

# A SIMPLE NEW-HOUSE MANUAL



This well-thought-out owner's guide reassures home buyers, reduces service calls, and builds referrals

**W**hen you buy a washing machine, a VCR, or a new car, you get an owner's manual. Buy a house, and you get a telephone call saying that the key is under the rock by the back door. In fact, you get more in the way of instruction with a \$5 calculator than you do with a new \$500,000 home. In a time when so much information is easily exchanged among people all over the world, it amazes me that so few people seem to give this out-of-balance situation any thought.

by Greg Roberts

I began providing my customers with an owner's manual about eight years ago, after hearing another builder speak about it at a conference. I build an average of four or five custom homes a year, and with several dozen manuals under my belt, I've learned how to assemble a useful and good-looking one with relatively little effort. The rewards far outweigh the small amount of effort and expense involved.

## Builder and Homeowner Benefits

The most obvious reason for providing an owner's manual is that customers find it very reassuring. It tells

them that I'm interested in more than just getting them into their house and moving on to the next job. I've heard a lot of favorable comments from satisfied customers over the years, and while I don't have hard figures to prove it, I believe this kind of favorable word of mouth is a reliable source of new business.

**Perfection vs. reality.** Another crucial function of the manual is to manage customer expectations. When one of our customers moves into a new house, everything is as close to perfect as we can make it. We fill every nail hole, clean all the windows, and wipe down all the surfaces.

But what I think of as the "Better Homes and Gardens" phase doesn't last long. The flooring and trim pick up a few dents and scratches as the furniture is moved in, and the customer will notice some minor flaws and blemishes that are sometimes practically invisible. For the first six months or so, we deal with some incredibly minor punch-list items. It seems to take most people about that long to realize that any lived-in house is going to have all kinds of little imperfections.

The manual can make this transition period easier on everyone because it prepares the customer for the appearance of "defects" like miter joints that open up

**DESIGN CONCEPTS CO., INC.**  
**NEW HOME CONSTRUCTION**

**OWNERS  
MANUAL**

New Home Built For: John and Mary Jones

Construction Dates: April 1, 2003 to October 3, 2003

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*Thank you!*

**Operation**

Our system has been designed with simplicity and trouble-free performance in mind, with settings or seasonal adjustments. Therefore, once you have found a temperature that is a good idea to just let the controls work for you. Sometimes, it is necessary to make adjustments or changes in settings as the seasons change, especially if you have read and understood the material on the Tekmar controls. It reacts slower than conventional heating systems, it is probably better to adjust it over a period of time and not on a daily basis.

Our system has a very high content of moisture to displace during the first heating cycle. It has an effect on the control of the system and the cost of heating during that first cycle within a few months.

Read the manual that came with your water heating unit. If you have any questions about heating and burner switches call for service.

**Warm Weather Shut Down Feature (WWSDF).** The heating system will be shut down when the temperature outside is warmer than the desired room temperature (spring, summer, or high internal gains (sun, wood stove, cooking, etc.)). Heating is temperature inside or outside falls. This means that even in the summer, the system may cycle on. Therefore, you may decide to manually shut the system off during warmer months or during the "swing" seasons of spring and fall.

On the Tekmar, there is a problem. Call for service. Be sure of which side of the valve when the WWSDF light comes on.

Know where the main shut-off valve to the gas line is and know how to use it. Know where the main shut-off valve to the gas line is and

**Maintenance**

**System**

Keep heating equipment clean. Check things on or around the heating equipment regularly. Check the system to see if it is working normally. Check for odd noises, smells, etc. to your service man.

In your closed heat distribution system (the radiant tubing) has been treated with a corrosion inhibitor (CP-3). This treatment should be checked every five to ten years. Contact your service man for information.

**on system**

Our system is equipped with a heat recovery ventilator, it is important that you clean the unit twice a year. This can be done at the beginning and end of the season by simply vacuuming or washing. Also, once a year, the inside removable filter should be hosed off to remove any debris that may be clogging the unit. Be sure to note how everything came out of the unit and be sure to re-install it correctly.

