



# The Zinsco Electrical Panel, Zinsco Circuit Breakers - Hazard Information Website

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This website discusses the electrical, fire, and shock hazards

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associated with Zinsco electrical components, circuit breakers, electrical panels, including certain Sylvania electrical panels and breakers which are in fact of the same product design and origin. These circuit breakers do not offer the level of overcurrent and fire protection provided by most other electrical panels and circuit breakers. This means homes with this equipment are at greater risk of fire or other electrical hazard. Where Zinsco and Zinsco-Sylvania electrical panels are discovered in buildings they should be replaced to reduce some very real fire and shock hazards. Building owners or electricians encountering problems with this equipment are asked to contact us to add that information to our electrical failure data base in an effort to develop accurate safety information which is then shared with appropriate federal and state agencies. Thanks to Mr. James Simmons, a licensed electrician with extensive field experience and the contributor of most of the photos and case reports at this web page. © Copyright 2006 Daniel Friedman, All Rights Reserved. Information Accuracy & Bias Pledge is at below-left. Use the links at page left to navigate THIS DOCUMENT or to go to Other Website Topics. **Green links** at left show where you are in our document & website.

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## ZINSCO SYLVANIA PANELS

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## ADVICE FOR OWNERS - Zinsco Electrical Panel Advice for Homeowners and Home Buyers

Where Zinsco electrical panels and Zinsco circuit breakers are in use, arcing, contact-point burn, and even circuit breaker case blow-out have been observed in the field. A principal Zinsco circuit breaker (or Sylvania circuit breaker for those Sylvania panels using the Zinsco product) point of failure appears to be at the point of contact where the circuit breaker contacts clip onto the electrical panel bus, combined with the use of an aluminum electrical panel bus. In addition to advice on identifying Zinsco panels, inspecting Zinsco electrical panels, and repair/replacement advice, we provide field photographs of circuit breaker failures: overheating, burnups, failures to trip, overcurrent protection failure. This document includes field reports of failures and additional anecdotal evidence. As a not-for-profit activity, we have been collecting information and field failure reports for Zinsco/Sylvania electrical components since 1996 in an effort to develop credible failure-rate information which is then shared with the U.S. CPSC and with other electrical failure researchers and educators.

## SAFETY PRECAUTIONS - Zinsco Electrical Panel Safety Precautions for Homeowners and Home Buyers

The following comments are incomplete - other safety concerns and advice may apply, pending

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additional technical review by industry experts.

1. **If you are having an emergency right now** such as seeing smoke or fire you should get occupants out of the building and call the fire department. This is a general suggestion for any suspected building fire, and is not unique to Zinsco, Sylvania, or any electrical product manufacturer.
2. Do not touch the electrical panel if you are standing on a wet floor.
3. **Warning of possible fatal electrical shock:** If you have noticed any of the trouble signs listed in the next section below, or if you already know that you have problem electrical equipment such as the Zinsco components discussed here, have a qualified electrician inspect the electrical system. Where problems have been observed (such as flickering lights), the electrician can determine the cause of the problem and recommend the appropriate repair.
4. **Do not disassemble electrical equipment nor try to make electrical repairs yourself:** You could be electrocuted or you could make the electrical equipment more unsafe by disturbing it.
5. Although this website includes photographs of the interior of electrical panels, you should not try to see inside the electrical panel by removing screws to take off the cover yourself as this can be quite dangerous.
6. Determine whether or not you have Zinsco or Sylvania-Zinsco electrical equipment installed by simple visual inspection of the electrical panel exterior, any exposed labels or markings, and by observing the characteristic red and blue-colored circuit breaker toggle switches.
7. Pending replacement of unsafe electrical panels and circuit breakers of any brand, turn off any suspect circuits such as ones displaying flickering lights.
8. Be sure that you have working smoke detectors in your home.
9. Turn off unsafe or suspect electrical equipment. If there is evidence of or suspicion of overheating electrical devices turn off the offending electrical circuit or turn off all electrical power.
10. To inspect the panel, to confirm that you have unsafe electrical equipment, and to replace unsafe electrical equipment in a home, you should hire a licensed electrician who is familiar with Zinsco/Sylvania equipment and the hazards it poses.

