

**B10-1324-W7**

## Moore's Motor Assembly Kit

— How to Assemble —

Thank you for purchasing the Moore's Motor Assembly Kit. When the kit is assembled, a ball coated with electrically conductive paints turns round in a tray attached with electrodes by attraction and repulsion. This kit was originally developed as an experimental item for the electrostatic generator. It may also be used for experimenting with the static high-voltage generator "RAIJIN."

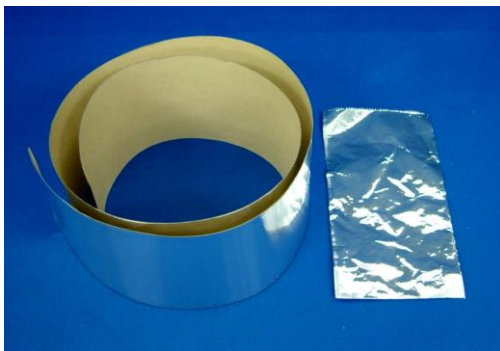
### 1. Checking the Parts

Check that the following parts are ready.

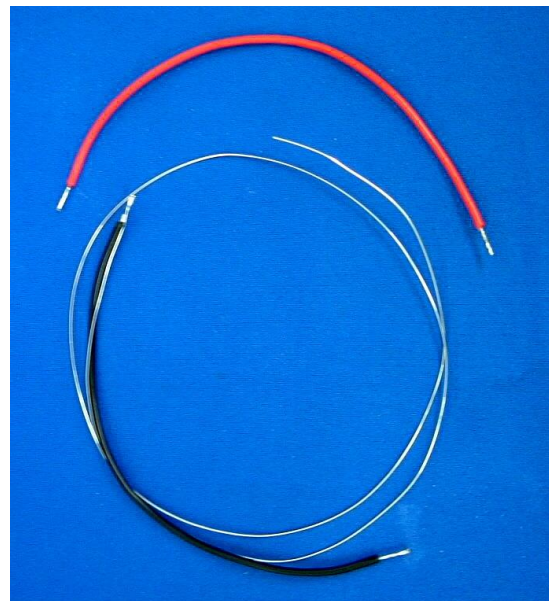
- ① Plastic tray x 1 piece (Photo 1)
- ② Aluminum tape, 50 mm wide x 600 mm long, x 1 sheet (Photo 2)
- ③ Aluminum foil, 50 mm wide x 100 mm long, x 1 sheet (Photo 2)
- ④ Leads: A red lead, soldered at both ends, and a black lead with  $\phi$  0.4-mm tin-plated copper wires (Photo 3)
- ⑤ Electrically conductive ball x 1 piece (Photo 1)



**Photo 1. Motor Tray and Electrically Conductive Ball**



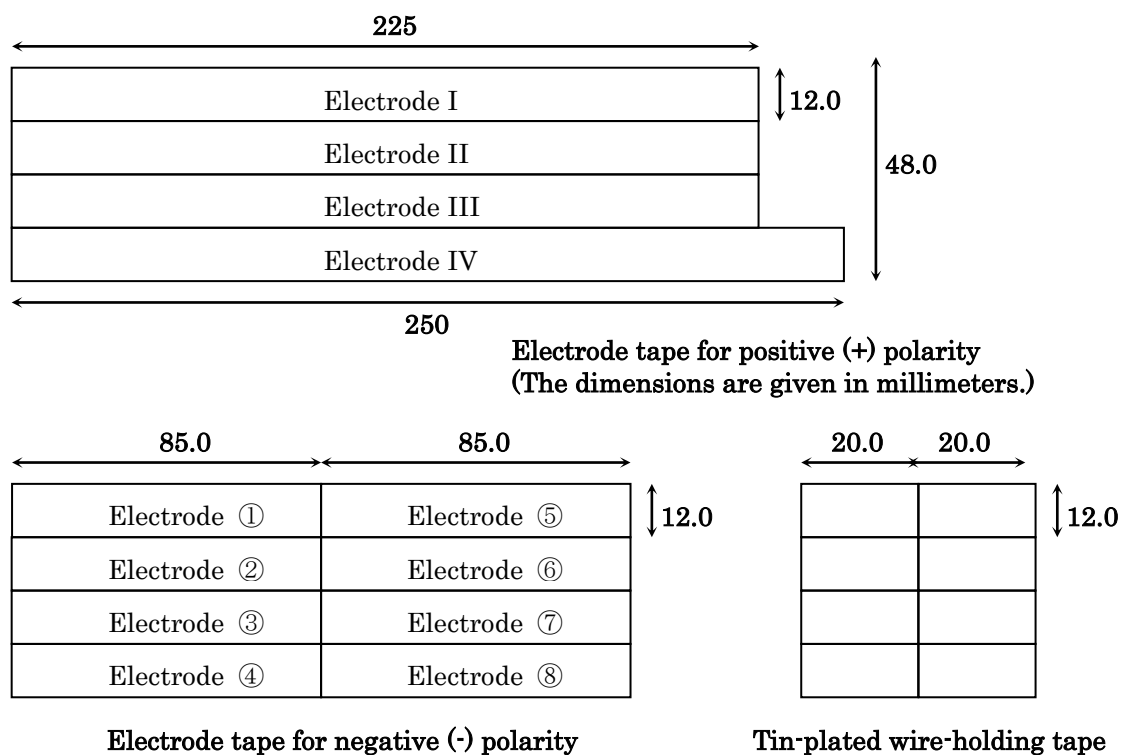
**Photo 2. Aluminum Tape and Foil for Electrodes**



