

Power Delivery or, a lack there-of



When the users of an electric tool yank the cord hard enough to displace the cord outside the plug.. chances are, the connections are NOT as good as they once were. Bad Connections are “flow restrictors” to voltage.. And if a device cannot “get” the voltage it requires, it will draw extra current (amperage) to get the total power it requires.. a 2750 watt vacuum on 120volts requires 23 amps. With a 15% loss of voltage, it will draw 27 amps .. that will trip the breaker on an outlet rated for 20 amps continuous..

A 20amp continuous rated breaker trips at 25 amps.

The wire used to power a 23 amp system should be sized at 12 gauge or better, for up to a 25 ft run.

Longer will need to be bigger. The cord above is maybe 12gauge, probably 14gauge or smaller..

..NOT rated for 20amps, and can easily cause an overload of current, Just for its lack of ability in conductivity.

The plug above has already abused the connection to the left. You can clearly see the scorch marks.

Fried connections on outlets are eventual death to devices plugged into these outlets.

Connections are most frequently chosen to be “just big enough” ..NOT additionally abuseable.

Quick-connect terminals shown below, are rated for 20 amps max.. and normally overkill, or we like to say “BulletProof” for a 12amp connection.. until it gets dirty or wet. The vac blows moist air through for a living.. but the outlet adaptor is missing, so the fan has been depositing moisture on itself for some time, as the corrosion on the hardware shows. Corrosion in connectors, is death to the vacMotor as it starves for voltage, and is overheated with Amperage. Replacing the motor new connectors and replacing the outlet adaptor to get moisture AWAY from the motor is about Reliability. Not replacing.. would be early death to a new motor.

