

Bill C. Merrell, Ph.D., RHI, CEI, CREA, CCRA, Office: 631-563-7720 - Fax: 631-563-7719
Merrell Institute - www.merrellinstitute.com - drmerrell@optonline.net
Become a Licensed Inspector in 2 months! www.LicensedHomeInspectionSchool.com

\$25.⁰⁰

HOME INSPECTION 101

BY ROBERT FENNEMA



Housing Inspection Foundation

P.O. Box 879 • Palm Springs, CA 92263 Tel:
(877) 743-6806 • Fax: (760) 327-5631

Email: support@assoc-hdqts.org

www.hif-assoc.org
www.merrellinstitute.com

HOME INSPECTION 101

PREPARATION FOR THE INSPECTION

The inspection starts when the telephone rings with an order for an inspection. To perform a good inspection and to reduce the liability of the inspector it is necessary to get the maximum amount of information regarding the clients and the property before arriving at the inspection address. The information required breaks down into three or four major areas. The first is information concerning all the other players in the inspection.

INFORMATION CONCERNING OTHER PLAYERS

1. Client

In most inspections the client is the purchaser of the property. For our purposes we are going to assume that this is a pre-purchase inspection. We require the purchasers' name, his spouses' name, their address, telephone number, number of children, profession and any other pertinent information you can elicit on the telephone. This information may be invaluable later on.

2. Purchasers Agent

Agents' name, company name, company telephone number, agents' home telephone, mobil telephone number and if appropriate the company fax number. As a backup to this information, we will investigate in our own files to determine whether we have done other inspections for this agent and what our experience has been in working with this agent.

3. Seller

Sellers' name and telephone number. If the seller does not reside at the property the sellers full address is pertinent.

4. Listing Agent or Sellers Representative

Agents' name, company name, company telephone number, agents home telephone number, mobil telephone number and fax number. Again we will investigate our own in house information concerning previous inspections done for this agent and other information that may be of value to the inspector concerning the agent or company.

5. Termite Inspector

We like to know if a termite inspection is going to be performed on the property either before, during or after our inspection. We like to know the name of the company and if possible the name of the inspector who will be performing this inspection. We attempt to maintain good relations with other inspection companies and try to communicate freely with termite companies to mutually provide the maximum possible information for the clients and to protect our own liability.

6. Engineers, Architects, Interior Designers, Roofing contractors, etc.

We would like to know the name and telephone number of any other inspector who the clients have arranged to have inspect this property.

INFORMATION CONCERNING THE PROPERTY ITSELF

The second type of information we require is information concerning the property itself. This is very valuable information and can be used to alert the inspector to potential problem areas. Some of the items which should be determined on the telephone are

1. The property address, cross street and city.
2. Single family, apartment or other type of structure.
3. Approximate age and square footage of building.
4. How many stories in height.
5. Whether there are auxiliary buildings included in the inspection.
6. Whether there is a swimming pool.
7. Whether there is access to the roof.
8. Whether the present owners have performed any remodeling while they have owned the property.
9. Whether this work was done with a building permit.
10. Whether a city building inspector will be inspecting the property.
11. Whether previous inspectors, roofing contractors, termite inspectors, engineers or any other professional or trades person has completed an inspection on this property.

Request copies of previous inspection reports by other companies which are in the possession of the sell-

er or the sellers agent. There are varying opinions regarding the responsibilities of the inspector to look at previous inspection reports by other companies. We do not believe that doing this guarantees or verifies or puts a stamp of approval on other inspections. We believe that this additional information adds to our ability to perform a good inspection and certainly allows us to protect our interests and our need to not miss any significant known information about this structure.

Much of this information can not be gathered from the buyer or the buyers agent. The initial inspection request can be accepted from the buyer or buyers agent, but further information should be gathered on the telephone from the seller or the sellers agent before the inspector arrives at the job site. Sometimes this information may be touchy and we recommend an easy and professional attitude when conversing with the seller or the sellers' agent before the inspection.

We will then check our in house information to see if we have inspected this property in the past. Many times information can be gathered on a property from an inspection you may have conducted two or three years before. In some cases we have inspected the same address four or five times and the value of compiling all of the available information from our files is very high.

The page in the Thomas Brothers map book showing the property address should be duplicated and attached to the front of the inspection information. The location of the property should be highlighted to allow for easy readability and minimum confusion when attempting to locate the property.

All of this information may allow the inspector to analyze the property before he arrives at the site and be better prepared for the inspection.

HOME INSPECTION 101

The third area of information or agreements to be made before the inspection concern the actual mechanics of the inspection.

1. Which type of presentation the client would like. Our company offers various types of inspections from tape recorded to handwritten.
2. How long the inspection is expected to last.
3. When the presentation will be ready and how it will be delivered to the client.
4. The exact date and time of the inspection.
5. Who is to be present at the inspection.

6. Who is to provide access to the property.
7. Whether the buyer /client will be present. This is a requirement of our company. Only under extreme conditions will we perform an inspection without our client being present.
8. The understanding that payment will be required at the time of inspection. Payment through escrow is one method that we discourage. We feel that payment of the inspection at the time of service renders the transaction monetarily complete. It cuts out the need to wait for an escrow to close or possibly chase a client who decides not to buy the house and not to pay the inspector.
9. An understanding that if the inspection is to be billed to escrow an additional cost will be added to the billing fee. If payment through escrow is accepted for billing purposes you will require the following information:
Escrow company name and address, name of escrow officer, escrow number for that property, and date of close of escrow. We also recommend a special signed agreement which acknowledges the clients personal guarantee to pay the inspection fee if the escrow is closed for any reason. We offer inspection reports, video inspection reports, checklist inspection reports, typewritten narrative inspection reports and a highly detailed building survey and cost analysis. The cost of each type of inspection varies and this information must be conveyed and verified on the telephone before the inspection is performed.

All of this information should be gathered, put into a folder and provided to the inspector for his analysis before and during the inspection.

ARRIVAL AT THE SITE AND SET UP OF THE INSPECTION

Arrive at the job site early. A psychological advantage will be gained by the inspector. He will have the first ground of the inspection, will be able to introduce himself personally one by one to the participants as they arrive and will appear to be more professional and of greater service to the buyers because of his punctuality. We recommend a minimum of fifteen minutes before the appointed inspection time.

We suggest that the inspector arrives early and follows this procedure to prepare himself before the in-

spection.

1. Arrive at the job site and analyze all information in the inspection package.
2. Prepare inspection forms and assemble all pertinent tools and equipment.
3. Inspect the immediate neighborhood. Be especially aware of the slope of the ground and probable drainage paths. Look at the road, exterior retaining walls and sidewalks for evidence of ground movement in the immediate vicinity of the house. Walk up the driveway, looking at the drainage pattern and the general location of the house and its site.
4. Knock on the front door of the building and if the seller or the seller's representative is present introduce yourself and say that you are going to be performing an inspection. At this time take the opportunity to present the seller with a card and/or a brochure of services. Remember that the agent of the seller or the seller themselves may very well be future prospects for business. Ask the seller or agent for permission to look around and inspect the exterior of the house while waiting for the buyer to arrive.
5. Note if any additional buildings are on the property and whether a swimming pool or other feature are present which may require additional inspection fees. Establish whether inspection of these additional buildings or features has been included in the cost of the inspection on the inspection order form.
6. Note the height of the roof and the accessibility from the ground level. Determine whether it would be possible to perform a roof inspection. If possible and time permits, perform a roof inspection or at least place a ladder in the most probable access spot for the roof.
7. Complete the exterior section and/or roof section of the inspection report.

These procedures may take varying amounts of time depending on the property involved. Often agents or buyers are late for an inspection. The inspector can use this valuable time to dispose of these sections of the report before other participants arrive.

Any time saved at this point in the inspection is very valuable. These few minutes may ease the pressure on the inspector and allow for a safer, more complete inspection and report.

COMMUNICATION AND BUSINESS WITH PARTICIPANTS

As each participant arrives the inspector should greet them, establish their identity, verify their name, address and telephone number and present each person with a brochure and a card.

The intent of the inspector during this time must be to gather all possible information concerning the participants, to communicate with them, to form some personal and business bond with them, to exchange business cards/brochures etc. and to explain fully to those present the type of inspection procedures and business aspects of the inspection before the inspection proceeds. This is a very important process which should not be missed on any inspection.

It is very important to complete this process before the start of the inspection. Sometimes this can be done at the sidewalk with the buyer and their agent but is best performed sitting at a table in the kitchen or dining room of the property to be inspected. Where possible the entire group should be seated and a copy of the inspection contract should be presented at this time along with a copy of the entire inspection format.

The inspector should make a general statement delineating the areas which are to be covered by the report, the type of report to be used, the expected time that the inspection will take and the method of inspection which the inspector prefers.

