

FEDERAL PACIFIC PANELS

Federal Pacific (FPE) "Stab-Lok" circuit breaker panels have been identified as having inherent defects.

These same defects have linked them to numerous electrical fires.

Problems with FPE panels can be broken down into three basic categories. First, there is the simple fact that the equipment is old, and manufactured to less stringent codes and standards than modern equipment. Electrical equipment is not something that improves with age. Second, there are problems with unique to the design of the FPE Stablock breakers, problems that are not found in other equipment this age. Third, there are issues of manufacturing defects and circuit breaker failures. This last issue causes the greatest concern; what good is a circuit breaker that won't trip when it's overloaded? What good is a breaker that doesn't de-energize the circuit when the handle is tripped?

As a Home Inspectors, this information puts us in a very difficult situation when we perform a whole house Home Inspection.

- These are known to be difficult to open and inspect without "tripping" breakers. Their very design somewhat blocks the removal of the panel while the circuits are energized.
- These panels do "perform their intended function" when performing a visual inspection. The panel does not "initiate" an unsafe condition, which leaves us in the precarious position of knowing that a latent problem may exist in a breaker panel that we check off as "performing intended function".

Bottom Line

- The following has been said about Federal Pacific Electric "Stab-Lok" panels: That these panels pose a latent threat and could be a hazard. The circuit breakers may fail to trip in the case of an overload or short-circuit. A circuit breaker that fails to trip could cause a fire or personal injury.

The problem with panels is that some double pole 220volt circuit breakers and some single pole 120volt circuit breakers may not operate as intended if overloaded. A good breaker trips (turning off the power to that circuit) Federal Pacific breakers appear not to trip every time which could result in a fire. Published reports of tests conducted on FPE two pole 220volt circuit breakers indicate that under certain conditions one leg/pole may attempt to trip the breaker. The result is a circuit that stays live, and a circuit breaker that has been compromised and then reset will not trip again under any excessive load.

In some instances the breakers fall out when the cover is removed. Loose contacts can also cause arcing which would result in a fire. These panels appear to work perfectly during normal operation allowing electricity to flow without any problems or symptoms.

The real question is what will your panel do if it has an overload?

The Consumer Product Safety Commission (CPSC) did conduct product testing of these FPE breakers and found that their failure rates were significant. The CPSC's advice concerning these panels is for consumers to avoid overloading circuits as well as to turn off and have examined any devices that are causing the circuit breakers to trip. (This is easier said than done and defeats the whole point for having the breaker.)

Federal Pacific electric's statement in response to this problem is cautious in tone: "FPE breakers will trip reliably at most overload levels." It should be noted that Federal Pacific is no longer in business.

Aftermarket breakers are available for these panels. Most of these panels are large and had a lot of circuits and the cost of replacing all the breakers is often more than the cost of installing a new panel.

Based on the above information and in the interests of safety we recommend our clients consult with a qualified electrician and discuss the replacement of these panels.

Our inspection reports read:

[SC] This electrical panel was manufactured by Federal Pacific / Stab-Lok. **Opinions of electrical professionals vary on the need to replace or upgrade these panels.** These panels have been known to present latent hazards by malfunctioning or jammed circuit breakers under certain conditions and may not trip (disconnect the power). Failure can also occur at the connections to the bus bars due to inadequate bending space for the service entrance conductors.