Air distribution grilles around the house can be removed and cleaned as needed. However, please note the position of the adjustable part of the grille, and how it is letting pass through. This has been adjusted and the system balanced. When re-installing grilles, simply push them back into the hole and from any of these grilles. Periodically check the air inlet and outlet on the size of the screening on the inlet or outlet without checking with your service man. In addition, keep your ventilation equipment clean, do not store or hang anything on the vent unit or ductwork. Report any malfunctions, noises, or problems.

As seasons we have seen vent units freeze up. The unit is equipped with a defrost mechanism to prevent this, but malfunctions can occur. Be aware of the air moisture levels inside your home. The ventilation system is the "lungs" of your home. If not working properly, many problems could occur. If you notice poor air quality or higher levels of moisture, report this to a service technician immediately.

Needs only to be washed with a hose.

Exterior doors need to be painted to maintain the manufacturer's warranty.

as a result of changes in temperature or humidity. If a customer calls to complain about cracks in the woodwork and you say they're nothing to worry about, it can sound as if you're trying to blow him off. But if you've described what happens in writing ahead of time, he's more likely to accept that it really is normal.

**Legal considerations.** Our manual isn't meant to be a legal document, and I haven't sought any specific advice about how it might affect my liability. But because it contains important safety information about the house and its contents, it may help reduce the risk of household accidents. Whether or not providing this information offers me any legal protection, preventing accidents reduces the chance that we'll be sued. (Of course, it's also the right thing to do.)

We make an effort to keep up to date on possible dangers and update the manual as new issues come to our attention. Not long ago, for example, a customer hurt his fingers by pinching them in one of the hinged joints in the garage doors. There was no legal action involved, but the incident pointed out a possible danger that we hadn't thought of before. Now our manual includes a specific caution to keep your fingers away from the joints when operating the door.

## Table of Contents

Our manual comes in a good-quality three-ring

An effective new-house owner's manual doesn't have to be complicated or expensive to produce. A simple loose-leaf notebook containing a range of useful information takes little time to assemble and easily pays for itself in reduced callbacks and customer satisfaction.

binder with a clear vinyl pocket in the cover. The pocket lets me personalize each manual by inserting a photo of the house and the customer's name. The contents of my manual usually take up about 25 pages, which are simply printed on the computer, punched with a three-ring punch, and reinforced with stick-on plastic circles before being snapped into place. I try to explain things in plain, easily understood language. If the manual comes across as some sort of legal document, the homeowner probably isn't going to read it, making the whole thing a waste of time.

**Customer documentation.** The first page contains the customer's name and address, the project's start and completion dates, and our company contact information. This is followed by copies of important documents such as contracts, spec sheets, and change orders. I include a small copy of the plans for reference, along with a plot plan that shows the "as built" locations of the septic system, underground lines, and cleanouts. We also provide specs on the depth and out-

put of the well and well pump.

**Calling all subs.** The next section of the manual contains a complete list of the subcontractors and vendors who worked on the house or supplied materials for the construction. This allows the customer to call the appropriate tradesperson directly rather than going through me if a problem crops up.

For example, my plumber recently told me that he'd received a call from a customer about a dripping shower head. It turned out that he was right in the area and was able to get to the customer's house to fix the problem within two hours. If the call had gone to me instead, our response time would have been much slower.

Shifting the load to the subs like this hasn't created any hard feelings on their end. We have relatively few callbacks, and when there is a problem, it doesn't matter much to the sub whether the call comes from me or from the customer. On the contrary, calls from the customer can be a source of additional work for the sub. Long after the one-year warranty period is over, when the homeowners need plumbing or electrical or tile work done, they're not going to go to the Yellow Pages to find someone to do the work. They're going to look up the sub who did the work originally, knowing that he or she does quality work.

**Maintenance information.** The longest section in the manual is devoted to information the homeowner needs to keep materials, finishes, and systems in good repair. These are the kinds of things you try to tell customers in person as construction moves along, but the message doesn't always get through. No matter how hard you try to remember to pass along any important information in conversation, there's always the chance that you'll forget. And even if you do mention everything you intend to, the customer may already be so overloaded with information that most of what you say goes in one ear and out the other.