## SIGNS OF TROUBLE - Signs of Trouble Where Zinsco or Zinsco-Sylvania Electrical Equipment is Installed

The following initial comments are incomplete - other safety concerns and advice may apply, pending additional technical review by industry experts.

See the [US CPSC booklet on aluminum wiring](#) and more to the point, the section on [Signs of trouble in homes with aluminum wiring](#) as you may see some of these same symptoms.

- Flickering lights
- Smell of burning electrical devices such as plastic receptacles, receptacle covers, circuit breakers, or electrical wiring
- If you have noticed any of the trouble signs, have a qualified electrician determine the cause of the problem. **DO NOT TRY TO DO IT YOURSELF.** You could be electrocuted or you could make the electrical equipment more unsafe by disturbing it.

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## IDENTIFY ZINSCO - How to Identify Zinsco Electrical Panels and Circuit Breakers


Zinsco electrical panels were distributed in the United States, primarily in the Western states.


- 


[Zinsco Main Panel](#), note the embossed "Magnetrip" label at the top of the panel face
- 


["Magnetrip"](#) closer view of this embossed label
- 

[Zinsco blue/silver label](#) in the panel, and the characteristic green, white, red circuit breaker toggles
- 

[Underwriter's Laboratory Label](#), closeup of this yellow on black label in a Zinsco electric panel
- 

[A Zinsco Electrical Panel](#), cover off: note the red and blue breaker toggles and the breaker removed to show evidence of arcing.
- 

[Zinsco circuit breaker labels-1](#)
- 

[Zinsco circuit breaker labels-2](#)
- 

[Zinsco Main Panel Label](#), closeup of the red print on black "Zinsco Los Angeles label"








## IDENTIFY SYLVANIA-ZINSCO - How to Identify Zinsco-like Sylvania Electrical Panels and Circuit Breakers

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Some Sylvania electrical panels are essentially a "Zinsco in Sylvania's clothing". The panel labels may identify it as "Sylvania" but the circuit breaker colors and other external details permit the inspector to identify Zinsco materials. An expert who opens the electrical panel or performs further disassembly (DANGER) can further identify the characteristic circuit breaker details but the circuit breaker toggle switch colors and unique labels should be sufficient for most inspectors and owners to identify this equipment. Thanks again to James Simmons for providing most of these photographs.

-  [Sylvania Zinsco Main Panel](#), note the blue and silver foil "Sylvania" label
-  [Sylvania Zinsco Main Panel](#), main breaker and Sylvania label
-  [Sylvania Zinsco Main Panel](#), closeup of the blue and silver Sylvania label
-  [Sylvania Zinsco Main Panel](#), Sylvania label and pale green double pole breaker
-  [Sylvania Zinsco Main Panel](#), closeup of the blue and silver Sylvania label
-  [Sylvania Zinsco Main Panel](#), double pole green Zinsco circuit breaker in a Sylvania-labeled electric panel
-  [Sylvania Zinsco Main Panel](#), interior view

## FAILURE MECHANISM - Failure Mechanisms for Zinsco Electric Panels and Circuit Breakers

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- Arcing and/or overheating, or a similar failure process occurs at the connection of the circuit breaker to the electrical panel bus damage the bus, the breaker, and the connection, making the electrical contact unreliable and leading to equipment failure.
- Circuit breakers become damaged by arcing or overheating. Damaged circuit breakers are unlikely to perform properly in response to an overcurrent condition.
- Aluminum electrical panel components appear to be an important factor in failures in this equipment
- Moisture exposure appears to be a factor in failures in this equipment.