The variations in inspection style which an inspector can use and which must be made clear to the participants at the beginning include whether we will allow the participants to follow him onto the roof or into the crawlspace; whether he will keep a running commentary; whether he will retain information until the end and then make a general summary; whether he will analyze each section of the house as he proceeds or wait until the end for final analysis; what method he will use to handle questions; whether prices will be given and if so in what manner they will be handled; whether minor areas will be mentioned or included and whether some of the information will be verbal only and not written in the report. The inspector should discuss payment and collection of the fees, agreement as to price, extra charges for additional items which were not in the initial inspection request which may become evident as the inspector checks the property.

Ask for and obtain copies of all previous inspection reports which are available to the buyer, seller or either

agent.

A copy of the property disclosure form from the seller and the listing agent is very significant. If such a property disclosure statement is not available, this fact should be specifically noted on the inspection report.

Many lawsuits come because of information withheld from inspectors at the time of inspection. It is common practice to not complete the disclosure statement until after the inspection is completed. Many lawsuits arise in our business concerning information which may or may not have been known by the seller or the sellers agent before the inspection and which should have been made clear to the inspector at the time of inspection so that he could check the information and explain the situation to the buyer. To avoid being sued by either the buyer, seller or the real estate agents it is important to put everyone else on record concerning their information at the time of inspection. Both seller and sellers agent should be specifically asked "Is there any defect known to you at this time which may effect the buyers knowledge about the building?" If the seller and the sellers agent say "no there is none" mark this on the inspection.

Time should be taken for the inspector and the buyer to read all material available. The buyer in particular should be given enough time to read the inspection contract and sign or initial at all appropriate places. Allow the buyer time to read the entire contract. Be willing to discuss any provisions in that contract including exclusions. Discuss the time allowed for the inspection to be performed, the areas to be covered and finally give them time to raise any objections to any of these procedures and/or prices before the inspection proceeds.

When the buyer has read all of the available material, payment for the inspection should be concluded. A check should be written for the agreed upon price, the contract should be signed and a receipt for payment filled out by the inspector. Very often buyers and/or realtors do not bring money to the inspection, even though they have agreed to before the start of the inspection. It is much better to negotiate for payment before you have done the work rather than after it is completed. If payment is not available and gentle coercion will not force the real estate agent to pay for the buyers inspection then the inspector may recommend that the agent or buyer take the time to go to their car, office, home or wherever necessary to obtain a check so that payment can be made at the time of inspection. Any payments which are not in cash will have a 10% surcharge added

to them. These include payments through escrow but also when there is no check or cash available at the time of inspection. The prospect of an additional 10% charge very often prompts people to find a checkbook. If the client cannot make payment at the time of inspection and the billing is not going through escrow the entire completed inspection report and signed contract will return with you to your office to await the clients check by mail. The prospect of waiting for the inspection report by return mail often prompts the buyer or agent to deliver a check to your office in order to avoid further time delay in receiving the report. If you give the client his copy of the report at the time of inspection and do not receive payment you open the door to extra paper work and time on your part for your accounts receivable.

When all business is completed, when all participants know the type and scope of inspection to be performed then the inspector can proceed.

The inspector should request that the seller or sellers agent open all doors and provide access to all areas of the building. This includes removing clothing from the closet in the bedroom where it conceals the access to the attic.

The inspector should then determine who is going to accompany him around the property. The names of all of those persons should be noted on the inspection report.

THE OTHER PLAYERS

Home inspections are seldom done in a vacuum. We are usually followed around the jobsite by all of the other interested parties including sellers, buyers, the buyers friends, their uncles, their buddy who is a plumber, and their friend from down the street who fixes cars, etc. Each person involved in that inspection is going to have a different expectation of what the inspection is all about and they will probably have prejudgements as to the condition of the property. Prejudgements or expectations invariably are in conflict. So the inspector finds himself dealing on an immediate basis with people who are looking for conflicting answers from him. It is important to establish the fact that you as the inspector are in charge of the show. Do not let yourself be dragged from room to room around the building on the whim of any of the other participants. In a typical inspection the client is the buyer. The buyers may range from super sophisticated real estate investors to little

old ladies or young couples buying their first home. The expectations of each of these buyers may be different. The first job of the inspector as he is greeting, talking, communicating and doing the business part of the inspection is to analyze, sum up the buyer. It is good to talk with the buyer and to tell them exactly what you are going to do and also exactly what you are going to talk about. It is important for the inspector to establish the kind of things which he will deal with and the kinds of things which are best left to the realtor or the buyer themselves.

I like to involve the buyers in the inspection. It keeps them occupied. It shows them the variety of information which has to be gathered and it allows you to communicate very closely with them. I usually ask them when doing the interior area to turn on and off the lights and switches throughout the house, to check whether the doors open easily and even to check the electrical plugs with a plug tester. Very often the little plug tester will occupy them while the inspector gets the valuable time necessary to note down the important information. We recommend that buyers always bring a flashlight and note pad. We recommend old clothing so that their street clothing won't get dirty if they want to follow us around the house.

It is important to understand the level of vocabulary and the knowledge of technical systems which the buyer may or may not command. It is confusing and counterproductive to speak of ohms, watts, resistance, amperage capacity with buyers who are completely unsophisticated in electrical systems. The message still has to be relayed but the vocabulary and the method of communication should change as needed. Do not oversimplify but don't get carried away with vocabulary that only a home inspector or professional contractor would understand.

Real estate agents usually represent different sides of the transaction. The buyers agent will be very concerned about the items which will be found. A professional agent will be quiet and attentive to all that the inspector says. Some less professional agents will attempt to influence your judgement, will offer you leading questions or leading statements like "This house is built very well isn't it." or "Don't you think it's good that the house has new copper piping?". An inspector must be aware of the verbal manipulations of people attempting to influence his decision.

You must be very wary of making judgements about any component part of the inspection without having

completely investigated the system. If you inspect the roof before the interior you will probably climb down from the roof and half a dozen people will say "well, how was the roof?". It's going to make you feel very stupid if you say "oh the roof looks fine, it has some wear, some maintenance may be needed but it does not appear to need a complete new roof at this time". Then you walk upstairs and suddenly, on the ceiling of the bedroom, you see a giant new leak stain. It is best to reserve your judgement until the very end, either at the end of a section which you feel is complete or often until the end of the inspection completely. Some inspectors don't offer any conclusions until they issue the final typed or written inspection report. So be aware and be careful about what you say until you have completed that area of the inspection.

The seller may follow you around and obviously hope that you don't find anything wrong with the building. When problems appear or defective systems are discovered, the seller will sometimes say "That's not a problem, we had that fixed last year" or "The roof hasn't leaked ever" or "This house is very energy efficient, we hardly ever use the furnace at all". Statements like this may be well meant on the part of the seller, but may be entirely inaccurate. Do not accept anything that the seller tells you as being true. Sometimes a dispute arises concerning an item during the inspection and either an agent or a seller or some other party insist that "the roof is only three years old" and you have looked at the roof and it is at least ten years old. You can often make

them aware of their situation by stating "o.k. I am entering in the report that you, the real estate agent, have stated that the roof is only three years old and has never leaked". Usually that will set the person back and make them more careful and less manipulative of you.

When a seller follows you around the house you should look upon it as a way for all parties to hear the exact information from you without being filtered through anyone else's ears. I am often wary about what a seller may hear when the seller is not present but the seller's agent is. I am also wary about what a buyer may hear when the buyer doesn't show up for an inspection and all of the information is transmitted to the buyer from the buyer's agent. I am not saying that any person involved is intentionally misrepresenting the information, however we all know how the information transmitted to another person may change due to the agents lack of construction technology.

Friends and part time plumbers who sometimes accompany the buyer must be treated carefully. If you have an obnoxious or self righteous hanger on at an inspection it's best to make it very clear right at the beginning that you are the inspector. Acknowledge that they may have an opinion regarding all of the various elements of the house, however at this time you have been hired to give your personal and private opinion. Sometimes I have recommended that this person go around the house by themselves, into different locations than my inspection, and give any pertinent information to the buyer independent of my inspection.

The main point is that the inspector must be in charge of the inspection. You must run it at your own time schedule. You must not get talked into a corner and suddenly find that you have only 15 minutes left and over 50% of the inspection still to complete. Set your own time schedule. Walk through the areas swiftly and carefully, looking at all of the individual areas in a regular pattern which you develop as your method of going through the house. Do not believe anything that anyone tells you. Trust your own senses. Smell, feel, listen. Every sense you have will help you. Trust yourself. Respect your own professional opinion. Be willing at all times to stand behind what you say. Never sell out to a client because you want to please them. Never sell out to a real estate agent because they have been good to you or because you hope that you will get more business from their office. Never sell out to sellers or hangers on because they have forceful opinions. When push comes to shove and you are standing in the dock and being harangued by 84 attorneys, you will realize that your opinion is the only thing that you can rely upon. Modifying your statements to please or placate other participants can get you into very serious trouble.

