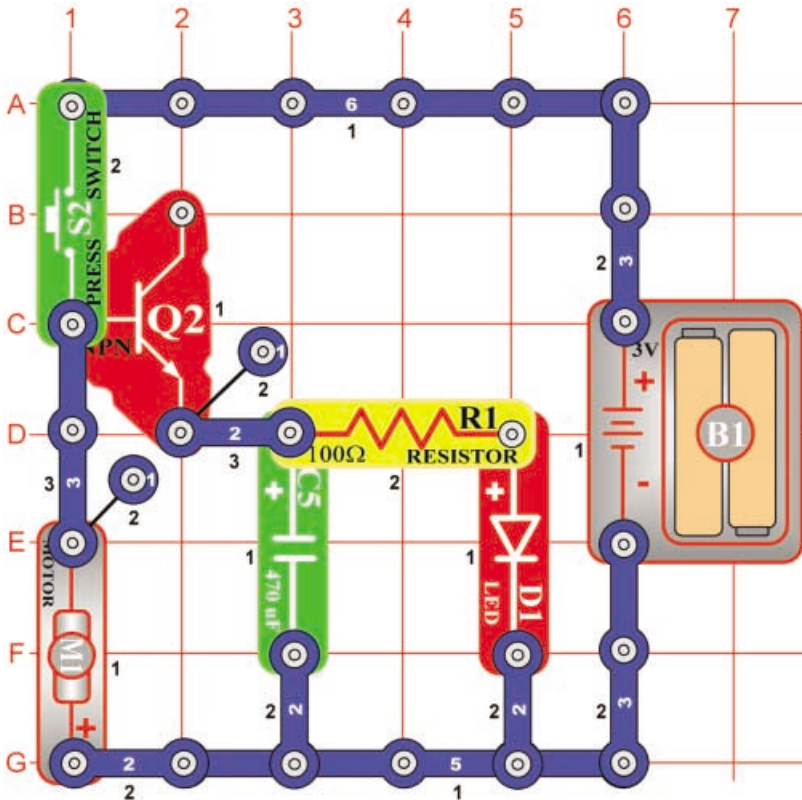


# Project #A22

# Fan Detector

**OBJECTIVE:** To make a circuit that detects if the fan is on the motor.



Push the press switch (S2). If the fan is off the motor (or flies off) then the LED will light.

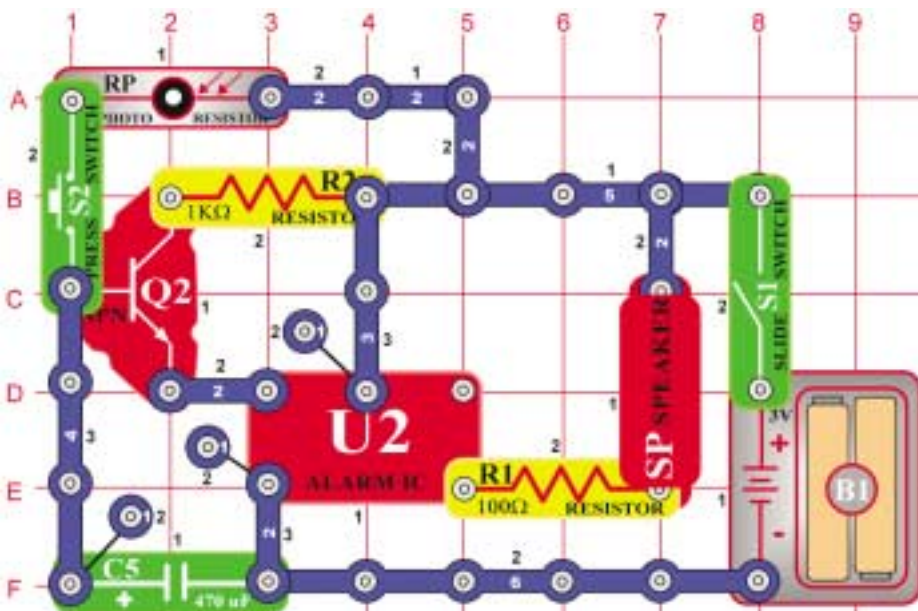
It takes a lot of current to spin the motor when the fan is on it, and the voltage drops because the batteries cannot supply enough. When the fan flies off, the current drops and the voltage rises. The NPN transistor (Q2, used here as a diode) and 470µF capacitor (C5) are a detector circuit, which measures the voltage at the motor.

Requires SC-300 or larger parts set.

# Project #A23

# Slow Siren Changer

**OBJECTIVE:** To change siren sounds with a delay.



Turn on the slide switch (S1) and you hear a siren sound.

Now hold down the press switch (S2) until the sound becomes a fire engine sound. This delay is due to the 470µF capacitor charging up and is controlled by the photoresistor (RP). If there is bright light on the photoresistor then the delay will be only a few seconds.

Release the press switch and after a while the sound will be a siren again. The capacitor slowly discharges through the NPN transistor (Q2).

Requires SC-300 or larger parts set.