Ticket #960

Ticket Status:	Closed	**Name:**	Philip Piper
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Create Date:	09/07/2015 7:37 pm	**Phone:**	(713) 501-2744
Field of Study:	Electrical Engineering		

Subject: **Yale**
09/07/2015 7:37 pm Philip Piper

Can Nylon-Insert wing lock nuts and wing screws be used as the segment maintenance disconnect? They wouldn't require tools to be disconnected, but I'm not sure if that is quite what the rules intended. I'm asking because using bus bars over wires and connectors in the accumulator box saves a lot of space, especially when 3 SMDs are required.

Phil

09/09/2015 8:17 pm

Phil - EV4.5.15 (and many bad learning experiences by power engineers in training) state:
All tractive system connections must be designed so that they use intentional current paths through conductors such as copper or aluminum and should not rely on steel bolts to be the primary conductor. The connections must not include compressible material such as plastic in the stack-up.

We also have a concern regarding the need for someone to work in the accumulator enclosure to loosen nuts and bolts. High-current electrical connections require a lot of force (or ways of creating lots of contact area like Radsok technology) to make them low-resistance and reliable. Look at Anderson Power connectors, Amphenol Radsok, etc as possible solutions.
http://www.amphenol-industrial.com/images/catalogs/RADSOK.pdf
(Amphenol sponsors FH - if you find something useful, we can likely help with supply)

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