With all of the possible trouble and distraction caused by the various other participants in the inspection you may ask is it necessary to have anyone accompany you. We believe that it is very important to have the buyer physically present during the inspection to personally watch and become aware of the exact physical condition of the property. It is also important to take real estate agents to see what the inspector is finding in order to allow them to rationally negotiate any final adjustments due to deficiencies found in the property. The sellers part may be less important than the other participants but again, personal knowledge and awareness of deficiencies found by the inspector tends to reduce resistance of the sellers to accommodate negotiated al-

lowances for repair. Some companies prefer to conduct inspections with no other person present. This allows them to run very fast through the building and thereby cram more inspections into a day. We feel that this is a very short sighted attitude. A few of the problems in our business are the need to constantly generate new clientele and to protect against potential litigation. By having buyers, sellers and real estate agents present on your inspection you are in effect advertising your own special skills and personality through the entire inspection and you're being paid for it. Our company works with real estate agents who have been recommending clients to us for over ten years. We have some buyers for whom we have inspected upwards of 6 or 7 separate buildings. We look upon the inclusion of the seller and the sellers agent as new potential customers.

Lawsuits are often generated due to misunderstandings between the parties concerned at the time of purchase. These misunderstandings often include information about the physical condition of the building. Inspectors may perform a reasonable inspection of the property but due to lack of good communication of that information to all parties concerned a later problem may arise and may lead to a lawsuit. These lawsuits may or may not include the inspector. The inspector may be uninvolved in the original argument but can get trapped into the lawsuit by the need to find as many deep pockets to tap as possible. In our experience buyers with whom we develop a relationship during our inspection tend to not sue us for deficient inspections. Buyers who we have not formed a personal bond with during an inspection usually feel less attached to the inspector and the inspection company. Therefore they are more likely to include the inspector into the general lawsuit.

If you look upon the participants in your inspection as potential future clients and your inspection as a way of demonstrating your professional abilities and presentation skills you will both make money and market yourself at the same time. In addition to this you will create a personal communication bond between yourself and the other participants which may drastically reduce your exposure to liability. For these reasons we recommend that all interested parties in the transaction be present during an inspection.

There is one other participant in an inspection who can cause serious trouble. This participant is the tenant. When inspecting rental property we recommend that you say nothing to the tenant. When conducting

an inspection with other participants in the presence of a tenant, we again recommend you say nothing and reserving your comments until you are out of range of the tenant or else be very careful about any statements made. Tenants are often angry because the building is being sold. They can cause great amounts of trouble to all the participants in the transaction. Tenants have rights in a sale and can make the transaction easy or difficult. Attempt to be friendly with the tenant. Be easy and do not allow yourself to share their anger. Often a tenant is a great source of information for every single item which is wrong with the building. Where possible we attempt to enlist them on our side in order to gain what ever pertinent information they have and to make them aware that we are neutral parties in the transaction and are not in any way responsible for their possible loss of a home.

SO WHAT DO I DO NOW?

Well here you are, with 17 members of an entourage, walking around a 65 year old building which you have exactly 2 hours and 15 minutes to completely analyze, digest and make observations on. This is very confusing! What do I do now? For me the simplest way is to learn to concentrate on one system at a time.

You are supposed to observe readily accessible installed systems and components. You should describe the components which you inspect and certainly write down which you don't inspect. Notify your clients which system is found to be in need of immediate major repair.

These observations are not meant to be technically exhaustive. These words technically exhaustive carry alot of weight when you get to the standard of care as argued about by lawyers in a court room. It is a value judgement the inspector needs to make. For my part they need to be technically exhaustive enough for you to be able to recognize a serious problem when you see it. They need to be technically exhaustive enough for you to be able to recommend an expert at any time when the condition of the system or component is beyond your personal expertise.

When you start in this business, I don't care what discipline you came from, you will certainly not know everything about every system you will see. It will take a lot of time to understand all of the various systems. As you go from inspection to inspection you'll keep finding nightmares and problems for which you may

not have a ready answer. Please, in all of these circumstances, refer on to someone who does have the knowledge. Say " I recommend that you contact a specialist in this area".

You are not required to make a decision on the life expectancy of any component or system. You don't need to specify why it needs a major repair. You don't need to specify the exact way it should be repaired, what would be needed to repair it, or how much it would cost to repair.

You don't need to make statements about whether the property would be suitable for this or that use. Whether it would make a good restaurant or whether it would convert into 2 units or any other use specification.

You certainly don't need to say whether the building is to code or not to code. The codes change on a regular basis. Most of the buildings that I inspect are between 50 and 100 years old. Code is a non issue. It is important to distance yourself from local ordinances, restrictive covenants, statutes, building codes, zoning, land use. Information concerning these items should be the responsibility of the buyer and is certainly not your responsibility. Some inspectors do conduct code compliance inspections. You do have that right if you feel that you have the expertise. But a normal home inspection does not cover codes.

Please don't fall sucker to the questions "what do you think the house is worth?" or "do you think I'm getting a good buy for my money?" or "if this were going to be your house would you buy it?". Back away from all of those sucker punch questions.

If you don't look specifically at an item or at a complete system please note it. If the system is concealed from your view, please note that. Don't make any statements concerning something which you have not personally checked. Don't tell them all about the termites or the rats that are running around the house as that is not your responsibility. Refer them immediately to a licensed pest control operator. Statements concerning the presence of termites, insects, wood destroying organisms, should not be included in your inspection report.

Be very very firm concerning items which are hidden from your view. This is incredibly important and ends up in countless lawsuits and is one of the first defenses of a good inspector. Each inspection should be very clear about the areas of the house and the systems or components which were not inspected due to inaccessibility for one reason or another.

Don't warranty the building. Don't guarantee that it will last certain time, that you are sure it's going to be o.k. for a certain number of years or that it is the right kind of system for the house.

Don't offer engineering or architectural services. What this means is don't make statements about the structural stability, the probability of collapse or the adequacy of the original architectural design unless you are an engineer or an architect.

Don't calculate the adequacy of any system, such as whether there is enough amperage to cover the electrical usage in the house and if not how much amperage would be the right amount to cover that usage. Don't state whether the furnace is big or small enough, or whether the air conditioning system will be adequate to hold the house at a reasonable temperature in the middle of summer. All of these calculations and statements require much more information than an inspector can gather in the course of a 2 1/2 hour inspection. These kinds of statements will get you into deep trouble if you ever have to face an attorney. The only people who can make statements about specific systems are those who have been trained and are truly competent in these specific system.

You are not required to walk on a super steep slate roof just because the buyer wants to know what it's like on the other side if that side is not safely accessible. If you open a crawlspace access panel and you see friable asbestos lying 3 inches deep as far as the eye can see through the crawlspace, you are not required to enter the crawlspace. The inspectors life and limb are too important. Many inspectors have been injured doing inspections. I have personally taken a bad fall from a roof. Other inspectors have died when climbing ladders to roofs. Inspectors have contracted diseases from residue left in crawlspaces. Be careful of your body. Wear masks and safety equipment. Don't put your body or your life in jeopardy.

You do not have to determine all of the hazardous environmental conditions in the house. Toxins, carcinogens, noise pollution, water pollution are not your responsibility.

If you enter a basement garage and the tenant has stored items eight feet high on all sides around the perimeter foundation wall, you are not required to move the tenants items in order to see the foundation. You must state clearly to all present that the foundation is not visible, that you will return to inspect the foundation when all of the items concealing it have been removed,

and that when you return the specialty inspection will be at an extra charge.

You are not required to turn on the gas to the house or any utility which is not turned on when you arrive.

You are not required to move all of the clothing out of the closet so that you can get up through the access hole into the attic. This is one area where you can divert the seller and the sellers agent right at the beginning of the inspection by asking them to please clear the entire closet of all obstructions while you are inspecting the rest of the building so that when you get to the interior and need to inspect the attic it will be clear. At the same time you will ask the seller or the sellers agent to go around and open all locked doors.

You are not required to estimate the annual operating costs of any system installed or to estimate the predicted life expectancy or failing time of any system.

You are expected to carefully observe readily accessible installed systems and components which are listed in the CREIA standards. You are expected to submit an informative, carefully worded and clearly stated written report to the client which will describe these components, state which you have and have not inspected and point out which were found to be in need of immediate major repair.

SYSTEMS AND COMPONENTS

Our preferred sequence of inspection is usually

1. Site.
2. Exterior.
3. Roof.
4. Foundations
5. Structure.
6. Plumbing.
7. Electrical.
8. Heating.
9. Attic.
10. Interior.

