Choosing The Correct Jump Starter

I recently tried to jump start a car with a portable jump starter and the car would not crank. It jump started fine with traditional jump leads. This caused me to look into why the Winplus lithium jump starter failed to do the very job that it was designed for. This was a device that I had noticed in Costco and had purchased with no research beforehand. You can view it here:

Lithium Jump Starter Portable Power Bank with Brush Metal Finish

Looking at the Costco reviews I found that many other people had similar experiences with it. 89 reviews showed:

• 55 five star reviews.
• 25 one star reviews.

So about one third of people that reviewed the device were unhappy. One star reviews reported the following:

• Insufficient power to crank car effectively.
• Would not jump start car.
• Does not work in really cold weather.
• Used once and now fails to charge.
• Does not hold charge.
• Battery swelled and popped the cover off.
• Would not charge.
• Battery clamps broke.
• Had gone on fire while stored inside car.
• Poor customer service.

Looking at jump starters on other web sites, it was a similar story, so these problems were not confined to this brand. So why would mine not jump start the car? We need to look into how much current a car needs to crank. You can find this number by looking at your car battery. There should be a label on the battery that gives the cold cranking amperage (CCA). On my car battery it is listed as 490 amps. So my battery can deliver 490 amps to start the car. This is the key number that you need to know to buy the correct jump starter.

So how much current can the Winplus deliver? It is much lower at 350 amps. It will never start my car with a non-functional car battery. Looking into the Winplus further, I found that the battery inside it was on the small size at 8,000mAh and this was limiting the output current. So there are two things to be aware of when buying a jump starter:

1. The peak current.
2. The battery size.
The peak current dictates the battery size in the jump starter. Being aware of the battery size will give you an idea of how much current it can produce. So my car needs a 490 amp peak current jump starter. I found a replacement product on amazon.com:

**TENKER 500A 10800mAh Portable Car Jump Starter, Emergency Battery Booster, Portable Charger with QC3.0 and Type-C Output, LED Flashlight with 3 Modes:**

- 500A peak current is able to start 12V vehicles up to 3.0L gas or 2.0L diesel engine in a flash.
- 10800mAh capacity.

I paid $60 for the Winplus that was not rated to crank my car. I paid $32 for the Tenker that was rated to crank my car and it has a larger battery and better features. The 144 reviews for the Tenker were:

- 70% five star reviews.
- 6% one star reviews.

The reviews were far better than the Winplus. Now that I own two of these devices they both can be connected to the car battery to provide even more amperage at 850 amps peak current output.

Look at the battery sizes when buying jump starters:

- 8,000 mAh battery approximates to 350 amps peak.
- 11,000 mAh battery approximates to 500 amps peak.
- 16,000 mAh battery approximates to 800 amps peak.
- 21,000 mAh battery approximates to 2000 amps peak.

A few weeks after buying the Tenker, I was able to compare it to the Winplus on a car that would not start. Every time I tried to jump start the car with the Winplus, it would not crank. The Tenker jump started it every time. The failed car battery had a cold cranking amperage (CCA) of 500 amps.

I hope that you enjoyed this discussion about buying the correct size of jump starter for your car.

“**When buying a portable car jump starter, know the amperage of your car battery and buy a jump starter that has a higher amperage rating.”**

*Steven Magee – Chartered Electrical Engineer*