

# **Canon EF 24-70mm f/2.8L USM**

(Reverse Engineering Challenge)


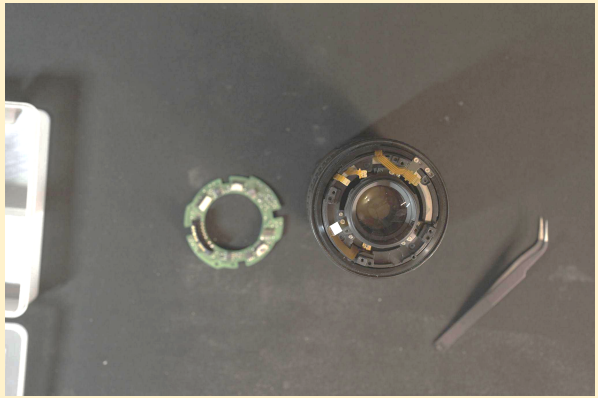
## **Team 1011T**



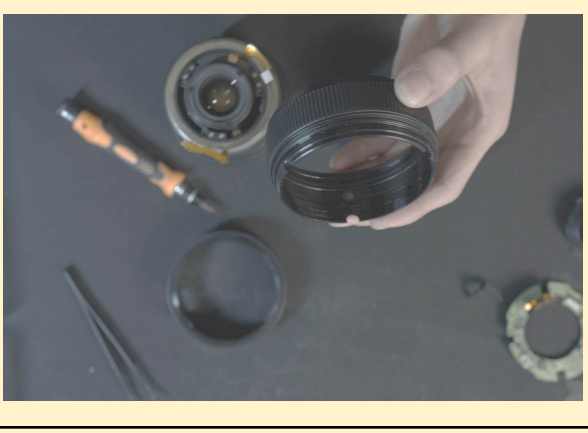

West Vancouver School District SD45  
BC, Canada



Ben Zhou

# Motivation

As a photography and videography enthusiast, learning about cameras, I choose to investigate a camera lens because the technical aspects of lenses fascinate me, and understanding them allows me to elevate the quality and creativity of my work. Understanding the properties of lenses and how light interacts with the camera fills me with a sense of wonder and curiosity. It's thrilling to push the boundaries of what is possible with the equipment I use and take my craft to the next level.

Disassembled Parts		
Parts	Photo	Description
Lens Mount		The mechanical interface between a camera and a lens. It allows the lens to be securely attached to the camera and to communicate with the camera's electronic system to control the aperture and focus of the lens and for the lens to transfer this information.
PCB		Electronic circuit board that controls the aperture and focus of the lens. It contains a microprocessor that receives signals from the camera body and processes them to control the aperture and focus motors. It can also control the image stabilization system.

Rear Lens		<p>The glass element at the rear of the lens, closest to the camera body. The back element plays a crucial role in the overall performance of the lens. Its main function is to help focus the light that enters the lens and ensure that it is directed correctly onto the camera's imaging sensor.</p>
Zoom ring		<p>Allows the photographer to adjust the lens's focal length, zooming in or out. It changes the field of view and the captured scene's magnification. The zoom ring is typically located near the front of the lens.</p>
Manual focus ring		<p>Allows the photographer to adjust the lens's focus manually rather than relying on the camera's autofocus. When the ring is turned, the lens elements inside the lens move to change the focus distance, allowing the manual setting of focus.</p>
USM Motor		<p>USM stands for Ultra Sonic Motor, which is a type of autofocus motor found in some Canon camera lenses. The USM motor is used to drive the lens's autofocus mechanism, allowing the camera to quickly and accurately focus on the subject.</p>

Front Lens		<p>The glass element at the front of the lens. It plays a crucial role in the performance of the lens as it's the first element that light passes through before it reaches the sensor. The front element helps to focus the light and direct it onto the camera's sensor.</p>
Complete Overview		

## Conclusion:

As a result of this project, I could identify and understand the important parts of a camera lens. Understanding the basics of these parts allows me to investigate further into an image's property every time I take a photo. I learnt that a single shot of a photo translates into hundreds of parts mechanically working together. Though there are smaller parts in a lens, the process of disassembling the lens fascinates me with how compact and complicated a lens is.



## Works Cited

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