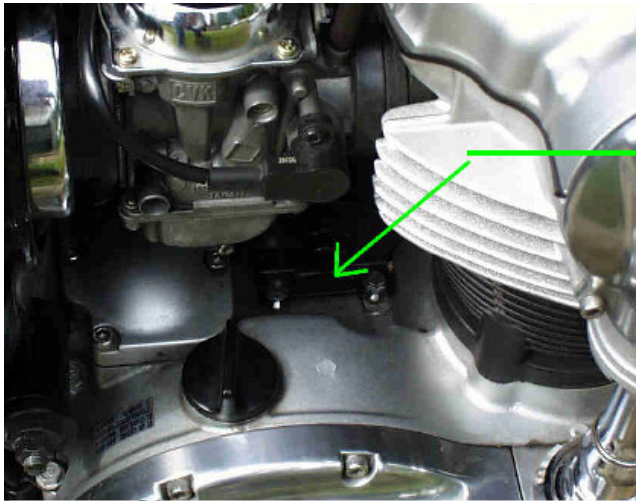
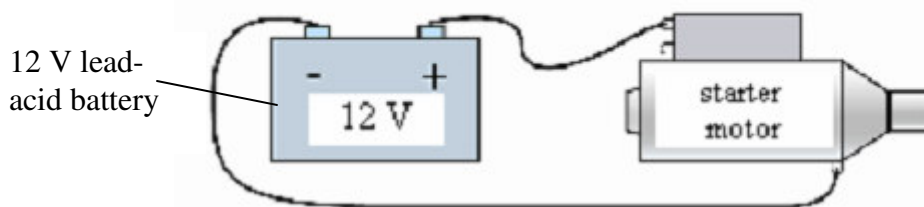


CHAPTER 7: ELECTRICITY

EXTRA INFO (Internal resistance)



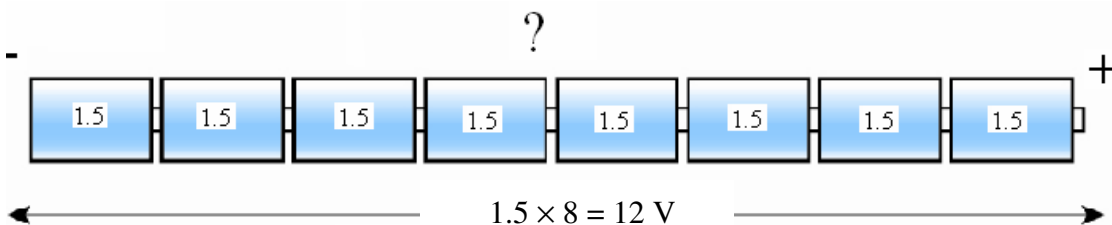
Two types of car starters



A starter motor is a powerful d.c. motor which turns over the engine to start a car.

It is usually connected to a 12 V lead-acid battery which can provide a very high current of close to 200 A when starting.

Do you know why you cannot start the car engine by connecting eight 1.5 V dry cells in series to the starter motor?



The reason is because each dry cell has a very high internal resistance of about 0.5 ohm. Hence the maximum current that the 8 dry cells in series can provide is

$$I_{\max} = \frac{12 \text{ V}}{8 \times 0.5} = 3 \text{ A}$$