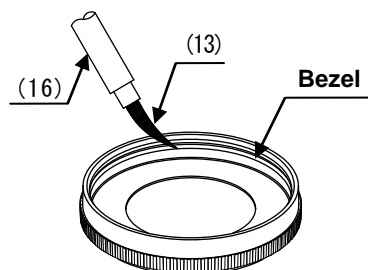
Note) Grease and Lubricant are not attached to 7823EU.



## [2] Usage Method

Here explains how to use the main tool, according to the repair items of dial indicator.

### 1) To grease for smoothing bezel rotation

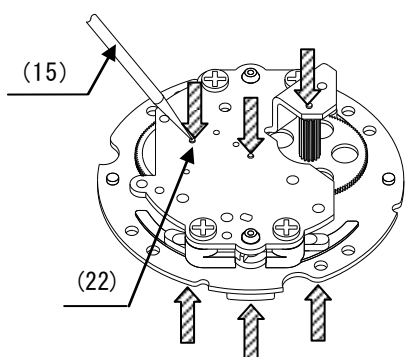


If the bezel does not rotate smoothly, apply grease (13) to the inner groove of the entire bezel, using the brush (16).

#### Note

Wipe off the excessive grease that is out of the groove by the soft paper.

### 2) Lubricating bearing

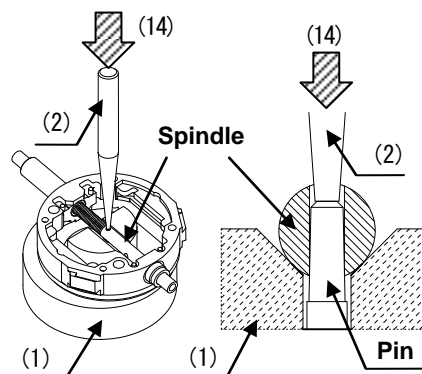


When disassembling or assembling, lubricate the bearing. Apply Lubricant (22) on the shaft of the pinion with the spit (15).

#### Important

- Insufficient lubrication of the bearing may negatively affect durability, operation, etc. Periodically lubricate the bearing, taking frequency of use into consideration. (Resupply small amount of lubricant to fill clearance between the hole and the shaft.)
- Be careful not to apply oil on the hairspring. It may cause a malfunction.

### 3) Removing and pressing-in of pins

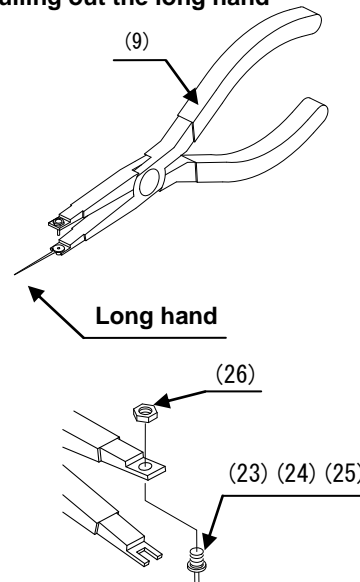


When replacing the spindle, remove the press-fitted pin. When removing the pin, place the spindle on the V anvil of the spindle stage (1), then remove it by using the pin removing bar (2) and hammer (14). When press-fitting the pin in the spindle, place the spindle on the V anvil of the spindle stage (1), then beat it with the hammer (14) to force it directly into the spindle.

#### Note

Be careful not to give any scratches on the spindle. That may spoil the spindle movement.

### 4) Pulling out the long hand



When replacing the long hand, first pull the long hand out. Align the notch on the tip of the pointer remover (9) with the lower portion of the long hand metal, and then align the pointer removing pin with the hole on the long hand. Then grasp the pointer remover (9) firmly to remove the long hand.

#### Important

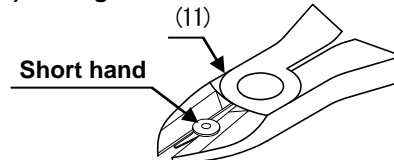
Three types of pointer removing pins (23), (24), (25) are provided for the pointer remover (9). Replace the pin with a pin that fits the diameter of the hole in the long hand.

