

# REPAIR LASER POINTER SWITCH

## Introduction: Repair laser pointer switch

The irradiation button of [Kokuyo's laser pointer "ELA-MGU 91"](#) has stopped moving, so I repaired it with DIY. Parts fee is unnecessary. Repair of other buttons can be done in the same way .

Work time is 30 to 60 minutes for the first time. Since I summarized the background and work, please refer to those who are troubled with similar trouble.

(※ This article is for the purpose of providing reference information. The results can not be guaranteed. Please work on your own responsibility)

### Step 1: Symptoms and history

The irradiation button of the laser pointer that I bought a few years ago has stopped moving. Specifically, the click feeling disappears and the laser is not irradiated even if the button is pushed.

Model number is KOKUYO's "ELA-MGU 91". There was a memory that was [quite expensive](#) , so I asked for repair through a dealer. After several days we received the following contact and it was "Replacement of new article at repair price".

- 【Symptom indicated) Laser button does not work.
- [Diagnosis contents] The leaf spring of the switch part inside the main body is dropped. **New article exchange at repair price** . Extra shipping fee 972 yen.
- 【Repair Quote】**28,188 yen** (breakdown: technical fee 28,188 yen shipping fee 972 yen)

As manufacturer's retail price is 55,000 yen, exchange at about half price may be conscientious. Still it is expensive, so when I looked it up on the web, I found [an article](#) from [one who experienced](#) the [same experience](#) .

According to it, it said that it repaired himself with a part cost of 66 yen. I attempted disassembly as a matter of fact. As a result, it was different from the case of this article (probably due to difference in model number), but we were able to repair without purchasing new parts.

## **Step 2: Case disassembly**

To disassemble it needs a slightly unusual screw turning called **Torx screwdriver** or hex robe driver ( [it may be in Daiso of Hundred-average shop](#) : I [did not](#) put it in the store near me). The decomposition procedure is summarized below.

1. Take out batteries (AAA x 2)
2. Remove the Torx screw (2 places) in the center of the battery case
3. Make sure that the side printed on the side of the body with "BLACK OUT" is on the front and check the matching line at the front / back of the main unit case
4. Follow the joint line on the same side downward and insert a minus type precision screwdriver (minimum) near this middle line in the middle of two Torx screw holes
5. As the front / back of the case opens up a little, we follow the line up to the origin and extend the opening of the case little by little
6. When opening to the head of the case, this time it returns to its original position, opens the butt portion, and the opposite side also opens
7. You can almost separate the front / back of the case except around the printing of "MEDIA PLAYER" on the reverse side
8. Carefully remove this because **there are hooks on the lower inner side of the stop button (■)** under the same printing

9. When the main case is completely separated to the front / back, the plate of the head part also comes off, and the three parts are connected by a thin wire group

### **Step 3: Internal decomposition**

After decomposing the case into 3 parts, we move on to decomposition inside.

1. Remove the small "+" screw attached to the head of the front case
2. Remove the mouse unit as it can be removed (wire is not pulled out!)
3. Remove the Torx screw (third one) that holds the base on the front side case
4. Remove the base from the case while paying attention not to extend the contact spring of the battery pole
5. Remove the connector connected to the laser side (2 thick red wires for connection wires)
6. Flip the front and back of the base
7. Check the **switch part corresponding to the button that stops moving**
8. **Find and collect dropped parts** that make up the switch

Of the above procedures, "1" and "2" are optional, but those who removed it will make it easier for subsequent work.

### **Step 4: Condition check (cause of failure)**

**I think that the cause of malfunction of the button is almost certainly the defect of the switch on the foundation of "7" in the previous step** . This switch is called a "[membrane switch](#)

" and is structured to hold a round metal piece called "[dome switch](#)" in a contact lens shape with a thin nonconductor **cover** .

Although this metal piece has endurance times of motion and seems to be broken or deformed in any case, in reality it is often the case that the cover

comes off and the metal piece drops off and it will not move (at least in my case It was this case). If the cause of the button defect is this case, the metal piece and the cover should have fallen in the main body, so it can be **collected and reused** .

## **Step 5: Repair**

As seen in the previous step, if the cause of malfunction of the button is the dropout of the "dome switch", it can be collected and reused.

However, in my case, it seems that the manufacturer who requested the repair first collected and discarded them, there were no such parts in the main body. So when I searched the corresponding dome switch (round metal piece) on the web, I found [30 sets of items](#) . However, there was no handling of the corresponding size (diameter 3.5 mm).

Since there is no choice, remove the switch part of the "Alt + Tab" button which has the least usage frequency (or probably never used it) out of the other five switches attached to the base I decided to port it to an irradiation button.

For this laser pointer, the membrane switch is about 5 mm square square. In addition, the cover is a yellow transparent cellophane piece (square), and by bonding the four corners to the case of the switch, it prevents the dome switch from falling off. However, its adhesion strength was considerably weak (weak?), It was easy to disconnect just by inserting the cutting edge of the cutter knife a little.

After that, remove the dome switch, move it to the switch of the irradiation button and attach the cover and repair is completed. I attached a small amount of adhesive (G 17) to the removed cover with a toothpick and re-adhered, but the troublesome one is to cut the commercial cellophane tape slightly larger and cover the switch part wide I think that it is all right.

## **Step 6: Reassembling and comment**

If you can restore the dropped switch, we will assemble it in reverse order of disassembly. Since there are many thin wires, I think that you can complete the work without any difficulty, especially if you do not cut it or pinch it.

### 【Impressions】

The malfunction in this time is the [manufacturer's top model](#) and the price is also expensive. Because the malfunction of the button was due to the part dropout of the switch, even an amateur can be repaired in a small hour and repaired. On the other hand, when it comes to maker repair, this switch is integrated with the foundation, so I think that base replacement is the primary choice.

This time, the answer from the maker was exchanges with the new item, the cost was about half of the new item. Still it was expensive so I paid the repair cancellation fee and chose DIY repair, but if the user is a company it may be okay with the manufacturer's response. Consumer users should think that it is necessary to consider DIY first if it seems that the setting of the model (because of its price) assumes business use.