



## SYSTEM CHECK

- ◆ Apply a moderate load to the charging system (i.e., high beam headlights and A/C for example) and bring the engine to 1,500rpm. Using a digital voltmeter measure the DC voltage from the a bare metal point on the case of the alternator to the negative battery terminal. Readings higher than 0.10VDC indicate a poor ground connection. Check the ground path including any paint or anodizing on the brackets, the engine ground strap, and the ground cable from the frame to the battery. (See figure 1).

- ◆ With battery fully charged and engine running at 1,500rpm, measure the voltage at battery positive post (+) and the ground post (-). Voltage should be 13.8~14.5VDC. Readings above 15.5VDC indicate a defective alternator and readings below 12.7VDC indicate that the alternator is not functioning or cannot supply the current amperage needs of the vehicle at this engine speed.

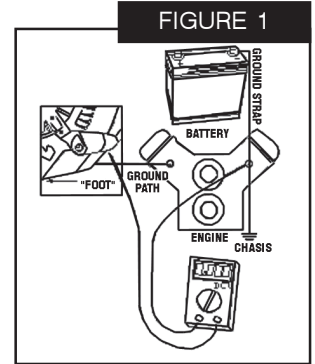
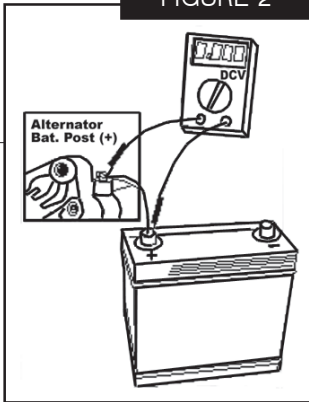


FIGURE 2



- ◆ Using the voltmeter, measure the voltage drop between the battery positive post (+) and the alternator output post (See figure 2). Voltage should be less than 0.40VDC. If voltage is higher than 0.40VDC, check for poor connections between the alternator and the battery. Possible causes are undersized battery cables, loose or improperly crimped terminals, and corroded connections.

### ***Need to change a pulley?***

To remove the alternator pulley, use an air impact wrench to loosen the nut with one hand, while holding the alternator pulley with the other. It is recommended that protective gloves and eyewear be used. If an air impact wrench is not available, a 5/16" hex bit socket and ratchet can be used to hold the alternator shaft, while a typical 15/16" boxed-end wrench can be used to loosen the nut. The pulley nut uses standard, right-hand threads. So to remove, rotate in a counter-clockwise direction.

Install the V-belt pulley, lock washer, and nut by hand.

Torque the pulley nut to 70 ft. lbs. and be certain the lock washer is completely closed. Do not over tighten.

This large case Powermaster alternator is an upgrade for the original small case alternator. This upgrade should fit into all late model Chrysler and Jeep brackets designed for the small case version of this unit.

This alternator is supplied with an eight groove serpentine overdrive pulley. This pulley's smaller diameter is required for proper alternator idle performance. The pulley will work with all original belts ranging from five to eight grooves wide. Install the belt closest to the face of the alternator.

### **Why is my voltage low when I'm cruising around at a show or sitting at a traffic light?**

All alternators have an output curve that increases with RPM. In other words, your alternator cannot provide as many amps at idle as it can at higher speeds. If your car demands more amperage than the alternator can supply at idle, the remaining amps must come from the battery thus a decrease in voltage results. Any after market pulleys that slow the alternator relative to the engine [i.e. power pulleys] can greatly magnify this problem.

### **Why does my voltage test good at the alternator but low at the battery and fuse box?**

Any resistance in the electrical path will decrease voltage. This includes all positive *and* negative conductors and connections between the alternator and the second test point. All connections must be secure and free of corrosion. All ground points must be free of paint and rust. Charging wires must be of adequate size for the amperage capabilities of your alternator. Improving any weak points in the electrical paths should bring voltage readings to within 0.5 volts of each other.