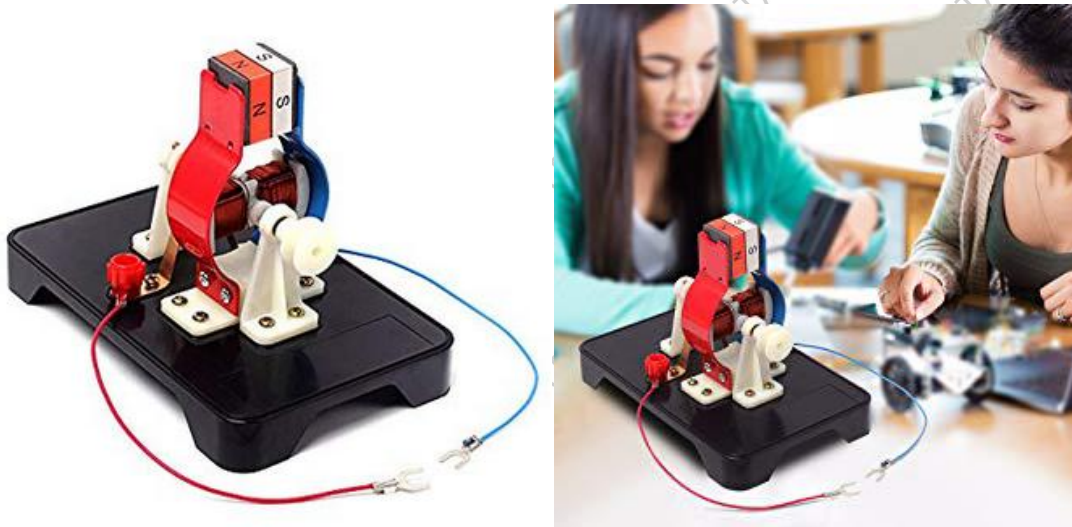


ICstation Electric Motor Model DIY Kit

1.Introduction:

This is a simple permanent magnet DC motor model to demonstrate the DC electric motor working principle. It can be taken apart and reassembled, when powered with DC 3-6V voltage. It will rotate like a real electric motor ideal for school scientific projects or physics teaching.



2.Parameter:

- 1>. Working Voltage: DC 3.0V-6.0V;
- 2>. Material: plastic + metal;
- 3>. Application: Used to study magnetic lines of force; DIY Manual practice; Science School educational project; Creative Gift.
- 4>. Magnet Size: 22x20x20 mm (0.86"x0.79"x0.79");
- 5>. Magnetic Flux Density: $\geq 72\text{mT}$;
- 6>. Operating Temperature: $-20^{\circ}\text{C} \sim 70^{\circ}\text{C}$;
- 7>. Operating Humidity: 5%~90% RH;
- 8>. Installed Size: 14x9x10 cm (5.51"x3.54"x3.94").

3.Function:

- 1>. Manual installation allows the user to understand the main structure of the electric motor.
- 2>. Verify the relationship between rotor rotation and current direction and magnetic lines.
- 3>. Master the principle of motor operation.

4. Component list

NO.	Component Name	Parameter	QTY
1	Plastic Seat	14*9*1.8cm	1
2	Rotor	Installed	1
3	Commutator	Installed	1
4	Armature Coil	Installed	1
5	Rotor bracket	White	2
6	Pulley	White	1
7	Magnet Bracket	Installed	1
8	Permanent Magnet	22*20*20mm	1
9	Electric Brush	Copper sheet	2
10	Terminal	Red+Black	2
11	M3 Screw	M3+12mm	10
12	M3 Nut	D3mm	10
13	M4 Screw	M4+12mm	2
14	M4 Nut	D3mm	2
15	Mini Spanner	White	1
16	Wire	15mm Red+Blue	2

