## **Optimal Brit Bike Battery Size**

A friend asked, "What is the minimum battery size required for the average Brit bike?"

Batteries come in many physical shapes and types. However, on a classic, non-electric start British motorcycle, what you want to look for in a battery is the "Amp-Hour rating". The AH rating is the measure of the electrical capacity (or work) and is therefore the "size" difference that matters the most. Knowing that bit of information narrows the response to 2 answers:

• The totally scientific answer is this: There is no minimum AH rating. When compared to no battery at all, your ignition and lights will work **much** better with even the very smallest battery, even if it's only 0.1AH. This is what the "run without a battery" crowd does. The capacitor they use merely behaves (electrically speaking) like a very, very small battery.

• The practical answer is this: Every rechargeable battery has an optimum charge rate that it likes to receive if it's going to perform its best and deliver the longest life to the owner. This "optimal" charge rate is usually given as a percentage of the AH rating.

So for the sake of discussion, let's just say the magic number is 10%. If you bought the 0.1AH battery suggested above, in practice you're going to have a **very** hard time holding the charge rate down to 10% of 0.1A, or 0.01A !! That's why the chopper boys who use those tiny batteries are constantly buying new ones. They simply over charge the small batteries, the internal temperatures get very hot, and they are "cooked" to death.

In practice, the minimum AH rating that seems to be reliable is 7AH, because throttling your charging system back to 0.7A (or about 3/4A) is certainly "do-able". The stock bike came with 9AH battery, and so setting up the charging system for 0.9A to 1A is even more achievable. We can see then, that the larger the AH rating a battery has, the closer its optimal charge rate is going to be to the normal Brit bike charge rate of around 2A. Therefore a bigger AH battery is a "gooder" thing.

Additionally, consider that most of the popular sealed batteries in use today are designed to be constantly charged, but we don't ride our bikes 24/7. We ride for 30 minutes, stop, take the girl on the pillion off into the woods to have our way, get back on, ride for another 30 minutes, take the girl... well you get the picture. To So due to the "off and on" nature of the riding, the battery warms up, then cools down, then warms up, then cools down. Because the battery is filled with fluid, there is a certain lag time spent heating the battery before it can become completely hot and cause damage. So whatever the recommended optimal charge rate is, we can exceed that slightly on a motorcycle... all thanks to the girl on the pillion.

So the rule of thumb is this: To stay very happy, always ride with a cute girl on the pillion AND buy the biggest AH battery you can physically mount on the bike.

Hope this helps! Richard Whatley