J-31B

Biomimetic Electric Butterfly

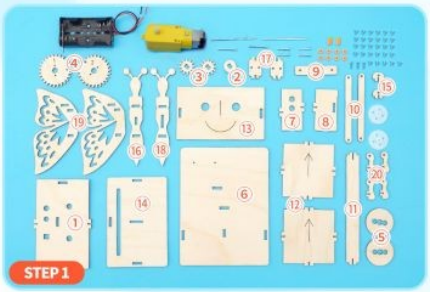
Brief introduction

This small creation utilizes gears and linkages, employing two connecting rods —one end attached to the wings and the other end connected to a gear. By harnessing the power of a motor to rotate the gear, the model is set in motion, imitating the movements of a butterfly in flight.

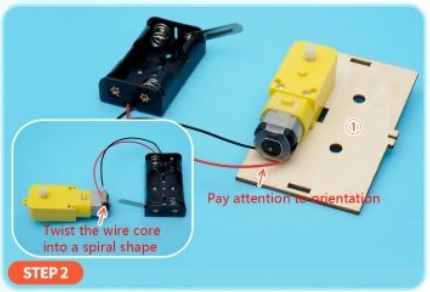
Tools and materials for preparation

A small screwdriver and a pair of AA battery need to be prepared. During the production process, a screwdriver needs to be used to fix the screws. After the production is completed, a battery needs to be used to make the model work normally.

Installation steps

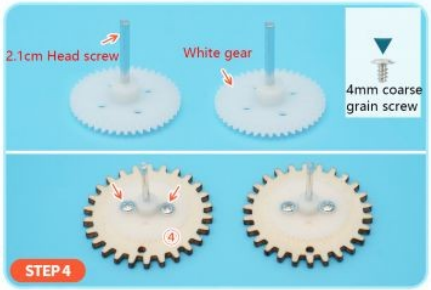


- Prepare small production materials.

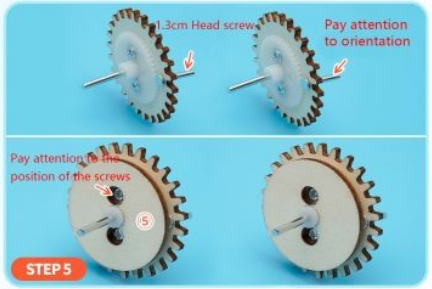


- Firstly, peel off the battery box wires, then connect the red and black wires to the motor metal sheet, and finally install the motor on NO.1 board. Wiring method: First, twist the metal wire core into a spiral shape, and then pass the metal wire core through the small hole in the motor wiring copper sheet, and screw it 3-4 turns.

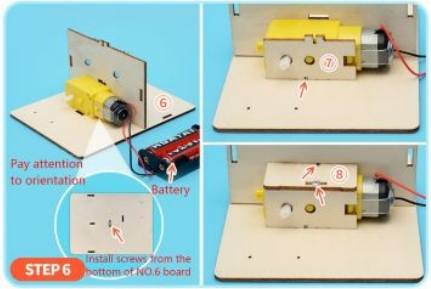
- Firstly, install the NO.2 plate on the motor shaft, then place two NO.3 plates on the motor shaft as well. Finally, use 7mm coarse grain screws to fix the NO.2 and NO.3 plates on the motor shaft. Attention: Plate NO.3 of the mesh block needs to be aligned.



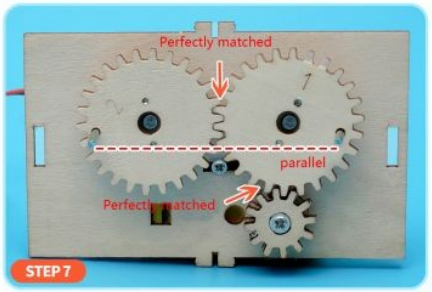
- Press two 2.1cm head screws into two white gears, and then use 4mm Install the white gears on NO.4 board with coarse grained screws.