This sequence is sometimes changed when easy access to the roof cannot be obtained from the exterior of the building. We then insert the roof between the heating system and the attic. A roof inspection and an attic inspection go hand in glove. It is embarrassing to inspect a roof and make statements concerning the condition of the roof and then later crawl through the attic or walk through upper bedrooms and find obvious current

leak stains. For this reason, although the roof inspection is often performed early, the completed roof inspection report must wait until after the attic and interior have been inspected.

While inspecting each of the separate systems in the house it is very important to make complete notation of all evidence found. If you are preparing for a narrative report then please make copious notes at the exact time when you see and inspect any worthwhile condition. Do not attempt to memorize or keep masses of information in your head until later on in the inspection.

If you are performing a checklist type of inspection be sure to physically mark each box, phrase, sentence or statement as you check the item in question. Do not forget to fill in the box and then later make a guess. It is a great temptation to generalize on inspection reports. Although you are described as a generalist, please do not generalize on your inspection report. Be exact and specific. Write and talk only about what you can see.

Whenever possible we take the time to summarize the condition of each system immediately after completing the inspection of that system. When so doing we sometimes realize that we haven't gathered all of the necessary information to complete our inspection of that system. This gives us an opportunity to immediately check ourselves to correct our information. If you wait until the end of the inspection you may not be in the location or have the opportunity to check and correct yourself.

When inspecting multiple apartment unit buildings we are often asked to conduct the inspection in a sequence based upon tenants needs to be in the apartment while the inspector is present. It is obviously to your benefit to be as accomodating as possible in order to minimize friction and allow the completion of a successful inspection.

If you find yourself in an inspection situation where the demands of the buyer or the agents prevent you from having enough privacy to complete the report we recommend either being firm with the participants, and demanding quiet time or else escaping to the attic, crawlspace or the roof in order to sit down, gather your thoughts and complete the necessary information.

Each system and component in the inspection has its own preferred sequence and rhythm of inspection. We usually like to start with an inspection of the site and the exterior of the building.

EXTERIOR

The inspector should observe:

- a) Exterior wall coverings, flashings and trim.
- b) Primary windows and doors.
- c) Garage door operators.
- d) Balconies, decks, steps, area ways and porches.
- e) Eaves, soffits and fascias.
- f) Vegetation, grading, drainage, driveways, patios, walkways and retaining walls.



At this time we would also inspect areas normally covered under the roofing system, which may be more visible from areas other than the roof, these include gutters, downspouts and all other visible roof drainage systems.

An inspector should observe and describe each of the wall materials paying special attention to damaged surfaces which may allow water intrusion into the building. The seller or sellers agent should be required to unlock all exterior doors prior to the inspection. The inspector should open and close each door including the garage door. If the garage door will not stop and automatically reverse when reaching reasonable resistance this should be reported. A 1" block of wood placed on the ground is the standard method of testing the door safety reverse. (All openers since 1982 are required to pass this test.) An inspector does not have to observe assorted accessories on the exterior of the building including storm windows, storm doors, screens, shutters, awnings,

fences, safety glazing, remote control garage door operators, geological conditions of the site, soil conditions, recreational facilities and assorted outbuildings.

The inspection of the exterior also allows the inspector to formulate an idea of the structural design of the building. When later crawling underneath the house it will be important to have in mind the exterior architectural design. Many additions have been built onto buildings, old porches have been enclosed, and the structural support systems beneath these changes are important to understand.

Water penetration of the interior of the building is

a severe problem. Much damage is caused to buildings by water penetration. A complete visual inspection of the exterior of the building should alert the inspector to potential problem areas which can then be checked from the interior later in the inspection.

If there is an easy access to the roof we take this opportunity to inspect the roof.

ROOFING

The inspection of a roof includes:

- a) Roof covering.
- b) Drainage systems.
- c) Flashings.
- d) Skylights.
- e) Chimneys.
- f) Vents.
- g) Roof penetrations.
- h) Any other unusual conditions.



We attempt to walk every roof unless the roof is too steep, old or dangerous for the inspector or unless the roof will be damaged by a walk on inspection. If a

walk on inspection is not performed we attempt to reach at least the gutter line on a ladder. We carry 21 foot folding ladders. They fit inside a smaller vehicle and have many different applications. The use of ladders is dangerous. I have personal experience of stepping back onto the ladder from a roof and having the base of the ladder slide away on a redwood deck. Some harrowing moments followed including a godawful thump and a few days in the hospital. Inspectors have been killed by relying upon old wooden ladders attached to the building which collapsed while the inspector was on them. Do not trust anyone else's ladder. When possible do not allow the buyer or any other person to use your ladder to get to the roof. This matter should be handled individually, but if you feel that there is any danger at all do not allow anyone else to accompany you. Your liability is paramount in this matter. It is your own responsibility as to whether you break your own leg but the cost of medical bills for someone else should be eliminated from your inspection estimate.

When access to the roof is absolutely impossible we recommend viewing the roof with binoculars. It may require climbing up onto the house next door, moving further up a hill or even walking away from the house for 50 yards to get a better viewing angle. You must state that the inspection was performed from the ground, certain areas of the roof were hidden from view, you are unable to give a complete analysis of the condition of the roof and that you recommend a full roof inspection by a licensed roofing contractor.

Roof leaks and foundation problems are the two areas with the highest number of lawsuits in California. It is critical to thoroughly inspect the roof system. You will find every imaginable kind of roof combination with infinite variations of flashings or roofing surface problems. It may be valuable to sketch the roof shape or plan and to note visually any area where there are visible problems. It is extremely important to investigate all metal flashings. Edge flashings, chimney flashings, roof vent flashings and skylight flashings cause most leaks in roofs. Do not be afraid to recommend new flashings if damage or corrosion is noted. In my home city it is extremely common for roofers to replace the roofing surface but not to replace the flashings. You can arrive at an inspection with a 2 year old roof surface but a 30 year old flashing system. Vent flashings are commonly omitted. Flashings are often incorrectly installed. Counter flashings are often missing. I cannot stress enough the importance of a thorough roof inspection. If you are in any doubt then err on the side of your own personal liability and safety. Recommend that thorough repairs be made. If necessary then recommend a complete inspection by a roofing contractor.

Be careful when walking the roof. Roll roofing or asphalt shingles which lose mineral granules from the surface when old are extremely dangerous. There is no firm footing on this type of roof surface. Wood shingles or shake roofs are extremely slippery when damp from fog, rain, moss or fungus. Be extremely careful when walking on any wooden roof which is not apparently and visibly bone dry. We do not recommend walking any roof during ice, snow or rain. We recommend waiting for another inspection time or calling for an inspection by a professional roofer.

Some roofs are prone to damage. In particular clay tile roofs, fiberglass panel roofs, old wood shake roofs, old tile or shingle roofs and any other brittle type of roofing surface. If an inspector must walk on a roof for the purpose of visibly inspecting hidden areas which

are not accessible from the eave line or from the ground we recommend that the utmost care be taken on such types of brittle surfaces. Walk flat footed. Do not walk on your heels. Do not twist your feet while walking. Stay off ridge shingles or tiles. Walk slowly and carefully. Do not bounce, jump, run or otherwise impose severe weight on these surfaces.

Roofs which are extremely high are hazardous due to the height. It is easy to fall at any time. Extreme care must be taken when working off of a tall ladder on a tall roof. Roofs which are 3 stories or higher than 20 feet from the ground should be inspected by a roofing contractor and exempted from your home inspection.

The drainage system on a roof may determine whether and where the roof does or does not leak. The style of the roof will force the water to drain in a certain direction. When the water drains it should be caught by a gutter system, carried across the house and deposited at some point away from the building foundation. Roofs which do not drain adequately cause substantial leaking problems and fail prematurely. Ponding on flat roofs is an especially troublesome situation. Look at the roofing surface and slope to determine whether inadequate drainage exists.

Gutters which are incorrectly sloped, full of debris, inadequately installed, corroded and leaking cause damage to eave edges, walls and the structure of the property.

Check the number of existing roof surfaces. Remember that many older homes were only built to hold a wood shingle roof surface. We have seen roofs with seven layers of roofing applied causing multiple cracks in the supporting rafters and seriously effecting the structural stability of the building. We always recommend repairs when more than three roof surfaces are noted on any structure.

No one knows when a roof will leak. We are not psychics. We can only evaluate visible evidence. Do not tell anyone that the roof isn't leaking and be careful of telling anyone that the roof is leaking. Investigation of stains beneath the roof during a rainstorm or with a moisture meter is probably the most sure method of determining leakage apart from visual observance of rain coming through the roof. The inspector is not required to state whether the roof does or does not leak, how long it will last before it leaks or what the expected life of the roof is. This is an important point. You will be asked during an inspection "how's the roof? Is it leaking?". Do not give an answer to that question. You can

note deteriorations, you can recommend replacement or repair, but you are not required to state whether the roof is or is not leaking. Many lawsuits have come about where inspectors stated the roof was not leaking. These statements made in August can come back to eat you in January.

