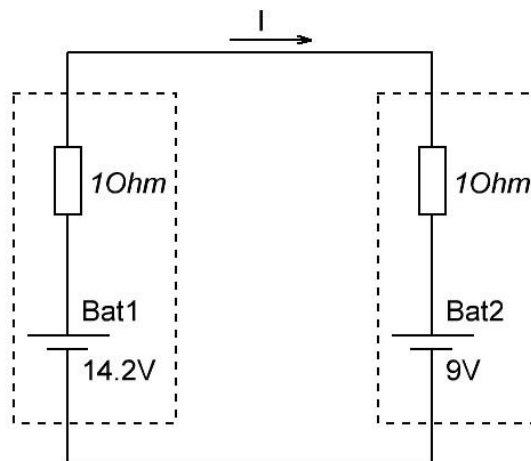


Question #76671

Two lead-acid automobile batteries are connected in parallel to provide additional starting current one of the batteries is fully charged at 14.2 volts and the other battery has discharged to 9 volts if the internal resistance of each battery is 1 ohm determine the current in the batteries if each battery is intended to provide a maximum current of 150 amperes should the method used to start a car?

Solution.

Write the ohm law formula for the complete circuit: $I = \frac{\epsilon}{R+r}$.



When the batteries are connected in parallel, current will flow from the battery with more voltage (14.2V) to the battery with less voltage (9V) and the battery 1 will start discharging, and the battery 2 will be charged. Max current $I = \frac{14.2}{1+1} = 7.1A$

After some time, the voltage on batteries is equalized. If you use such a scheme to start the car, it will be wrong, since the battery 2 will be an additional load for the battery 1.

Answer provided by <https://www.AssignmentExpert.com>