

Xebra Vehicle Contactor Rewiring

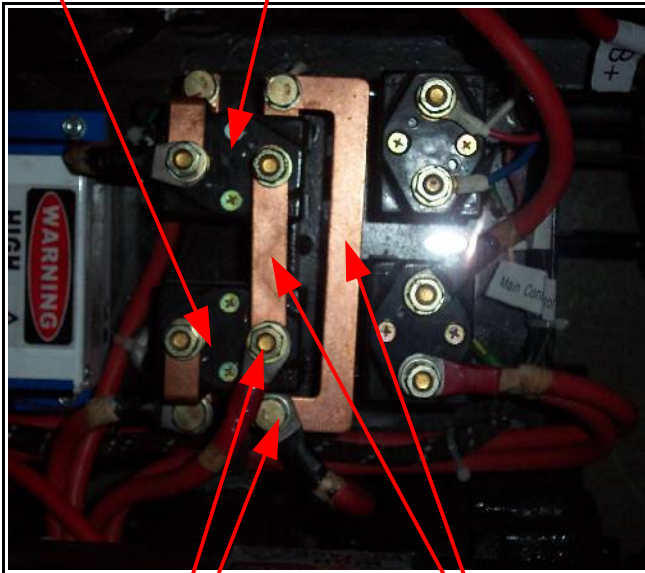
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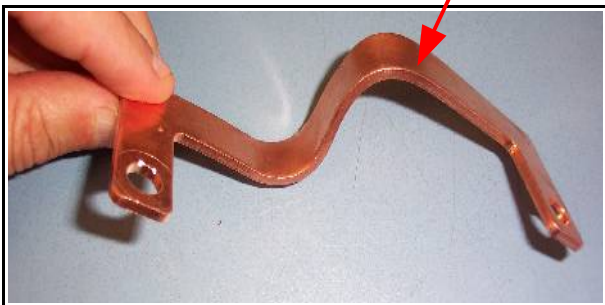
Intended Readers

The purpose of this manual is to provide a qualified electric car mechanic or technician with the information to correct the addressed service issues. Check with ZAP if you are unsure who to have do the work. ZAP is not responsible for damage to your vehicle or personal injury for work done by non-qualified personnel.

The purpose of this document is to describe how to rewire the forward and reverse contactors so both are energized in the forward direction and neither are energized in the reverse direction. Having all contactors powered during forward driving prevents the reverse contactor from chattering and arcing thus extending the life of the contactor. Your original wiring will look like the following and the reverse (J2) and forward (J3) contactors are here.

