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*Mobile Home  
Consumer Manual*

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Serial Number

## STATEMENTS ABOUT THE ACT AND ITS PROTECTIONS

The National Mobile Home Construction and Safety Standards Act of 1974 was enacted to improve the quality and durability of mobile homes and to reduce the number of injuries and deaths caused by mobile home accidents. The Federal mobile home construction and safety standards issued under the Act govern how mobile homes must be constructed. Your mobile home was manufactured to the standards. The standards cover the planning and construction of your home. They were developed so that you would have a safe, durable home. The standards do not cover such aspects of the mobile home as furniture, carpeting, certain appliances, cosmetic features of the home and additional rooms or sections of the home that you have added.

The Act provides that if for some reason your mobile home is found not to meet the standard or to contain safety hazards, the manufacturer of the mobile home must notify you of that fact. In some cases where there is a safety hazard involved, the Act requires the manufacturer to correct the mobile home at no cost to you or to replace the home or refund all or a percentage of the purchase price. If you believe you have a problem for which the Act provides a remedy, you should contact the manufacturer, the mobile home agency in your state (see the list on page 5 & 6 of this manual), or the Department of Housing and Urban Development. Our address is South Dewey Avenue, Reedsburg, WI 53959. We recommend that you contact us first, because that is the quickest way to have your complaint considered.

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South Dewey Avenue  
Reedsburg, Wisconsin 53959

Phone 524-4313 — Area Code 608

●  
Manufacturers of  
12 WIDE — 14 WIDE HOMES

Dear Homeowner,

Welcome to the growing family of owners of homes built by House of Harmony, Inc.

We have prepared this manual to help you enjoy the comforts and safety of your home for as long as you live in it. The manual includes:

- A copy of our factory warranty
- Procedures for you to follow when you need service
- Recommendations for setting up your home on its site
- Instructions for maintaining your home's operating systems in good working order
- Instructions for maintaining your home's structure and its interior and exterior surfaces
- Some practical safety suggestions
- Procedures for you to follow when you have to move your home to another site.

Perhaps most important of all, the manual carefully outlines the specific responsibilities that you, your dealer, your park operator, and we as manufacturers must fulfill, both before and after you move into your home. Even though you have lived in a mobile home before, read the entire manual carefully. By doing so, you can avoid problems, and increase your enjoyment of living in a new home.

GENERAL

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so certain limitations in this warranty may not apply to you.

Warranties for items in this home that are manufactured by others are included in your homeowners's folder.

**HOUSE OF HARMONY  
MOBILE HOME WARRANTY**

The House Of Harmony, Inc., hereinafter referred to as the Manufacturer, and the duly franchised "House of Harmony" Dealer, hereinafter referred to as the Dealer from which this mobile home was purchased, warrant to the bona fide purchaser of this "House of Harmony" mobile home or to any lessee or any transferee thereof for one year from date of retail invoice, that this mobile home is manufactured in full compliance with those standards prescribed by law or by the administrative rules of the Wisconsin Department of Industry, Labor and Human Relations and the Wisconsin Department of Health and Social Services, which standards shall have been in effect at the time said mobile home is completed, and is free from defects in material and workmanship under normal use and maintenance.

The Manufacturer or Dealer will repair or exchange any part or parts which prove defective within one year from the original retail invoice date provided the owner of this mobile home has given written notice to the Manufacturer or to the Dealer, of such defect not later than one year and ten days from said original invoice date; repairs and adjustments will be made at the site of the mobile home, without charge to the owner, will be completed within 30 days after notification of the defect is given and will be performed so as to restore the mobile home to the condition in which it was warranted, except for normal wear and tear; in the event repairs and/or replacements are made under this warranty, and it is discovered that these repairs or replacements have not restored the mobile home to the condition in which it was warranted, except for normal wear and tear, the mobile home will again be restored to the condition in which it was warranted to be at the time of purchase except for normal wear and tear, even though the additional repairs are not performed until after the expiration of the one year warranty period, provided the necessity of said repairs or replacements is the direct result of inadequate efforts performed by the Manufacturer or its Dealer, during the one year warranty period.

**THIS WARRANTY IS SUBJECT TO THE FOLLOWING  
TERMS AND CONDITIONS:**

Any repair, adjustment, replacement, modification, removal, or other alteration of any equipment or installation which may affect the construction, plumbing, heat producing or electrical system, other than the correction of a defect in material or workmanship by the Manufacturer or its Dealer, without the prior approval of the Wisconsin Department of Industry, Labor and Human Relations, shall be the full and complete responsibility of the owner of this mobile home and will not be covered under the terms of this warranty.

If, during any period of time following notification of a defect, this mobile home is uninhabitable, that period of time will not be considered part of the one year warranty.

Upon discovery of a defect, the owner or lessee of this mobile home shall give prompt written notice to the duly franchised "House of Harmony" Dealer from whom the mobile home was purchased.

This warranty does not extend to defects in or alterations to this mobile home which are caused by misuse, negligence or unforeseen natural occurrences.

**THIS EXPRESS WARRANTY IS IN ADDITION TO ANY OTHER EXPRESS OR IMPLIED WARRANTY APPLICABLE TO THIS MOBILE HOME, NOTHING HEREIN SHALL BE DEEMED A WAIVER, EXCLUSION, MODIFICATION OR LIMITATION OF ANY SUCH ADDITIONAL EXPRESS OR IMPLIED WARRANTY OR ANY REMEDY THEREUNDER.**



## THE WARRANTY

If you haven't yet looked at the warranty on the previous page, study it carefully now before you read the following discussion of it.

### WHAT IT COVERS

The warranty says first that we as manufacturer must provide you as purchaser with a home that is structurally sound. The roof, sidewalls, partitions, floor, steel frame, axles, and wheel assembly should all be able to support their design loads without sagging. The home should be weathertight and adequately insulated. Windows and doors should open and close without warping or binding. Materials used on the ceiling and on interior and exterior walls should be free of holes, gouges, and splits.

Second, the warranty says that all utility systems must be in good working order. When connected to local utility lines on site, the furnace and heat distribution system should heat all spaces comfortably. The home's design should permit any central airconditioning system to cool all spaces comfortably. You should have safe electrical service at all fixtures and receptacles. You should have adequate hot or cold water at all outlets with no major leaks. All plumbing fixtures should be in good working order. The drainage system should dispose of waste water without backing up or leaking.

Before your home left the factory, it was fully tested and inspected, and met all provisions of the warranty. If for any reason your home does not meet these provisions when the dealer makes his final inspection and transfers possession to you, it is our joint responsibility to have your home in warranted condition.

### WHAT IT DOES NOT COVER

Our warranty does not cover two general types of items. One type is warranted by its own manufacturers. Typical examples are the furnace, water heater, and kitchen appliances. Warranties for items that are manufactured by others are included in your homeowner's folder. Be sure to mail the warranty cards for these items right away to assure good service when you need it.

The other type of item not covered by our warranty is nonstructural. Typical examples are trim (moldings), hardware, curtains and draperies, furniture, and floor covering (including carpeting).

As part of his final inspection, however, your dealer will touch up minor scratches and nicks in visible materials, tighten fasteners that may have worked loose in transit, and in general make sure that your home looks neat and attractive.

### HOW LONG THE WARRANTY IS GOOD

Our warranty becomes effective when the dealer transfers possession of the home to you. Usually this takes place as soon as he completes his final inspection. You'll find a discussion of this procedure in this manual under Setting, Supporting, and Leveling Your Home.

Every warranty has a time limit, and our time limit is clearly stated in our warranty. The reason for a time

limit is that any problem that results from defective workmanship or materials is likely to occur within the first few weeks that you occupy your home.

Note that the time limit is a maximum. The warranty becomes void if you sell the home, rent it, move it from its original site, or misuse, neglect or alter it in any way—even if the time limit has not expired.

### HOW TO MAKE A CLAIM

If a problem occurs that you think is covered by our warranty, first contact your dealer. No warranty service can be performed unless you go through your dealer. It's best to send him a letter so that you have a record of your claim, even if you telephone him first to save time.

In your letter give him all the information listed on your warranty that identifies your specific home—its serial number, the model, and the date you bought it. Also tell him as exactly as you can what the problem is. State, for example, that "during a hard rain, water drips from the top of the kitchen window onto the sill." Avoid vague statements, such as "A window leaks." The more accurately you tell your dealer what happens, the more likely he can diagnose the trouble and correct it on one service call.

If you can't contact your dealer, if he fails to correct the problem, or if he says the problem isn't covered under our warranty, write us at our factory. You'll find the address on page 2 of this manual. Give us a complete description of the problem, and tell us what steps you have taken with your dealer to get it corrected. You must write within the time limits stated in the warranty for filing claims.

As soon as possible after receiving your letter, the factory service manager will advise you by letter what corrective work he has authorized, who will do the work, and about when it will be done. He will then follow up if he doesn't receive notice from your dealer within 30 days that the warranted work has been completed satisfactorily.

If the service manager writes you that the problem is not covered by our warranty, and you still disagree, you may write the company's president at the address on the first page of this manual. Describe your problem fully, and detail your efforts to have it taken care of. He will advise you as soon as possible what action the company will take, if any.

### CLAIMS AGAINST OTHER WARRANTIES

When a problem occurs with any item warranted by another manufacturer, look in the yellow pages of your telephone book for the name of that manufacturer's nearest authorized representative. If none is listed, then call the dealer from whom you bought your home. He has a list of nearby service representatives.

### YOUR COSTS

During the time that our warranty is in effect, there is no charge to you for the labor and materials needed to

repair or replace any warranted part, or to correct any defect in warranted materials or workmanship. We have an agreement with your dealer for him to do this work at no expense to you. The cost of correcting problems that are not covered by any warranty, however, is your expense.

## YOUR LEGAL RIGHTS

This warranty gives you specific legal rights. Laws in your state may give you other rights, and certain limitations in this warranty may not apply to you. Some states, for example, do not allow limitations on the term of an implied warranty, or any exclusion or limitation on consequential damages. Check with your state representative to get a copy of the law in your state.

## THE FEDERAL LAW

This manual is provided as a requirement of the National Mobile Home Construction and Safety Standards Act of 1974, and conforms to regulations in that act.

The purpose of the Act is to set down construction and safety standards in a federal law in order to provide you with a safe and durable home. Most manufacturers

in the industry were already meeting these requirements. The Act in essence limits its standards to construction and safety requirements. It does not cover furnishings, decoration, standard kitchen appliances, or any items or additions that you buy separately from the home itself.

The Act further places on us as manufacturer the burden of correcting any violation of structural or safety standards without cost to you. The procedures you should follow in the event of an alleged violation are clearly stated on page 4 of this manual. As an alternate—and slower—procedure, you may contact the mobile home agency in your state (see list on the next page).

