

H-16 *Letters:* **Multiple Wiring Challenges**

Bob. [Working on my lights,] on a hunch I purchased a new headlight dash switch. I installed the wires as they had been on the old switch. And bling on they came! Odd that the front parking lights go out when the headlights go on. I would have thought as with the tails, the small front lights stay on. Guess not!

I did some adjustments to idle and needle valve and have it idling at a nice low speed and shift clutch disengages nice, as should.

THE RECENT PROBLEM: Ok, the lights work fine with the engine off. I start the engine with lights off and I have good idle. If with no load, rev up the engine and I have good steady high RPMs and the amp gage needle goes up maybe a ¼" up from zero. At the same high RPM I turn on the parking lights. The needle drops down close to being at zero. My RPMs might be slightly rougher? NOW, I switch on the headlights with the same high RPM and no load, the amp gage drops down close to a ¼" below zero. The minute I turn on head lights the engine gets really rough and backfires ... etc. I think if I back off on the pedal and let it idle it is somewhat fine. With lights on I just can't give it gas without major disruption

I read the [*Shop Notes*] sections of Electrical System regarding "Charge, but not too much" (as stated earlier, a new battery was put in). Could this be a sign that something got reversed? Something with the positive/negative Ground? I'm not all that familiar with this 6 volt cutout 3 brush system.

I did turn the lights on with the engine off. I noted that the amp needle did move ... not sure if it went down or up from zero? But it moved a bit in one direction with the engine turned off.

I hope I've provided you with enough information that maybe you can recommend something that might be the cause? Is this happening because I am not under load? When driving will it react different from stationary? Just seems to me a load would not make much difference. (I also read that some people have changed out their cut-out to a solid state. Is that a solid state cut-out or is it a solid state regulator? As you know I'm trying to keep this original. But, maybe there is something different I should do about the system. I don't want to change to an alternator or a 12 volt system.)

For now, I'd like to just get the stock system running right—as best as it can. **Daniel**

I'm no electrician Daniel, so I'm turning your question over to John White:

Original 6 volt generator? These generators were meant more for use on stationary engines running at continuous rpms. Usually the 6 volt generator will not keep the battery fully charged with headlights, etc ... on. The solid state is still a cutout, only they use a diode instead of a coil and points inside a case. It sounds like you are charging okay, a slight over zero charge with just the ignition pulling current. With the engine off and headlights on it should show discharge on the meter (less than 0).

I hope you bought the 30 amp headlight switch, the cheaper 15 amp jobs won't last long with the current draw on the 6 volt system. Your headlights on a 6 volt system would pull something like 13 amps on high beams, and about 10 amps on the low beams, plus adding to that taillights, etc.... the 6 volt generator is only good for 72 watts or about 12 amps. The third brush is adjustable, but if you move it too far in the one direction voltage also increases and shortens the life of the ignition coil, etc.... About midway seems to be about right; measure the output voltage from the cutout it should be around 6.6 to 6.7 volts. With the solid state cutout you will need to set the third brush a little higher because of a .7 tenth voltage drop across the diode.

I'm wondering if you might need to enrich your carb just a bit more to allow for load on the engine? Another thing I ran into was trying to get a smooth running engine with a point/coil type ignition. I had to purchase a couple coils to get a decent working one. I would seem to always have a very slight miss at high rpm. If I would install a magneto in place of the points timer, it would run great. **John White** ■