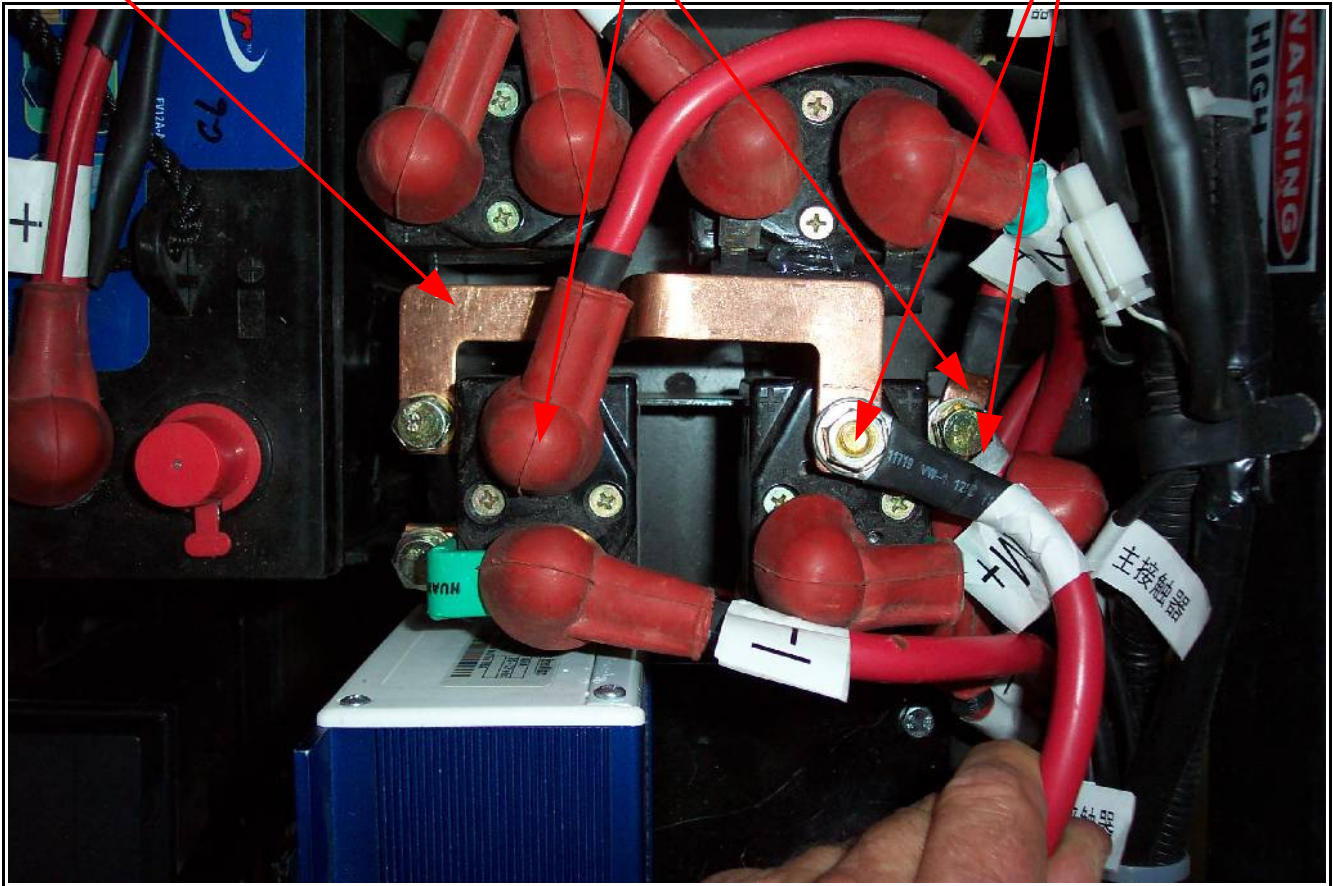


Remove the two wires and two copper bus bars. Upon reassembly the two wires will reverse positions. Bend the long copper bar as shown.



Now reassemble as shown below.

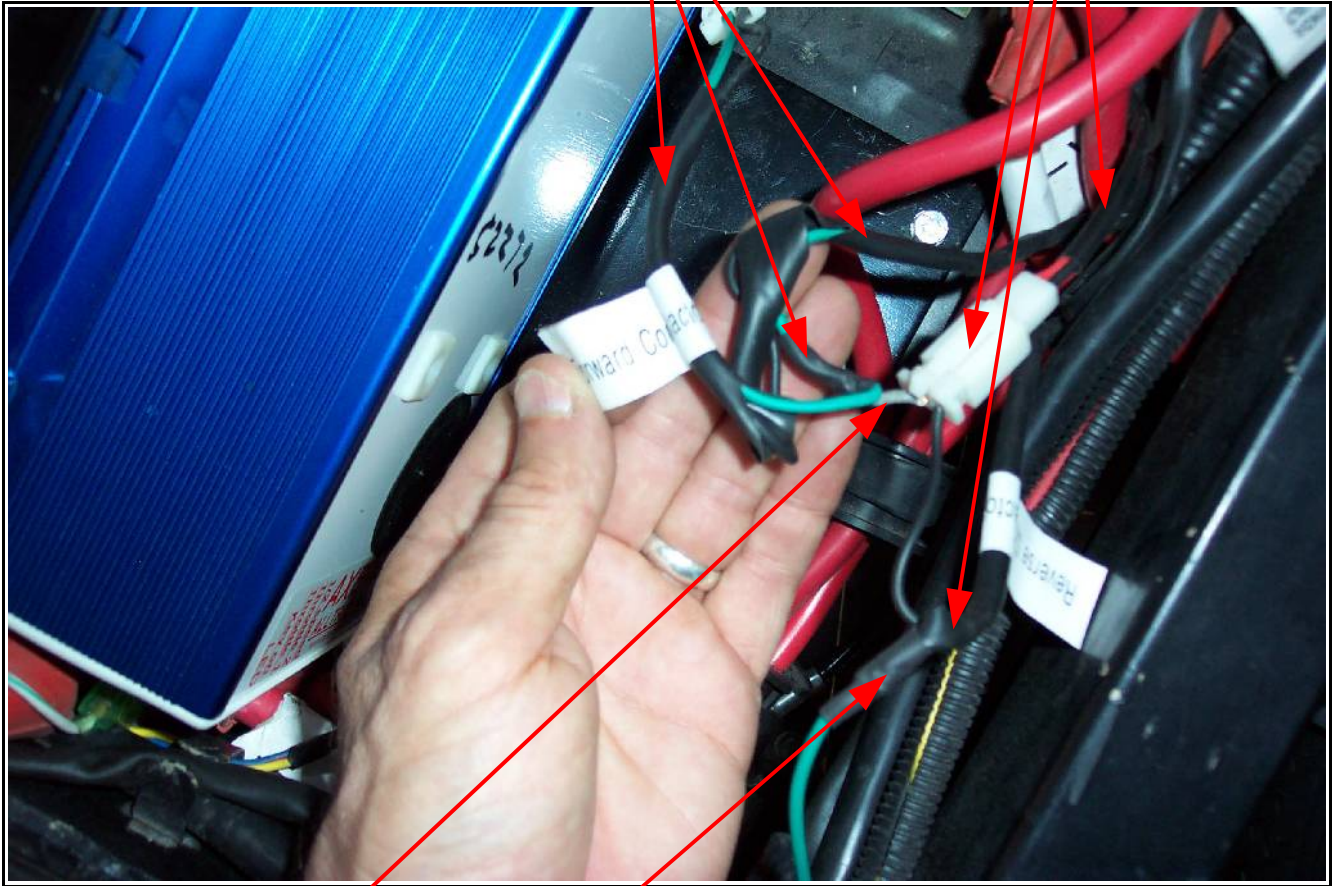
Bent bar here. Can't use old short bar so jumper here. These two connections reversed.



