## Ozonolysis Mechanism (Exercise in Arrow Pushing):

The general reaction is as follows:



Notice both of  $\sigma$  and  $\pi$  bonds of the alkene are broken, to produce two new carbon oxygen double bonds.

A mechanism is presented below. Try to follow the motion of the electrons through each step of this mechanism. Remember each arrow indicates the motion of two electrons, either a) from a lone pair to a bond, b) from a bond to a lone pair, c) from a bond to another bond. Try to find examples of each

of these types of electron motion in the following mechanism.



The purpose of the zinc is to reduce the hydrogen peroxide which is generated in the hydrolysis of the ozonide intermediate. (see pp 245-247 Carey).