

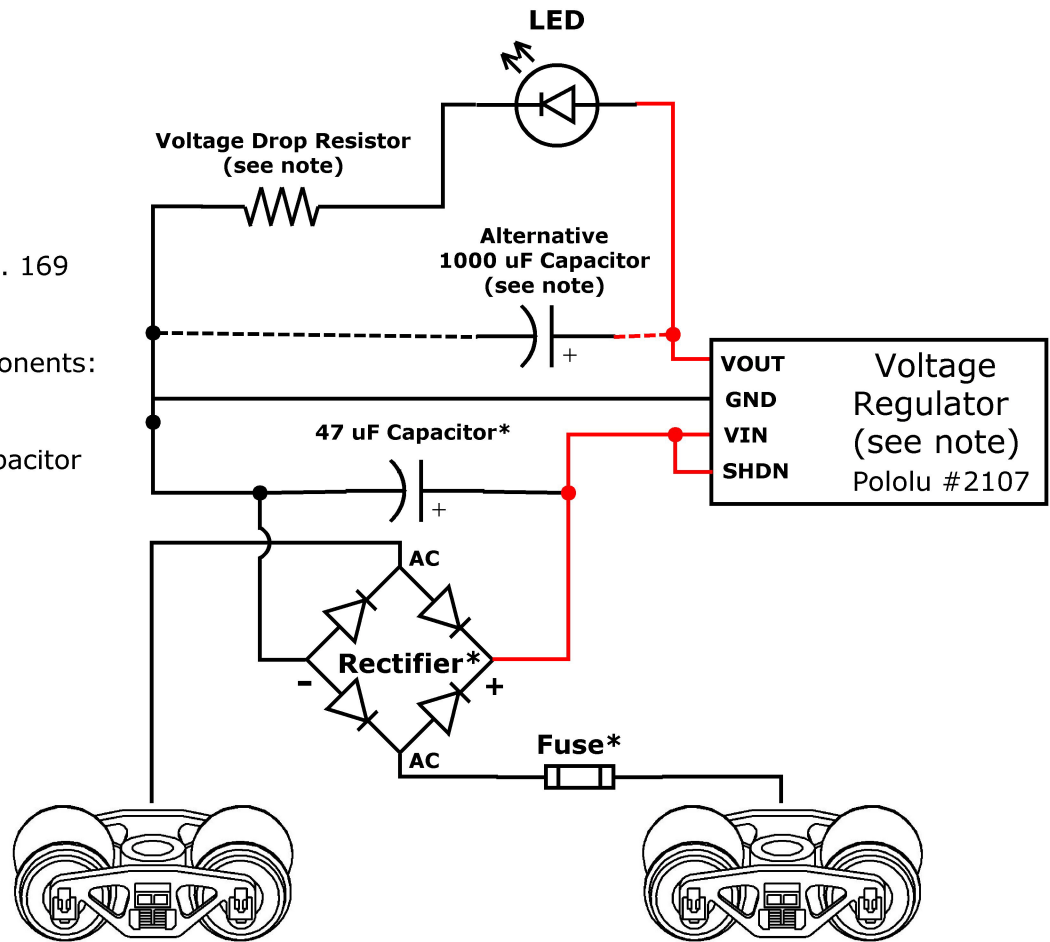
# Kadee HO Pickup Truck LED Wiring Diagram

## Components:

- \*Kadee Rectifier Kit No. 169 (sold separately)

## Customer supplied components:

- Voltage Regulator
- Voltage Drop Resistor
- Alternative 1000uF Capacitor
- LED(s) (see notes)



\*Kadee Rectifier Kit No. 169 converts track AC or DC track current to polarizes DC current suitable for LED lighting and other electronic devices that require DC current

## Notes:

### Fuse:

**It is always recommended to use a fuse** in the circuit to protect components from an electrical short. A 250 mA fuse is supplied in the Kadee Rectifier Kit No. 169.

### Alternative Capacitor:

Due to dirty track and wheels the LED may blink. If you find this unacceptable, install a 1000 uF capacitor as shown in the diagram.

**Always use a capacitor greater than the circuit voltage. In this circuit we recommend a capacitor rating of 200% the circuit voltage.** For example: If the power supply connected to your track produces 16.5 volts, use a capacitor rated at 35 volts.

### Voltage Drop Resistor:

A voltage drop resistor is required to provide the LED with the correct operating voltage. LED's are very sensitive to over voltage so this **Voltage Drop Resistor is a MUST.**

The resistance of the resistors is determined by the LED's specifications and the voltage that is applied to the LED(s). This website will help you determine what resistor value in ohms is required for your LED(s). <http://ledcalc.com/#>

### Voltage Regulator:

A voltage regulator is required for stable DC voltage. For powering LED's we recommend using the Pololu #2107 5 Volt .6 Amp step-down voltage regulator shown in the diagram. Pololu has a wide variety of Regulators that can be purchased directly from Pololu at the following website: <https://www.pololu.com/category/84/regulators-and-power-supplies>

**The 47 uF capacitor supplied in the Kadee Rectifier Kit No. 169. MUST be used as shown or the regulator will fail due to voltage spikes.**