The Department of Housing and Urban Development (HUD) is the federal agency administering the Act. Any questions regarding the Act or your rights under the Act should be directed to HUD. To contact HUD, look in your telephone book under United States Government, then under Housing and Urban Development, Department of. If you write or call any local HUD office, address or ask for the Consumer Complaint Officer. If you write or call the central HUD office, the address is Mobile Home Standards Division, Department of Housing and Urban Development, Washington, D. C. 20401. The telephone number is (202) 472-4703.

## STATE ADMINISTRATIVE AGENCIES

Alabama—State Fire Marshal. Insurance Department. 445 South McDonough Street, Montgomery, Alabama 36130.

Arizona—Director. Arizona Division of Building Codes. 1645 West Jefferson, Phoenix, Arizona 85007.

Arkansas—Public Health Administrator. Arkansas State Board of Health. Mobile Homes Standards Section. 4815 West Markham Street, Little Rock, Arkansas 72201.

California—Director. Department of Housing and Community Development. 1807 13th Street, Sacramento, California 95814.

Colorado—Director. Colorado Division of Housing. Department of Local Affairs, 623 Centennial Building, 1313 Sherman Street, Room 523, Denver, Colorado 80203.

Georgia—State Fire Marshal. Office of the Comptroller General. 238 State Capitol, Atlanta, Georgia 30334.

Idaho—Director. Idaho Department of Labor and Industrial Service. 317 Main Street, Room 400, Boise, Idaho 83720.

Illinois—Chief. Illinois Dept. of Public Health. Office of Consumer Health Protection. Division of General Sanitation. 535 West Jefferson Street, Springfield, Illinois 62761.

Indiana—State Building Commissioner. State of Indiana. Manufactured Building Division. Administrative Building Council. 300 Graphics Art Building, 215 North Senate Avenue, Room 300, Indianapolis, Indiana 46204.

Iowa—State Building Code Commissioner. Office of Planning and Programming State Planning Code Section. 523 East 12th Street, Des Moines, Iowa 50319.

Kentucky—State Fire Marshal. Mobile Home Section. Capital Plaza, Frankfort, Kentucky 40601.

Louisiana—State Fire Marshal. 106 Louisiana State Office Building, New Orleans, Louisiana 70112.

Maryland—Director. Codes Administration. Department of Economic and Community Development—Division of Housing. 1748 Forest Drive, Annapolis, Maryland 21401.

Michigan—Executive Director. Construction Code Commission. Department of Labor. 7150 Harris Drive, Lansing, Michigan 48926.

Minnesota—Section Chief. State of Minnesota. Building Codes Division. Department of Administration. 408 Metro Square Building, 7th and Robert Streets, St. Paul, Minnesota 55101.

Mississippi—Director. Mobile Home Inspection Division. Office of the Fire Marshal. 416 Woolfolk Building, P.O. Box 22542, Jackson, Mississippi 39205.

Missouri—Director. Mobile Home and Recreational Vehicles Division. Missouri Public Service Commission. P.O. Box 360, Jefferson City, Missouri 65101.

Nebraska—Director. Division of Housing and Environmental Health. State Department of Health. Lincoln Building, 3rd Floor, 1003 "O" Street Lincoln, Nebraska 68508.

Nevada—State Fire Marshal. State Department of Commerce. Mobile Home Section. 505 East King Street, Room 302, Carson City, Nevada 89701.

New Jersey—Director. Bureau of Housing Inspection. Division of Housing and Urban Renewal. Department of Community Affairs. 363 West State Street, Trenton, New Jersey 08625.

New Mexico—Executive Director. Mobile Housing Commission State of New Mexico. P.O. Box 5759, Santa Fe, New Mexico 87502.

New York—Director. Codes Bureau. Division of Housing and Community Renewal. Two World Trade Center, New York, New York 10047.

North Carolina—Commissioner of Insurance. North Carolina Department of Insurance. P.O. Box 26387, Raleigh, North Carolina 27611.

Oregon—Chief. Mobile Home and Recreational Vehical Section. State of Oregon. Department of Commerce. Building Codes Division. 401 Labor and Industries Building, Salem, Oregon 97310.

Rhode Island—State Building Code Commissioner. State of Rhode Island. Building Code Commission. 12 Humbert Street, North Providence, Rhode Island 02904.

South Carolina—Director. Division of Inspections Services South Carolina Budget and Control Board. 300 Gerais Street, Columbia, South Carolina 29201.

South Dakota—Secretary. Commerce and Consumer Affairs. Division of Consumer Protection. State Capitol. Pierre, South Dakota 57501.

Tennessee—Director. State of Tennessee Department of Insurance. Division of Fire Prevention. 202 Capitol Towers Building, Nashville, Tennessee 37219.

Texas—Administrator. Texas Department of Labor and Standards. Mobile Home Division. P.O. Box 12157, Capitol Station, Auston, Texas 78711.

Utah—Director of Mobile Homes and Recreational Vehicles Division. Department of Business Regulations. State of Utah. 330 East 4th. South, Salt Lake City Utah 8411.

Virginia—Chief Fire Marshal. State Corporation Commission. Commonwealth of Virginia. 521 Blanton Building, P.O. Box 1157, Richmond, Virginia 23209.

Washington—Assistant Director. State of Washington. Department of Labor and Industries. Mobile Home and Recreational Vehicles Section. 300 West Harrison Street, Seattle, Washington 98119.

Wisconsin—Chief. Mobile Home Section. Department of Industry, Labor and Human Relations. P.O. Box 2209, Madison, Wisconsin 53701.

## SETTING, SUPPORTING, AND LEVELING YOUR HOME

The first step in properly maintaining your new mobile or sectional home is to provide a solid support for it. Unlike an ordinary home, your home does not need a foundation to support it all the way around its perimeter. The steel frame or chassis on which the home comes to your site supports the home itself. But this chassis must be raised off the ground and supported at key points to prevent it from sagging and to keep it level.

### SITE PREPARATION

The process of supporting your home for occupancy has three steps—site preparation, setting and blocking, and leveling. If you are going to live in a park, the site should already be prepared ready for your home. But if you intend to place the home on a site you own, some work is necessary.

The area of the site where you locate the home should be reasonably level. The area beneath the home should slope enough, however, so that water will drain off and not puddle around supports. The rest of the site should be graded so that rainwater or melting snow will run off harmlessly. Supports must rest on undisturbed soil, or fill that is compact and has fully settled.

In addition, provision for utilities must be made before the home is set. Installation of lines and equipment supplying water, electricity, and fuel, plus a sewage disposal system, must be completed and ready for connection in accordance with all local codes and regulations. Your county engineer, building inspector, or officials of your local utility companies can advise you on the requirements in your community.

### SETTING AND BLOCKING

The minimum requirements for the blocking and securing of your mobile home are outlined on a separate set of

instructions in your Home Owners folder. Following are general and alternate methods that may be used.

Many local codes require that your home must be set up by a dealer, installer, or home mover specially licensed to do this work. If your dealer is not licensed himself, he will make the arrangements with a contractor who is licensed. You should not try to do this important work yourself.

### FOOTINGS

Proper support for your home includes footings and blocking. The footings carry and distribute the weight of the home placed on the blocking. The best footing is a poured concrete slab, often called a pad. A good pad is at least 3½" thick, reinforced with wire mesh, and as large as your home less its hitch. See Figure 1. If, for example, you have bought a home 14' by 68', the pad should be 14' wide and 64' long.

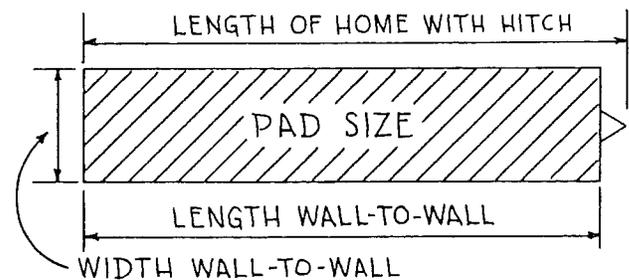


Figure 1. A pad should be the same size as the outside wall-to-wall demensions of the home.

A good alternate to a concrete slab base is ribbons of reinforced concrete 4" thick and 24" wide, spaced so they lie directly beneath the steel beams of the frame. See

Figure 2. The usual spacing between ribbons is 60" for a single wide home, based on standard spacing of chassis beams.

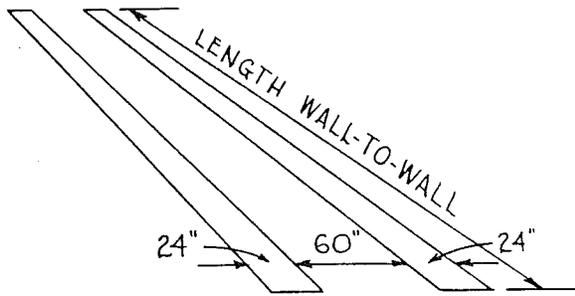


Figure 2. Standard size and spacing of concrete ribbon footings.

Double-wide or sectional homes may be set on a permanent foundation, like a house. If your home has a perimeter frame—that is, the I-beams lie under the outside walls of the house instead of between the wheels—the beams rest directly on the foundation walls. See Figure 3.

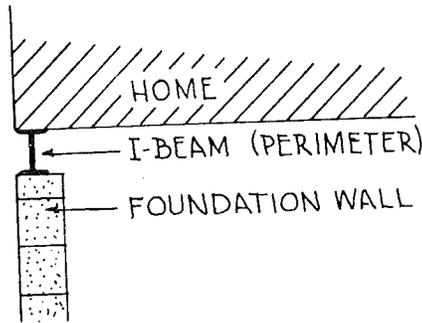


Figure 3. The I-beams of a perimeter frame rest on the foundation wall.

If your home has a standard frame, you need some cross support for the I-beams. Figure 4 shows one solution. In either case you will need to hire a contractor to build the foundation. He must be experienced in foundations for mobile units so that he understands the special problems of sliding your home into its final position.

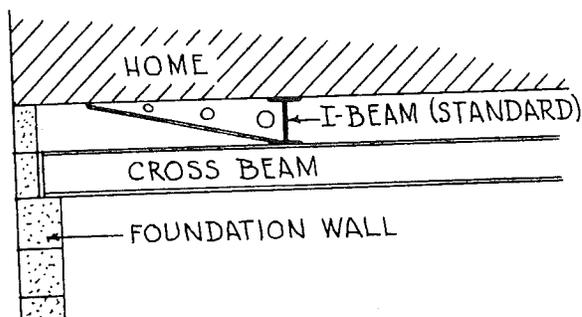


Figure 4. The I-beams of a standard frame rest on cross beams set into the foundation walls.

You may also set a double-wide home on piers. Piers are usually built of concrete block set on individual footings. The dimensions of each footing should be 8" greater than the dimensions of the pier. If you use concrete

block 8" wide and 16" long, for example, footings should be 16" wide and 24" long. See Figure 5.

