

DELCO CS130-D

The purpose of this modification is to allow the MOBI-ARC's PWM regulator to control the alternator. The Delco's regulator will be disabled while the control unit is present. By removing the 10-Pin wire harness from the back of the control unit and connecting the BYPASS plug, the Delco's regulator is restored to its original working condition allowing standard regulation of the alternator without the control unit present. Read through these pages before undertaking modification. People not mechanically inclined may choose to have a local alternator re-builder facilitate this modification.



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The CS130-D, in a very good alternator; one of the best we've seen. Both the build quality and the components are clean and robust. In its original configuration, the CS-Series alternators use diodes within the rectifier plate known as "avalanche" diodes. Avalanche diodes are fine for charging, but they are incompatible for welding due to their limited voltage breakdown rating. In order to use the CS130-D alternator, a rectifier plate with standard diodes must be installed. We've manufactured bolt-in rectifier plates with standard diodes. The rectifier plates look identical, but electrically they differ.

ORIGINAL AVALANCHE RECTIFIER PLATE



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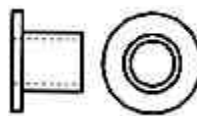
REPLACEMENT RECTIFIER PLATE



Insulator
42-1303



Ring Terminal
TV14-10R



Shoulder
Washer
12SWS0444



#8 Metal
Flat Washer



937825 Male (1)
937815 female (1) Bypass



925735 (2)

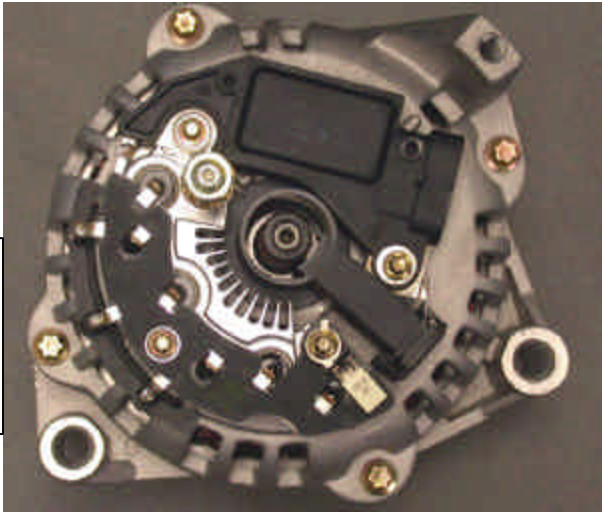


929875 (2)



Remove plastic rear housing using two screwdrivers as illustrated to the left:

This is what the alternator looks like with the plastic cover removed:



The original rectifier must be removed before we install the replacement non-avalanche rectifier. Do not unscrew rectifier retention screws until un-solder process below is completed:

