Re: Question About Series vs. Parallel Circuit, DC

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- *From*: chuck <nospam@xxxxxxxxxx>
- *Date*: Thu, 04 Jan 2007 18:06:08 −0500

mea305 wrote:

> OK, I want to be sure I got this right. I did print one of the pages offered by another respondent; but to ensure that I understand (I certainly don't want to double the voltage and burn up the motor!), I would think that the following would be correct:
>
> 1. If I take another set of batteries, connect them just as they would be connected in the scooter (this is what I am referring to, by the way), I would have two additonal batteries, connected, but yet to be connected to the unit.

Yes. Each set of batteries would measure 12 volts.

> 2. At this point, would I merely connect the two positive poles together, and then the two negative poles together −−− and assume that this would be the correct configuration?

If each set of batteries is the same voltage, then yes! this is how you would connect them together. This is the correct configuration if you want to double the capacity while keeping the voltage (12 volts) the same.

> 3. If I were to do the opposite, and connect the negative pole of my first set of batteries to the positive pole of the second set, and do the same for the opposite pole, would this be the correct manner, or is number 2 (above) the correct means? Here, it is clear that I know not the difference between the series and the parallel configurations; but, I know "haste makes waste," and in this case, a "dead motor," which is what I don't want.

Under no circumstances should you do this! Batteries can and sometimes do explode and make an awful mess of anything around them. The

consequence of doing this could be worse than a dead motor.

> Please advise; I appreciate the responses thus far; they have been helpful, indeed!
>
> Thanks,
>
> Mark

FWIW, this is also the way you would jump−start an automobile. A second 12 volt battery would be connected to the vehicle's battery with plus to plus and minus to minus. Still 12 volts, but greater capacity.

Chuck

> chuck wrote:
>
> > mea305 wrote:
> >
> > > Suppose I have a 12 volt motor that operates on two 6 volt acid−free,
> > > lead batteries; I was thinking that perhaps I could put to use at least
> > > two extra batteries I have in an effort to increase the period of time
> > > for power available on the motor. I am not certain, as I forgot, about
> > > the differences between using a parallel circuit vs. a series circuit,
> > > or, whether this is actually possible without causing harm to the
> > > motor....
> > >
> > > Therefore, could anyone tell me, first, whether this would be a good
> > > idea; and then, if it would be, how I would configure the batteries to
> > > ensure that I do not deliver more than the alloted 12 volts to the
> > > motor?
> > >
> > > I would appreciate it.
> > >
> > > Thanks,
> > >
> > > Mark

Not a bad idea at all. Connect the two spare 6 volt batteries in series
to make another 12 volt combination and simply place that in parallel
with the existing series pair of batteries. Providing the batteries
don't discharge each other (which is possible, but not highly likely)
you should be doubling the possible motor running time as you desired.

Chuck

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