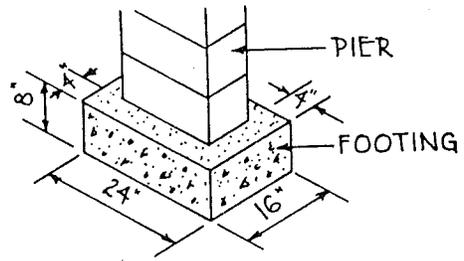


Figure 5. A good footing for a typical pier.

Footings should be 8" thick. They are often poured with their tops level with the surface of the site. You will have fewer releveling problems, however, if the bottoms of footings lie below the frost line in your community so that the piers won't heave in the spring and settle in the fall.

### BLOCKING

The purpose of supports is to distribute the load of your home as evenly as possible on the footings, and to provide a sturdy base. Adjustable steel jacks make excellent supports, and simplify the job of leveling. Any manufactured supports that you use should be listed and labeled by an approved testing agency. Your set-up contractor or your local building inspector can advise you on the best supports to use.

The most common supports are standard 8" by 16" concrete blocks, laid flat as in Figure 5. Blocking must be tall enough to raise the under side of the chassis at least 12" off the ground, and keep the under sides of floor joists at least 18" off the ground. See Figure 6.

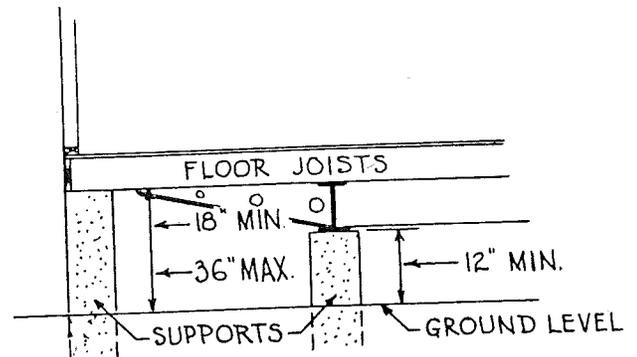


Figure 6. Minimum and maximum blocking heights.

On the other hand supports taller than 36" are not recommended, even if permitted by code. On side-hill sites where tall piers are unavoidable, many codes require a permanent supporting structure, such as piers of poured concrete or mortared concrete block.

### LOCATING SUPPORTS

Locations of individual supports are very important. The blocking recommendations on the next page presently meet or exceed the requirements of all major building codes in the United States. Codes vary from state to state, however, and are periodically revised. Because of



## LEVELING

To serve you satisfactorily, your home must stand as level as possible on its supports. If it does not, here are some of the problems that can result:

- Walls, partitions, and floors that buckle.
- Leaks around windows and doors, and at seams in the roof, ceiling, and walls.
- Doors, and windows that bind, sag, or won't close tight.
- Cabinet doors and drawers that won't shut properly.
- Wall, partition, and ceiling materials that come loose.
- Floor covering that wrinkles, and floor structure that feels soft and spongy under foot.
- Exterior metal or siding that wrinkles or cracks.
- Piping and wiring that snap under tension.

To prevent these problems, your set-up contractor should check and adjust the level of your home after completing step 3 in Figure 7. He should also check and adjust the level after placing each additional pair of supports—not only under the I-beams, but also around the perimeter. Make sure he does.

When your home is ready to live in, it should be level at all points from front to rear, and at all points from side to side. You can check the level yourself by laying your own 24" carpenter's level at various locations on the floor.

What is "level"? Ideally, the bubble in the level should lie entirely between the hairlines on the gauge. See Figure 9. But it is almost impossible to achieve absolute level throughout your home because of normal variations in joists and decking. A deviation from level where part of the bubble is less than 1/8" outside one hairline is usually acceptable, as long as you don't get this same reading everywhere. Any deviation greater than 1/8" probably means that your home should be relevelled.

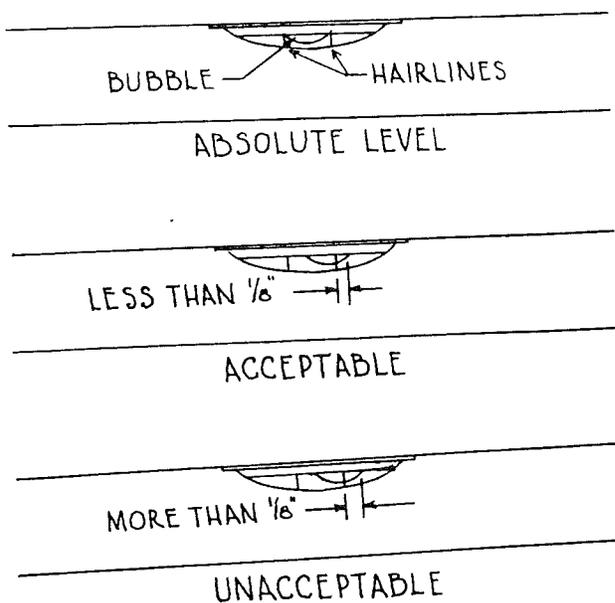


Figure 9. The gauges show absolute level (top), acceptable level (middle), and unacceptable level (bottom).

## RELEVELING

Even though your home is properly leveled when you move in, you should recheck level once a month for the first three months, and twice a year thereafter—in the spring after frost is out of the ground, and in fall after the first frost. Because of its weight, your home may settle a little in the first few months. All houses do. And because of seasonal freezing and thawing, the ground under your home may rise and fall slightly. The purpose of rechecking the level is to make sure that the normal movement of the ground hasn't moved your home also and thrown it slightly out of level.

Although releveling looks easy to do, the work should be done only by a competent and knowledgeable mobile home mover or installer. The cost of releveling is far less than the cost of repairing a home that is not kept level. And if you have the proper footings and blocking under your home, you should rarely have to relevel.

## RESPONSIBILITIES

You, your dealer or park operator, and the manufacturer of your home each play a part in the total responsibility for having your new home ready to live in. Take the time to study carefully the following list of these responsibilities.

### THE MANUFACTURER

The basic responsibilities of the manufacturer are:

- To build the home in accordance with all requirements of the national mobile home code and of any special requirements of your state code.
- To inspect the home for defects both during and immediately after construction, and to correct any problems that are discovered.
- To have the home free from structural defects in materials and workmanship at the time it is turned over to the dealer. This transfer of possession may take place at the factory, at the dealer's lot, or at your site, depending on the arrangements made for transporting and setting up the home.

A copy of your mobile home warranty is included among the shipping papers with your home. It tells you which structural elements (such as rafters), systems (such as plumbing), and components (such as doors) will be free of defects. The manufacturer is responsible for correcting such defects before the dealer accepts the home.

### THE DEALER

The basic responsibilities of the dealer are:

- To inspect the home upon transfer of possession from the manufacturer to assure that it is free from structural defects as warranted.
- To set up your home on its site, and complete blocking, leveling, and tie-down procedures. These are the dealer's responsibility whether he does the work himself or contracts with a set-up specialist. Set-up becomes the manufacturer's responsibility only when agreed upon between manufacturer and dealer.

• To make all the necessary utility connections—to power lines, water lines, gas lines, and sewer or septic lines. Some local codes require that any or all connections be

made by utility companies or their representatives. In such cases the dealer's responsibility is limited to arranging with the utility company for making the connections.

- To test all utility connections to the home, and to reinspect for defects.
- To correct all possible defects uncovered during this inspection, and to list any defects that he has not yet corrected or is not able to correct.

#### THE PARK OPERATOR

The park operator has only one major responsibility before you move into your home. That is to have the site graded and cleared, footings or foundations in place, and utilities available on your lot. But if you are placing your home on your own site, these are your responsibilities, and are the first four listed below.

#### THE OWNER

Here are your basic responsibilities as owner between the time you purchase your home and the time you accept it for occupancy:

- Have the site and working access to it cleared of all

brush, trees, and overhanging limbs that could interfere with delivery and set-up.

- Have the site graded as outlined previously under Site Preparation.
- Agree with the person or firm responsible for set-up on the type of blocking to be used. This blocking is normally provided by the set-up contractor as part of his cost.
- Have the required footings or foundations in place prior to delivery. Work closely with your dealer and with building inspection officials before this work is done and during construction.
- Arrange with all utility companies to bring lines to the site and to locations on the site recommended by the dealer.
- If at all possible, be present when the dealer makes his final inspection. This is important not only to assure yourself that all items are actually checked, but also that all bona fide defects are either corrected or listed.

### SAFEGUARDING YOUR INVESTMENT

No matter where you live, or what type of home you live in, you must protect that home against two of nature's most destructive forces—wind and fire.

We have built as many safeguards as possible into your home to protect you from these two forces. There are limits to what any manufacturer can do, however, and you must take some precautions yourself.

#### PROTECTING AGAINST WIND

On the data plate in your home is a wind zone map (see page 14). Most of the U.S. is in Zone I. Zone II includes the Atlantic coast line from Maine to Texas, all of Puerto Rico, and part of Alaska. Zone II is called the hurricane zone.

Just because you live in Zone I, however, don't think you don't have to protect your home against wind. No home, mobile or fixed, is safe from severe wind storms, such as hurricanes and tornados.

On any site, two types of wind can cause damage. One is horizontal wind—the kind that can blow you off balance as you round the corner of a building. The other is uplift wind—the kind that picks up leaves and other loose items on the ground and carries them upward. You can protect against both types of wind by anchoring.

How necessary is anchoring? At the present time federal regulations do not require you to anchor your home because such a law would be difficult to enforce. More than a dozen state laws call for anchors, however, and your dealer will know if your state is one of them.

More important is the fact that a 60-mile-an-hour wind is strong enough to slide your home off its supports if it isn't anchored. And all parts of the country except

central California have winds of this velocity or greater. So for your own safety and to protect your investment in your home, anchor it to the ground.

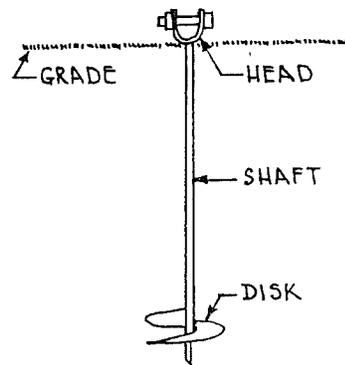


Figure 11. A typical ground auger. Standard length is about 4'.

#### ANCHORING

If your site is in a park, the anchors should be in place when your home is set up. If you are setting up on your own lot, however, you must provide the necessary ground anchors yourself. Your dealer or local building inspector can recommend anchoring devices which meet federal requirements, and can advise you of the quantity to buy. The type and quantity vary with the length and shape of your home, expected velocity and direction of strong winds, and local soil conditions.

One of the most common types of anchors is the ground auger. You set it in the soil at a slight angle to the vertical so that the head of the anchor is behind the skirting of your home. See Figure 11. You can drive the auger into position with a special machine; or you can dig a hole with a post-hole digger, insert the anchor to full depth, then fill the hole with earth 6" at a time, tamping firmly after each

6" of fill. Without tamping, the soil won't have the necessary holding power. When the anchors are in final position, only their heads show above the ground.