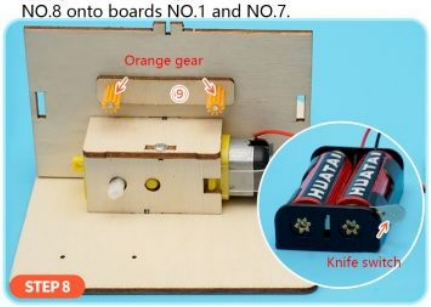
- Install two 1.3cm head nails on two NO.4 boards respectively, and then install two NO.5 boards on the white gear. Attention: The hole position of board NO.5 needs to be fixed with screws.



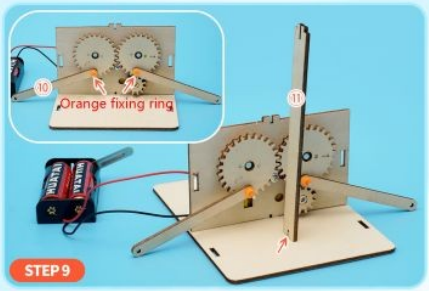
- Firstly, install board NO.1 onto board NO.6 using 4mm coarse grained screws, then insert the battery into the battery box. Finally, install board NO.7 onto board NO.6 using 4mm coarse grained screws, and install board NO.8 onto boards NO.1 and NO.7.



- Firstly, pass the two 2.1cm head nails on the white gear through the holes on board NO.1, and then install the two gears on board No.1. Attention: The boards No.3 and no.4 need to be completely matched, and the two 1.3cm nails need to be parallel.

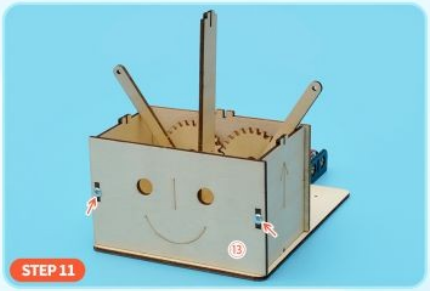


- First, put NO.9 plate through two 2.1cm head nails, then fix NO.9 plate on two 2.1cm head nails with an orange gear respectively, and finally close the knife switch to the end to check whether the gear can rotate normally. Attention: If the gear cannot rotate normally, please carefully check the steps from STEP3 to STEP8 to ensure they are installed correctly.



- Firstly, install two No.10 and No.11 boards on 1.3cm head screws, then fix them with orange fixing rings respectively. Finally, use 7mm coarse grain screws to install No.1 board on NO.6 board.

- Install two No.12 boards onto No.1 and NO.6 boards using 4mm coarse grain screws.



- Install plate NO.13 onto two plate NO.12 using 4mm coarse grain screws.

- Firstly, thread board NO.14 through two boards NO.10, NO.11, and then install board NO.14 onto boards NO.1 and NO.12 using 7mm thick grain screws. Then install the two NO.15 boards with 1.3cm head screws on the two NO.10 boards, and finally fix them with two orange fixing rings.

- Firstly, install two No.17 plates on the NO.18 plate using 4mm coarse grained screws, then install the NO.16 plate on the two No.17 plates, and then pass the NO.18 plate through the No.11 plate. Finally, use 4mm coarse grained screws to install the NO.16 plate on the NO.11 plate.

- Use 4mm coarse grain screws to install four No. 20 boards and two No. 19 boards on the board.

- Install four No. 20 boards on two No. 17 boards using two 5cm shafts.

- Fix both sides of the two 5cm shafts with orange fixing rings.

- Install two No. 19 plates on each of the two No.15 plates using 4mm coarse grain screws.

- Firstly, take the battery out of the battery box, then install the battery box on board No.6 using 4mm thick screws. Finally, insert the battery into the battery box, close the knife switch, and the butterfly will move.

The following issues may arise during production

一、 Closing the blade, the bionic butterfly is hindered or unable to rotate

1. Check whether the plates NO.3 and NO.4 are completely matched. If they are not completely matched, it may cause the gears to not rotate. It is recommended to refer to STEP7 to adjust the gears.
2. Check if the leading shafts on the two NO.4 boards are parallel, as non parallelism may cause jamming.
3. Check if the connecting wires between the battery box and the motor have fallen off. If the wires fall off, it will cause the motor to not rotate.
4. Check if the STEP9 and orange fixing rings are fixed too tightly. If they are fixed too tightly, it will affect the flexibility of rotation.
5. Check if the battery is low and it is recommended to replace it.