Coalescence in low viscosity liquids SARAH CASE, SIDNEY NAGEL, The University of Chicago — The coalescence of two fluid drops is an extremely rapid process. To study very early stages of coalescence, we employ a modified electrical method[1]. A drop of aqueous NaCl solution is suspended in air above a flat surface of the same solution. A constant voltage is maintained across the system. The flat surface is raised until it touches the drop at which point a rapidly widening bridge forms between them. During coalescence, we measure the resistance of the system, thus obtaining the time dependence of the ratio $r^2/L$, where $r$ is the characteristic bridge radius and $L$ is its characteristic length. Previous photographic studies[2] have reported a 20 – 60 $\mu$s lag between the apparent initiation of coalescence and initiation of electrical contact used to trigger the camera. However, we observe a smooth evolution in the resistance after the initiation of electrical contact. By combining high-speed imaging with our electrical measurements, we are able to address the cause of this discrepancy.