

## Electrical

### WARNINGS (DANGER TO PERSON):

Many of the receptacles tested in the home were found to not be fully functional on first test. Either the contacts were worn or there were wiring shorts present. The inspector found eight receptacles were the electrical circuit tester gave varying results depending on the number of times the receptacle was tested. The cover plate was removed from one receptacle and it was noted that the quick connections on the back of the receptacle have been used to connect electrical wiring. This is a poor practice that can lead to shorting and possible fires. It is recommended that a ticketed electrician be hired to rewire all house receptacles.



Receptacle is "back-wired"



first test shows problem



second test on same receptacle shows no problem

The receptacle in the garage on the north wall had been wired with reversed polarity (black-and-white wire reversed) and should be corrected by qualified electrician as soon as possible. The current condition represents a shock hazard, especially for electrical tools that may be used in a garage in wet conditions.



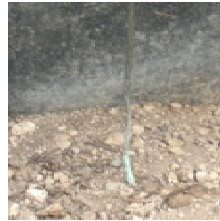
The exhaust fan switch is right beside the shower stall in the upstairs main bathroom and presents a shock hazard (See right photo to left).

## ***DESCRIPTION:***

Meter:	240V, 1 PH, 200A 60 Hz
Electrical Panel:	Federal Pioneer Stab-Loc 125A – 32 circuits
Empty Circuits:	5
Main breaker:	100A
Breakers:	19 only - 15A Single Pole, 6 only – 15A Double Pole 1 only - 30A Double Pole, 1 only – 40A Double Pole
Material:	Copper (where observed)

## ***OBSERVATION:***

- The electrical grounding wire is on the exterior southwest corner of the house. The wire appears corroded and may need replacement.



- The service entrance conduit has settled and pulled apart between fittings (see pictures in Exterior section).
- Electrical panel was on the west wall of the basement recreation room
- 100 amp service to the home is adequate for the electrical load currently present.
- Bare wire was found on the exterior of the house to the west of the basement sliding doors. This may be for the built-in low voltage lighting on the back cement patio. Further investigation is required
- Doorbell transformer is in the closet located in the utility room
- Receptacle in downstairs bathroom not GFCI protected
- Based on panel markings the dishwasher, fridge, microwave, boiler, and garburetor were all on isolated circuits. It should be noted that the dishwasher was on a 15 amp circuit where code requires this to now be on a 20 amp circuit. The homeowner is advised to not use the dishwasher's heater element until this circuit can be upgraded.
- The electrical permit was present beside the electrical panel
- Main bedroom ensuite bathroom contains a GFCI protected receptacle. The main bathroom on the upper floor is connected to the load terminals of the ensuite GFCI protected receptacle and is protected accordingly.
- The rear deck electrical outlet is not GFCI protected
- The receptacle to the side of the basement sliding door is GFCI protected through connection to the load terminals of the GFCI protected receptacle beside the front entrance.
- Arc fault protection did not appear to be present for bedroom receptacle circuits
- The light fixture was not attached to the electrical box in the downstairs bedroom closet at the northeast corner of the house

## ***RECOMMENDATIONS:***

- Hire certified electrician to rewire all receptacles using receptacle terminals instead of quick connections (correct garage reverse polarity receptacle at same time)
- Add GFCI protection to bathroom receptacle in basement and receptacle on rear deck
- Have certified electrician check electrical grounding wire see if replacement is required
- Have certified electrician repair/replace the service entrance conduit
- Have certified electrician relocate exhaust fan switch in main upstairs bathroom
- Have certified electrician provide arc fault protection to bedrooms
- Reattach light fixture in downstairs bedroom closet to electrical box