SITE



The conditions of the site give you important information for your inspection of the building. When you arrive at the in-

spection one of the first things you do is to look around the neighborhood. Note if the house is on a steep incline, if there are signs of landslides or any other evidence of earth movement including trees which are non vertical, cracks in the roadway, roadways built over natural drainage systems such as gulleys or ravines, and whether the house is built over a natural drainage system. Very often a good flat spot to build a home is on a bed of washed out soil at the bottom of a natural drainage system. Look at the design of the house in relation to the site to determine whether it is built on fill and cut earth. Other items which should raise the hairs on your neck might include soil retention netting, staking or anti erosion measures including gutters, ditches or signs of severe soil erosion. These are generally considered to be red flags and although you should not state that there is instability or lack of stability in the soil, these items are important to point out to the buyer and include in your inspection report. These measures were some of the measures which were the basis of the EastonStrasberger lawsuit which has totally changed our industry. There are red flags for which we are particularly liable. A specific precedent has been set in the courts so be aware of these items, mention them in your report, and then add "we recommend inspection of the site by a qualified soils or civil engineer."

Unless you are a licensed civil engineer or soil engineer do not make statements concerning the geological stability of the area. You can recommend to the buyer that some information may be available from the local city or county engineering department or the department of public works. Geological and slide maps are avail-

able through the U.S. Geodetic Survey. Certain specific areas may have been designated danger zones, and specific maps may have been prepared by the governmental agencies showing the hazards involved. Flood zone maps, earthquake safety maps, faultline maps, land fill maps and other types of geological information may be available. Recommend that the buyer investigate these sources on their own.

Unless you are a soils or civil engineer do not make statements about retaining walls. Again refer them to a qualified engineer. It is impossible to determine whether or not a retaining wall is safe, will or won't hold during the next slide, etc. Do not put yourself in jeopardy. State exactly what you see as physical evidence in a retaining wall, such as "a crack 1/4 inch wide running vertically from the top of the wall to 3 feet above the ground. Approximate length of crack 14 inches." This kind of specific statement is good quality information. You should then immediately refer your buyer to a qualified professional for judgements about what that specific physical evidence really means. Be careful.

One of the prime functions of the exterior inspection is to note the drainage situation, grade level, and visible condition of the foundation on the exterior of the building. This information when coupled with the inspection of the interior wood structure and foundation will give you a more complete picture of the support system for the structure. This is again a very important area. Many lawsuits are based upon supposedly inadequate information by the inspector on the condition of the foundation and drainage problems. We cannot emphasize enough the time and effort you must put into a full understanding of these items.

FOUNDATIONS



We believe that the foundations are a significant enough item for them to have their own separate section.

Although they are included along with floors, walls, ceiling and roof structures in the CIA Standards of Practice we believe that they have critical importance and should be considered separately. There are many things to see around a foundation and we recommend that you note the type

and condition of each area of the foundation. We recommend drawing a plan of the foundation noting specific locations of areas of concern. One very important area to note is wherever you are unable to inspect the foundation due to the accumulation of debris or stored items and/or lack of access. This evidence when visually noted can save you considerable problems during any future lawsuit. We suggest a complete tour of the interior perimeter wall of the foundation or crawlspace. Check the condition of the mudsill and it's attachment to the foundations as you tour the perimeter wall. Remember your inspection of the exterior foundation wall and especially the location of below grade conditions. Watch for stains on the concrete or brick. Fill in your plan of the exterior perimeter wall and note the location and width of any foundation ticks.

After the perimeter is completed look at the surface of the underside of the house and note if the earth is cracking which may indicate a clay soil problem. Note the ratproofing or slab and watch for separations between the foundation and the slab, which is evidence of possible movement. Look for all kinds of stains. Mud stained ratproofing and traces of sediment may indicate water flow through the foundation area. Look for efflorescence stains on the concrete, rusted anchor bolts and rotted mudsills. Water marks along the foundation wall may indicate to what height the basement floods during severe storms. Be very particular in the foundation area. This is a high danger area for home inspection lawsuits.

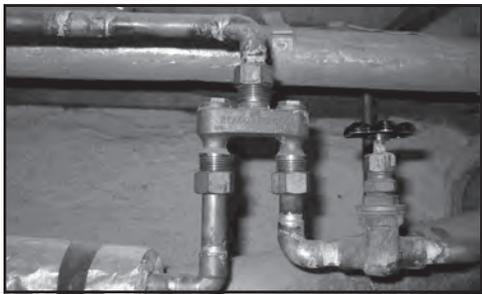
Next, look at the central pier system or support system for the main central bearing beam. Inspect the size and condition of footings.

The drainage of water through and under a house often causes severe condensation and/or water damage problems to the building. Analyze the foundation design to see how it relates to your knowledge of the style and form of the main building shape. Recommend repairs or replacement of all visual damage. During an earthquake a sound and stable foundation is the most significant factor in preventing severe damage to the building structure. Be structure with plywood paneling, additional anchor bolts, metal connectors and straps to enhance the stability of the structure. These items are usually recommended in the basement or crawlspace area but are specifically stated to be non-engineering general knowledge recommendations. We further recommend for a complete analysis of the building that a licensed structural engineer be hired to provide addi-

tional suggestions.

The area beneath the house is of vital importance to an inspector. Don't get rattled or dragged away by buyers or agents who want to look at the pretty parts of the house and don't want to look at the serious and important areas. If necessary send them off to investigate the spacing in the livingroom or diningroom or to check the size of the rooms for their furniture, but you must spend time investigating and noting the condition of all of the subfloor areas. While we are beneath the house, we take the opportunity to investigate all of the visible mechanical systems in that area.

PLUMBING



An inspector should observe the interior water distribution system including the water supply distribution piping, the

materials used, the fixtures and faucets, the functional water flow, any visible leaks and cross connections. The drainage system would require an inspection of the traps, drains, waste and vent piping and piping supports. The functional drainage should be noted along with any visible leaks. The hot water system is a part of the plumbing and would require an observation of the water heating equipment, the function of normal operating controls and the presence of automatic safety controls. Not to be forgotten is an inspection of the flues, chimneys and heating vents for the water heating system. An inspector should operate all plumbing fixtures and faucets where the faucets are not attached to a household appliance. This is usually a chore I designate to the buyer or the buyers agent where possible.

Some things an inspector is not required to observe or report upon include anti-siphon devices, water system supply sources, automatic safety controls on water supply, water conditioning systems, fire or lawn sprinklers, water quantity and quality, waste disposal systems, foundation irrigation, spas or buried fuel storage equipment.

One of the methods of maintaining a semblance of order and clarity in your inspection report is to develop the ability to concentrate solely upon one system at a time. For the plumbing we recommend following the

path of the water as it enters the house. Note where it comes in, note if the plumbing supply material changes at the entrance to the house, look for the main shut off and hose bib, look for obvious leaks and physically walk and trace each arm of the plumbing supply lines from the sidewalk to the water heater and to where they disappear up into the subfloors and into the interior walls. Use the same method of observing the drainage lines from the subfloors beneath the bathroom and wherever these lines appear all the way down to the main sewer entrance at the slab floor. It is obviously impossible to determine the condition of the interior of any drainage system, but severe drainage problems often manifest themselves on the outside surface of the drainage system or in the crawlspace. If the seller is present it is informative to ask whether they have ever had the sewer cleared by a roto roter. Although the interior of the main house sewer is not a part of your inspection, statements by the seller may relieve the pressure upon the inspector if later lawsuits ensue.

The water heating system is very important and is often in need of repair or complete replacement. The most dangerous element of the water heating system is usually the gas exhaust vent. These vents are commonly incorrectly installed, dislodged, corroded, blocked, or leaking. Investigate the drafting on the vent for the water heater. Note the general condition of the shell of the water heater and especially rust stains or evidence of water beneath the heater. A pressure temperature relief valve is always required on newer water heaters. The absence of such a valve may cause serious damage to the building in case of explosion caused by pressure buildup in the water heater.

There are multiple combinations of errors or deficiencies possible in any normal plumbing system. A step by step check off and inspection of the system from source to use inside the house will usually create a largely complete picture of its condition. The inspector should specifically exclude the condition of any piping hidden inside walls and should under no condition state that the plumbing is all copper unless every single inch of water supply and drainage line can be seen.

Each municipality has its own code provisions concerning the types of materials and styles of plumbing which are acceptable in that community. Be aware of the varying differences from town to town in your area.