Power to the forward contactor coil J3 must also be connected to the reverse contactor coil J2 because both contactors are powered in the forward direction and neither are powered in the reverse direction.

Below is an example of how a PK has been modified. This is the reverse contactor wire harness.

The forward contactor wires

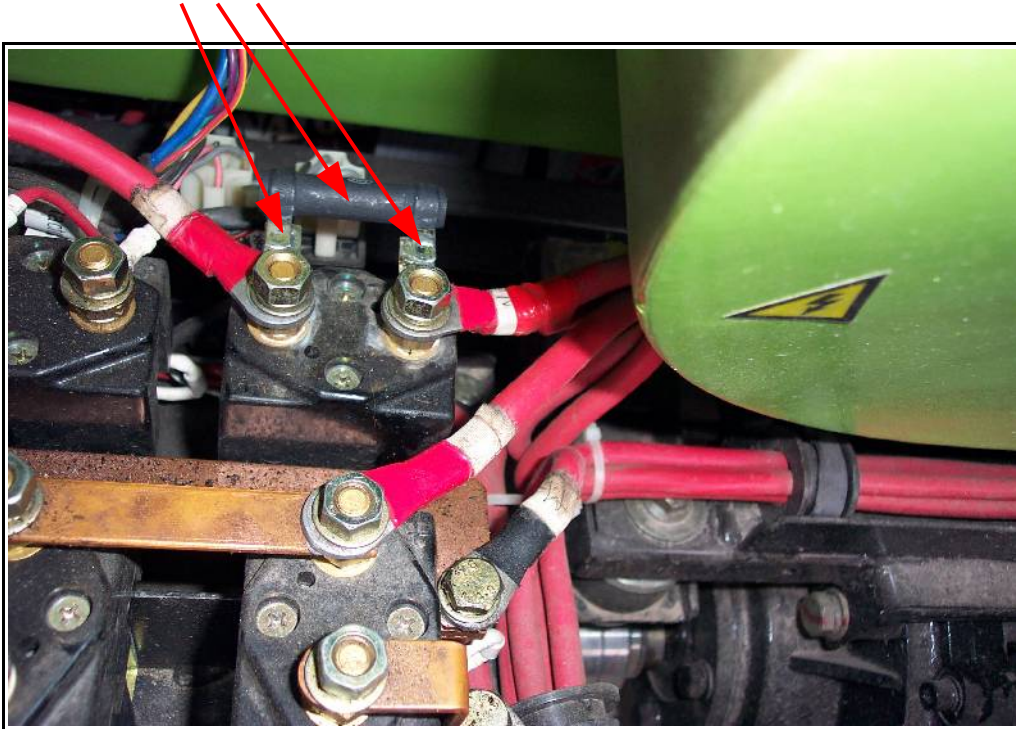


The reverse contactor wire is cut here about one inch from the reverse connector and spliced into the forward contactor wire. The old reverse contactor wire is spliced to a wire that goes to the half speed reverse input of the controller.