Either way, the builder looks bad if problems develop later. Imagine what happens if the ventilation system stops working two years after the customer moves in: I go out to the house, take a look at the heat recovery ventilator, and find that it's obviously never been cleaned and is completely clogged with dirt. Even if I'm sure I explained the procedure for changing filters, the customer may feel otherwise, leading to an uncomfortable "yes-I-did-no-you-didn't" situation.

The situation is completely different if I can inspect the clogged HRV filter and point to the page in the manual that contains the relevant information. Now instead of blaming me — fairly or unfairly — the customer thanks me for taking the time to come out when

the problem obviously wasn't my fault. Better yet, the customer read the manual in the first place, changed the filter on schedule, and I never got a call about it.

Among the maintenance items featured in this section are:

- vinyl siding
- interior wood trim
- ceramic and stone tile and grout
- plumbing fixtures
- heating and ventilation systems

**Mechanical systems.** We build energy-efficient houses with radiant-floor heating systems and sophisticated ventilation systems for good interior air quality. I spend at least an hour going over these things with customers when they move in, but I don't expect them to take detailed notes on everything I say. The written description of the system controls and operation in the manual reinforces the hands-on lesson and serves as a "cheat sheet" for any adjustments the customer may want to make later.

This section also includes some miscellaneous troubleshooting procedures, including detailed instructions on how to get the water back on if the low-water switch cuts off power to the well pump during a power outage. Weather-related power outages are fairly common in our area, especially during the winter, and this section saves a lot of phone calls from people asking why they don't have water.

**General information and safety.** This section provides answers to frequently asked questions about the basic construction of the house. For example, most of our houses are built on insulated slabs, with an outer "skirt" of rigid insulation that prevents frost from penetrating below the foundation. I take time to explain its value and stress the importance of protecting it from damage.

This section includes information about surface drainage, placement of decks and patios, integrating additions to the home, vapor barrier issues, how to find the "panic" water valve in case of a leak, and many other possible concerns. This is also where I discuss safety-related information about smoke alarms, GFCIs, propane gas, and scalding water.

**Warranty and marketing information.** The next-to-last page of our manual contains our warranty, which is followed by a one-page summary of the quality features and construction methods that make us a good builder. This marketing page is partly directed at the original buyer, but it's also meant to enlighten real estate agents and buyers who may come along later.

#### Ventilation system

Operating your ventilation system is very easy. The system is designed to operate continuously on a low setting to provide the home with necessary air change. The ventilation control also allows you to choose three other options:

- 1) You may choose the timer function which will run the ventilation on low speed for 20 minutes per hour. This setting can be used during times when the home will be left unoccupied but you still desire some air change.
- 2) You may choose to run the unit on high speed continuously, when you need more air change over an extended period of time. (This setting must be manually changed back to low speed, it doesn't do it automatically like the push button times).
- 3) You may also turn the unit off.

Some controls are equipped with a humidistat. This senses the amount of moisture in the air and boosts the unit on high speed if the set level is exceeded. During the summer months, if you are operating the ventilation unit, the air being brought into the house is humid, and can make the vent unit run on high all of the time. If this is happening, turn the humidistat all the way down to the "more humid" or "summer" setting. You may turn this back up during the heating season, to the first part of the "comfort zone", to help control moisture.

When you are showering, cooking, etc., or if you need to change more air in the home, you may push on the high speed booster buttons located around the house to boost the vent unit on high for about 20 minutes. The unit will reset itself on the standard low setting.

It is very important to understand that unlike other homes you may have lived in, this home is built airtight. The ventilation (air change) is under your control. The amount of ventilation (air change) in the home has an effect on how much moisture is contained within the air of the home. Try to keep a sense for the moisture levels inside your home. (A humidistat is as good idea, inexpensive electronic ones are available at Radio Shack). An elevated moisture level inside the home is a good indicator of a potential lack of air change, or a possible problem with the ventilation unit.