## Types of Zinsco Panel and Circuit Breaker Failures

- Circuit breakers may fail to trip in response to an overcurrent condition. This is a fire and shock risk.
- Circuit breakers may "blow out" the side casing of the device in an electrical "arc explosion"
- Circuit breakers may fail to drop power even when they are switched off [remains to be verified--DF] - that is, the breaker may appear to be switched to the "off" position but internally it may still be conducting power to the circuit.

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## FAILURE PHOTOGRAPHS - Zinsco Electric Panel and Breaker Field Failure Photographs


Clicking on any of the thumbnails at left will display a larger photograph.


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[Photo 2: A Zinsco panel bus](#), showing scratch and oxidation marks
- 


[Photo 3: A Zinsco double pole breaker in-place](#), with the electrical panel bus exposed
- 


[Photo 4: A Zinsco breaker side blowout](#), exposed breaker contact exposed in the electrical panel
- 


[Photo 5: A Zinsco breaker side blowout-2](#), exposed breaker contact exposed in the electrical panel
- 

[Photo 6: A Zinsco electrical panel bus bar burn marks](#), exposed by partial-removal of circuit breaker
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[Photo 7: A Zinsco burned panel bus bar, blown-out circuit breaker](#), and arcing debris on other circuit breakers - partial disassembly
- 












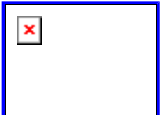
[Photo 8: A Zinsco main panel](#), below you can read the [case report](#) April 25, 2003 below
- 

[Photo 9: A Zinsco burned circuit breaker](#), case report April 25, 2003 below
- 

[Photo 10: A Zinsco double-pole thin style breaker](#), light green toggles
- 

[Photo 11: A Zinsco copper bus bar burn](#), in a Zinsco electric panel using copper busses

-  [Photo 12: A Zinsco circuit breaker with burned contacts](#) , closeup
-  [Photo 13: A Zinsco circuit breaker with burned case](#) , closeup side view
-  [Photo 14: A Zinsco circuit breaker with burn and arcing flash marks](#) , side view at the Zinsco electric panel
-  [Photo 15: A Zinsco circuit breaker with burned, broken case](#) , closeup
-  [Photo 16: A Zinsco circuit breaker with burned, broken case](#) , "clothes dryer quit working"
-  [Photo 17: A Zinsco electric panel bus details](#) , with what looks like a circuit breaker contact trapped on the bus
-  [Photo 18: A Zinsco circuit breaker case damage](#) , interior view
-  [Photo 19: A Zinsco circuit breaker with burn and arcing flash marks](#) , side view at the electric panel
-  [Photo 20: A Zinsco electric panel bus bar](#) , showing pitting and burn marks
-  [Photo 21: Zinsco burnt up main breaker](#) -1
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-  [Photo 28: Bad copper bus damage](#) behind a full size Zinsco breaker -1
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-  [Photo 30: Zinsco breaker partly disassembled](#) at site of copper panel bus damage
-  [Photo 31: Burned outlet, Zinsco breaker no-trip-exterior](#), below you can read the [case report](#) May 04, 2005
-  [Photo 32: Burned outlet, Zinsco breaker no-trip-interior-1](#), case report May 04, 2005
-  [Photo 33: Burned outlet, Zinsco breaker no-trip-interior-2-burned wires](#), case report May 04, 2005
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-  [Photo 35: Burned outlet, Zinsco breaker no-trip-burned wall at outlet](#), case report May 04, 2005
-  [Photo 36: Burned outlet, Zinsco breaker no-trip-burned wall - 2](#), case report May 04, 2005
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## FAILURE REPORTS - Field Failure Reports for Zinsco Circuit Breaker/Panel & Sylvania Electrical Panels

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The following anecdotal reports describe observations of failures in Zinsco and Zinsco-Sylvania electrical panels, buses, circuit breakers. Since most home owners and electricians are more focused on immediate electrical repair and safety needs than in taking photographs and writing failure reports, our opinion is that number and frequency of these electrical failure field reports are the "tip of the iceberg" of actual occurrence. We estimate that only 2% to 5% of electrical failures are recognized and

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reported to the U.S. CPSC or to researchers such as Daniel Friedman or Jess Aronstein. This opinion is supported by a US CPSC study of failed electrical receptacles.(1).

