

Two (12 volt) Batteries in Parallel, One (12 volt) Charger

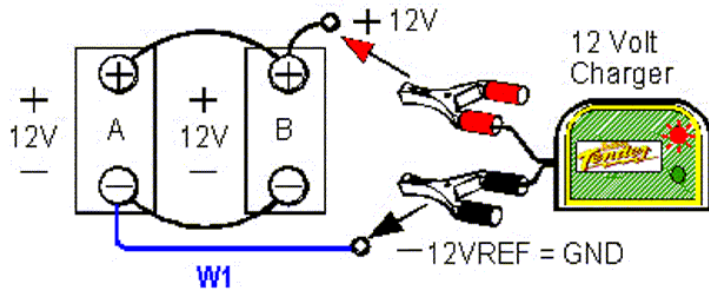


Figure 9: Two Batteries in Parallel, One Charger

Batteries connected in series strings can also be recharged by a single charger having the same nominal charging voltage output as the nominal battery pack voltage. In Figure 8, a single 24-volt charger is connected to a 24-volt battery pack.

In Figure 9 we see a pair of 12-volt batteries connected in parallel. This 12-volt battery pack is connected to a single 12-volt charger. **Note the blue wire designated W1.** The purpose of this wire is to balance the voltage drop evenly across both batteries and each wire during charging. This is not critical for lower current chargers, but when you start to get into the 10 amp and above range, the voltage differential can be significant. The blue wire W1 must be connected to the opposite end of the battery pack as the black wire at the top of the battery pack.

NOTE: When batteries are connected in parallel, only use one charger. Do not connect a charger to each battery, unless you break the electrical connection between the batteries. The reason is that the chargers will very likely complete one or more their charging subroutines (charge modes or stages) at different times. That means that each charger would be trying to bring the battery pack to a different voltage level. Depending on how the chargers are configured to prevent a reverse polarity connection, the charger with the lower voltage output could possibly draw current from the charger with the higher voltage output, or even from the battery pack that it is trying to charge. If the chargers' reverse polarity protection mechanism includes a solid state, unidirectional, voltage controlled, current switch (like a diode), then this is not a big problem.