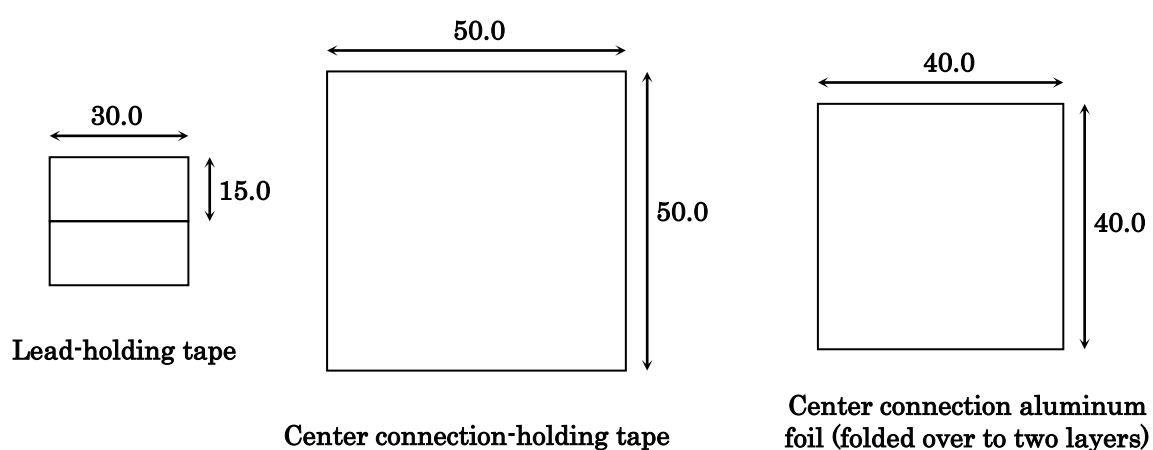
**Photo 3. Leads for Positive and Negative Polarity (Tin-plated copper wires are soldered to the lead for negative polarity.)**

## 2. Preparation for Assembly

Cut the aluminum tape and foil according to the dimensions shown in Figs. 1 and 2.



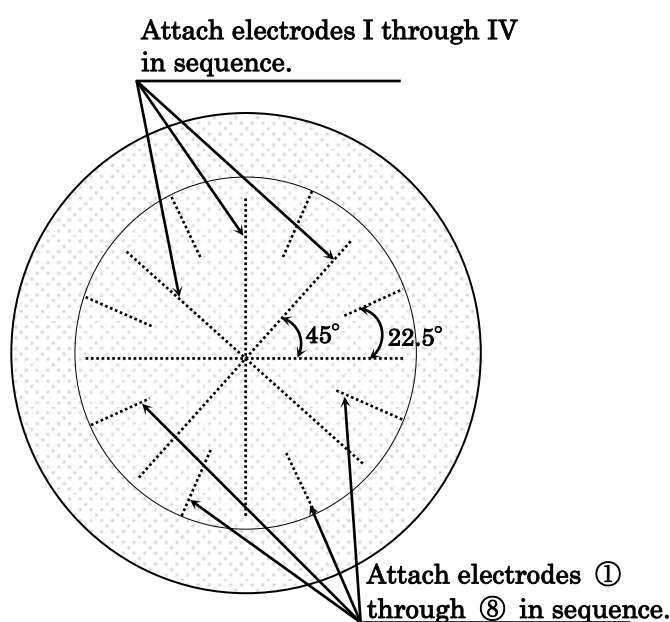
**Fig. 1 Preparing Electrode Tape**



**Fig. 2 Preparing Electrode-connecting Foil and Tape**

### 3. Assembly Procedure

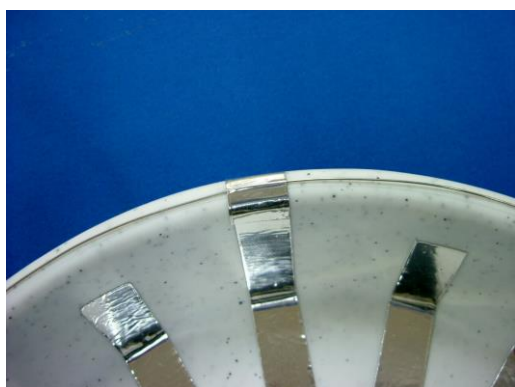
- ① Mark the positions for the electrodes on the plastic tray at the bottom as shown in Fig. 3.  
Use a pencil to mark so that you can correct wrong marking easily.
- ② Attach electrode tape I through IV on the tray according to the marking (Photo 4).
- ③ Attach electrode tape (1) through (8). Erase the marking not covered up by the electrodes with an eraser. Defective operation may occur if marking or its residue remains between the positive and the negative polarity. The electrode tape attached to the tray is about 3 cm long.