To connect the anchor's head to the tie-down device at the I-beams, you need a frame tie and some means of placing the tie in tension. Type 1, grade 1 steel strapping, 1½" wide, 0.35" thick and with a B finish, is commonly used for the frame tie. Cables with a breaking strength of 4,750 pounds may also be used.

With steel strapping and most anchors, you simply insert a tension bolt in the head of the anchor, insert strapping in the slot in the bolt, and turn the bolt with a wrench until strapping is tight. See Figure 12. With cables instead of strapping, you use a turnbuckle, and tighten it steadily until the cables are in tension. See Figure 13.

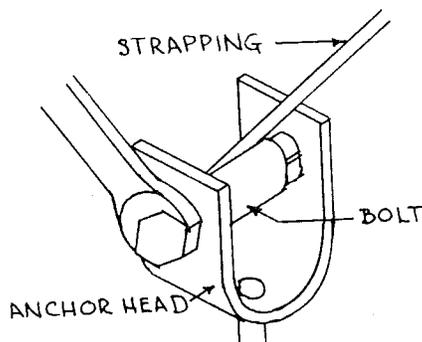


Figure 12. Tension bolt in anchor head, with strapping inserted and wrapped ready for final tightening.

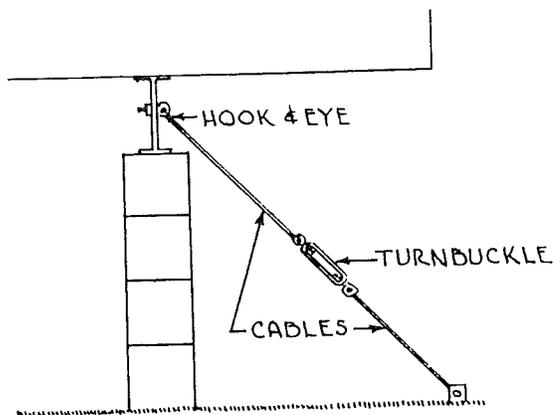


Figure 13. Anchoring with cables and turnbuckles.

Figure 14 shows one recommended method of tying a home to anchors. To prevent the anchor from slicing through the ground in very high winds, some anchor manufacturers recommend that you pour a collar of concrete about 18" deep and 10" in diameter around the anchor shaft. If you supplement frame ties with over-the-top ties, as shown in Figure 15, collars are not necessary.

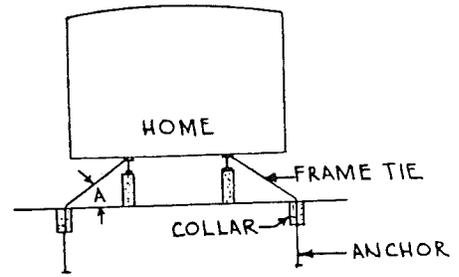


Figure 14. Frame ties extend diagonally downward from I-beams to anchors.

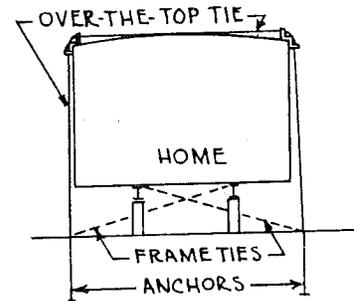


Figure 15. Frame ties and over-the-top ties connect to the same anchors. Frame ties should extend to the opposite anchor (dotted line) when angle A in Figure 14 is more than 45 degrees.

If your home is a doublewide supported on piers, you follow the procedures shown in Figure 14 or 15. But if you place your home on a permanent foundation, one way to tie it down is shown in Figure 16. Anchor bolts must be installed when footings are poured. The flange of the I-beam must be drilled on site to fit over the anchor bolt. After the home is in place, a washer should be welded to I-beams at each anchor bolt, and a nut tightened to hold the assembly securely in position.

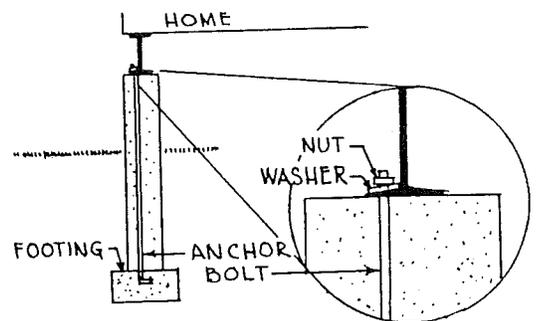


Figure 16. Anchoring to a block foundation wall.

## PROTECTING AGAINST FIRE

We have safeguarded your home by building it to meet all requirements of national fire codes, and by choosing interior materials that resist fire and the spread of flame. Two of the most important safety features are smoke detectors and egress windows.

### SMOKE DETECTORS

In the sleeping area of your home we have installed a smoke detector. There are two detectors in some models. The detectors give out a shrill, penetrating alarm when

they sense smoke, gas, or the visible or invisible particles given off in the early stages of any fire. Detectors are mounted on the ceiling or high on the wall where they can detect these signs of fire as early as possible, giving you and your family time to get out of your home safely.

A tiny light in the detector stays on all the time to assure you that the detector is working and ready to send out an alarm. When the smoke that sets off the detector clears away, it automatically resets itself.

Included with your other papers is a maintenance manual for your smoke detector. Study it carefully, and follow the instructions in detail.

## EGRESS WINDOWS

Each bedroom in your home has a special egress window (egress means a way out). This window looks much like other windows, but it is designed to give you a means of fast escape from your home if fire blocks the passage to exterior doors.

To make sure that you know how to use the windows in an emergency, take these steps:

1. Read and memorize the instructions attached to the windows.

2. If your dealer has not prepared the windows before he transfers possession, prepare them yourself. You remove any clips that may have been installed to hold windows firmly while your home was in transit, and take out the manufacturer's clips at hinges or latches.

In case of fire:

1. Remove the storm sash by turning the clips that hold it in place, or remove the screen by pulling on the tabs.

2. Trip the exit latches at the window sill.

3. Open the egress window either by swinging or sliding it open.

4. Climb out quickly.

In an extreme emergency, break the window with a shoe, drawer, clock or lamp, and dive through it.

Go over these procedures two or three times a year, especially with young children who may forget the steps. At the same time, check to see that storm windows, screens, and egress windows themselves come out easily.

## PREVENTING FIRES

Statistics show that there are three fires in conventional homes to every two fires in mobile homes. But because mobile homes are usually smaller than conventional homes, you must be more careful about causing fires. Statistics also show that most fires are caused by people, and could have been prevented.

Here are some simple tips that may keep you from being the cause of a fire:

- Never leave your home with any kitchen appliance on.
- Dust regularly, and do not let lint gather around heat sources such as television sets and furnaces. Lint and dust burn just like paper.
- Do not store flammable liquids in, under, or near your home.
- Throw away oily rags or keep them in an airtight metal container outside your home.

- Keep matches and lighters away from children.
- Don't smoke in bed.
- Avoid using extension cords. Never run cords under a rug or carpet.
- Avoid overloading electrical circuits (see the section in this manual on your Electrical System), and do not tamper with wiring or fuses.
- Use a flashlight to look in dark corners or for gas leaks. Never use an open flame.
- Do not let curtains get close to gas flame at your range.
- Keep a container of baking soda handy in the kitchen to smother grease fires. You can also use salt. Do not use flour or water, which can make the fire worse.
- Do not let grease accumulate in your range hood, or around the kitchen range.

## PROTECTING AGAINST HUMIDITY

All air contains moisture, and warm air can hold more moisture than cold air. When warm air cools to the dew point—the point where it can't hold any more moisture—this excess water must go somewhere. Since heat always moves toward cold, the moisture forms as drops or ice on the nearest cooler surface. You've seen condensation in various forms—as frost on windows on a cold day, as drops of water on a glass of lemonade or can of beer on a hot day, and as ice on the windshield of your car the morning after a clear, cold fall night.

Condensation can be a serious problem in any home. In daily living you add moisture to the air by breathing, cooking, washing clothes, bathing and even by heating your home with gas or oil. This moisture must be controlled in a mobile home because living space is more limited than in most conventional homes.

## CONTROLLING CONDENSATION

How can you control condensation so that it doesn't cause damage to the surfaces and the structure of your home? First, don't add any more moisture to the air than is necessary for comfort; and second, get rid of excess moisture by ventilation.

We have insulated your home to protect you against extremes of outdoor temperatures. With this insulation we provide a vapor barrier that prevents moisture in your home from getting into cooler wall, ceiling, and floor cavities where it can cause damage. Since moisture can't escape through the structure, you must let the excess pass through the vents and windows built into your home.

When you cook on the range, turn on the exhaust fan in the hood above it, which will carry moisture from cooking outdoors. When you take a bath or shower, keep the bathroom door shut to confine the moisture to the bathroom alone. Then, with the door still shut, turn on the bathroom vent fan or open the window slightly for 30 minutes to let excess moisture escape.

When you do laundry, avoid hanging wet clothes in your home. Use a dryer if you have one; it exhausts moisture directly into outside air. If you don't have a dryer, hang clothes outdoors to dry. In an emergency, hang a few

clothes at a time in the bathroom to dry, but shut the bathroom door and either turn on the vent fan or open the window slightly.

### MOISTURE FOR COMFORT

The human body is most comfortable when air temperature is about 70° and humidity is about 40%. (This means that the air holds 40% of the total moisture it could actually hold at that temperature). In summer without airconditioning, humidity in your home can be as high as 95%, and you feel very uncomfortable because moisture on your skin won't evaporate. In winter, humidity in your home can be as low as 10%, and you may feel cold even with the thermostat set at 75°, because your skin loses too much moisture to the dry air.

In hot weather, airconditioning can help make you more comfortable because it not only lowers inside air temperature, but it also removes excess humidity from the air.

In cold weather, a family of three usually adds enough moisture to the air to keep humidity at a comfortable level. If necessary for greater comfort and lower heating bills, you may want to install a small humidifier on your furnace to add a bit more moisture.

It is a good idea to have a humidistat somewhere in your home, preferably in the living area. A humidistat is like

a thermometer, but it tells you what the relative humidity is instead of the temperature. By checking the dial, you can tell whether your humidity is too high, too low, or within the proper range of 30% to 40%.

### INSURANCE

To protect yourself from financial loss, you should have insurance coverage. Many insurance companies have insurance programs designed to meet the needs of the mobile home owner. You can buy protection not only while your home is on its site, but while it is in transit between sites.

A good mobile home insurance program serves several purposes. Comprehensive physical damage coverage pays you for certain types of damage to your property. Liability coverage defends you against lawsuits if someone is injured on your property, and pays the injured person if you are found liable. Credit life coverage will pay off your home loan if you should die. Credit accident coverage will make monthly payments on your home loan if you are not able to work.

