Mechanical Systems

Part III – Electrical

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Electrical System Information

Ground Fault Interrupters (GFI)

- GFI's are ultra-sensitive designed to shut off all electrical current to an outlet or group of outlets to prevent electrical shock. Your home is protected by a minimum of four GFI receptacles. GFI's are used in bathrooms, kitchens, exterior outlets, garage outlets, unfinished basement areas, and "wet areas". One of the GFI outlets in the circuit contains a small reset button that controls all outlets in the circuit.
- If any one of these GFI devices trips, unplug everything on the circuit that the GFI device protects and attempt to reset.
- The kitchen usually has two GFI circuits that control countertop and island outlets.
- Typically, bathrooms are on one GFI circuit meaning only one bathroom will have a reset.
- All garage wall and exterior outlets are typically on one circuit controlled by a reset located either in the garage or an unfinished area of the basement.
- Caution: Freezers or refrigerators may cause GFI's to trip.

Switched Outlets

- Switched outlets are outlets that are controlled by a wall switch. Typically, the switch only controls ½ of the outlet.
- As a standard, all bedrooms, studies, living rooms, and family rooms include a switched outlet.

Circuit Breaker Box

- The circuit breaker box houses the circuit breakers for the electrical system. Circuit breakers are devices that look like a switch and are designed to:
  - (1) shut off the power to portions or the entire house.
  - (2) limit the amount of power flowing through a circuit (measured in amperes).
- 110-volt household circuits require a circuit breaker with a rating of 14 amps or a maximum of 20 amps. 220-volt circuits may be designed for higher amperage loads, e.g., a hot water heater may be designed for a 30-amp load and would therefore need a 30-amp breaker.

AFI Breakers

- All bedroom power consuming devices (lights, receptacles, smoke detectors, etc.) are protected by ARC Fault technology. The ARC Fault Breakers are located in your electric panel.
- If an ARC Fault Breaker trips, unplug everything from that circuit and attempt to reset.
- If the breaker holds, plug in the items one at a time and if the breaker trips, the problem is in the item that caused the trip.
- If the breaker will not reset with all items unplugged, call for warranty work.

Three-Way Switch

- A three-way switch typically operates a light fixture. Three-way switches can control the power from multiple locations.
- Typically, a three-way switch will operate hallway, stairway, foyer and/or other entryway lights to allow you to turn the lights on and off from various locations.

HVAC System

- The starting of your air conditioner may cause a flicker or dimming of lights. This is normal and not a cause for alarm.
- Should you lose heating or air conditioning, be sure to contact your HVAC contractor first.

Paddle Fan Prewire

- The ceiling outlet supplied will separately control a light and a fan.
- There are many paddle fan manufacturers and models; refer to installation instructions.

Troubleshooting

- A light fixture doesn't work:
  a) If the fixture is on a three-way switch, check all switches to make sure they are completely on or off
  b) Check the circuit breakers in the circuit breaker box
  c) Change the light bulb with a known working light bulb
  d) If it still does not work, call the electrician provided in home vendor information

- An outlet or portion of an outlet does not work:
  a) If the fixture is on a three-way switch, check all switches to make sure they are completely on or off
  b) If the outlet is on a GFI circuit, check the reset, reset as necessary
  c) Check the circuit breakers in the circuit breaker box
  d) If it still does not work, call the electrician provided in home vendor information

- A GFI will not reset or trips regularly:
  a) Unplug any appliances plugged into the circuit, reset the GFI
  b) If the outlet may have been exposed to water, allow time to dry, reset the GFI
  c) If the problem continues, call the electrician provided in home vendor information

- A circuit breaker will not reset or trips regularly:
  a) The circuit may have become overloaded if you have recently introduced a new appliance. Unplug the appliance.
  b) If the problem continues, call the electrician provided in home vendor information

- The smoke alarm "chirps":
  a) Replace the battery
  b) Lightly vacuum the surface of the detector
  c) If the problem continues, call the electrician provided in home vendor information

- Loss of power to half of the house:
  a) Check the main breaker in the circuit breaker box
  b) If it still does not work, call your local utility company