

Insider's Guide to Home Inspections

Buying a House Built in the 1970's

Presented by



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1970's Houses

“What issues should I be aware of when buying a house built in the 1970's?”

Introduction

One of the biggest disappointments in the home buying process is getting a home inspection report with tons of stuff you didn't expect. Often it is not the severity of the items in the report, but the realization that an older home may be different from what you are used to.

In this segment we will focus on some issues related to buying a house built in the 1970's. This is not meant to alarm the would-be buyer. It is also not an exhaustive comparison of the building codes of forty years ago compared to today, but rather a general discussion of some of the things that you may find in an inspection report if you are buying a home built in that time period. If you are considering purchasing a house built in the 1970's please know that some of these items may come up in your home inspection.

Here's a car analogy. The 1970's were particularly transitional for cars. They finally had seat belts, some had fuel injection, and efficiency became a priority. But if you compare those cars to a new car, the safety cannot be compared. Take the Pinto as an example.



If you are considering buying a house that was built more than *forty* years ago, there are some things you must consider so that you are not disappointed once you move in. We inspect a lot of these houses throughout San Diego. There are many thousands of these houses found from Bonita to Escondido, and Oceanside to El Cajon. We are familiar with many of the anomalies found in these neighborhoods.



It is important for your home inspector to identify certain components of the house even if they are functioning properly. They may be old (40 years+), consist of old technology, or may not be what you expect – such as single pane windows or wood tilt-up garage doors.

Unless a house from the 1970's has been upgraded, many of the components in the house will be worn. These items include appliances, window components, plumbing fixtures, door hardware, appliances, roofing material, garage door openers, garage door springs, even switches and receptacles to name a few.

Electrical Systems

Generally speaking electrical systems that were installed in the 1970's are considered "modern" electrical systems. They consist of circuit breakers (instead of fuses), the systems are grounded with three-prong receptacles and they are safer than older systems that were ungrounded. There will also be more receptacles than in older houses for convenience and safety.



As with any industry certain technologies that appeared promising turned out to be less desirable with the clarity of hindsight (like the Pinto mentioned earlier). The 1970's were no exception.

During the late 1960's through mid-1970's there was a worldwide shortage of copper - the preferred material used for house wiring. The industry turned to the next best conductor which is aluminum. It was readily available, less expensive than copper, and performs very well as a conductor. After a few years however, electrical fires began to occur in homes with aluminum wiring. Was the wire to blame? Not exactly. There is a chemical reaction that occurs when you connect two dissimilar metals together which causes corrosion.



When the industry switched to aluminum wires, they didn't make any changes to the receptacles or light switches being used. Many of these had terminals that were copper or other metals that reacted with the aluminum wire connected to them. After a few years the corrosion at these connections deteriorated the wires resulting in small gaps, or very thin sections of wire. As the wire's capacity to carry current decreased at these corroded sections, the result was an increase in heat or arcing which was the source of many house fires.

Aluminum wiring is still allowed on 30 and 40 AMP circuits which are used for electric ovens, AC condensers, clothes dryers, etc. These circuits usually are run directly from the panel to the appliance without any connections along the way. And new connectors are compatible.

Your home inspector should check for aluminum wiring on 15 and 20 AMP circuits which provide electricity to receptacles and lighting. If aluminum branch wiring is found the inspector should recommend that a licensed electrician evaluate the entire electrical system of the house, and make the necessary upgrades to decrease fire hazards. For excellent, detailed information please visit:

<http://www.inspect-ny.com/aluminum/aluminum.htm>

GFCI Protection

Prior to 1975, GFCI receptacles were only required around pools. Starting in 1975 they were required to be installed to protect receptacles in bathrooms and exterior receptacles. It wasn't until 1987 that the electrical code for where GFCI's were to be installed expanded to include receptacles in garages and any receptacle within 6 feet of a sink (kitchens, bars, utility). For a detailed list of requirements, please visit [HERE](#).



Note that it is not the seller's responsibility to upgrade the electrical system *in any way*. Your home inspector may (and should) recommend upgrades for your safety.

Electric Panels

The minimum capacity for an electric panel installed in the 1970's is 100 AMP's which is adequate for most homes. It will accommodate multiple computers, TV's, ceiling fans, air conditioning, and many other modern items. In some cases you may be limited if you want to add a hot tub, additional receptacles in the garage (for shop equipment), or a pool.

Some houses built in the 1970's have electrical panels that are no longer considered safe. The two brands of panels that should be replaced were manufactured by Federal Pacific Electric

(left) identified by distinctive orange-tipped breakers, and Zinsco panels which are typically horizontal, and have multi-colored breakers (right).



Both of these brands of panels have a poor reputation and have been suspected of causing house fires by over-heating, or breakers that fail to trip when over-loaded. If you have either of these



panels your inspector will likely recommend further evaluation by a licensed electrician to provide you either with piece of mind or an estimate for replacement. You can research FPE panels [HERE](#) and Zinsco panels [HERE](#).