Before you take title to your home and move in, discuss insurance coverage with your insurance agent or advisor. Be sure that the agent who sells the insurance fully understands your insurance requirements.

## CARING FOR YOUR HOME'S OPERATING SYSTEMS

Because you will be using most of your home's operating systems as soon as you move in, you should become familiar with them as soon as possible. The place to start is with the data plate.

### THE DATA PLATE

Somewhere in your home you will find a data plate or certificate similar to the one on the next page. The data plate in most models is posted inside the furnace compartment, but it may instead be attached to the inside of a cabinet door in the kitchen or next to the electrical service panel. The data plate is partly filled in, and there is space for you to write other important information on it. Leave the data plate where it is for future reference.

### THE HEATING SYSTEM

On the data plate is a map showing the various weather zones in the U.S. Find on the map which zone you live in. Then find elsewhere on the data plate the zone for which your home's heating system was designed. The two zones should be the same. If you did not order storm windows, note how much they reduce the load on your furnace, and therefore would reduce your fuel bills.

Your home may have an electric, oil, or gas furnace. Their preparation, operation, and care are slightly different.

### ELECTRIC FURNACE

An electric furnace comes completely wired, and no other connections are needed. As soon as your dealer inspects the furnace, removes shipping brackets, and completes the main electrical connection to your home, the furnace is ready to operate.

### OIL FURNACE

If you set your home on your own lot, you will need an oil storage tank. A tank with a capacity of 275 gallons is a common size. Because the fuel that fires a vaporizing-type oil furnace flows by gravity, the bottom of the tank must be at least 18" above the oil control valve on the furnace, and the top of the tank must be no more than 96" above the valve. The tank must have a manually-operated shutoff valve at the outlet. Keep the tank capped, but not sealed, as air must enter the top so that the oil will flow.

Check the oil line between tank and furnace for leaks and kinks. In very cold weather, wrap the supply line with an insulating material to keep oil from thickening. When the furnace is not operating, as in summer, keep the tank full to prevent rusting and to keep moisture from condensing in it. A filter in the fuel line will help to trap dirt and condensation.

Some parks have a central oil distribution system that operates under pressure. You don't need a tank—only an oil line from the connection at the site to your furnace.

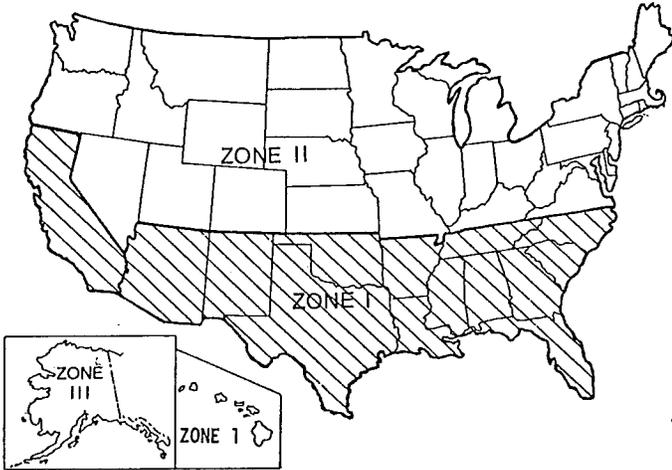
If your oil tank is filled at the time your home is set up, your dealer will make the connection, look for leaks, inspect the furnace, remove shipping brackets, and check the furnace stack (exhaust flue) before turning on the oil and lighting the pilot. If your tank is not in place and filled, he will prepare the furnace, but you must call the oil company's service man to connect the tank and light the furnace at your expense.

To relight the furnace in the fall, first read carefully the manufacturer's instructions, which are included in the

(continued on page 15)



**DATA PLATE**  
**PRODUCT FABRICATION SERVICE**  
 1618 West Beltline Highway  
 Madison, Wisconsin



MFG. \_\_\_\_\_

UNIT SER. # \_\_\_\_\_

MODEL # \_\_\_\_\_

HUD SEAL # \_\_\_\_\_ PFS APPROVAL # \_\_\_\_\_

"THIS MOBILE HOME IS DESIGNED TO COMPLY WITH THE FEDERAL MOBILE HOME CONSTRUCTION AND SAFETY STANDARD IN FORCE AT THE TIME OF MANUFACTURE".

DATE OF MFG. \_\_\_\_\_ "DESIGN APPROVAL BY PFS"

**Outdoor Winter Design Temperature Zones**

| ITEMS        | MANUFACTURER | MODEL NUMBER | ITEMS        | MANUFACTURER | MODEL NUMBER |
|--------------|--------------|--------------|--------------|--------------|--------------|
| Heating      |              |              | Refrigerator |              |              |
| Water Heater |              |              | Dishwasher   |              |              |
| Disposal     |              |              | Washer       |              |              |
| Cooling      |              |              | Dryer        |              |              |
| Range        |              |              | Freezer      |              |              |

This mobile home has been thermally insulated to conform with the requirements of the Federal Mobile Home Construction and Safety Standards for all locations within climatic zone \_\_\_\_\_ (see map above).

The above heating equipment has the capacity to maintain an average 70°F temperature in this home at outdoor temperatures of \_\_\_\_\_°F.

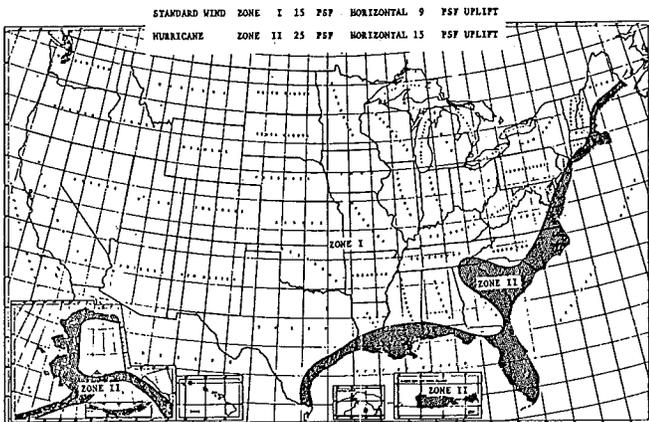
To maximize furnace operating economy, and to conserve energy, it is recommended that this home be installed where outdoor winter design temperature (97½%) is not higher than \_\_\_\_\_°F.

The above information has been calculated assuming a maximum wind velocity of 15 mph at standard atmospheric pressure.

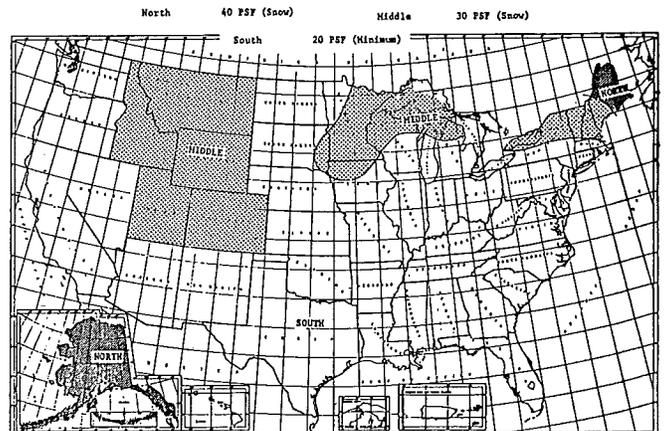
Check the Applicable Box:

- The air distribution system of this home has not been designed in anticipation of its use with a central air conditioning system.
- The air distribution system of this home is suitable for the installation of central air conditioning (see attached comfort cooling certificate).
- Central air conditioning system is provided with this home (see attached comfort cooling certificate).

This mobile home is designed for wind loads in zone \_\_\_\_\_ (see zone map below) and roof loads in \_\_\_\_\_ zone (see zone map below).



**Wind Zone Map**



**Roof Load Zone Map**

## READING THE DATA PLATE

The data plate illustrated on the opposite page contains important information.

At the top is space for the data on your specific home. Check the serial number listed against the number stamped into the front crossmember of your home. They should match.

Next, on the three maps, mark the location of your home. On the wind zone map you will live either in zone 1 or zone 2. Check the wind zone listed under the heading "Design and Construction Certification" to make sure the two zones agree.

Similarly, you will live in the south or middle roof load zones unless you live in Alaska. Check the roof load

zone listed under "Design and Construction Certification" to make sure the two zones agree.

Again unless you live in Alaska, you will live in outdoor winter design temperature zone 1 or 2. Check the zone listed under the heading "Heat Loss Certification" to make sure the two zones agree.

In the remaining blanks on the data plate are the model number and manufacturer's name of the equipment installed in your home at the factory. Make sure the numbers match those on the data plate attached to each item of equipment. These appliances are warranted by their manufacturers; warranties and operating instructions are included with your packet of shipping papers.

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### OIL FURNACE (continued from page 13)

same packet with his warranty. Recheck the oil line and stack for tightness, and make sure that the oil is free of dirt and water before you light the pilot. If oil is dirty, your fuel oil supplier may remove water and dirt as part of his regular delivery service.

### GAS FURNACE

All gas appliances in your home, including the furnace, are preset to burn natural gas. If you plan to burn liquid petroleum gas—also called LP or bottled gas—the gas orifices or metering jets must be changed. Make certain that the service man who connects your LP gas system installs the proper orifices in all gas appliances.

At the time he sets up your home, your dealer will inspect the furnace, remove shipping brackets, test all gas connections, check the flue for tightness, and call your local gas utility to send a service man to light the pilot.

If the pilot should go out after you move in, a shutoff valve automatically closes off the supply of gas. Don't try to relight the pilot yourself, but call your gas utility for service. Read the furnace manufacturer's manual so that you know what steps you must take, if any, before the service man arrives.

If you use bottled gas for heating, cooking, or both, be very careful before turning on the gas at the cylinder. All appliance valves must be closed. It is better to ask the service man who delivers the new cylinder to turn on the gas for you.

Natural gas has an odor, and LP gas has an odorizer in it so that you can smell gas in case of a leak. Don't ever use a match or open flame to test for a leak. Instead, mix up a solution of soapy water, and apply it to all connections. Wherever there is a leak, the gas forms bubbles in the soapy water.

### AIR INTAKES

All furnaces, whether they are fueled by electricity, gas, or oil, require a certain amount of combustion air to operate properly. The combustion air intake is under your home, and feeds into a sealed chamber. Also under your home is another intake that brings in fresh air. This outside air mixes with inside air before the furnace heats it.

You must keep these two air intakes open. If you plan to add skirting between the floor of your home and the ground, install vents in the skirting large enough to let ample air reach the combustion air and fresh air intakes.

The blower that pulls in outside air also pulls inside air back to the furnace through return air openings. Because these return air openings are sized to the air requirements of the furnace, you must not cover or close up any part of these openings in any way. A furnace that is starved for air can't heat properly, uses excessive fuel, and can be a serious fire hazard. Check openings weekly during heating season.

