



Portable Fan Teardown

This guide provides a look at the inner workings of the a small portable fan. The guide consists of images of each teardown step along with narrative.

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INTRODUCTION

This fan comes from Guangdong, China. The take down looks at all the components used for the proper functionality of this product.



TOOLS:

- [Phillips #0 Screwdriver](#) (1)
 - [Soldering Iron](#) (1)
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Step 1 — Portable Fan Teardown



- Front of fan consists of two buttons for user interface.
- Pressing the green button powers up the fan on setting 1 (Highest speed setting).
- Pressing the red button powers down the fan from any speed setting.
- Pressing the green button a second time moves the fan functionality to setting 2 (Medium speed setting).
- Pressing the green button a third time moves the fan functionality to setting 3 (Slowest speed setting).
- Pressing the green button a fourth time turns off the fan speed and turns on the led on the side for flashlight mode.

Step 2 — Fan Side View



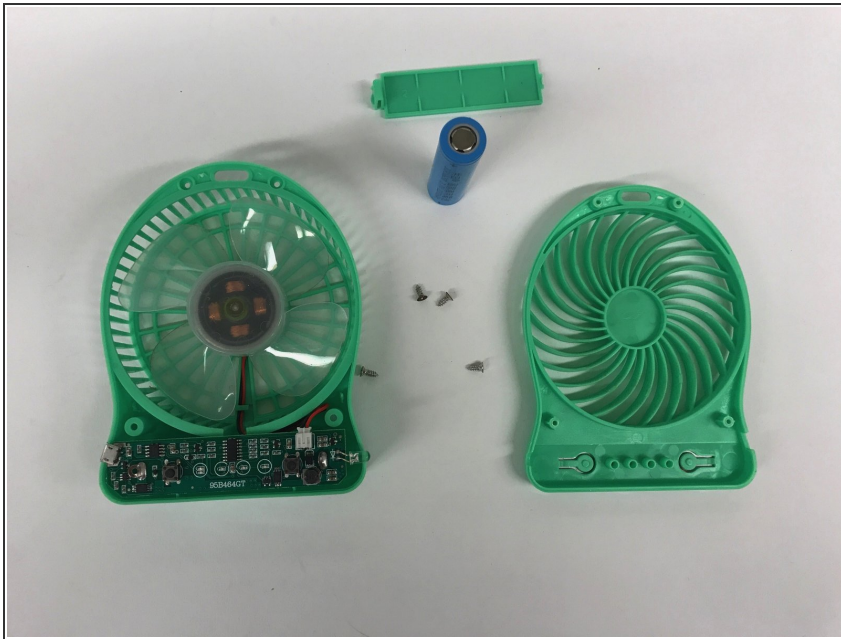
- The side of the fan contains a micro-USB port through which the device receives its charge.

Step 3 — Back of the Fan



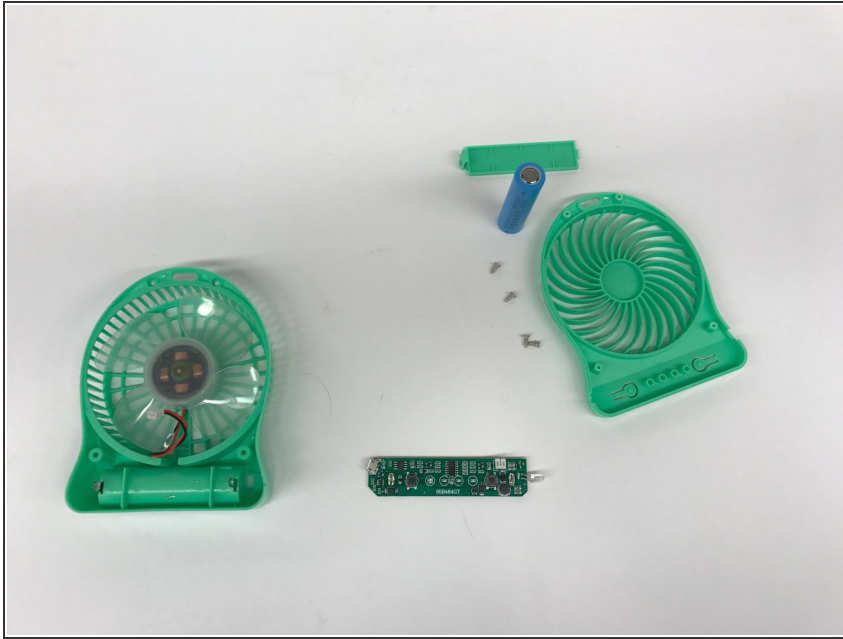
- The back of the fan possesses the battery compartment covered by a plastic cover.
- The four screws that hold the fan's entire green plastic structure together can be seen coming from the back of the fan in through the four holes to the front to secure it.

Step 4 — Removal of the Battery Compartment and Structural Screws



- The four screws that keep the green fan cage together are removed and placed on the table.
- The unsecured green plastic fan cage is separated into halves and placed beside the screws on the table.
- The Lithium-ion 18650-3.7V battery is removed from the battery compartment and placed next to the other fan components on the table alongside the plastic battery compartment cover.
- The PCB controlling the fan speed and LED light is not visible.
- Two wires connect it to the DC motor found in the center of the fan.
- The PCB is soldered to two metal latches connected to the battery compartment coming through the fan in order to secure it to the plastic structure.

Step 5



- The PCB is disconnected from the DC motor and desoldered from the rest of the fan structure and laid to rest next to the remaining fan components.
- The DC motor cannot be removed with destruction of the fan since it is glued to the plastic fan wings itself.