Dedicated Circuits

Many of the 100 AMP panels also have limited space for breakers. As building codes evolved, more dedicated circuits were required. A new house will have many more dedicated circuits; such as one for the microwave, one for the refrigerator, one for the dishwasher, etc. In the 1970's many kitchen appliances were still sharing one circuit – often with the countertop circuit.

Microwave ovens were not yet commonplace as they are today. Kitchens that had range hood exhaust vents installed over the stove were often upgraded to an under-cabinet microwave. Due to the wattage, microwaves should have a dedicated circuit. Many appliance installers will not install microwaves unless they have a dedicated circuit. You may need to install a new circuit if installing or replacing a microwave in the kitchen.

Likewise a refrigerator should have a dedicated circuit. Sometimes it is possible for a home inspector to check if a refrigerator receptacle is on a circuit shared with the countertop receptacles but not always. If a GFCI receptacle was installed to protect the countertop circuit, and the refrigerator is on the same circuit, the refrigerator will shut off when the GFCI is tripped. This could lead to food spoilage if the GFCI is not reset in a timely manner.

Please note that it is not always possible for a home inspector to determine if a dedicated circuit exists if the panel is not labeled. Home inspectors do not map the wiring in a house, or determine how many (or which) receptacles are on a particular circuit. You should take note to see if the panel is full, or has additional capacity. This is important if you want to add a hot tub, air conditioning or more receptacles in the garage. You will also need space in the panel if you plan on installing solar panels, as the power generated by the panels must be fed back to your main panel.

If the panel is full, a sub-panel may be required, or a new panel – both of which can cost hundreds or a couple thousand dollars.

Heating Systems

Due to the moderate climate in San Diego, home inspectors often see original furnaces in old houses. Furnaces in San Diego outlast the national industry standards because they simply are not used as much and have less wear and tear. Some of the furnaces from the 1970's are in serviceable condition but some are near or past the end of their useful life, especially those by the coast. All furnaces manufactured in the 1970's will have low efficiency by today's standards. Many have standing pilots (always burning), and due to the aging of mechanical parts, efficiencies may well be below 70%. When you combine this with the poor quality of ducts installed at the time, much of the money you are spending on gas to heat the house will be wasted. If you are buying a house built in the 1970's, you should budget for a new furnace. Do not expect your home inspector to report on the efficiency of your furnace. Many inspectors will simply report whether the unit worked or not. You need to know if it original.

Of primary concern are horizontal furnaces that were manufactured by a furnace company named Consolidated Industries that is no longer in business. They manufactured furnaces that were sold under many private labels, most notably Premiere. Some of these horizontal furnaces

were the subject of a recall due to poor design and the presence of small rods above the burners called “NOX Rods”. These rods were intended to reduce the nitrate emissions (and thus nitrous oxide) from the furnace in a similar way that a catalytic converter works in a car. But these rods over-heated and fell onto the wood platforms under the furnace causing fires.



Without going into exhaustive detail in this paper, these furnaces are a fire hazard with or without the NOX rods. Not only are they old at this point, but they have design flaws which cause failure of the heat exchanger which can cause Carbon Monoxide to enter the house air. These furnaces should be replaced. If you are interested in a detailed article about these furnaces, please visit our website for an article titled [Hazards of the Consolidated Industries H-Series Horizontal Furnace](#) written by Michael Whedon.

Ducts

In the 1970’s most heating systems consisted of forced air systems. A central source of heat distributed heated air through rigid metal ducts which were wrapped in insulation. This was a big improvement over wall heaters found in most pre-1960 houses, but rigid ducts were difficult to install and were not sealed well.



Another material may have been used in houses built in the late 1960’s and 1970’s. These were semi-rigid fiberglass ducts with no metal liner. These ducts were used on heating systems. If these ducts are still present, they should be upgraded especially if AC has been added to the system. Since these ducts are un-lined, condensation from cold air can lead to mold growth at the interior of these ducts. In addition, these ducts cannot be cleaned. Any conventional cleaning methods would shred the ducts.

Plumbing

The majority of houses built in the 1970’s have copper distribution pipes and ABS plastic drain lines. These are both desirable materials. The only problem with construction techniques at the time was the installation of copper pipes through the slab. The alkalinity of concrete deteriorated the copper pipes, and was the cause of “slab leaks”. There is no way to predict if a slab leak will occur until it happens. There is a higher probability for a slab leak when the copper pipes are run through the concrete.



One contributing factor to failed plumbing systems is high water pressure. The street pressure in many parts of San Diego is very high – as high as 130 psi. To keep the pressure below 80 psi in a house, a pressure regulator is installed at the main water line. These pressure regulators can fail, and if the regulator has never been replaced, it has likely failed. When failure does occur water pressure in the house can exceed 80 psi which puts tremendous stress on faucets, plumbing, toilet fill valves, etc. Your home inspector MUST check the water pressure as many regulators fail after 15 years.



Plumbing fixtures that are original are likely in need of service or replacement. No components are more likely to fail and flood your house than angle stop valves. These are the small valves that are present under every sink and behind every toilet. If the builder used one piece angle stop valves, with the riser pipe built into the valve, you should plan on upgrading these immediately. These were of poor quality when they were manufactured, and can fail if you touch them. Home inspectors do not touch or operate angle stop valves for this reason. Change them.



