

Technical Bulletin



The Power of WAI

Positive Ground Charging Systems



The following information explains how to take a 12V negative ground system and convert it to a 6V positive ground system.

Nearly all vehicles today utilize a negative ground charging system. This means that the vehicle frame, otherwise known as the chassis, is connected directly to the vehicles negative battery post, via a cable, or strap of some kind. In a positive ground system, this is just the opposite. Prior to the early 1950's, most vehicle applications utilized a positive ground system. Ford, for example, utilized a positive ground system, and Chevy utilized the negative ground. In the past, those were the two big players in the industry and since Chevy was the larger of the two, the negative ground system in the US became the standard.

Technical Services field calls from customers requesting how to build an alternator that is positive ground. Below, it is shown how to convert a WPS 7127-12N 12V unit with negative ground, and convert it into a 6V positive ground system. In addition to the unit listed above, the following parts were also used for this self-exciting conversion:



1x DR5045 Regulator



1x D10SE6 Rectifier



1x 46-1252 Jumper Wire



1x 84-1202 Insulated Screw

Installation:

1. The DR5045 is installed which is designed with positive and negative heatsinks reversed.
2. Install the 46-1252 from the rectifier to the ground connection on the regulator (shown with red wire). An insulated screw is now used on this regulator's ground connection as now, the case is positive.
3. Note the resistor has been removed. It is no longer needed. Also the barrel capacitor can still be used for noise reduction as it is not affected by the polarity being reversed.



The original insulated B+ connection on the back of the alternator is now the B- (ground) connection and the case has become positive ground. This same conversion can be used for 12V by using the D10SE12 regulator.

***Please note that any accessories that originally relied on negative ground will need to be insulated from the chassis.**

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