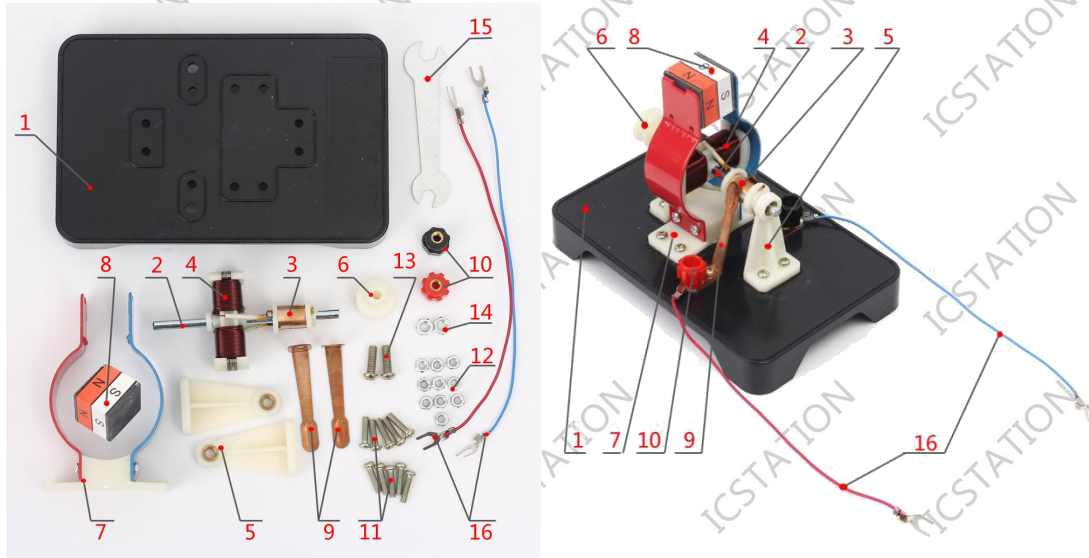
5. Use steps:

- 1>. Finish install as following install manual;
- 2>. Connect to DC 3.0V-6.0V at two cable;
- 3>. Observe the work situation.

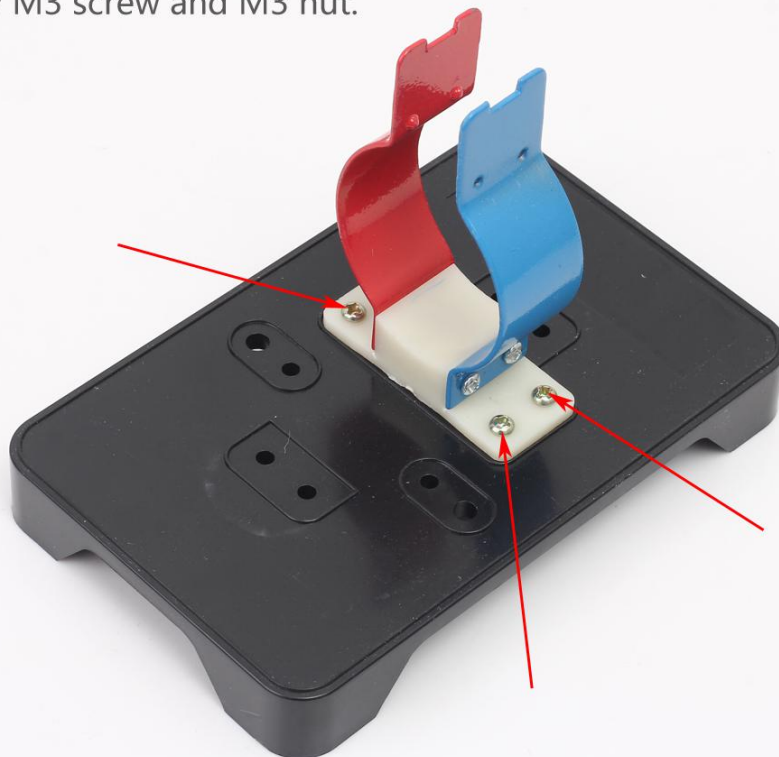
6. Notice please:

- 1>. DC electric motor experiment: input 3V - 6V DC through wires and terminals, the coil will rotating, and speed up when voltage step up.
- 2>. To avoid short circuit, two electric brushes never touch the commutator segment.
- 3>. Its working voltage is DC 3.0V-6.0V. And DC12V is not recommended.