A drain line video inspection is highly recommended for houses with mature trees over drain lines. Even with ABS (black plastic) drain pipes, roots can lift and damage glue joints allowing root intrusion. The drain line video will show if the buried pipes are damaged, clogged, or filled with roots. This is important because replacing a damaged drain line between the house and the sewer can be expensive.



Digging up and replacing drain lines can cost between \$5,000 - \$15,000 depending on the distance, landscaping and hardscape. Do your research about drain line replacement. It can be an unpleasant surprise if you are unprepared to do it.

Insulation

Most of the houses built in the 1970's have insulation although we have found houses in Southern California with no insulation through 1974. They typically have R-19 or about 4 inches of insulation. Today's standard in Southern California is R-30 or about 9 inches of insulation. Adding insulation to improve the thermal efficiency of your house is relatively easy and not too expensive. Some of the materials used in the 1970's could have asbestos. Materials such as Rock Wool (a dark grey fluffy material) would have to be tested to see if it contains asbestos.

Asbestos

Houses built through 1978 may have asbestos in one or more materials. Asbestos was widely used in products to make them fire-resistant. In older homes asbestos was found in everything from roof material, linoleum flooring, hard-board siding shingles, heating system components, flues, “popcorn” ceiling texture, and insulation. Some early cloth-wrapped wiring even had asbestos. Materials that might have asbestos in a house from the 1970’s are usually limited to the “popcorn” ceiling texture, Transite flues at furnaces and water heaters, and some ducts. Asbestos poses a hazard when it is disturbed and becomes airborne. Therefore the EPA only considers damaged material dangerous, so don’t touch it. Of course it is always up to the buyer to satisfy their concerns about asbestos by having the house tested. Taking samples and testing for asbestos is not part of a home inspection, but should be performed if remodeling will be done such as removing textured ceiling material.

Roof

Everything in a house will wear out eventually. This includes components of the roof. Even a tile roof has an underlayment commonly referred to as tar paper. This underlayment lasts 20-25 years depending on installation and sun exposure. Many roofs that were installed in the 1970’s are currently in need of having the underlayment replaced. This involves removing the concrete tiles, removing the tar paper, and replacing the paper with a new underlayment. The original tiles can be re-used if they are in good condition. If the paper was replaced in the 1990’s, you may want to add “bird-stop” flashing to enclose the open ends of the tile if it was not installed at that time. It is difficult to determine if some or all of the underlayment has been replaced. Sometimes only the lower portion of the underlayment is replaced as it deteriorates more rapidly. The seller should be asked about the repair history since home inspectors do not lift any tiles. Visit the video page on our website for more info.

An asphalt-shingle roof is also likely at the end of its life. It is made of oil-impregnated fiberglass material, with an aggregate (which looks like kitty litter) pressed into the surface. The aggregate adds color, but its primary purpose is to protect the shingles from UV exposure. Once the aggregate is worn, the shingle deteriorates rather quickly. Most of these roofs are rated for 20 or 30 years. Do the math. If the roof looks worn it is likely in need of replacement.

A 20-year rated roof, replaced once in the 1990’s, may well be nearing the end of *its* life (1973 roof replaced in 1993, and again in 2013).



Windows



Most windows installed in the 1970's have aluminum frames. We often have clients who are disappointed to find that the house they want to buy has single pane windows. Be sure to check this out. The most common problem we see with older windows consists of worn glides or rollers. This makes the windows difficult to slide. This is considered a hazard. The added force required to slide these windows could cause the window to be slammed shut resulting in broken glass.

Cable TV

CATV or Community Access Television as it was originally known really became standard in the 1970's. Most people relied on their rabbit ear antennae to get TV. If a house was wired for cable TV it was often installed in the living room only. Most families only had one main TV back then, and it was in the living room. If you want TV in every room, some additional wiring may be required.

Below Grade Vapor Barriers

When a house was built with some portion of the structure below grade, a water proof membrane of some sort is required to keep water out. In the 1970's this was often done with tar (like roof tar) and/or tar paper. We often find moisture intrusion issues on these older houses simply because the membrane or water proofing material has deteriorated. Evaluation and repair of this situation can be complex due to the concealed nature of the material. Excavation of the area is often required not only to view it, but to install a new water barrier. This evaluation requires specialized knowledge, and if your home inspector detects moisture on the interior of a below grade wall a foundation contractor or water proofing specialist may need to be hired.

What should you do?

Hopefully this guide will help set your expectations of what to expect from a home inspection performed on a 40 year old house. We don't want you to be surprised with the items in the report. You should ask the seller if any upgrades have been performed. If not, you may need to budget for upgrades after you move in. Of course this guide cannot cover every scenario as

each house is unique. There is a lot more information on our website at www.SDinspect.com and on our blog. Just use the search box to find additional info.

About the author: Philippe Heller is the president of The Real Estate Inspection Company. His multi-inspector firm performs thousands of inspections a year in San Diego. The company uses state-of-the-art testing equipment and the best reporting system available.

To learn more about what should be included in a thorough inspection, please visit www.SDinspect.com or call us at (800) 232-5180.