

**JOHN R. SCHNEIDER**

FEDERAL PACIFIC ELECTRICAL PANELS

Getting the Facts on Federal Pacific Electric Panels

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I live in a 50 year old house, and I had it inspected to find out if there were any problems that I wasn't aware of, or items that needed to be fixed. The property inspector stated my electrical panel was made by the Federal Pacific Company, and presented a safety hazard. Apparently, Federal Pacific had lost its UL rating due to faulty breakers not tripped during excessive loads. He indicated that it was a fire hazard, and should be replaced. I have lived in the house for 35 years, and have never had a problem with the panel. I have talked to an electrician over the phone and he also stated that these panels were problems. If I replace the panel, it will cost about \$1500.00. Is this really necessary?

Ask most home inspectors or electrical contractors about Federal Pacific Panels and you will hear about all the dangers of their breakers not tripping off, and the potential for electrocution and fires. While their intentions may be good, their comments about Federal Pacific panels are inaccurate. Unfortunately, there has been misinformation floating around the industry for the past several years regarding the safety of the panel.

Federal Pacific Electric was a major manufacturer of electrical panels and circuit breakers from the early 1950's through the early 1980's. One of their earlier panel designs was called the Stab-lok residential circuit breakers and panels. The unique features of this design allowed the metal connections to the circuit breaker to be stamped out of metal and calibrated automatically. Over the years, millions of these panels and breakers have been installed across the United States, with thousands of them installed in Bay Area homes.

What started the concern about the panels and breakers occurred in 1980, when FPE reported to the Consumer Product Safety Commission that their residential Stab-lok breakers did not fully comply with UL requirements. The CSPC investigated the report, and focused on these breakers. The commission did find the breakers did not “fully comply” with certain calibration tests which measure a breaker's ability to trip off during excessive loads.

The CSPC spent two years investigating the report, and on March 3, 1983 stated the information and data available at the time, did not confirm that the Stab-lok circuit breakers presented a serious risk of injury to individuals. Throughout the investigation, FPE maintained their breakers did not present a hazard to household use.

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While the CSPC was investigating FPE's residential breakers, in 1981, the company did issue a recall for certain industrial breakers. The publicity surrounding this particular recall, and the on going investigation involving FPE's residential breakers, generated many articles and opinions about the safety of FPE's equipment. Unfortunately, much of the information from these articles has not been substantiated, and the past 20 years have proven this. To get a better perspective on Federal Pacific Electric panel boxes and breakers, I spoke with Marvin Jensen, a seasoned and experienced electrical inspector, who has worked with, installed, and inspected thousands of electrical systems. Marvin has worked in the industry with his present company for 22 years, and has never run into a problem with FPE panels or breakers after they have been installed.

"Rarely will you ever hear about a breaker failing to trip, or shut off during an electrical overload, particularly in residential construction. The electrical equipment we use today can be considered completely safe, when it carries a UL listing, and is installed by a professional" Marvin stated. "However, that doesn't mean there are never failures," he continued. "Electrical equipment can sometimes fail, but usually there are warning signs indicating a problem. You just have to be aware of what to look for."

"One of the first signs of an electrical concern is overheating. This can occur at an electrical panel, breaker, switch or outlet. If a consumer were to open the door to his or her electrical panel and feel heat, there is a problem. The same is true for switches and outlets," warned Marvin. "Probably the most overlooked requirement for electrical switching equipment, is that it be manually operated (switched on and off) annually. This will ensure that the switch or breaker is working safely. All manufacturers of electrical equipment require this."

How can you tell if your FPE panel box and breakers are a concern? If you have not had a problem with your equipment in the past, you are probably okay. If you want to be sure your panel is safe, you should consult with a qualified electrician. He or she can remove the breakers from the panel box and check the contacts with the buss bar. If the contacts are clean, and show no signs of overheating or arcing, the components are probably okay.

However, you have breakers that trip off more that occasionally, or if there are burnt marks or loose connections between electrical contacts, there is a problem, and you should have it investigated immediately. The best advice is to be aware of your electrical system, and know which circuits serve which outlets. Never overload any electrical circuit by connecting too many devices, and if you see flickering, overheating, or sparking from any device, contact a qualified electrician.

John R. Schneider is a licensed general building contractor and an ICBO certified residential code specialist. He is president of All About Homes, a residential inspection company, and has been performing code and construction consultations since 1985. Readers may address their comments to John Schneider, 24326 Mission Blvd., Suite 7, Hayward, CA 94544. Fax number: 510-537-8666. Schneider will answer questions of general interest in the paper. He reserves the right to edit the letter for brevity and clarity. Readers are encouraged to contact a competent contractor or code consultant for specific information regarding questions they may have about their home.