1. 01-08-2006 06:59 PM -- Since I started this, now I'll put in my 2 cents. I am a master electrician (obtained license while still working in the field), a certified electrical inspector and a CBO. I'm with Ryan! And I have a FPE panel in my bedroom closet (oops, Ryan just disclaimed me). PG and Tanky, do you really think you can condemn my house for having a old panel?? My parents house has a Zinsco from the 50s, split bus. You're gonna go after mine in a closet but say their's is OK because its in the garage (with paper files stacked around it). I think a change out should be allowed to stay in the closet, but with so many people having concerns, maybe I should find a way to CYA or at least strongly encourage the HO to move his panel. One thing to think about is how many homes have panels in garages and have cardboard boxes stacked around it and in front of it. That's a violation but we don't require the garage floor to be marked "no combustibles in this area". (Oops again, I probably gave someone an idea.) Thanks to everyone for participating, but if you're gonna zing somebody, do it backhanded with sarcasm, its funnier than the in your face stuff. From: garland, TX (near Dallas) | Registered: Jan 2005  
[http://www.iccsafe.org/cgi-bin/ultimatebb.cgi?ubb=get\\_topic;f=11;t=000888](http://www.iccsafe.org/cgi-bin/ultimatebb.cgi?ubb=get_topic;f=11;t=000888)  
 01-09-2006 02:36 AM -- jboren, Yes I could and would condemn your home if I knew it was a fire or safety hazard. I believe if your parents service was a fire hazard you would have already fixed it. There are way too many government dollars available out there for someone to use the excuse it cost too much.  
 [DF NOTE: This is from the ICC bulletin board - ICC is the International Code Council]
2. May 04, 2005 - Susan R. Olympia, WA: Customer called to have a burnt up outlet in their bathroom repaired. When I arrived on site I found the outlet completely burnt up, and the wiring badly damaged. The circuit was 12 gauge on a 20 amp Zinsco breaker. After some tracing I found the circuit also had kitchen outlets on it. The refrigerator and microwave they were using added up to 20 amps exactly, but they also had 2 bathroom outlets and lights on the same circuit. The owner had two portable heaters they used for the bathroom and bedroom area, and also used the typical hair dryer and curling iron, all on the same circuit! I asked the owner if the circuit ever tripped and she said that it had when she used the hair dryer while the heater was on, and the microwave was being used at the same time. This would be at least 36 amps on a 20 amp circuit! They did not have a problem using the smaller heater (1000 watts) and the microwave and hair dryer at the same time (about 30 amps), or when using the larger heater and the microwave at the same time. - Jim P. Simmons
3. January 28, 2005 - Zinsco panel, meter clip short circuits to panel?? Dear Mr. Friedman, Have you ever run into a situation with an 70's era Zinsco panel wherein upon removal of the panel face cover, the meter can be moved in such a manner that the lower meter clip contacts short to the panel housing. I have recently seen a panel with this condition and was wondering if this is a known problem with some Zinsco panels. Thanks, - Phil
4. 3-21-2004 Kory

I am a 12 year veteran electrician with a new business in hand. I am seeking hard data on the Zinsco and FPE panels, I have a few personal experiences that make me personally aware of the dangers these brands but sound to a customer as self serving when I make my warning "I would consider replacing that panel as soon as possible".

Most consumers look at the panel as something that has existed for many years without harm and I feel consider my words as money making. Truth is even if they choose another contractor I still want them to be better informed!

