

Charging System Woes

Someone asked the following... I may need a new rotor for my 1977 Bonneville. I believe the magnets on the one I have are weak and don't create enough current through the stator to charge my battery. I'm currently running a new, solid-state Tympanium diode-rectifier and new battery. I have a 55/60w halogen HL bulb and Boyer electronic ignition, but the bike starts breaking up at 4,000 RPM after riding for about 20 minutes. Any suggestions?

Based on what you have told us... it is most probably the "load" on the system giving the "lack of charge" issue rather than the alternator output. Consider the battery as if it were your family checking account. If you're working hard and depositing \$2000 per week, but your "significant other" is out writing checks totaling \$2100 a week.... then you can easily see the problem. It's not that you need a new job, it's that you need to throttle back your lady friend (assuming of course, normal sexual polarity).

The charging system and battery work just like a bank account. If you expect things to remain stable, then you have to put more in than you withdraw. Your bike originally came with a 120W alternator and used a 35W HL bulb. Most average riders can run a 45W bulb and still charge the battery... if they ride a regularly. However, some changes probably need to be made in your case since using a 55/60W HL bulb is simply too much draw (or "load" as we say) on the average Lucas electrical system.

Several options come to mind....

- You could fit a lower wattage HL bulb, say a 45W
- You could fit a 20W daytime bulb, and use the existing 55/60W bulb only at night
- You could try fitting LED bulbs in every other socket (tail lamp, gauge, etc) and see if that conserves enough power to make a difference
- Sometimes perfecting your electrical system "grounding" will also conserve a few wayward milliwatts of power
- Make sure your brake light switch is properly adjusted and not staying ON
- Cut back on your use of blinkers, especially when stopped

However, the bottom line is this.... no one can give you an **exact** answer because...

- As you have noted, all rotors are at a different magnetic strength and therefore identical alternators can have slight variations in alternator output due to their age
- Different people ride at different RPM ranges. Obviously the alternator has to spin in order to make electrical power, so touring is much better for the battery than "stop & go" riding.
- Different people ride for different distances (which varies the time on charge)
- And other riding style differences

So, the final answer has to come from you, since I'm not there to put a meter on your bike. But I think you have enough ideas and suggestions to get started.

Hope this helps! 🙏