### AIR DISTRIBUTION SYSTEM

The same blower that pulls cooled air into the furnace for reheating also forces warmed air through floor ducts to the various rooms. Both the ducts and the grilles in each room are sized to the air requirements of the furnace. Do not cover these grilles. If they have dampers, use the dampers to balance the flow of air, not to shut it off completely.

### MAINTAINING YOUR HEATING SYSTEM

With a little maintenance and regular service, your furnace will provide comfortable heating for many years. The instruction booklet that comes with your furnace explains the care required. Read and follow these instructions carefully. As an owner, you can perform the necessary maintenance, but don't try to service the equipment. Such work should be done only by trained service men.

In general, you should take the following steps, in addition to those recommended by the furnace manufacturer:

- Clean the blower regularly—about every three months. If the blower or squirrel-cage cover get dirty or full of lint, the blower motor can overheat and burn out.
- Oil the blower according to the furnace manufacturer's instructions. Too much oil is as bad as too little.
- Change or wash all air filters once a month during the heating season. Wash with a mild detergent and water.
- With gas and oil furnaces, check the flue pipe and roof jack every three months, and remove any accumulation

of soot. Inspect at least once a year for signs of rust and corrosion. If you find them, replace the flue pipe.

- After any releveing of your home, check all fuel lines for leaks, following the method described under The Heating System.

- At the beginning of each heating season, check gas orifices for signs of pitting or other wear. Replace worn parts.

- With vaporizing-type oil furnaces, keep the filter clean between the oil cylinders and the furnace.

- Clean the burner of a vaporizing-type oil furnace at least once during the heating season. The sign of a dirty burner is sooty smoke exhausting through the roof jack.

- Replace the nozzle of a gun-type oil furnace each year. At the same time, adjust and clean the electrodes in the ignition system.

## FURNACE WARRANTY

Your furnace is warranted by its manufacturer, and a copy of his warranty is included in your homeowner's folder. Tear off the warranty card, and send it to the furnace manufacturer right away to assure full service. At the same time, enter the model number and manufacturer's name on the data plate.

## FURNACE SERVICE

If you have a problem with your heating system while our warranty is still in effect, contact the dealer who sold you your home. He should be able to determine whether the problem is one he can correct under our warranty, or whether the problem is with the furnace itself and falls under the furnace manufacturer's warranty.

If the problem occurs after our warranty has expired, but while the furnace manufacturer's warranty is still in effect, call the furnace manufacturer's nearest service representative for help. Your dealer has his name, address, and telephone number.

After all warranties have expired, or for ordinary service, such as restarting the furnace, or for maintenance that you won't want to take care of yourself, call the furnace manufacturer's service representative. The cost of such service calls, of course, is not covered by warranty, and is your expense.

## THE AIR CONDITIONING SYSTEM

If you have airconditioning equipment installed, either as part of the heating system or as a separate system, the installer will provide you with operating instructions and a copy of the airconditioning manufacturer's warranty. Our only responsibility is to provide in your home a duct system large enough to handle the air distribution requirements of standard central equipment for a home the size of yours.

## SERVICE

Any service or maintenance needs you may have, whether or not covered by the equipment manufacturer's warranty, should be taken up directly with the man or firm that installed the equipment.

## MAINTENANCE

The operating manual that comes with your airconditioning equipment tells you how to keep it running smoothly. Equipment must be properly wired into your home's electrical system and fully grounded before you turn it on. If it fails to function, check first for a blown fuse or tripped circuit breaker. When you find signs of an electrical problem, try to determine the cause and have it corrected before you attempt to operate the equipment again.

Airconditioning equipment requires little maintenance. Check all air intakes and outlets regularly to make sure that they are completely free from any obstructions. Also, check the return air filter, which must be kept clean. To clean the filter, remove it and flush it with water from a hose or faucet. For the best cleaning job, use hot water and a standard kitchen detergent.

## WARRANTY

Your airconditioning equipment is warranted by its manufacturer, and a copy of his warranty is included with his operating instructions. Tear off the warranty card, and send it to the equipment manufacturer right away to assure full service. At the same time, enter the model number and the manufacturer's name on the data plate.

## THE PLUMBING SYSTEM

Included in your home's plumbing system are water lines, drain lines, plumbingware, the water heater, and perhaps some water-using appliances.

## WATER LINES

The water connection between your home and the water supply line at the site is a standard  $\frac{3}{4}$ " pipe fitting. All fittings used in the home's plumbing system are also standard parts available at any plumbing supply store and many hardware stores.

Check your water system on a regular basis for major leaks that not only waste water but will cause extensive damage if not found promptly. Notify your dealer at once if you spot a severe leak.

Except in cold climates, you have no other maintenance on your water system. If you live in an area where outdoor air temperatures are below freezing much of the winter, the water supply line to your home must be installed below the frost line. All pipes and fittings above the frost line must be insulated.

You can protect your water system with any one of a number of insulating products on the market. One type commonly used is an electric heating element, called heat tape. You wrap the heat tape around piping as directed by its manufacturer, and connect the wiring to the electrical system. Use only heat tapes that carry the UL label (Underwriters Laboratories).

Your water system is warranted against major leaks. Our warranty, however, does not include minor leaks, such as at faucets, that you can correct with a washer. This is part

of ordinary maintenance. Nor does the warranty include piping outside the home that has not been adequately protected from freezing and other damage.

### DRAIN LINES

When properly installed, drain lines require little maintenance. Most models of homes have a single drain outlet that connects your home to the sewer pipe. Some models, however, have a second drain line from a remote room. Usually this line is shipped loose, is installed outside your home at the time of set-up, and connects to the main drain outlet.

Drain lines must slope at least 1/8" per foot over their entire length so that waste will flow and not freeze in the pipes and burst them. Never pour fats, grease, or oils into drains; they can partially or completely clog a drain line or trap in a few weeks.

Keep all drains and traps clean. Many owners pour a commercial drain cleaner down the kitchen sink about once a month. Be sure to use a cleaner that won't damage plastic pipe or the rubber drain hose at your sink.

If a line becomes clogged, you may use one of several chemical products recommended for plastic pipe. Or you may use a mechanical device, such as a plumber's snake, to clean out obstructions. Be careful, however, not to damage fittings, seals and plumbingware itself.

### PLUMBINGWARE

Plumbingware—sinks, lavatories, toilets, bathtubs and shower stalls—may be made of enameled steel, vitreous china or durable plastics. You can usually tell the difference between materials by tapping the plumbingware with a nickel or quarter. A "clink" means that the material is steel. A "ping" indicates china. A dull "thunk" indicates plastic.

All three materials can be damaged, and you must treat them carefully. Enameled steel will chip, dent and become pitted if not properly maintained. Vitreous china will break under impact. Plastic is more flexible, but it will also crack under abnormal stress.

To clean enameled steel, use warm water and mild detergent. If surfaces become badly stained, ask your hardware or plumbing supply dealer for his recommendation of a cleaner that will restore the finish without harming it. Do not use harsh abrasive cleaners or metal scouring pads.

Vitreous china does not absorb dirt, so you can usually wipe off surfaces with a clean, damp cloth. To remove stains, such as in a toilet bowl, use a brush and mild detergent, or a commercial toilet bowl cleaner.

To clean plastic, use only warm water and mild detergent. Strong detergents, abrasive cleaners, and compounds with ammonia in them may scratch, dull, discolor or even attack the surface. You can repair minor chips and scratches with repair kits available in a number of colors at most paint and hardware stores.

### THE WATER HEATER

Whether gas or electric, your water heater requires some care. It has an adjustable thermostat that starts the heater when water temperature drops below a certain level. The usual temperature setting is 150°. It has a temperature and pressure relief valve (T&PR) that prevents dangerous build-ups of either temperature or water pressure. If temperature gets too high, the valve closes. If pressure gets too high, the valve allows excess water to drain out harmlessly under your home.

If you have an electric water heater, be sure that the water connections are completed and the tank is filled before you turn on the power. Otherwise you can burn out the heating element.

If you have a gas water heater, check two points before having it lit. First, make sure that the gas orifice is proper for the type of gas you are using. And second, make sure the flue pipe is securely in place and the draft hood is properly installed.

### SOLVING HOT WATER PROBLEMS

Unless water in your community is unusually soft, or you have a water softener, sediment may build up on the bottom of the tank. When this happens, your water heater will rumble and burble. By draining a little water from the heater each month, you can usually overcome this noise problem.

When water coming out of faucets is too hot, check the thermostat setting on the water heater. It may be too high. See instructions for regulating temperature in the operating manual that came with the water heater.

When water is not hot enough, again check the thermostat setting. It may be too low. Also look for leaks in hot water lines, and dripping or running faucets.

If lack of adequate hot water is a sudden problem, and you can't locate the cause, call the water heater manufacturer's nearest service representative. If the problem has gone on for some time, ask your gas utility company to check gas input to your water heater. An underfired heater won't heat as much water.

Remember, too, that in cold weather the water entering the water heater is colder and takes longer to heat. Possibly you and your family are wasting hot water, using more during short periods of time than the water heater can provide. The only answers here are better control of hot water usage by you and your family or, if possible, a larger water heater.

If you are getting no hot water at all from an electric water heater, check the circuit breaker in your service entrance panel to see if it has tripped. In such case, you simply reset the breaker.

With a gas water heater, take these steps:

1. Make sure the pilot is lit. If not, follow lighting instructions in your water heater manual. When water gets too hot, the T&PR valve shuts off the gas. If this is the reason the pilot went out, your thermostat may be set to high.
2. Make sure the manual gas shutoff valve is open, and also that the thermostat indicator knob is on, as explained in the lighting instructions.
3. A gas water heater requires combustion air, which

enters the water heater through an intake in the compartment floor. Be sure that nothing is plugging the intake that lets in this air.

If you can't locate the trouble, call the water heater manufacturer's service representative.

## WATER HEATER WARRANTY

Your water heater is warranted by its manufacturer, and a copy of his warranty is included in your homeowner's folder. Tear off the warranty card, and send it right away to the water heater manufacturer to assure full service. At the same time, make sure the model number and manufacturer's name are entered on the data plate.

## WATER AND GAS LEAKS

If you suspect a water leak, look at all pipe connections for signs of water. If you find any, wipe the joint dry and watch to see if water reappears. Often in hot, humid weather moisture will form on pipes, and even puddle on the floor. This water problem is caused, not by a leak, but by condensation, which was discussed earlier in this manual under the heading "Condensation".

Also check the drain valve and T&PR valve for leaks. Hot water dripping from the drain line under your home doesn't necessarily mean a leak; it usually means that the T&PR valve is doing its job.

If you can't stop the leak with a joint sealing compound available from your plumbing supply dealer, close the gas shutoff valve and the cold water inlet valve at the heater. Then, if our warranty is still in effect, call your dealer. If our warranty has expired, call a plumber.