Any direction you could pass to me would be appreciated. I have spent many hours searching the web and seem to find forum type input more then hard fact

5. 9-2-2003 Split Bus Zinsco: Thought you might like to see some more Zinsco panel damage pictures. I have this panel in my possession. This panel was badly damaged in the whole top section (above the sub main) where it is not possible to shut the power of because it is a split-buss panel with no main breaker. The really scary part is the customer did not know they had a problem. I was at the site to do an estimate and noticed the Zinsco panel. I asked the customer if it was alright to check it for him, and he agreed. He said the only trouble he knew about was the water heater didn't always give them real hot water. I pulled the panel cover off and everything looked OK. I checked the breakers with a volt meter and had proper voltage at all the circuits. Then I started (carefully) removing breakers and found the top (water heater circuit) breaker had

welded itself to the buss and came apart when I tried to remove it (this could be very dangerous for a homeowner or home inspector). I removed several other breakers and found them to be badly damaged, and the bussing was burnt in several locations. After seeing the situation it was not hard to convince the owner that it was time to replace the Zinsco panel. -- J Simmons

6. 8-29-2003 Zinsco: Thought you might like to see some more Zinsco panel damage pictures. I have this panel in my possession. This panel was badly damaged in the whole top section (above the sub main) where it is not possible to shut the power of because it is a split-buss panel with no main breaker. The really scary part is the customer did not know they had a problem. I was at the site to do an estimate and noticed the Zinsco panel. I asked the customer if it was alright to check it for him, and he agreed. He said the only trouble he knew about was the water heater didn't always give them real hot water. I pulled the panel cover off and everything looked OK. I checked the breakers with a volt meter and had proper voltage at all the circuits. Then I started (carefully) removing breakers and found the top (water heater circuit) breaker had welded itself to the buss and came apart when I tried to remove it (this could be very dangerous for a homeowner or home inspector). I removed several other breakers and found them to be badly damaged, and the bussing was burnt in several locations. After seeing the situation it was not hard to convince the owner that it was time to replace the Zinsco panel. -- J Simmons
7. May 15, 2003 - Zinsco/Sylvania breakers and panels - Dan P. Olympia, WA

I was asked to look at this customer's home to give them an estimate to replace a Zinsco/Sylvania panel. The panel is the split buss type 200-amp with no main breaker. The panel looked OK but when I removed some of the breakers to check the bussing I found that the 100-amp 2-pole that fed to his shop had signs of degradation on the buss. The 2-pole 30-amp breaker next to it also had started deteriorating. They had not failed yet or caused the customer any noticeable problems. I then tried to remove the 60-amp 2-pole sub feed breaker (it feeds the bottom section of a split buss type panel) and it would not come out. I went to my truck and got my large screwdriver to use (carefully because there is no way to shut off the power to it) as a pry bar. I tried to remove it again and the breaker was welded onto the buss so bad that the buss started to come out with the breaker. I pushed the breaker and buss back into place and let the customer know that he had a serious problem that needed to be addressed as soon as possible. I will get him a price to replace the panel ASAP.

Pictures 1,3 ,5,6 are of this panel. - Jim Simmons

8. April 25, 2003 - Ken W., Olympia, WA - Lacey, WA

We had recently removed a Zinsco panel that was causing some problems for Ken Woehl. The bussing was damaged in a couple places (the problem was identified on a home inspection that I did for him) where the breakers plugged onto it. We got a call from our customer today about a problem he was having with the new Cutler Hammer panel we just installed for him (to replace the Zinsco). His complaint was when he ran his furnace and his microwave at the same time the circuit tripped. He said the breaker never tripped before (when the Zinsco panel was in place). Code requires the furnace to be on a separate circuit, but evidently the wiring had been altered so the kitchen microwave was on the same circuit. The circuit load with the furnace and microwave both on was over 26 amps. Now that we installed a good quality circuit breaker panel the breakers are doing what they should - shutting off when there is an overload and protecting the house. The Zinsco panel has bussing damage in it caused by a circuit that was overloaded for a long period without the circuit tripping. I have this panel in my possession for confirmation and the pictures here are from this site. - Jim Simmons



[Photo 8: A Zinsco main panel.](#)

and  [Photo 9: A Zinsco burned circuit breaker.](#) - updated by J Simmons 3/8/2006

9. 4/15/03 - Black Lake Park - - Re: Zinsco Breakers: I was called out to bid a job for the Black Lake Community Park. I checked the panel for circuit capacity and noticed it was a Zinsco brand. I asked the customer if it was OK if I checked it, and proceeded to pull the cover off. The breakers and panel looked to be in great shape. No obvious heat damage or signs of conductor damage.

