

April 30, 2014

FEDERAL PACIFIC AND ZINSCO CIRCUIT BREAKERS - ARE THEY A HAZARD?

Federal Pacific and Zinsco circuit breakers in panels were quite popular in the late 50's, 60's and 70's because they were less costly and readily available with good customer service. Many Electrical Contractors including the writer of this article used these circuit breakers in panels for residential applications. Over the years there have been an unusual number of electrical failures at the buss connection point of both of these manufacturers. This happened primarily because the design was never that great and the connection point would eventually "wear out" due to heating and cooling of the breakers when they are under load and off load. This heating and the expansion and contraction eventually caused weak points in the connection to the buss which ultimately resulted in a high resistance short which started arcing and eventually failed. Some of the panels, which we call load centers, caught fire and electrically burned the wire and breakers contained within.

I have investigated, as an expert, a multiple number of "electrical fires" from these very conditions. However I have never been to a fire that started in a load center and ultimately transferred over to the combustible materials within the building and caught the building on fire. Generally the fires were contained to the panels like they are supposed to. That is why an all metal enclosure. I am sure there have been structure fires caused by these circuit breakers but I personally have not seen them.

It is recommended by the insurance industry and building inspectors that do pre-sale inspections that these load centers be changed out with current modern circuit breakers and load centers to alleviate this hazard. Based upon the number of incidents of these breakers failing, I think it is a matter of when not if there will be high resistance shorts and breaker and panel failure.

For more information please feel free to contact me.

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