The bearing of the pinion is higher than the long hand with the S type dial indicator (code No. with S models). Therefore, when removing the long hand, use the  $\phi 1.6$  pointer removing pin (25) to push down the excessive portion of the bearing first.

(The bearing of the pinion is not higher than the long hand with some models of the S type dial indicator. For these models, use the  $\phi 0.8$  pointer removing pin (23).)

When removing the pin, be careful not to damage it.

### 5) Pulling out the short hand

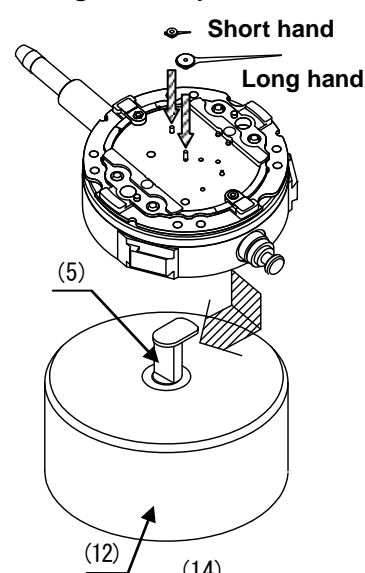


Use the nippers (11) to pull out the short hand.

#### Note

Place the paper on which the fulcrum for nipper comes, not to give scratches on the revolution counter plate.

### 6) Pressing-in of the pointer



When press-fitting the pointer, support the pinion on the pinion stage (5) and beat the punch (3) with the hammer (14) to prevent the bearing metal from pulling out and the bearing plate from being deformed.

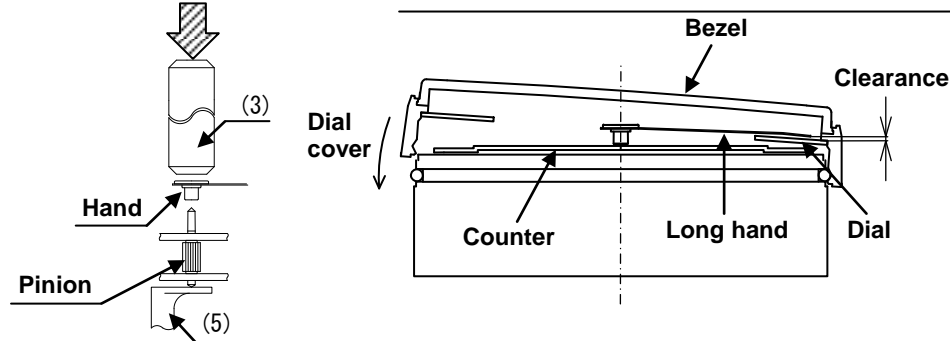
After press-fitting the long hand, pinch it with the tweezers (20) and adjust height of the tip of the long hand to prevent the tip of the pointer from touching the dial. After adjustment, install the bezel, taking care not to deform the pointer.

#### Important

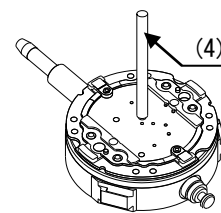
When using a new pointer, install the reamer for the pointer in the pin vice (19) to ream the metal hole of the pointer before press-fitting the pointer.

For the S type or T type dial indicator (code No. with S or T models), use the reamer for pointer ( $\phi 0.5: 1/20$  taper) (8).

For dial indicator other than above models, use the reamer for pointer ( $\phi 1: 1/50$  taper) (6) or the reamer for pointer ( $\phi 0.6: 1/50$  taper) (7) according to the diameter of the shaft.

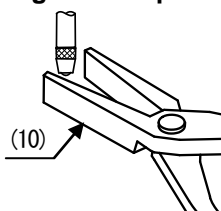


### 7) Adjusting the bearing metal (Specific model only)



If the bearing metal and jewel comes off while press-fitting the pin, use the bearing metal adjuster (4) to press-fit the pin.

### 8) Replacing contact point



When replacing the contact point, use the pliers (10).

#### Note

Wrapping the contact point in a rag prevents the contact point from being damaged when it is pinched by the pliers (10).

The clamping torque for the contact point is 30 to 50 N·cm.