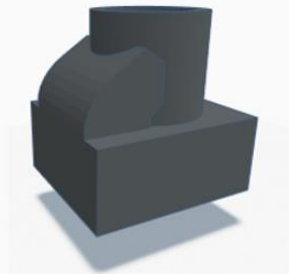


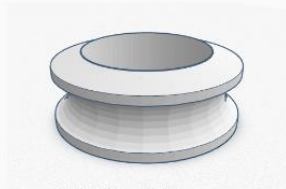
# Camera Assembly V2

## Camera AssemblyV2

The following diagram illustrates the parts required to complete this part of the build. Note that the V2 camera uses a different camera body and light ring than the standard v1 camera.



Camera Body



Light Ring Diffuser



LED Strip Light



USB VGA Camera Module



40mm Blower with director shroud

Here is an overview of the basic assembly steps to complete the v2 camera module

1. Focus the camera
2. Assemble the Light Ring
3. Install the light ring and wiring
4. Install the camera
5. Install the Fan
6. Test

## Focusing the Camera

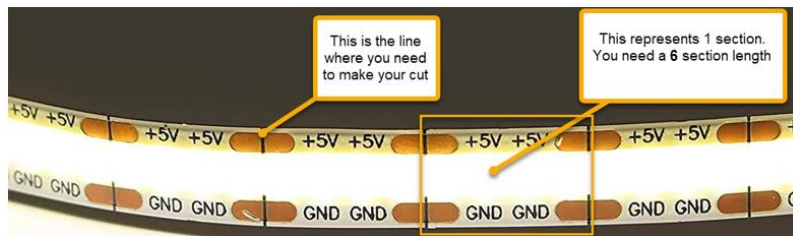
Connect Camera USB cable and connect to a computer and open the default windows camera app. Select the VGA camera.

Set the focus of the camera by using the camera housing as a guide. You can rotate the camera lens to focus the camera. Set the camera body on its side and set or hold a piece of brass approx. 4mm from the top edge of the body. Place the camera into the body and check the focus on your computer.

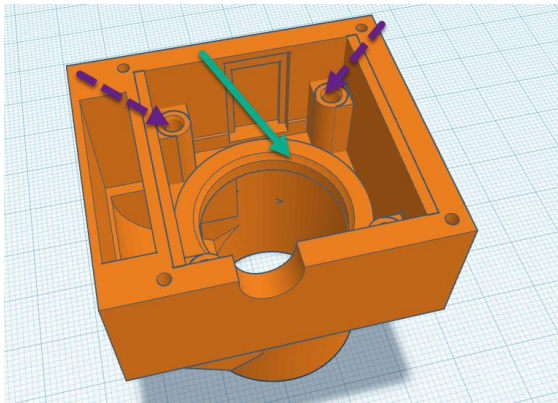
Once you have the camera reasonably focused, you can unplug it and set it to the side.

## Assemble the Light Ring

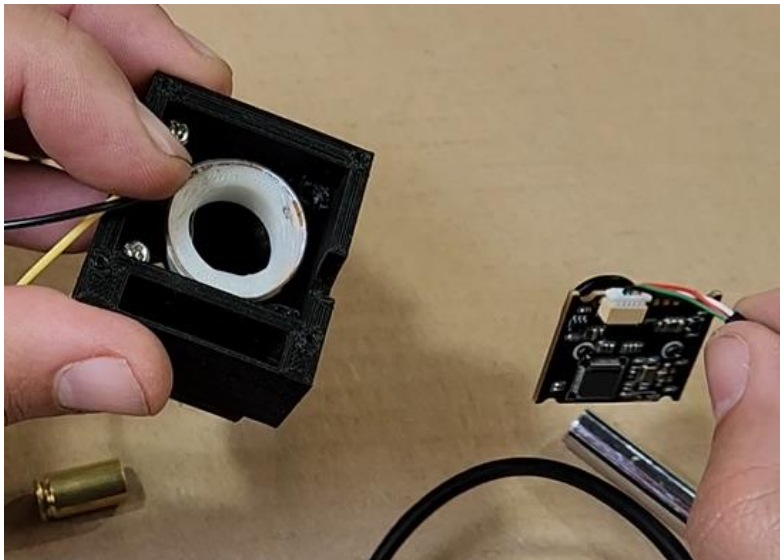
1. Unroll the USB strip light and cut a section length of 6 sections using scissors or a box cutter.



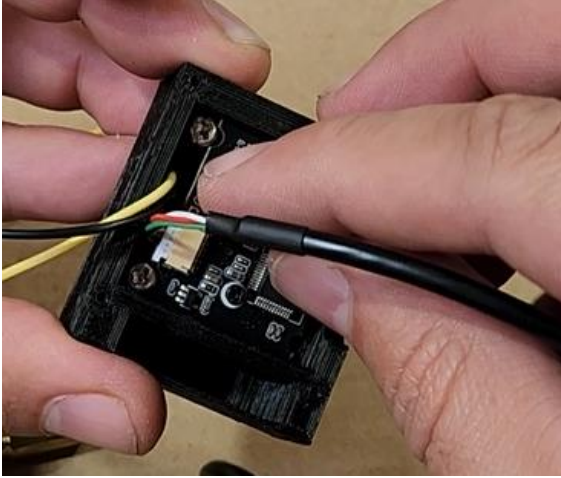
2. Solder a wire pair to the 5v and ground tabs. The wires should be at least 5 inches long. Recommend using yellow and black wire so the wiring is not confused later with the fan wiring but of course any color will work.
3. Wrap the light strip around the light wring with the strip facing into the ring. Tightly wrap at least 2 circumference lengths of electrical tape around the outside edge of the ring to secure the led strip and wiring in place.
4. Place the light ring into the camera housing with the beveled edge face down and the wires are positioned on the side opposite of the wire exit hole approximately where the green arrow is. Note that the green arrow in the diagram below indicates the surface which the beveled edge of the light ring should be in contact with.



5. Install two screws in the holes indicated by the purple arrows but do not screw them all the way in, This will serve as a guide for the camera.



6. Place the camera into the housing (with the usb cable already connected) making sure the connector side is oriented to the side with the screws.



7. Install the other two screws.
8. Run both the USB wire and the light ring wire out the half-circle hole.
9. Install the fan on top the camera housing using 2mm socket head screws. Make sure the director shroud is oriented correctly.
10. At this point all the wires should close together (fan, light-ring and camera). It may be helpful to put a piece of electrical tape around them to keep them together.
11. Install male Dupont connectors on the fan and light ring wires so they can be easily detached later.

This completes the assembly of the ring. You can test the light ring by applying 5v power to it. The fan requires 12v.