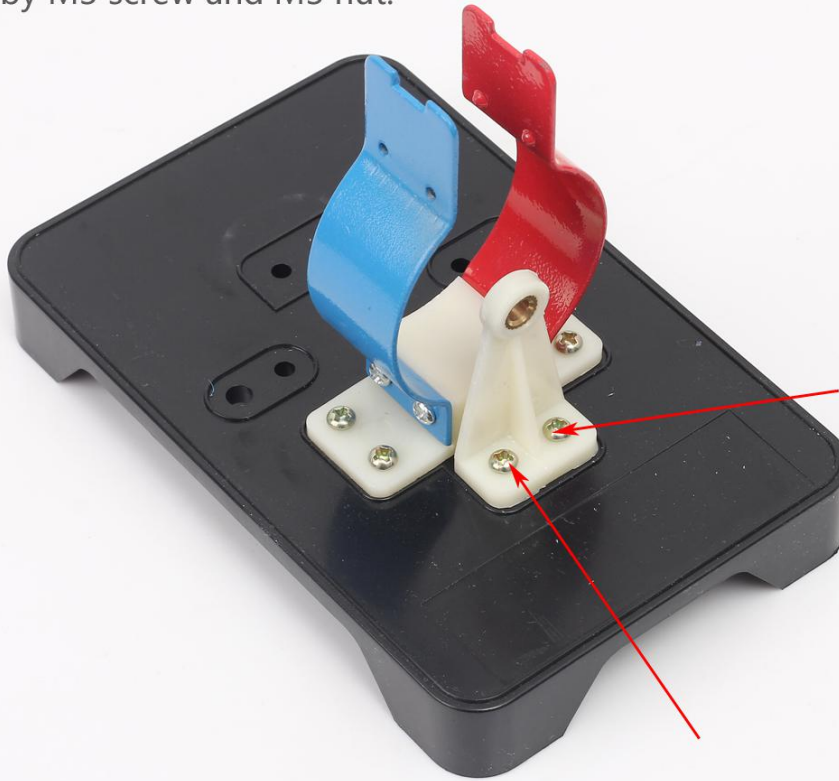
7. Installation steps:



Step 1: Install Magnet Bracket on Plastic Seat and fixed by M3 screw and M3 nut.



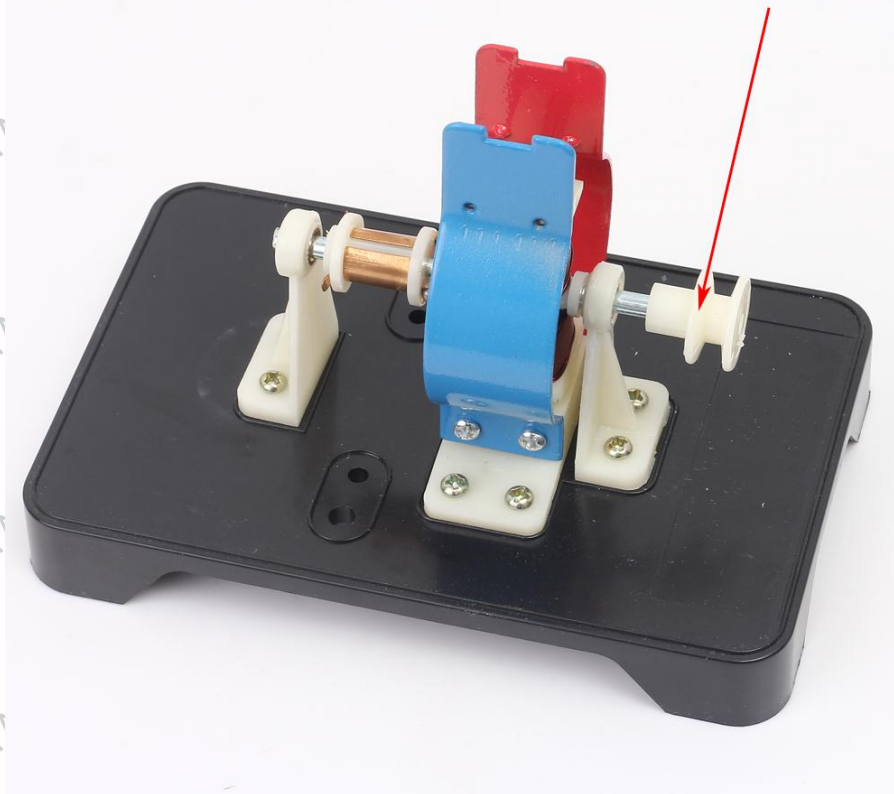
Step 2: Install 1pcs Rotor bracket at first and fixed by M3 screw and M3 nut.