We recommend not opening or closing any shut-off valves in the system. We also recommend against

testing the pressure relief valve on the water heater as very often a piece of debris can get stuck in the valve, it won't close again, and you have to buy a new one. Gas supply systems should be tested by the local utility company. Modern gas detection equipment may allow you to pinpoint the presence of some types of gas leaks however we prefer to recommend immediate inspection by the utility company rather than take any liability for the presence or absence of a gas leak in the house. If we are sure of the presence of a gas leak we also attempt to warn the owners or tenants of the building of the immediate danger involved. Gas blows up houses. Gas is very dangerous. Any leak should be reported and also noted on the inspection form.

Two houses in my neighborhood have been blown up by gas leaks.

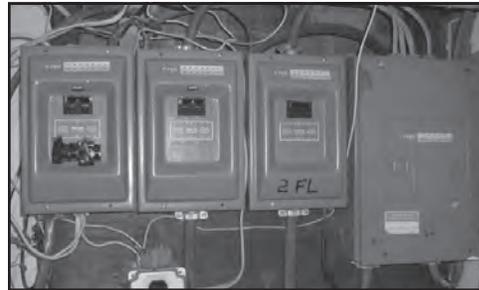
One house I actually saw the explosion and damage. The entire roof was blown off the house and landed on top of a house across the street. All four exterior walls were blown flat. Parts of the interior of the house miraculously escaped damage and the person who had filled the house with gas and was lying in the bed and had lit a match to end his life quickly was sitting there slightly singed but still alive. It was a very dramatic illustration of the power of natural gas. The other house in my neighborhood was blown up when a lady drove her car home late one evening after having just topped off her gas tank. She added too much gas to her gas tank and while the car sat in the garage the gasoline dripped onto the garage floor and was ignited by the gas flame in the water heater. The combination of gasoline and natural gas explosion was also quite dramatic. The house was leveled and the houses in all directions around it were seriously damaged. Water heaters and all gas appliances located in garages are required to have the gas flame raised 18 inches above the garage floor. In one local municipality an escrow cannot close until the water heater has been raised off of the floor. During the earthquake in San Francisco in 1989 a square block of the marina district burned down. It is strongly suspected that the cause of that fire was a ruptured gas line possibly at a water heater. As a part of our inspection we recommend the securing of water heaters so that they will not fall and rupture gas lines during an earthquake.

The plumbing system also includes an inspection of the interior faucets and fixtures. Look under every sink or vanity. Check the P-trap. We have found radiator hose, plastic tubing, and every other conceivable form of materials used to direct the water from the sink into

the drain. This is an area which has tested the ingenuity of many homeowners.

Water pressure is important to a homeowner and is a good indication to the inspector of the possible condition of the interior of the water supply lines. Water can be tested at the hose bib where the main water supply lines enter the house and also if possible at the hose bib at the rear garden. The more immediate test of the water pressure system in a way which specifically relates to the buyers needs is to turn on the shower to full volume on either the hot or cold side. Instruct the buyer to watch the shower spray pattern. Now turn on each other similar faucet in the bathroom. We usually test the hot side first which normally has the worst pressure and then we test the cold side. This type of test is much more meaningful to a buyer than telling them about the systolic water pressure.

ELECTRICAL



The inspector should observe the entrance conductors, the service equipment, the grounding equipment, the over current device, the main and distribution panels, the branch circuit connectors, the amperage and voltage ratings of the service and the over current devices and the compatibility of their capacities and voltages. Inside the house the inspector is supposed to observe the operation of a representative number of installed lighting fixtures, switches and receptacles plus the polarity of grounding of all receptacles within 6 feet of interior plumbing and all receptacles in the garage and attached to the exterior or garage walls. And finally the inspector should check the operation of all ground fault circuit interruptors. We usually designate the checking of the lights and switches and interior plugs to the buyer and provide them with a plug tester.

The inspection of the electrical system follows the flow of the electricity into and through the building. Observe the service lines from pole to the house and into meter box, main disconnect and service equipment. The types of panels and over current protection devices have changed drastically in the years since electricity was first introduced around the turn of the century.

Many of the houses we inspect were built in the 1880s or 1890s and electricity was added later. We therefore find systems ranging from single circuit unprotected house wiring systems to multiple modern GFCI protected breaker systems. A logical progressive method of checking from point to point along the electrical flow will enable the new inspector to carefully and systematically develop a method of inspection which allows for maximum information and explanation to the buyer.

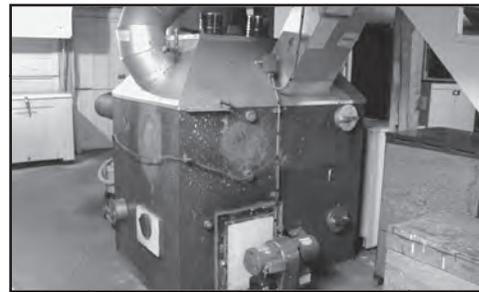
Most buyers haven't got the faintest idea about electricity, how it works or what actually constitutes an adequate electrical system. Many old houses are very poorly wired. Modern living seems to require multiple electronic devices. Many old houses have only one plug per room. Although the inspector is not required to analyze the adequacy of the wiring of the electrical system to provide for the number of probable devices, it is in the inspectors best interest to be careful and responsible in his description of the system. Immediate note should be made when approaching the house of underground or overhead electrical supply systems, number of wires entering the house and approximately where they enter. This will help in locating the main service entrance panel. The face of the panel itself should be removed. The interior of this panel, whether it be fuses or circuit breakers, should be inspected for the main ground wire. This ground wire should be physically followed to its location at the grounding rod and or a live water pipe. Be especially careful if new copper plumbing has been installed as the ground wire is very often not reconnected to the new copper plumbing. The connection to the water pipe and/or grounding rod should be tested. The circuit breakers and/or fuses should be checked against the size of wire which enters them.

Number 10 wires are for 30 amp fuses, number 12 wires for 20 amp fuses, number 14 wires for 15 amp fuses. Any over fusing should be noted. When overfusing is noted type S non-tamperable fuses should be recommended. Look for double tapping and especially homeowner rewiring. Anytime homeowner wiring or obviously incorrect wiring is noted in the house this must be brought to the attention of the buyer with a recommendation for additional inspection by a licensed electrician and a note that work inside the house has probably been performed without the benefit of a building permit.

Do not turn any circuit breakers on or off. That is the perfect time for them to break. Never work with both hands inside an electrical panel. Always put one

hand in your pocket. Wear rubber soled shoes. Do not stand in water. Use a good quality screw driver with an insulated handle. Never stick any metal piece inside the panel box to 'point to or test anything. Where possible learn to visually gauge the size of wiring, or carry an AWG wire gauge or samples of different wires in your kit. The electrical system inside a house can cause fires. For this reason it is critical to be careful when inspecting your systems. If any dangerous elements are noted call for a specialty inspection by a licensed electrical contractor.

HEATING



The CREIA Standards of Practice require the inspector to observe any permanently installed heating system including the equipment, its normal operating controls, any automatic safety controls, chimneys flues and vents, and solid fuel heating devices. One should also observe the heat distribution system including the blowers, pumps, ducts, piping, radiators, convectors, registers, and air filters. Some heating systems are individual heat source systems located in each room. The presence of an outlet in major living spaces is also important when inspecting the heating pattern of the house. The inspector is required to describe the findings, to operate the system using its normal operating controls, and be ready to open readily available access panels provided by the manufacturer for routine homeowner maintenance.

An inspector is not required to operate any system which may be damaged by its operation. An inspector is also not required to operate any automatic safety control or to ignite or extinguish solid fuel fires. An inspector is not required to inspect the interior of flues, fireplace insert flue connections, humidifiers, electric air filters, or the uniformity or adequacy of heat supply to the various rooms.

Sometimes heating systems are linked to timeclocks or programmed thermostatic control units which are not accessible to the inspector or for which permission cannot be obtained to override or reset for inspection. If so, we state that an operational inspection was not performed on the heating equipment and note the reason

why.

Pay particular attention to the heating system. They can asphyxiate poison or burn the inhabitants. They are dangerous appliances in a home. The condition of the heating system must be made clear to the buyer. Many claims are made against home inspectors to replace heating systems which have malfunctioned or are damaged.

Watch in particular for asbestos used in distribution ducts and around furnaces and be sure to record this and make it known to the buyer. Certain types of furnaces even have asbestos built into the interior of the cold air return. Certain older furnaces have asbestos pads on which the furnace rests and which are exposed to the interior of the cold air return. Many older homes have sheetmetal ducts wrapped with asbestos which is evident on the exterior of the duct but where the same ducts meet the boot or register asbestos tape is often used on the inside of the duct. So look inside registers. Although asbestos identification is not required by an inspector the presence of "asbestos suspect material" is an important point to bring to the attention of your buyer. Further inspection by a licensed environmental specialist inspector should be recommended at any time that "asbestos suspect material" is noted.

