

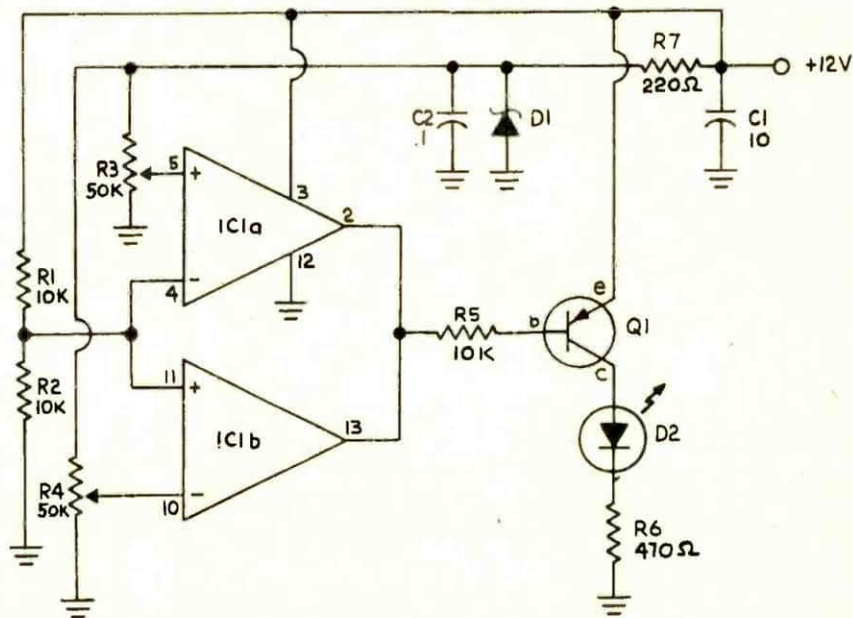
45 Alternator Monitor

□ This circuit will monitor the output of the alternator of any car with a 12 volt electrical system and indicate if the charging system is either undercharging or overcharging. This is accomplished by using 2 sections of a quad voltage comparator IC and connecting the

outputs in an "OR" configuration so that the LED will become lit if section A or section B of the comparator detects an improper voltage level. The circuit is connected into any circuit which is active when the car is in operation, such as the ignition or radio circuit. This prevents drain on

PARTS LIST FOR ALTERNATOR MONITOR

- C1**—10- μ F electrolytic capacitor, 15-WVDC
C2—0.1- μ F ceramic capacitor, 15-WVDC
D1—9 VDC Zener diode
D2—large LED
IC1—339 quad comparator
Q1—2N4403
R1, R2, R5—10,000-ohm, $\frac{1}{2}$ -watt 10% resistor
R3, R4—50,000-ohm linear-taper potentiometer
R6—470-ohm, $\frac{1}{2}$ -watt 10% resistor
R7—220-ohm, $\frac{1}{2}$ -watt 10% resistor



the battery when the car is not in use. To calibrate the circuit, connect an adjustable DC power supply to the + and — inputs of the circuit. Set the power supply to 13.4 volts and adjust R3 so that the voltage at pin 5 of IC1A is maximum. Then adjust R4 so that the LED just goes out. Se

tthe power supply to 15.1 volts and adjust R3 so that the LED just goes out. The LED will now become lit if the voltage is outside the permissible range of 13.5 to 15.0 volts when the engine is running.