If you suspect a gas leak, apply a soapy water solution to all pipe connections, and watch for bubbles. Never use a match or open flame, which will cause an explosion. If you find a gas leak, close the gas shutoff valve immediately. Then turn the thermostat valve indicator knob to the "off" position. And call your gas company.

## THE ELECTRICAL SYSTEM

Your electrical system is the same type of system used in site-built homes. The power may come to your service entrance panel from power lines overhead or in an underground conduit. The service entrance panel is mounted on or near an exterior wall, usually close to the service door of your home. The capacity of the panel appears on the handle of the main breaker in a circuit breaker box, and on the inside of the door to a fuse box. At the time that your home's electrical system is connected to power at the site, make sure that the supply line is large enough to match the capacity of the service entrance panel.

From the service entrance panel, power goes over branch circuits to various lights, outlets, and special appliances. The wiring system in your home meets all the requirements of the National Electrical Code--the same code that governs wiring in any type of building.

Among the branch circuits are individual circuits for the furnace and such electrical appliances as the water heater, range, oven, air conditioner, and laundry equipment. Each

of these circuits is sized to the electrical requirements of the appliances installed at our factory. If at any time you install replacement appliances, be sure that their requirements do not exceed the capacity of the appliance circuit to them.

You also have two portable appliance circuits, each with a 20-ampere capacity. These circuits serve the kitchen and the dining areas. Electrical outlets in other rooms and light fixtures throughout your home are on 15-ampere general lighting circuits.

The electrical system will provide you safe and convenient service for years, as long as you do not overload the branch circuits. How do you know when you have overloaded a circuit, and how do you prevent this from happening?

## PREVENTING CIRCUIT OVERLOADS

Attached to the inside of the cover to your service entrance panel is a chart. This chart is laid out like the face of the breaker or fuse box--in two vertical columns. Written on the chart are the special appliance circuits. These circuits have special receptacles, and are not for any other use except to plug in the appliance. Often there will be stickers beside the matching breaker or fuse that read "Furnace" or "Range". If your box doesn't have such stickers, you can buy them in a sheet at your nearest electrical supply store.

Other circuits may be labeled "portable appliances" and "lighting", or they may be identified by the rooms they serve, such as "MBR, B" for master bedroom and bath.

A typical circuit chart, then, should look something like this:

|                     |                      |
|---------------------|----------------------|
| 1 Dishwasher        | 7 Range, oven        |
| 2 Furnace           | 8 Aircond.           |
| 3 Washer &<br>dryer | 9 BRs, hall,<br>bath |
| 4                   | 10 LR, DR, kit.      |
| 5 Port. app.        | 11 Outdoor           |
| 6 Port. app.        | 12                   |

Note that you may have one or two spare circuits for future use.

To determine exactly which lights and outlets are on a lighting circuit, turn on all lights in your home, and plug a lamp, clock, or portable light into an outlet in each room. Next, open each 15-amp. breaker or unscrew each 15-amp. fuse to see which lights go off. Then make sure your chart correctly lists which rooms that breaker or fuse controls.

Follow the same procedures with the 20-amp. appliance circuits, and mark on your chart which outlets each breaker or fuse controls.

Now that you know which outlets and light fixtures are on each circuit, and the capacity in amperes of that circuit,

you now need to find out the voltage of your power supply line, and the electrical requirements in amperes of the lamps and small appliances that you use.

The voltage supplied to your home will be between 110 and 144 volts for lighting and small appliance circuits, and from 220 to 288 for special appliance circuits. Your local power company can tell you what voltage they supply. For the discussion that follows, let's assume you receive 125 volts.

Light bulbs and tubes are rated by wattage, such as 100 watts. To convert watts to amperes, you divide the wattage by the voltage of your supply line. Thus a 100-watt bulb on a 125-volt power line uses 8/10 of an ampere of current (100 divided by 125). A 15-ampere circuit can carry 1,975 watts when voltage is 125 (125 x 15), so you could have 19 100-watt bulbs on a single circuit without overloading it.

It's almost impossible to overload a circuit with lights, but it is easy to do with portable appliances, especially those that cool or produce heat. A window air conditioner, as an example, draws 10 amperes—2/3 of the capacity of a 15-ampere circuit. A room heater draws as much as 14 amperes, leaving little left over for lights. Turn on the television, and the circuit is overloaded.

A data plate on each appliance gives that appliance's requirements in either amperes or watts. The data plate on your toaster, for example, may say 8.3 amps., or it may say 1050 watts. A 20-ampere small appliance circuit can easily handle the electrical load of a toaster and coffee-maker. But if you want to use an iron or a deep fat fryer at the same time, plug it into the other small appliance circuit to avoid an overload.

Motors are rated by horsepower. One horsepower equals 746 watts. Thus, if you have a power tool with a 1/4 HP motor in it, it will draw about 1.5 amps.

By knowing how many amperes every appliance draws, and which outlets are on each appliance circuit, you can avoid overloading. If you do overload a circuit and trip a breaker, reduce the overload before you reset the breaker. If you blow a fuse, again reduce the overload, and install a new fuse of the same capacity as the circuit. Do not put a 20-ampere fuse in a 15-ampere circuit to increase that circuit's capacity. You could easily start a fire.

#### EXTENSION CORDS

Electrical outlets are conveniently spaced on partitions and walls throughout your home. With as many outlets as we have provided, you should never need to use an extension cord anywhere. Extension cords can be dangerous. They carry a lower amperage rating than branch circuits, and can get hot with long usage. Avoid them.

#### GROUNDING

Provision has been made for grounding your home to protect you from the danger of a short circuit. Metal

parts of the home, including exterior metal, the steel frame, water lines, and gas lines, must be connected through grounds to an electrically isolated grounding bar in the service entrance panel. This bar grounds all non-current-carrying metal parts to the electrical system and to your home at a single point. For safety's sake, it is extremely important that the work of grounding your home is done by a licensed electrician.

#### SERVICE

If you have an electrical problem while our warranty is in effect, call your dealer. Make sure first, however, that the problem isn't the result of a faulty extension cord, a burned out light bulb, or an overload you put on a circuit.

When you need service after our warranty has expired, call a licensed electrician. Do not attempt to solve electrical problems yourself.

#### EMERGENCIES

To be ready for any emergency, you should learn how to shut off any system in your home. Here is what you do:

**ELECTRICAL.** To shut off all electrical current, go to the service entrance panel and flip the top circuit breaker to the "off" position. This is the main disconnect breaker, and it cuts off all power.

**GAS.** If your home is piped for gas appliances, you can shut off the gas at two locations. There is a shutoff valve just outside each gas appliance, in the gas line itself, that will stop the flow of fuel to that appliance.

The main gas valve that shuts off all gas to your home is located in one of two places outside the home, and the location is marked with a metal decal. If you use natural gas, the valve is located underneath the side wall of your home away from the front door, and near the middle of its length. If you use bottled gas, the shut off valve may be at this same location, or at the A-frame at the front of the home.

**OIL.** The valve that shuts off the flow of oil to an oil furnace is in the oil line between the tank and furnace. Its most common location is outside the home at the point where the oil line passes through the floor.

**WATER.** The main shut off valve for fresh water is located in the water heater compartment on the water inlet line. A fresh water decal on the exterior of the home marks the approximate location.

**DIAGRAMS.** Technical diagrams of your home's heating, plumbing, and electrical systems are available upon request from your home's manufacturer.

#### MAINTAINING THE EXTERIOR

Like a car, or tools, or a watch, a home lasts longer and serves you better when you take good care of it. There are two secrets to good maintenance: making regular inspections to look for trouble before it actually

begins, and taking care of trouble immediately as it comes.

As we said earlier in this manual, keeping your home level is the most important step in preventive maintenance. At the time your home is set up, your dealer will look it

over carefully, and make any minor repairs, both inside and outside, resulting from your home's trip from factory to site. Once you take possession, the job of looking for problems and taking care of most of them is yours.

Every time you give your home a checkup—and you should examine the exterior thoroughly every three months—look at the condition of the roof, trim, siding, windows and exterior doors, the bottom, wheels and tires, the frame, and any skirting you have added.

## THE ROOF

The standard mobile home roof is made of sheets of galvanized steel that interlock at seams to form one continuous roof. These seams and joints where vents and jacks pierce the roof surface are sealed at the factory with a waterproof coating. Leaks occur when water seeps through cracks in this coating or breaks in the metal, or settles in puddles on an uneven roof surface.

You can inspect, clean, and repair most of your roof from a stepladder. Do not walk on the roof if you can possibly avoid it, because your weight can open up cracks. If you must climb on the roof, take two pieces of plywood or 1by12 boards at least 8 feet long with you. Lay them across the rafters to distribute your weight, and walk on the boards.

During every inspection:

- Remove any leaves and other debris.
- Make sure that branches of overhanging trees are not scraping the roof's surface and tearing it.
- Look for cracks and dents in the entire roof, particularly at the edges. A tiny crack can let in water that can damage the roof structure, your ceiling, and interior furnishings as well.
- Seal any cracks promptly. Use a standard roof sealer manufactured for this purpose, and apply it with an applicator according to manufacturer's instructions. The best sealers do not dry hard, but flex with the roof as it moves from heat and wind. Look for a type that is guaranteed not to streak the sides of your home during a rain.
- Fill small dents to roof level with sealer. If you have a large depression in the roof that holds water, check with your dealer. You may have a structural problem.

In addition to the regular steps above:

- On a warm day in spring and fall, wash the roof with a mild soap solution, and rinse with clear water. If you don't remove dirt, it may corrode the metal. You can use a hose for rinsing, but let the stream fall like rain; don't use pressure that will force water into the roof seams.
- At the end of the first year, coat the entire roof with a good white or aluminum roof coating. Several types carry warranties up to ten years; ask your dealer what he recommends.

A metal roof may crackle and pop as it expands and contracts. This is normal and is no cause for concern. Under certain wind conditions, a metal roof may rumble from the stress. Roof rumble is not uncommon, and does not damage the roof. The noise may bother you until you get used to it, however. There are several solutions to roof rumble, but the work should be done by a dealer or firm experienced in working with metal roofs.

## A SHINGLED ROOF

The roof of a sectional home is similar to the roof of most houses, except that rafters are connected at the ridge on site. Maintenance required is the same as on any pitched shingled roof.

You can walk on a pitched roof, but wear soft-soled shoes so that you don't damage the surface. Look for cracks in shingles and for turned-up corners, especially at the ridge. Use standard roofing cement to seal cracks. Apply the cement with a putty knife. Use a narrow coat on top of the shingle to close the crack, and a heavier coat on the under side to keep the crack from opening up again. To seal down corners, place a dab on the under side, then press down on the shingle to spread the cement.

Always work on a shingle roof in warm weather when the shingles are soft. In cool weather they may break instead of bend, and you can make the problem worse instead of better.

## ROOF TRIM

The edge trim of a metal roof is set in a heavy bed of caulking, and attached with screws. Trim not only finishes the edge of the roof, but holds it in place.