Currently the Alltrax controller does use the reverse wire and the Curtis does not. Be sure and wrap the reverse contactor wire in electrical tape to prevent shorts if not used.

Also, make sure you have a 1K precharge resistor here if you have the Alltrax controller. This resistor extends the life of the capacitors in the Alltrax controller.

For Alltrax controllers a 1K ohm precharge resistor should be placed across the main contactor as shown.

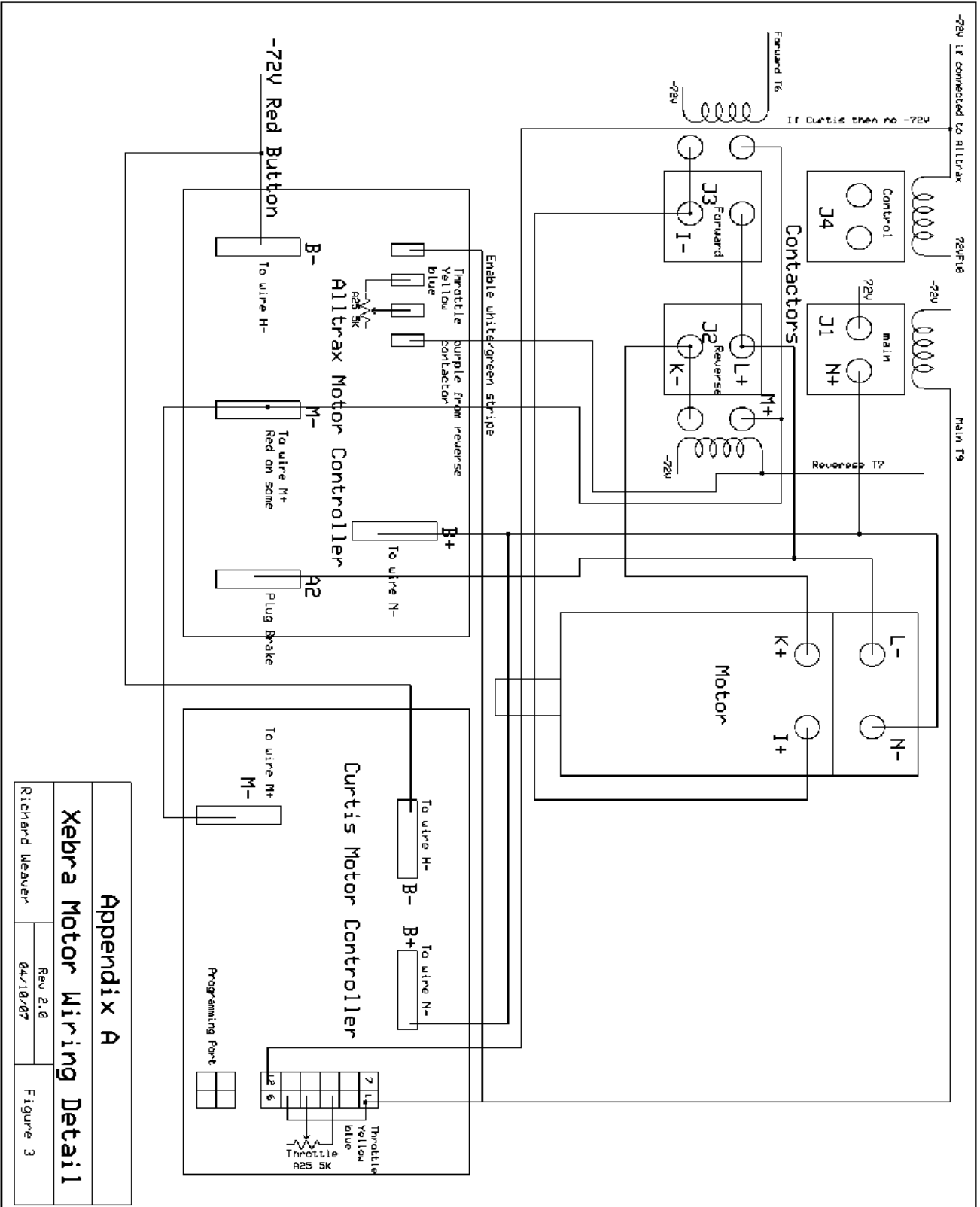


Same for the PK.



If you have a Curtis controller then you do not need to worry about installing this resistor.

The old contactor wiring diagram.



Appendix A
Xebra Motor Wiring Detail
 Rev 2.0
 Richard Weaver 04/10/07 Figure 3