I proceeded to pull off the breakers and found the top 3 - 30 amp breakers all had serious damage to the breaker and the bussing. One was so bad that the part of the breaker that pushes onto the bussing had become welded to the buss. The breaker actually broke apart (with the connection staying on the buss and the rest of the breaker coming out) when I tried to remove it.

The panel did not have a main breaker (split buss type) so there was no way to shut off power to the top (main) section.

This could be extremely dangerous if a homeowner, or a home inspector had tried to remove the breaker to replace it, or check it. (I have this panel in my possession because they had us change it). -- Jim Simmons

10. 3/22/03 - May G. Olympia, WA

Re: Zinsco Split Buss Panel, about 40 years old: On 3/22/03 I went out on an emergency call - The customer's friend was removing baseboard electric heaters for her that were no longer needed (she had a gas furnace installed). He turned off the circuit breaker that was marked "Main" and proceeded to cut the wires loose on the heaters. He thought he had the power off, the only problem was this panel was an older type that did not have a main. It is called a split buss type panel (it does not have a main breaker) and you have to turn off all the breakers to kill all of the power. He proceeded to cut the wires from the back of the baseboard heaters, and shorted out one circuit when he cut it. He had a bright flash and loud bang which scared him so bad he dropped his wire cutters. He went to the panel expecting to find a circuit breaker tripped, but none were tripped. He was concerned so he called us for some expert advice. I confirmed that none of the breakers had tripped even though he had shorted across a 240 volt circuit!. We recommended that they change the panel to a new one to get rid of the Zinsco panel.

Unfortunately this is not an isolated incident. The circuit breakers are very poor quality and do not provide a safe level of over current or short circuit protection. - Jim Simmons

11. March 2003 - John A., Seattle WA

This message is in response to your request for descriptions of problems with Zinsco electrical panels. Our panel (in a 1922 Seattle house) was installed in December 1960, based on the city inspection tag we found stuffed into the wiring.

In early March 2003, on a day when we were about to leave the country on vacation, we noticed that some of the incandescent lights in our living room were flickering slightly. At the same time, we heard the squeal of the UPS that protects the computers in our home office (a noise it makes when it detects bad power). It was a very windy day, and we attributed the problem to a tree branch hitting a wire. We shut off the UPS and left on our vacation.

Upon returning, we discovered that the circuit for those areas of the house was completely dead. The circuit breaker had not tripped, but it had failed and no power was being delivered to that circuit. Resetting the breaker had no effect (although it did cause a sizzling noise and, after the panel cover was removed, a visible sparking).

We called an electrician to fix the problem, and he filled us in on the Zinsco problems. We have one other circuit with a flickering incandescent light (all other lights on the circuit are fluorescent, and don't show the flickering), and we suspect that the problem is another bad breaker. We are currently in the process of having the entire panel replaced.

The citations below are representative of comments observed at Mike Holt's Page on Zinsco Breakers - <http://www.mikeholt.com/forum/Forum1/HTML/005092.html> as of 3/8/2006. Holt's page contains additional information. Emails were deleted from the text here for privacy.