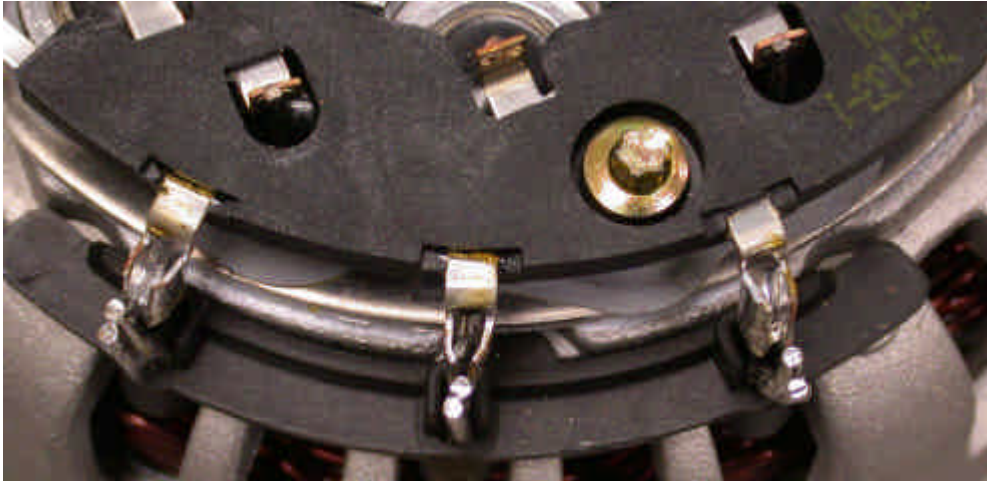


Un-solder at these four points

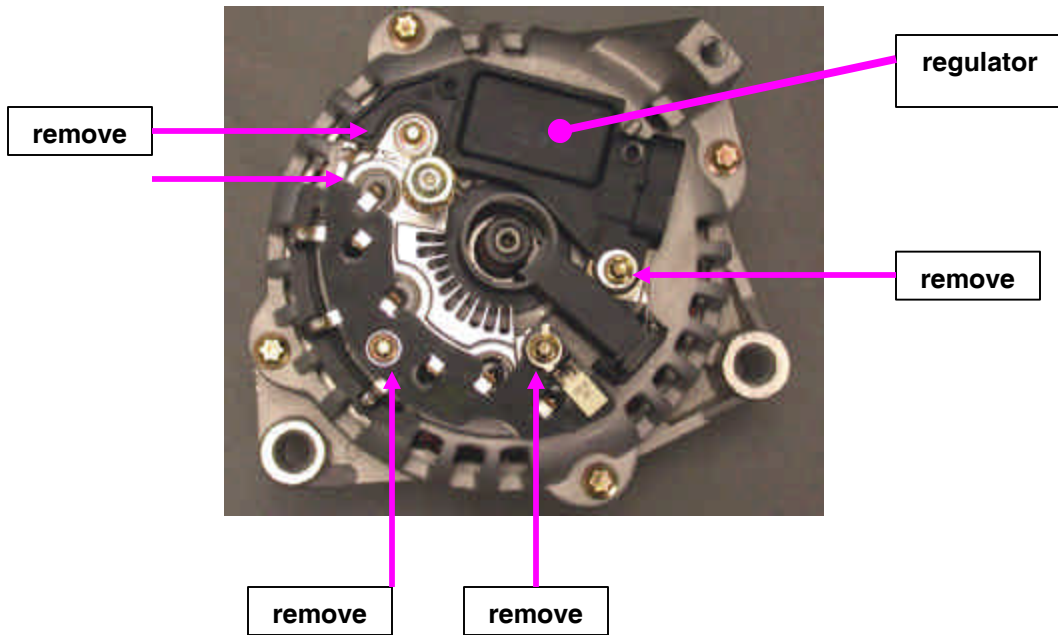


Use a screwdriver to remove stator wires from their connection points on the rectifier.

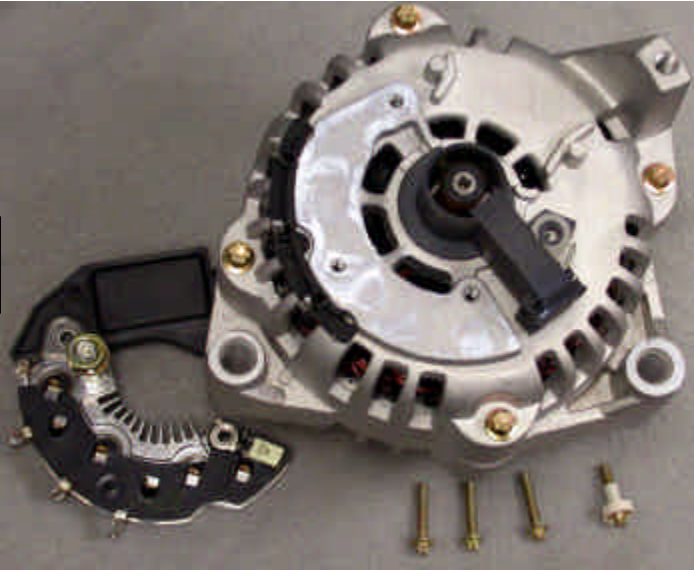
Stator wires should look like this:



Remove the regulator and rectifier by first removing the screws as identified below:



This is what the alternator looks like with the regulator and rectifier removed.



Non-avalanche diode rectifier plate



Back-side of non-avalanche rectifier plate



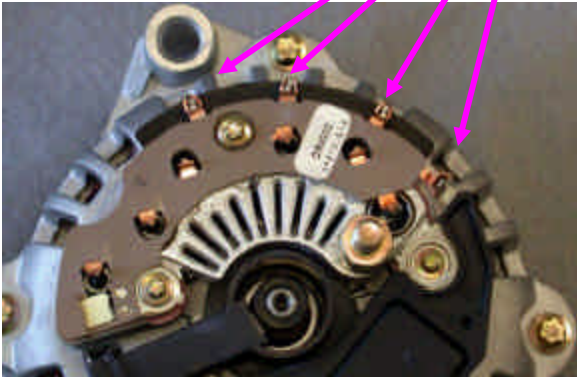
Add thermal grease to diodes



Apply generously for proper conductivity



Restore stator wires to rectifier connection points and solder:



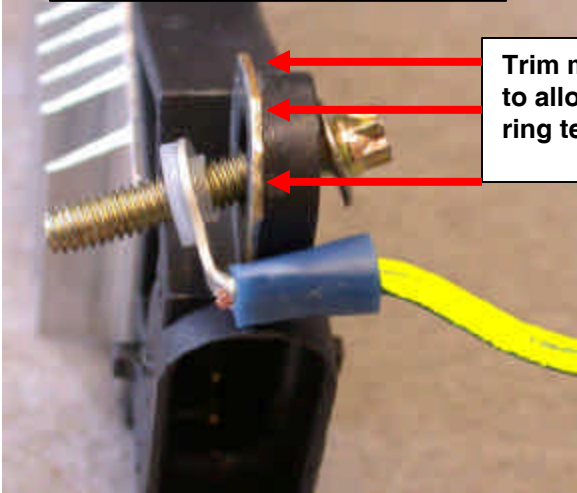
Cut out metal pad (as denoted by the red highlight), remove and solder blue wire to brush holder here:



Add metal flat washer



Add yellow wire, ring lug, and nylon shoulder washer to the regulator module exactly as shown. It must be perfect otherwise it may short on moving parts.



Trim metal flange to allow room for ring terminal.

Yellow wire and ring lug must sit nicely in the corner just as you see it in the picture below