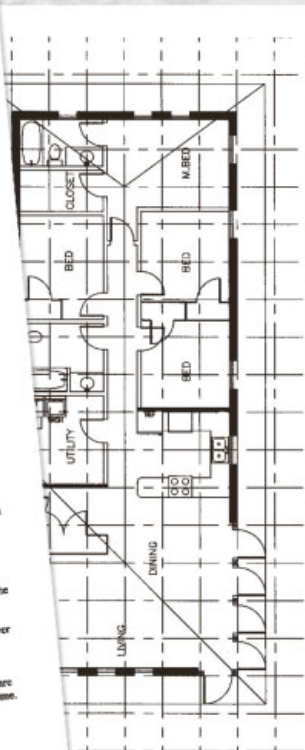
We have found that a relative humidity of around 30% works well in the winter. At a 30% R.H., moisture rarely shows up on the glass surface of windows. Some people find that 30% R.H. is too dry and may decide to operate the ventilation unit for less time, or add humidity with a humidifier. Be aware that operating the ventilation unit for less time to raise humidity levels will also have the adverse effect of providing necessary air change to control air quality in the home. Adding moisture with humidifiers will raise the humidity to the point that moisture will condense on the cold glass surfaces of the windows during the coldest time of the year, possibly causing damage to the woodwork, or causing molds to grow.

Be aware that over a period of time, it is possible for the ventilation unit to remove too much moisture from the house. This can cause severe drying, cracking, and shrinking problems with the woodwork in the house. You must contact us if you feel that your home is being over-ventilated so that we can make adjustments before non-repairable damage is done to the home.

If you wish, you may shut the unit down during the months that you regularly have windows and doors open (summer), but don't forget to turn it back on! Many customers have found that it is easier to leave the unit running year-round.

Vent ductwork should never be used for any other airflow. The airflow through the ductwork should never be boosted with additional fans, as this is a balanced system.

Because of the efficiency of your ventilation unit to recover heat (up to 75%), and its continuous performance, you can rest assured that your family is being provided with fresh air, airborne pollutants are being removed, indoor moisture levels are being controlled, and you are saving money all at the same time.



Because most of the author's houses use the same construction methods and mechanical systems, much of each manual can be printed directly from a computer template. Pages containing plans, as-built locations, and other information specific to an individual house are plugged in as needed.

**Multiple choice.** In areas where we use a range of products or materials, the manual contains the full slate of options, not just those that were used on a given project. For example, we use vinyl siding on some of our houses and cedar clapboards on others, but the manual contains maintenance information for both. The flooring section covers hardwood, ceramic tile, and vinyl.

**Custom information.** In fact, only a few pages in the manual are specific to an individual house. Most of those involve paperwork that I have at my fingertips anyway, such as plans, spec sheets, and change orders. All of those go into a paper folder dedicated to the job. When we're ready to assemble the manual, it's a simple matter to take them out and make photocopies.

Other site-specific information goes into the same folder. To document the location of the septic-tank pumpout fitting, for example, I measure off the corners of the house with two tapes. I then draw a simple map noting the distance to the corners. This means I have to be there when the excavator sets the tank, but that's not hard to arrange.

The most time-consuming part of the process is compiling the specific product listings under the "Suppliers" heading. This includes the brands, colors, and model numbers of all the fixtures, floor coverings, paints, and other materials, so the customer can match them later if necessary.

In theory, that information gets keyed into the computer as it comes in, so we can easily retrieve it when we go to print the manual. In practice, we sometimes miss an item or two and have to go back through the slips to find it.



*Greg Roberts is a builder in Benton, Maine.*

I've found that real estate professionals focus almost exclusively on things like size, location, and style. Few seem to realize that using advanced construction methods and materials, as we do, results in a more comfortable, energy-efficient, and long-lasting house. In addition to helping the customer resell the home, that information markets our company to prospective buyers who may decide to build a new home instead of buying an existing one.

### Managing Information

Pulling all this information together for the first time does take some effort. Once you've developed the necessary computer templates, though, producing a customized manual takes little additional effort. It's basically a matter of filling in the blanks, and I've found that my office helper is able to do most of the work with little direct input from me.

**A house is a house.** The key is to keep the manual as generic as possible overall. Our houses are similar enough in terms of foundations, framing, insulation, and mechanical systems that large sections of the manual require little or no change from house to house. Where minor modifications are called for, it's easy to go to the template and change the wording as needed. We work with a regular cast of subs and suppliers, so that's another area where changes are few and infrequent.