Step 3: Install another Rotor bracket and Rotor/Commutator/Armature Coil and fixed by M3 screw and M3 nut.



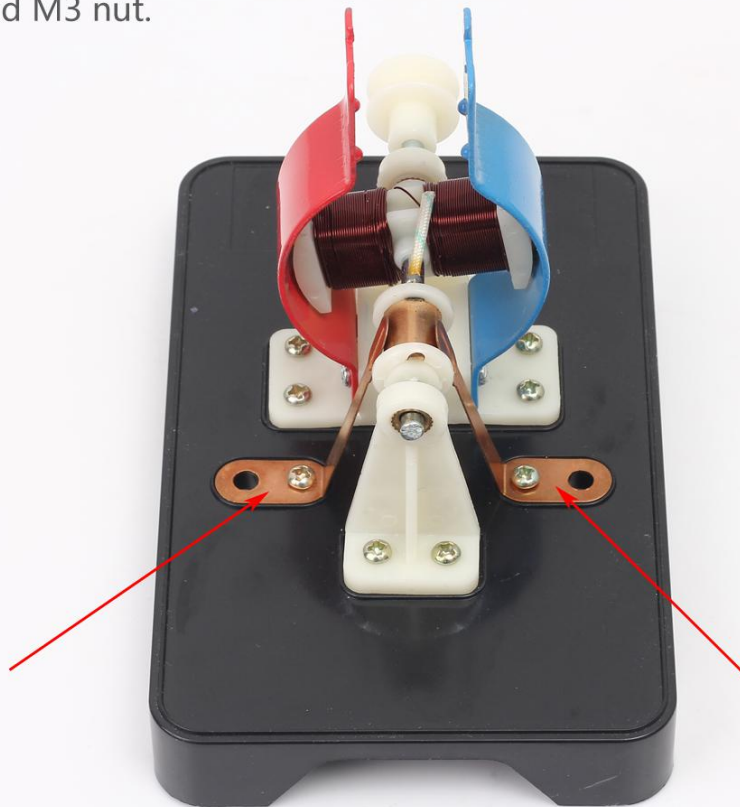
Step 4: Install Pulley on Rotor.



Step 5: Bend the angle of the Electric Brush.