12. December 28, 2002 - Don Walker, Location: Georgia, Electrician: In Trade Since: 1982, Registered: Dec 2002, here's the situation.... customer complained that breaker would not trip...5 year old stuck a fork in receptacle....sparked for several minutes...had to take broom handle and knock fork out of receptacle. heard a lot of negative about Zinsco breakers...should I... tell customer to manually turn each breaker on and off several times (once a year) replace all breakers with new Zinsco...replace Zinsco panel(200 amp) with a more name brand (square d...Siemens...etc) house has all aluminum wiring.
13. December 28, 2002 - Name: Tim Hausmann Location: Illinois Title: Electrician In Trade Since: 1982 Registered: Apr 2002 -- Once saw a Zinsco breaker not trip when my amp probe showed 34 amps being pulled. Scared the hell out of me. By the way, it was a 15 amp breaker.

- 14. December 29, 2002 - Name: Allen Wayne Location: Florida Title: Electrician In Trade Since: 1975 -- I haven't seen many Zinsco breakers recently but just like a stab lock fpe you can almost arc weld with them, Home depot sells a replacement for them about \$25 a single pole breaker. It would be more cost efficient to just replace them with an available and affordable breaker/panel
- 15. December 30, 2002 - Name: Todd Yetter Location: Delaware Title: Electrician In Trade Since: 1988 -- Has anyone ever seen the Zinsco breakers that don't have a set screw on the terminal lug? just a pressure terminal like on the back of stereo equipment  
RESPONSE: Paul W. Location: Washington Title: Electrician In Trade Since: 1991 -- Has anyone ever seen the Zinsco breakers that don't have a set screw on the terminal lug? just a pressure terminal like on the back of stereo equipment? Yes, I have. They have a tab underneath where the wire stabs in, to release the wire from the breaker. Note that there is a reason that UL pulled their listing from Zinsco breakers....THEY DON'T TRIP!!! FPE also has the same problem. Bulldog Push-o-matic's, I believe, also have the same problem. But hey, on the plus side you don't have to deal with any nuisance tripping, either
- 16. Submissions of field failure reports and failure photographs wanted. [Contact the web author](#)

## HOW TO REPORT FAILURES - How and Where to Report Zinsco or Sylvania Electrical Equipment Failures

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[IDENTIFY ZINSCO IDENTIFY SYLVANIA-ZINSCO FAILURE MECHANISM FAILURE PHOTOGRAPHS FAILURE REPORTS](#)

### How and Where to Report Zinsco or Sylvania Electrical Equipment Failures to the U.S. Consumer Product Safety Commission

Use this [US CPSC Incident Report Form](#) to report Zinsco or Sylvania-Zinsco equipment failures and problems. Please also report incidents to this [web author](#).

### How and Where to Report Zinsco or Sylvania Electrical Equipment Failures to the Website Author for Compilation

Submissions of field failure reports and failure photographs wanted. [Contact the web author](#)

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### Home Inspection Report Language for Zinsco or Sylvania-Zinsco Electrical Equipment Hazards

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Most of the time we check a Zinsco/Sylvania panel it looks great to the naked eye even with the cover off. There may be no obvious heat damage or signs of conductor damage. Home inspectors who comply with the ASHI or other Standards of Practice will remove the electric panel cover but they will not remove the circuit breakers themselves nor perform any other disassembly of electrical panel components. This restriction is established for the safety of the inspector who will not usually have the same level of electrical training as a licensed electrician.

[HOW TO REPORT FAILURES TO WEB AUTHOR TO THE US CPSC INSPECTION REPORT LANGUAGE REPLACEMENT PANELS REPAIR](#)

Inspecting in this manner will usually not disclose damage even though very significant damage such as overheated connections, blown-out circuit breakers, or other failures may be present. Many of the panels we see do not have a main breaker so the only way to disconnect all the power is to have the meter pulled out by the power company - a step well beyond the scope of a home inspection. Many times when a licensed electrician pulls out the breakers, the breakers and bussing are damaged. I [J. Simmons] have personally seen them in such poor condition that the part of the breaker that pushes onto the bussing has become welded to the buss. The breaker actually broke apart with the connection staying on the buss and the rest of the breaker coming out) when I tried to remove it.

