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Assignment #3 Report
5/3/10

Post Photoshop (above)

Pre Photoshop

Photographing combustion can both be interesting and challenging. For the class MCEN 4228 Flow Visualization, assignment #3, isopropyl alcohol was burned on a CD. Digital still photography was used to capture the CD on fire and manipulated in Adobe Photoshop 3.0 to observe the full affect of the flow visualization. The resulting picture was a flaming CD flying through the air.

A blank CD was drenched in isopropyl alcohol and was then stood up vertically. The alcohol was ignited and the image was captured. When ignited the flames were 16in tall. The alcohol burned blue on the CD and the flames were a bright yellow. The alcohol did not burn for very long and after 5 sec the flames were extinguished. The short time period made the photography difficult. The focus and lighting was tough to capture in the dark lighting.

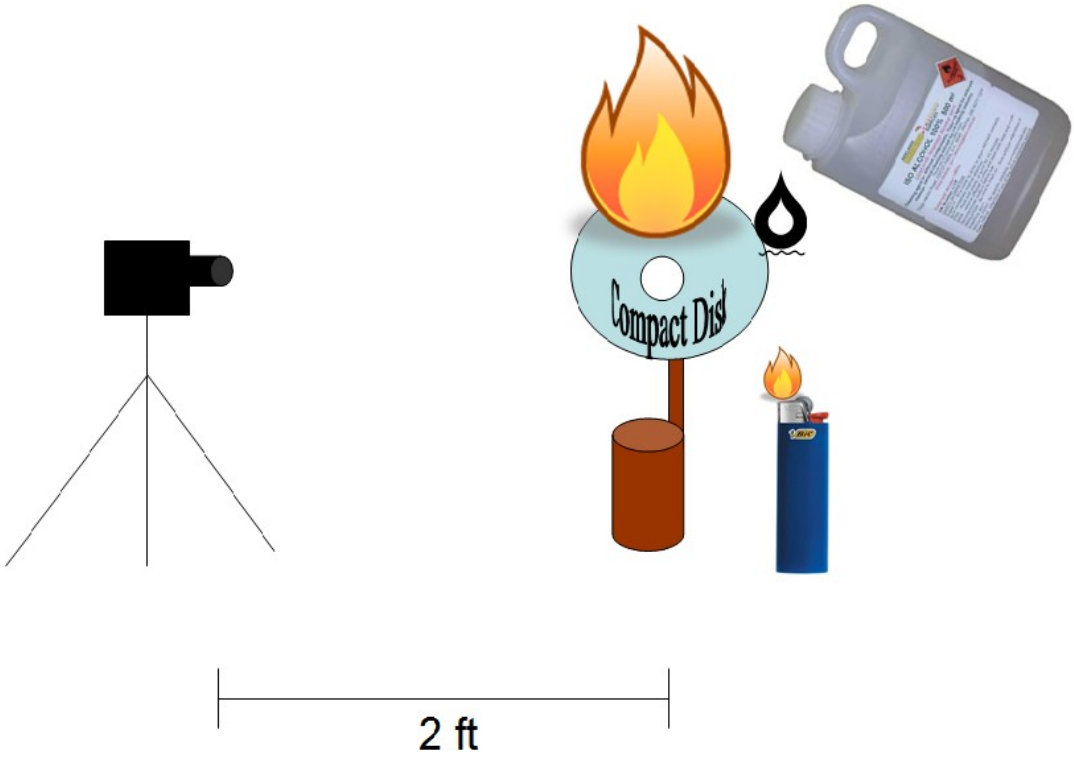
The flow apparatus consisted of a CD stood vertically using duct tape, a pencil and a cup. The pencil was duct taped to the cup and then to the CD. A ¼ cup of 70% of isopropyl alcohol was used. A lighter was then used to ignite the alcohol. The camera was placed on a tri-pod and a black backdrop was used.

To capture the burning isopropyl fluid a digital film Nikon Coolpix P90 camera was used. The camera was placed at the same height and 2 ft behind the subject. The subject had a size of view of 20 in. The only lighting was from the flame and the photo was shot was a shutter speed of ½ sec, f/stop of 2.8 and ISO of 800. The lens had a focal length of 4.6mm. The final image size is 2538 x 1692 pixels. Photoshop 3.0 was used to crop everything in the background besides the CD and flame. The CD and flame was then rotated to create the

experience of the CD flying through the air. Photographing fire is very challenging and getting the focus and lighting correct was tough.

The image reveals how isopropyl alcohol burns on a CD. I like how the CD burns blue but the flames are bright yellow. I found photographing the flames very tough. It was hard to get the focus and lighting correct because the flame burned for a short amount of time. I would really like to explore and experiment with photographing flames further. Finally, I was not very happy with the cropping Photoshop accomplished, the CD doesn't look round.

Diagram:



Reference:

BiC Lighter Picture. http://www.seeit.co.nz/products/large/0194429001222803198.jpg

Alcohol Picture. http://www.amcsupplies.com.au/catalogue/images/large/iso-alcohol-500ml.jpg