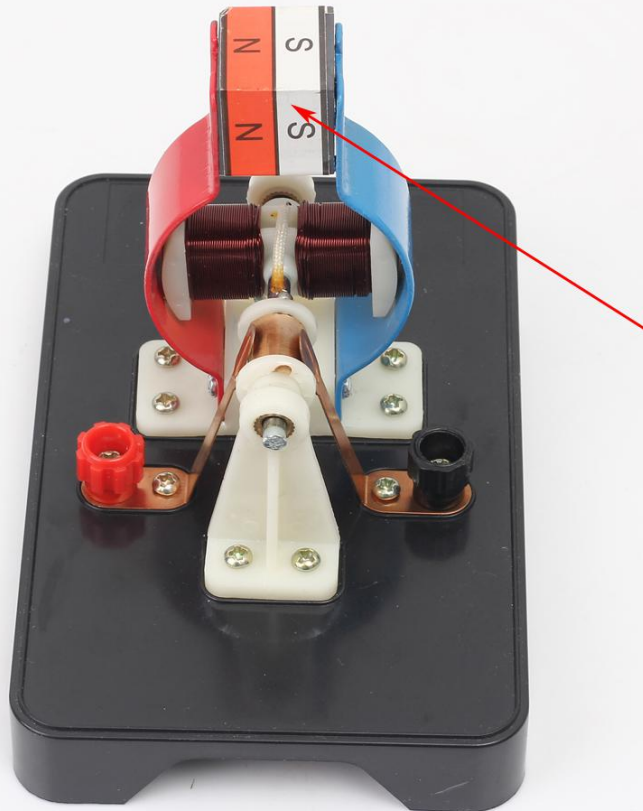
Step 6: Install Electric Brush and fixed by M3 screw and M3 nut.



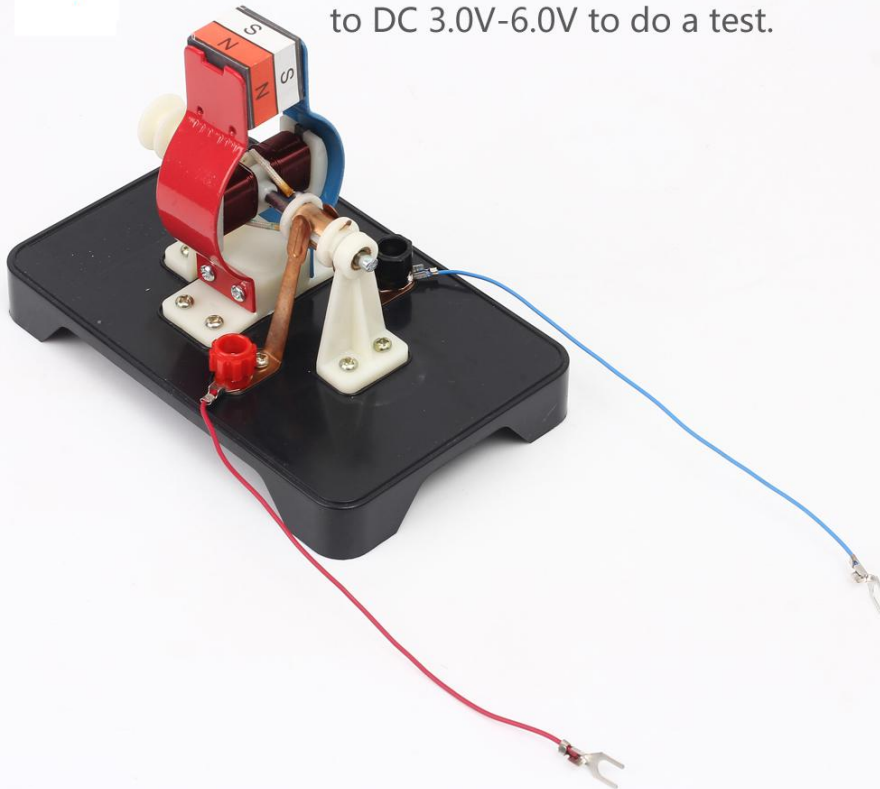
Step 7: Install Red+Black Terminal and fixed by M4 screw and M4 nut.



Step 8: Install Permanent Magnet.



Step 9: Connect to cable on terminal and then connect to DC 3.0V-6.0V to do a test.



7. More Soldering Projects & Assemble Kits at Icstation



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