We see damage in about 25% of the Zinsco/Sylvania panels that are checked. The problem occurs

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mostly on circuit breakers feeding circuits that have a steady heavy load on them (like heaters, hot water tank, dryer), and on circuits that are often overloaded such as circuits that supply the kitchen or bathroom.

In houses with Zinsco/Sylvania electrical panels and circuit breakers, I [Simmons] have tested these circuits with up to 30 amps on a 20 amp circuit breaker. The breaker will carry the overload for a long time without tripping. This causes the connection to heat up and start arcing to the buss bar. The problem is primarily in the panels with aluminum buss bars, but also has been seen in the ones with copper buss. Moisture seems to accelerate the process.

These circuit breakers are very poor quality and do not provide a safe level of over current or short circuit protection. In our opinion [J. Simmons and D. Friedman], home inspectors who observe Zinsco or Sylvania-Zinsco electrical equipment in a home should warn the homeowner that"

***A Zinsco™ or Sylvania™-Zinsco electrical panel is installed in this building. Serious electrical hazards may be present in the electrical panel which could result in overheating, fire, or inability to turn off the electrical power in the home. A licensed electrician who is familiar with this equipment should be called to inspect the panel for immediate fire and shock hazards, and regardless of its visually-apparent condition, this equipment should be replaced. Significant expense may be involved. Additional information about this hazards is available at an independent building failures research website: [www.inspect-ny.com/electric/Zinsco.htm](http://www.inspect-ny.com/electric/Zinsco.htm)***

More in-depth, un-biased, expert information on these topics and on building defect inspection, diagnosis, & repair can be found at [More Information](#) below. © Copyright 2006 Daniel Friedman, All Rights Reserved -MAKING ELECTRONIC COPIES THIS WEB PAGE or PHOTOS IS PROHIBITED - but readers and inspectors are permitted to print and pass on this information to interested parties, and you are encouraged to provide interested parties with the address of this web page [www.inspect-ny.com/electric/Zinsco.htm](http://www.inspect-ny.com/electric/Zinsco.htm). Link exchanges between industry experts and this page are welcome and will be provided if you [contact the author](#). --

[Contents: Zinsco Sylvania Panels](#)

## Footnotes

1. Personal communication, J. Aronstein to D. Friedman, 3/6/2006 and Personal communication, J. Simmons to Daniel Friedman, 3/4/2006.
2. Photographs contributed to this website by Jim P. Simmons, Licensed Electrician, 360-705-4225 Mr. Electric, Licensed Master Electrician, Olympia, Washington
3. Thanks to various electricians, home owners, and home inspectors for contributing the Zinsco Sylvania-Zinsco electric panel and circuit breaker [field failure reports](#) cited above.
4. Thanks to [David Osborn](#), an alert home inspector, for helpful critique regarding the need for Zinsco/Sylvania electrical panel replacement, 4/27/06

Building,home,electrical inspection,Zinsco,inspection,environmental,inspect,test,testing,investigation,home inspection,ASHI,American Society of Home Inspectors Air,C)trap Daniel Friedman,environmental inspection,environmental testing,diagnosis,repair,prevention,leak,damage,litigation,lawsuit,lawyer,legal,expert witness,testimony,forensic,electric panel inspection,electrical panel safety,engineering,fire,hygienist,industrial,

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- [\\*\\* Safety Hazards and Safe Electrical Inspection Procedures](#) for Electrical and Home Inspectors at Residential Electric Panels
- [Aluminum Wiring](#) Information Website Aluminum Electrical Wiring Hazards and Repairs: in-depth authoritative info, photos, documents including selection of proper vs. ineffective repair methods. E.g.: Ideal 65 "Twister" purple connector fails in field and lab testing with aluminum wire.
- [Electrical Panels, How to Inspect](#) in Buildings, safety for electrical inspectors, electrical panel, fusing, wiring defects, defective products. Inspection Class Presentation
- [Rust and Corrosion in Electrical Panels](#), A Study and Report on Frequency and Cause for Electrical and Home Inspectors at Residential Electric Panels

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