Any appliance which is shut off or has no power supply cannot be tested. We recommend that the utility company or a furnace contractor be called to relight the appliance and to test for safety. Inside furnaces, heat exchanger cracks are very common and are a terminal problem for a furnace. If a cracked heat exchanger is suspected then recommend that a licensed heating contractor be called to deal with the problem, to replace the furnace or to conduct further inspections. Vent systems and exterior flues are of particular concern with the gas furnace. They should be checked for evidence of rust or corrosion, for inadequate venting, blockage by soot, leakage of the vent pipes and possible fire hazards due to inadequate clearance between vent pipes and combustible materials. Gas fired appliances cause deaths by creating carbon monoxide or other poisonous fumes inside the home.

INSULATION AND VENTILATION

Old houses have very little insulation and most new houses have insulation which is concealed from the inspector inside finished walls. There are a couple of places where insulation can be noted and these are

usually an unfinished attic and in the foundation area. The same can be said for ventilation. Attic ventilation and foundation ventilation are sometimes visible. The kitchen, bathroom and the laundry usually require venting systems.' The inspector shall observe and describe any insulation in the unfinished attic and the under floor crawlspaces but is not required to report on any insulation inside walls or ceilings or on any venting equipment which is integral with household appliances.

Usually when entering a house one of the first things that we like to do is to request that the seller or the sellers agent clear all clothing and /or personal storage items out of the closet which conceals the entrance to the attic. As an inspector you are not allowed or required to remove items which conceal attic access. For your own safety it is important to be able to see inside the attic to determine not only the insulation or ventilation but more importantly to determine any signs of damage, condensation or leakage on the underside of the roof structure. Certain cities require that specific insulation requirements be met before the close of escrow. Be aware of the varying regulations in each of the cities which you service and be sure that your inspection report notifies the buyer of any inadequacy in the required ventilation or insulation systems.

ATTIC



Always wear a mask when entering an attic. Make sure that your step ladder is positioned to allow you adequate and easy access. Do not walk in an attic where insulation has been laid and where the ceiling joists have been concealed. It is too dangerous and easy to slip. It is very easy to end up with a leg down through a plaster ceiling. There should be a light inside the attic, easily reachable from the access panel and also some kind of walkway or plank across the top of the joists. Many inspectors will not walk in an attic which is not provided with a walk or crawlway. So therefore a value judgement must be made by the inspector as to whether it is reasonable for him to go further into the interior of the attic or whether the inspection should be conducted from the access hole itself. If so, this must be noted on

the inspection report.

Areas of special concern in an attic are where the chimney penetrates through the roof. Many stains can be noted on the chimney and on the framing around the chimney which will indicate inadequate flashing and/or water damage to the mortar and chimney at that point. This water damage can cause roof fires in unlined brick chimneys. Other areas of concern are the eaves of the house, the valleys and where plumbing vents penetrate through the roof surface. All of these are areas which commonly show leakage problems. Each of these should be visually inspected with a strong flashlight from a safe point as close as possible to them. Attic ventilation coupled with good insulation will improve the comfort level of the house as well as extend and protect the life of the roofing system.

Sight along the line of the rafters and note if they sag. This is sometimes a good indication of too many layers of roof. Record any broken rafters, purlins, struts or supports. State if insect or water damage is visible but don't specifically state that there are insects involved. Recommend that a structural pest control inspection be obtained.

If inspecting a horizontal flow furnace in the attic, make sure that there is light and an adequate walkway to the appliance and that is within the required distance from the attic access.

Note any vents which come up into the attic space and terminate. No vents from any equipment are allowed to terminate inside an attic. All vents must go through the roof surface. Record the size of all structural members in the attic and also the type and condition of the sheathing of the roof.

Seal the attic access panel behind you as you leave and clean up any insulation which may have fallen through into the main living area.

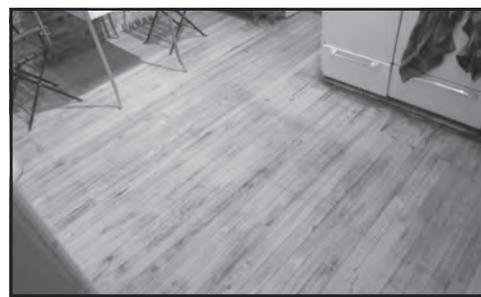
FIREPLACES



We treat fireplaces as a separate area within the interior because many of the old homes which we inspect have fireplaces in poor condition. Some of the things which are important to note in a fireplace are condition of the in-

terior of the firebox, whether there is broken or missing mortar or bricks, whether there is an operating damper, whether a gas jet is installed, whether there is any separation between the fireplace mantle and the firebox interior, whether the smoke chamber shows excessive soot buildup, and whether there is evidence of smoking around the exterior face of the fireplace. There is a serious problem with pre 1890 houses of non lined brick chimneys with potentially deteriorated mortar inside the chimney. Although an inspector is not required to inspect the interior of the chimney we always recommend a visual inspection where possible from below and above. House fires may cause loss of life and we care enough to look thoroughly at a fireplace and if any problems are noted to recommend further inspection by a licensed chimney company. Chimneys which are built on the edge of the structure often settle due to differential weight on the soil. The chimney may separate from the building causing water to leak through behind the chimney. Water is a danger to old type lime mortar and evidence of water stains as efflorescence on brick chimneys should be noted. Water damage from above at the top of the chimney may necessitate either parge coating on the outside of the upper surface of the chimney, repairing of the concrete cap at the top of the chimney, or installation of a metal hood and directional wind cap.

INTERIORS



There are many things to inspect on the inside of a building. Some may seem unimportant to us but may be the most impor-

tant area of the building to the buyer. Even though they may not affect the structural integrity of the building they may play an important part in the decision over whether to buy or not buy. For our purposes the most important thing to note is uneven floors or evidence of distorted framing or structure. Windows or doors which bind or do not shut correctly should be noted. Sags in the floor can be tested with glass marbles or levels. Walls and jambs can be tested for vertical plumb with levels. As you walk along learn how to sense the floor

beneath you, whether you are going up or down. Feel for crowns and dips in the floor. With your previously acquired knowledge of the support system beneath the house and the location of the main support walls or beams a pattern of settlement may emerge.

We usually allow the buyer to open and close all of the doors and note whether they are square to the frame. In addition to helping us speed up the inspection it allows them to become involved and keeps them occupied. Some of the other areas inside the house which are important to note include

1. Water tightness and seal of all plumbing accessories including faucets, countertops, tile walls, tile tub surrounds.
2. Condition of the cabinets and the built in accessories.
3. Presence and adequacy of fire wall and fire door between the garage and the living area.
4. Any evidence of water penetration into the interior.
5. Presence of smoke detection devices. Even though an inspector is not required to operate or test a smoke detection device, wherever possible it should be done.
6. All significant cracks should be noted especially repeated diagonal cracks in wall structures. We consider that the condition of the interior wall surfaces especially in older homes can telegraph to us significant structural problems inside the house. As settlement or movement in buildings is a major factor in lawsuits against inspectors we are very careful to note and evaluate for ourselves any of this information.

The interior items in a house vary greatly and individual initiative must be taken by the inspector to provide the kind of inspection report that is consistent with the condition of the building.

SUMMATION

At this time the inspection is complete and we find ourselves in the kitchen which is the last area we inspect. This brings us to a nice warm spot usually with a table and chairs where we try to write up the last remaining

parts of the inspection report or to complete our notes depending on the type of report to be given. We answer any final questions from the buyers and clarify items at their request. We want to be sure that they are very clear and feel that they have been fully satisfied concerning their questions about the condition of the house. We then request that they sign the bottom of each sheet of the inspection form. This states that they have read and understood all of the information that this report contains- We then separate these report forms into three copies. Two of these copies are included in the folder which we give to the buyer. One copy is retained by the inspector and attached to the check and any business cards and returned to the office. For narrative, audio or video reports we finalize all notes and verify all details concerning delivery of final report.

Thank everyone at the inspection site. Shake their hand, ask for future business, call them by their names if you can remember and exit taking all of your equipment, testing tools and ladders with you. Go to the truck, store all of your equipment, sit down and complete the inspection information. Fill out any particular details which you may want to include on the inspectors report form concerning problem areas, personality difficulties, information not available to the inspector, inaccessible areas which may need reinspection and any information concerning the inspection which was not known and which may be important to the inspector and/or the company in the future. This is information which is not included in the inspection form. This is truly personal interoffice information concerning the process of doing the job. This inspectors form is completed and attached to the inspection report. The inspection report is safely filed for later return to the office. When other types of inspection other than our standard preprinted checklist type inspection are required we gather the notes video tapes and/or audio tapes concerning the inspection, we place them into labeled envelopes attached to the payment check and return them to the office.

