
P- Model (self-powering) Alternator Check: - You can check the internal alternator operation on the P model during a ground run-up (900+ rpm) by switching to the P model ignition and cutting bus power (not the p-lead switch) at the breaker. If the built-in alternator is working, the engine will continue to run. If it is not working, the engine will quit. [See Note under minimum operating speed below.](#)

P- Model (self powering) Minimum Operating Speed – After installation you should perform a ground test to verify the P-MAG's low speed limit (where the P-MAG alternator is turning too slow to support the ignition). Your ground idle speed will be lower than your in-flight idle speed. Ideally, the minimum P-model cutout speed is well under the in-flight idle speed. If this is not the case with your installation, take note so you can stay above the P-model cutout speed if ever flying under emergency power. Do the test during a **ground** run-up, by simply switching to your P- model ignition (or if running dual Ps switch to them one at a time) with the engine at roughly 1300 rpm. Then cut the bus power (not your p-lead switch) to the ignition and slowly lower the engine rpm until it quits. Make note of the speed the engine quits and compare it to your in-flight engine idle speed.

[Note 1:](#) When performing this test, allow the engine to come to a stop and let the ignition fully power down. Reapplying bus power (or activating the other ignition) at the last moment to keep the engine running may not restore the ignition to full operation, and is unlike the power failure events the p-model is designed to defend against.

Emergency Power - The P-model's internal alternator power output rises in proportion with engine rpm. Unlike previous versions, Series 114 ignitions will transition off of aircraft power (and onto internal power) as the internal power rises. Somewhere around 1200 to 1500 rpm P-model ignitions should be operating totally on internal power. At this point, internal power is the ignition's primary power supply and the aircraft power is the backup. Transitions to and from the aircraft power supply are managed automatically by the ignition. There is no need for operator action of any kind. If you lose external power, your P-model ignition is capable of providing emergency power down to 900 rpm, and sometimes less.

Emergency Prop Starting – Both the E-models and P-models need outside electrical power to start. You cannot prop-start the engine with either type ignition if the battery is missing, or totally dead. However, a low battery that barely "bumps" the starter motor, or can only "click" the solenoid will likely have enough energy to power

the ignition for prop starting. After startup, P-model ignitions can then power themselves. **Caution:** Do not attempt a prop start unless you are trained and are comfortable with the procedure.