# How to Choose an Alternator

## Choosing an Alternator...

Selecting the proper alternator is essential to the life on an electrical system on any vehicle. An undersized or incorrectly installed alternator can cause electrical failures, damage, and even fire in some extreme cases. Powermaster is available to help with any questions at 630-957-4019 or tech@powermasterperformance.com.

- Make a list of your electrical components
- Determine amp draw on each and total
- Select an alternator with more amps than estimated to ensure long life of the alternator
- See our website for additional tips
- Call our Tech Support Line for selection assistance...

Amp draw of common auto accessories

| Accessory | Example Amps | Your Amps |
|---|---|---|
| Headlights / Tail Lights | **10** | |
| Halogen Bulbs | **10 ea** | |
| Dash Lights | **2-4** | |
| Power Windows | **15-20** | |
| Dash Lights | **2-4** | |
| Air Conditioning | **19-22** | |
| Electric Fans | **30-50** | |
| Radio | **4-10** | |
| Audio Amplifiers | **15-250+** | |
| HEI Ignition | **10-12** | |
| Electric Water Pump | **18-25** | |
| Electric Fuel Pump | **8-10** | |
| Air Suspension Compressors | **20-50** | |
| Other | | |
| **TOTAL AMP DRAW** | | |

### Important Stuff

**It is important to know that the alternator cannot output full capacity at idle. Also, electrical demands are generally higher at idle mostly due to engine cooling fans running. When choosing an alternator, make sure that the alternator can output enough amperage *at idle* to cover the electical demands.**

**Our alternators are shown with both top end amperage and idle amperage.**

**Available alternators:**

| CS130D | AD244 |
|---|---|
| 120/95 amp (standard) | 180/135 amp (optional) |
| 165/100 amp (optional) | 220/150 amp (optional) |

**Useful formulas:**
**Amps = Watts / Volts**
**Amps = Volts / Ohms**

## Charge Wires

- **One of the most missed install problems is the proper charge wire.**
- **The connection between the alternator and the battery is very important.**
- **An undersized charge wire, especially with high output units or improperly attached terminals, could result in voltage/amperage loss and alternator and wire damage.**
- **Powermaster offers you charge wires, ready to use, in various lengths with terminals on both ends and a battery terminal boot installed.**

Charge wire size chart

| AMPS | Up to 4' | 4'-7' | 7'-10' | 10'-13' | 13'-16' | 16'-19' | 19'-22' | 22'-28' |
|---|---|---|---|---|---|---|---|---|
| **35-50** | 12 | 12 | 10 | 10 | 10 | 8 | 8 | 8 |
| **50-65** | 10 | 8 | 8 | 6 | 6 | 6 | 6 | 4 |
| **65-85** | 10 | 8 | 8 | 6 | 6 | 4 | 4 | 4 |
| **85-105** | 8 | 8 | 6 | 4 | 4 | 4 | 4 | 2 |
| **105-125** | 6 | 6 | 4 | 4 | 2 | 2 | 2 | 0 |
| **125-150** | 6 | 6 | 4 | 2 | 2 | 2 | 2 | 0 |
| **150-175** | 4 | 4 | 4 | 2 | 2 | 0 | 0 | 0 |
| **175-200** | 4 | 4 | 2 | 2 | 0 | 0 | 0 | 00 |