We suggest at this point that you identify the location of your next inspection, note the present time, judge the time necessary to arrive at the location in order to give you a minimum of 15 minutes before the appointed time before your next inspection.

Don't forget to wave at the real estate agent and the buyer as you drive away and with a big smile say "Thank you very much".

HOME INSPECTION 101

SITE CHECKLIST

STEEPNESS OF SITE
DRAINAGE
VEGETATION
GRADING
STREET SURFACE
SIDEWALK
DRIVEWAY
WALKWAYS
RETAINING WALLS
PATIOS
DECKS
FENCES
POOL
POOL HOUSE
GARDEN WALLS
SPRINKLER SYSTEM

EXTERIOR CHECKLIST

DECKS
STAIRS
PORCH
BALCONY
STRUCTURAL DESIGN
GUTTERS
DOWNSPOUTS
EAVES
SOFFITS
FASCIAS
SIDING
TRIM
GARAGE DOOR
FRONT DOOR
REAR DOOR
PATIO DOORS
WINDOWS
ELECTRICAL OUTLETS
LIGHTING
SECURITY GATE
FIRE ESCAPE
GRADE LEVEL

VENTILATION
PANT FINISH
SURFACE DRAINAGE
BRICK VENEER

101 ROOF CHECKLIST

ACCESS LADDER
ROOF STYLE
DRAINAGE
SCUPPERS
GUTTERS
DOWNSPOUTS
ROOF COVERING
TAR AND GRAVEL
ROLL ROOFING
SINGLE PLY
FOAM
COMPOSITION SHINGLES
CLAY TILE
CONCRETE TILE
METAL
WOOD SHAKES
WOOD SHINGLES
ROOF LAYERS
FLASHINGS
SKYLIGHTS
VENTS
CHIMNEYS
CRICKET
CAP
SPARK ARRESTOR

STRUCTURAL FRAMING CHECKLIST

AGE
CONCRETE BLOCK
STEEL STUD
POURED CONCRETE
WOOD FRAME
MUDSILL

ANCHOR BOLTS
 SHEAR WALLS
 T-STRAPS
 RAISED FLOOR
 FLOOR JOISTS
 BEAMS/GIRDERS
 SUPPORT POSTS
 WALL STUDS
 REMODELING
 WATER DAMAGE
 WATER STAINS
 SETTLEMENT

101 PLUMBING CHECKLIST

WATER METER
 MAIN SHUTOFF
 HOSE BIBBS
 PRESSURE REGULATOR
 WATER PIPING
 COPPER
 STRAPS
 GALVANIZED
 CORROSION
 DRAIN LINES
 GALVANIZED IRON
 CAST IRON
 COPPER
 ABS PLASTIC
 FLOOR DRAINS
 VENTS
 WATER HEATER
 WATER SHUTOFF
 DIALECTIC FITTINGS
 BRONZE NIPPLES
 CASING
 INSPECTION PORT
 BURNER CHAMBER
 18" HIGH(OFF GROUND)
 PTR VALVE
 OVERFLOW PIPE
 SMITTY PAN
 EARTHQUAKE STRAP
 DRAFT DIVERTER
 VENT CONNECTOR
 VENT
 DAMPER

GAS LINE
 SHUTOFF
 FLEX CONNECTOR
 LAUNDRY TUB
 DRAIN AND TRAP
 WATER SUPPLIES

ELECTRICAL CHECKLIST

SERVICE POLE
 SERVICE WIRE
 MASTHEAD
 MAIN DISCONNECT
 DISTRIBUTION PANEL
 CIRCUIT BREAKERS
 FUSE BLOCK
 FUSES
 DOUBLE TAPPING
 OVERFUSED
 GROUND WIRE
 GROUND ROD
 GROUND CLAMP
 CONDUIT
 J-BOXES
 ROMEX
 KNOB AND TUBE
 CABLE
 SUB-PANEL
 SWITCHES
 PULL CHAIN
 LIGHTS
 OUTLETS
 GFI OUTLETS
 EXTENSION CORDS
 ZIP WIRING
 _____VOLTS
 _____AMPS
 _____WIRE SERVICE
 _____METERS
 _____220 CIRCUITS
 _____110 CIRCUITS

HEATING CHECKLIST

GAS FURNACE

BTU'S

LOCATION

COMBUSTION AIR

CASING

GAS SHUTOFF

FLEX CONNECTOR

COPPER SUPPLY

DRIP LEG

BURNER

FAN-FAN BELT

HEAT EXCHANGER

RUST SCALE

FILTER

DRAFT DIVERTER

EXHAUST VENT

SIGNS OF BACKVENTING

DAMPERS

DUCTS

COLD AIR RETURN

REGISTERS

THERMOSTAT

LIMIT SWITCH

OPERATION

GAS ODOR

GRAVITY FURNACE

FLOOR FURNACE

WALL HEATER

INSTANT HEATER

BOILER

RADIATORS

BASEBOARD CONVECTORS

ELECTRIC BASEBOARD

RADIANT WALL

RADIANT FLOOR OR CEILING

HYDRONIC FLOOR OR CEILING

ATTIC CHECKLIST

ACCESS DOOR

ATTIC LIGHT

WALKWAY

TRUSSES

RAFTERS

RIDGE BEAM

PURLINS

CEILING JOISTS

VENTILATION

SHEATHING

INSULATION

WATER DAMAGE

WATER STAINS

CHIMNEY

VENTS

FURNACE

DUCTS

ELECTRICAL WIRING

INTERIOR CHECKLIST

FLOOR SETTLEMENT

DOORS

WINDOWS

WALL CRACKS

CEILING CRACKS

GLASS TEMPERED

WATER STAINS

WOOD FLOOR

LINOLEUM

TILE

CARPET

PAINT

STAIRS

HANDRAILS

BATHROOMS

VENTILATION

TILE CONDITION

WATER DAMAGE

GFI PLUG

CAULKING

TOILET

WAX RING

VANITY

FAUCETS

SHUTOFFS

FAN

LIGHTS

PULL CHAIN

SHOWER DOOR

TRAPS AND DRAINS

FIREPLACE CHECKLIST

BUILT IN
 MASONRY FIREBOX
 METAL FIREBOX
 INSERT
 HEARTH
 SMOKE SHELF
 DAMPER
 THROAT
 FLUE LINING
 FLUE SIZE
 GAS FIRE
 GLASS DOORS
 FREESTANDING
 WOOD STOVE
 CLEARANCES
 FLUE
 CHIMNEY
 CAP
 CREOSOTE/SOOT
 SMOKE STAINS
 GAS LOG LIGHTER

KITCHEN CHECKLIST

COOKTOP
 RANGE
 GAS SHUTOFF
 FLEX CONNECTOR
 ELECTRICAL 220 OUTLET
 BURNERS/ELEMENTS
 BUILT IN OVENS
 OVEN DOOR
 OVEN LIGHT
 PILOT/IGNITION
 RANGE HOOD
 FAN
 LIGHT
 EXTERIOR VENT
 DISHWASHER
 DRAIN LINE
 AIR GAP

GARBAGE DISPOSAL
 SWITCH/ WIRING
 TRASH COMPACTOR
 SWITCH LOCK
 MICROWAVE
 DOOR SEAL
 REFRIGERATOR
 COUNTERTOPS
 TILE
 LINOLEUM
 SINK
 WATER PRESSURE TEST
 FAUCET
 HOT WATER TEST
 DRAIN AND TRAP
 WATER SHUTOFFS
 GFI PLUGS
 LIGHTS/SWITCHES
 CABINETS
 WASHING MACHINE
 CLOTHES DRYER

SAFETY CHECKLIST

DEADBOLT LOCKS
 SECURITY GATES
 SECURITY STRIKE PLATE
 SOLID CORE DOORS
 PLASTIC SECURITY PANEL
 WINDOW BARS
 BEDROOM WINDOW BARS
 WINDOW LOCKS
 PATIO DOOR LOCKS
 BURGLAR ALARMS
 SMOKE ALARMS
 FIRE EXTINGUISHER
 1 HOUR GARAGE DOOR
 FIRE ESCAPE
 REAR EXIT
 WINDOW EXITS
 SECURITY LIGHTS
 SPRINKLER SYSTEM

*RHI - Registered Home Inspector
CHC - Certified Housing Consultant
CHI - Certified Home Inspector
The Professional Designations of Home Inspectors*

Housing Inspection Foundation



*The Association of
Home Inspectors*

P.O. Box 879 • Palm Springs, CA 92263
Tel: (877) 743-6806 • Fax: (760) 327-5631

Email: support@assoc-hdqts.org

www.merrellinstitute.com
Bill C. Merrell, Ph.D., CEI
631-563-7720
HIF Association Website
www.hif-assoc.org