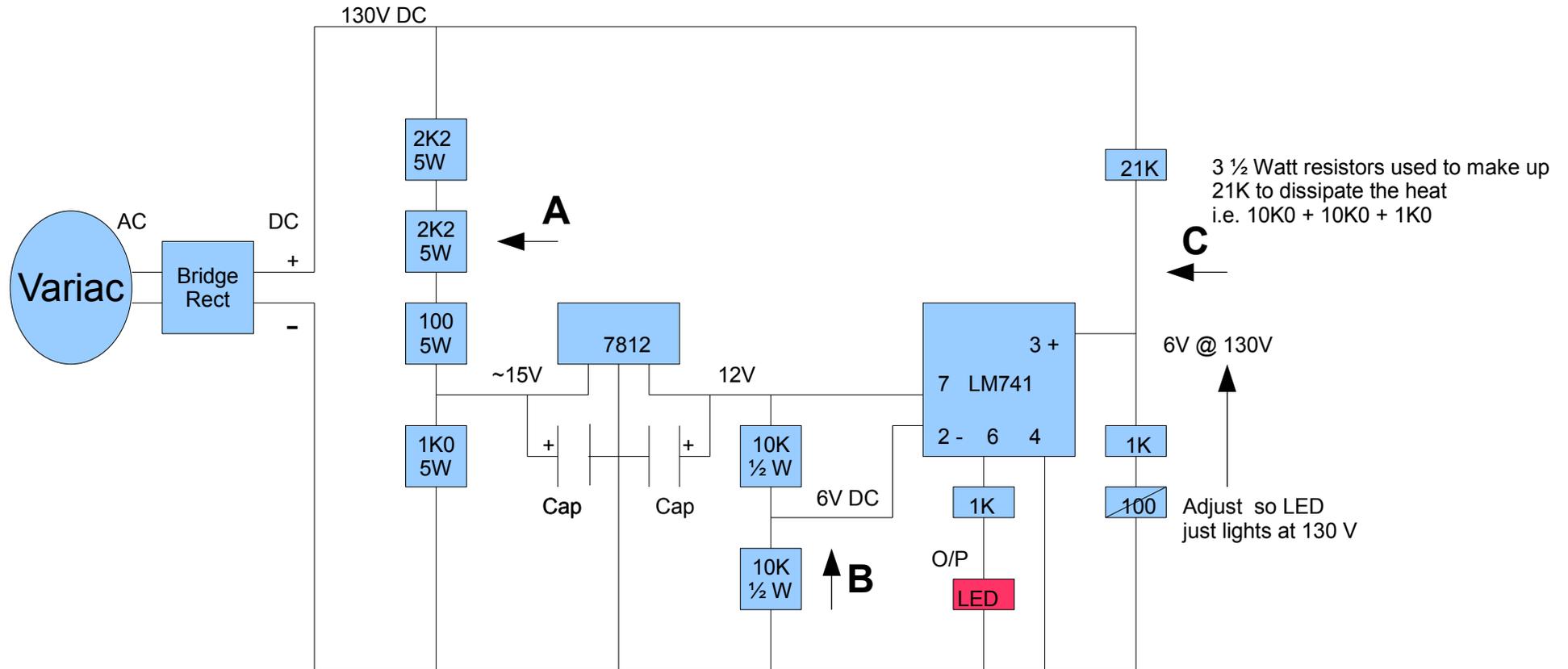


# Turbine Brake Circuit



**Theory:** A Variac is used to simulate a wind turbine. It is adjusted to vary the AC into the bridge rectifier until 130V DC is achieved on the DC side of the rectifier. It can then be increased to simulate a turbine exceeding 130 Volts

Three voltage divide networks are used:

Voltage divide network **A** provides a safe voltage of 15V - 16V to 7812 voltage regulator. The regulator maintains a 12V DC output even as the supply increases to provide the OP amp with a constant voltage reference.

Divide network **B** gives a stable 6 V reference and divide network **C** is adjustable to exceed 6V when supply is over 130V

The OP Amp monitors pin 2 and 3. When pin 3 is a higher voltage than 2 the output 6 goes high lighting a LED. This output will drive a load to brake the turbine.