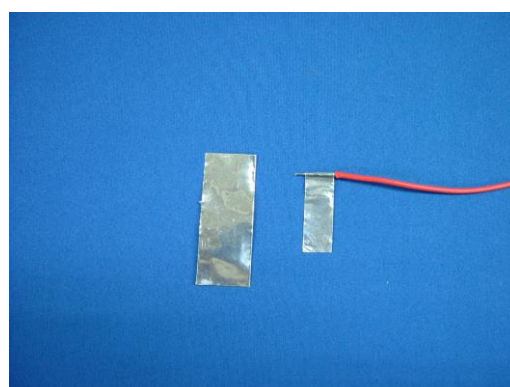
**Fig. 3 Marking the Tray for Positioning Electrodes**



**Photo 4. Attaching the Electrodes according to the Marking (Wipe the bottom of the tray with tissue paper dampened with alcohol before attaching the tape.)**



**Photo 5. Placing the Plated Wire on the Negative-polarity (-) Tape, and Firmly Holding the Electrode with Aluminum Tape**



**Photo 6. Connecting the Positive-polarity (+) Tape and the Lead**

- ④ After attaching all the electrode tapes, run the tin-plated wire with the black lead on electrode tape ① through ⑧ as shown in Photo 5. Fix the wire with **the wire-holding tape** shown in Fig. 1. Doubly secure the connection between the tin-plated wire and the black lead with **the lead-holding tape** shown in Fig. 2 (Photo 7).
- ⑤ Place the soldered end of the red lead on the end of the longest electrode and secure with the **lead-holding tape** (Photo 7).
- ⑥ Last, place the 40-mm-square **center connection aluminum foil** shown in Fig. 2 at the center of the tray where electrodes I through IV meet. Place the 50-mm-square center connection-holding tape above the 40-mm-square aluminum foil and press to ensure close contact between the electrode and the foil. This completes assembly of Moore's motor (Photo 8).

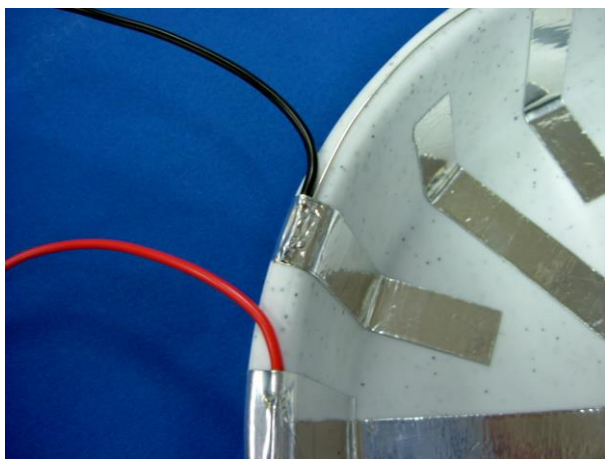


Photo 7. Doubly Securing Negative (-) and Positive (+) Terminals with Aluminum Tape

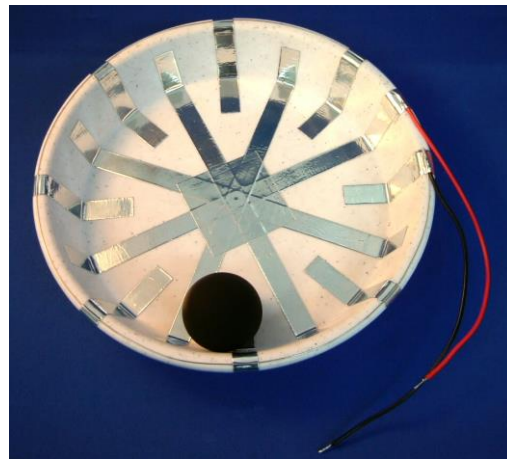


Photo 8. Moore's Motor as Assembled  
(Initial speed is necessary for the  
conductive ball to start.)

#### 4. Experiments

Place the conductive ball in the tray as shown in Photo 8. Give initial speed to the ball by pushing lightly. Supply power to the electrodes from the electrostatic generator before the ball stops. The ball continues to turn in the tray. Let's think over the reason why!

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