As part of your 3-month roof checkup, make sure that all screws are tight. Reset any loose screws in caulking, and replace rusty ones. You may also want to coat screw heads with preservative to prevent corrosion.

Look for breaks in gutters, and close any breaks with roof sealer or putty. A leak in the gutter can let rainwater work its way into roof and wall structure where it can cause serious damage.

## THE EXTERIOR WALLS

The aluminum used on the exterior walls of most mobile homes has a baked-on finish that requires little care. But keep it clean. Do not dry-dust it; you'll scratch the surface. At least once every three months wipe the surface with a damp cloth, or wash it with clear, cool water. You can use a damp chamois to remove dirt and grime at seams. Do not use gasoline or other petroleum products on aluminum siding; they can damage or discolor the finish.

## WOOD SIDING

Wood siding comes already painted or stained. Because of its texture, wood retains dirt more easily than other types of materials, and you may need to scrub the surface lightly with a soft brush to loosen dirt as you wash with clean water. The coating should last from three to five years with normal care. After that time you will need to apply a single coat of paint or stain to keep the exterior walls looking fresh.

## VINYL SIDING

Vinyl and vinyl-coated surfaces shed airborne dirt easily. A good rain will usually wash off most of it. If dirt

builds up, wash with clean water when the vinyl is cool, and use a sponge, rag, or soft brush to loosen it. Do not wax vinyl.

Some airborne chemicals and pollens from flowers and trees may stain vinyl. To remove such stains, use a household cleanser, soft brush, and gentle rubbing action. Rinse the surface thoroughly after cleaning.

## WINDOWS AND EXTERIOR DOORS

During your exterior checkup, have someone inside your home open and close each window while you watch from outside. Look for any places where windows are not closing tight, or are binding during operation. These are often the first clues that your home needs to be leveled, and you should have this done immediately.

At least once a year lubricate all moving parts of windows and exterior doors—hinges, latches, knobs—with a little oil or powdered graphite. Also tighten all screws that hold hardware in place. At the same time make sure that the screws holding windows themselves in place are tight and free from rust. Replace rusty screws, and reset new or loose screws in caulking. Finally, check caulking around window and door frames, especially at the top, for cracks and pockets. Seal these defects with caulking to prevent leaks.

You don't need to paint metal windows and doors, but you should wash them at least every three months. House-type doors, however, are prefinished with either paint or stain, and you must repaint or restain before weather wears away the factory coating.

Look for warpage. When a door warps, it usually warps inward at top and bottom as a result of the difference in temperature between the warm interior and cold outdoors. A warped door may straighten out in warm weather, but in the meantime it leaks cold air and increases the cost of heating. You can reduce the heat loss from warpage with additional weatherstripping.

## THE BOTTOM

Between the structural floor system of your home and its steel chassis is a layer of waterproofing material usually called bottom paper or bottom board. This material serves three purposes: it protects the floor structure from moisture in the air; it holds floor insulation in place; and it keeps insects and rodents out of your home.

Once your home is set up and the bottom properly sealed, the bottom paper needs no maintenance. During your dealer's inspection, make sure that any rips or holes in bottom paper have been patched, and that the paper fits tightly around drain piping and air intakes through it. It is part of your dealer's responsibility to take care of the necessary patching.

If you accidentally punch a hole through the paper while you are living in the home, call your dealer for service at your expense. He has the knowledge, the materials, and the tools to do a good patching job. Do not attempt to do the patching yourself.

## WHEELS AND TIRES

Although you may never use them again, you should protect wheels and tires.

When your home is blocked, tires should carry some of the weight, and therefore should be kept inflated. They will last longer, too, if you lay boards under them to prevent direct contact with the soil. Skirting and the natural overhang of your home will keep most sun and weather off tires, but you can protect them further with a coating of rubber tire paint.

After blocking, clean all wheel bearings and hubs, and repack them with grease. Fill them completely so that no moisture can reach any metal parts to cause corrosion. At least once a year inspect and clean the bearings, even though you haven't moved your home.

## STEEL FRAME

The chassis beneath your home is painted at the factory to protect it from rust and road dirt during the trip to your site. The coating may last for years, or it may show signs of rust in a few months. How soon you find rust depends primarily on the amount of moisture in the air in your community.

Inspect the frame twice a year for signs of rust. When you find it, clean the rusting area thoroughly with a wire brush, then wash off all dirt, scale, and other loose material. To prevent water from getting into the floor structure, do not use a hose to wash off the chassis.

Coat the cleaned area with a metal primer, following the paint manufacturer's directions. After the prime coat has dried, apply one or two coats of metal paint. You may paint with either a brush or a spray gun, as long as there is little wind on the day you spray.

## THE HITCH

You maintain the hitch—the towing assembly welded to the steel frame at the front of your home—in the same way that you maintain the frame itself.

In addition, however, you should regularly clean and grease the jack mechanism by which the front of your home can be raised or lowered. Use the same grease on all moving parts that you use to lubricate the wheels.

## SKIRTING

As we pointed out in the section of this manual on your heating system, you must allow air to circulate beneath your home. If you install skirting, you must provide vents in it.

The best locations for these vents are beneath front and rear walls. If you use two large vents, center them in the skirting. If you use four smaller vents, place them at the corners. With four vents you don't have any unventilated pockets where moisture can linger under your house and cause damage.

## MAINTAINING THE INTERIOR

Most of the materials used on the interior of your home are the same materials used in conventional homes and apartments everywhere. Since you should already know how to take care of these materials—floor covering, carpeting, kitchen cabinets, and countertops as examples—we won't discuss their care here.

Some of the other materials in your home may be new to you, however, and we'll discuss their care in detail.

### THE CEILING

The ceiling panels in most mobile homes are made of a soft fiberboard that absorbs sound and makes for quieter living. But because fiberboard is soft, you can damage it easily.

You can remove most dirt smudges with an art gum eraser. In some cases you may also have to rub the soiled spot afterward with soft white chalk.

You can cover up scrapes, scratches, and small chips by rubbing the damaged spot with chalk, then wiping off the excess with a clean dry cloth. On a deep cut you may have to apply chalk more than once.

For large chipped spots and gouges, clean out all loose particles, and fill the holes with spackling paste applied with a putty knife. Fill the damaged spots level with the surface of the ceiling. Then, after the paste has dried for a few minutes, sculpture the surface to match the pattern of the ceiling material. If the color of the paste doesn't match the color of the ceiling panel, touch up the repaired area with flat interior paint.

Stains from water leaks and condensation are difficult to remove. That is one reason why ventilation and regular roof inspections are important to prevent such staining.

Sometimes you can remove water stains with bleach mixed in water according to the bleach manufacturer's instructions. More often, however, the only solution is to repaint after you have corrected the cause of the water damage, and the ceiling panel is completely dry.

### GYPSUM BOARD

Some ceilings—and some walls, too—are made of panels of gypsum wallboard that does not burn. These panels have a smooth, hard surface that you can easily patch with dry-wall joint compound applied with a putty knife. You can easily repaint gypsum board after damp dusting the surface thoroughly.

### WALLS AND PARTITIONS

Most interior walls are finished with plywood paneling that has a vinyl coating on it. Walls require no maintenance except for regular wiping with a damp cloth. Do not use soaps or cleaners on vinyl surfaces.

To touch up nicks and small cracks, use a putty stick in a color that matches the wood tone of your paneling.

If a wall panel becomes loose or bows, first try to determine the cause. It may be a sign that your home needs to be leveled. If your home is still level, the next step is

to find the vertical lines of nails that hold the panel in place. Nails are usually set into grooves in the paneling.

Make sure all these nails are doing their job before you refasten the panel. Before you nail down the loose edge, take any bow out of the center of the panel first by nailing with additional brads. Then renail the edge at new nailing points. If possible, use colored brads that match the tone of the wood. Your dealer may have some, or can tell you where to buy them.

### TILEBOARD

The walls surrounding the tub in your bathroom may be sheet plastic or tileboard. Plastic materials need no care except for an occasional wiping to remove mineral deposits left by hard water.

Tileboard is a hardboard product with an enameled surface that won't absorb moisture. If you chip the enamel in any way, repaint the chipped area at once with water-proof enamel. Hardboard without the enamel coating will absorb moisture.

Strips of metal or plastic trim cover joints between panels at corners of the tub. This trim is set in mastic. At least once every three months, check this caulking carefully for tiny cracks that could let water seep behind walls. Seal any cracks with compound made specifically for this purpose. It comes in a gun, and is available at any hardware store.

### INTERIOR TRIM

The trim around doors and windows and at corners of most rooms may be plastic or wood. Plastic trim has a solid color and you maintain it like any other plastic material. Most wood trim—unlike wall paneling—is not vinyl coated. The matching wood grain is printed on the surface, and you can wash it off with repeated scrubbing.

To avoid this problem, protect trim with several coats of wax. The wax will not only maintain the natural beauty of the wood, but will also protect the trim, especially at floors, from damage as you wash the floor or vacuum the carpeting.

Because trim is thin, it is also fragile. Treat it with care. If you should break or split a piece, glue the two pieces together. Then drive a colored brad into each piece near the break to hold the two pieces in place.

### WHEN YOU LEAVE HOME

If you plan to leave your home unoccupied for some time—while on vacation, for example—you must take a few special precautions:

- Make sure all windows and doors are closed tight and locked securely.

- Turn off the water heater and shut off the water supply at the main valve.

In the winter you must take these additional steps:

- Leave the furnace on, but turn down the thermostat to about 50 degrees—low enough to save fuel but high enough so that water lines won't freeze.

- If you turn off your furnace completely, remove all water from the toilet tank, and drain hot and cold water

lines by opening the main drain valve. Then pour anti-freeze down the drains of all fixtures to fill the traps—the sink, bathtubs, shower drains, toilets, and lavatories. A burst trap or pipe is expensive to replace.

If you will be gone less than two weeks, it is better to leave heat on and ask a neighbor to check your house every day, than to drain your water system. It's too easy to miss something, and return home to burst water lines or broken fixtures.

### MAINTENANCE CHECK LIST

To keep your home in tip-top condition for as long as you live in it, take these maintenance steps at the times of year indicated:

| WHAT TO DO  | A Warm Day<br>(3/15 - 4/15) | Mid-summer<br>(6/15 - 8/15) | Early Fall<br>(9/15 - 10/15) | During Wint<br>(12/15 - 1/15) |
|---|-----------------------------|-----------------------------|------------------------------|-------------------------------|
| Inspect the roof, remove debris, make repairs (page 20) . . . . .                             | ✓                           | ✓                           | ✓                            | ✓                             |
| Wash and rinse a metal roof . . . . .   | ✓                           |                             | ✓                            |                               |
| Trim back tree branches and shrubbery close to the roof and walls . . . . .                   | ✓                           | ✓                           | ✓                            | ✓                             |
| Tighten any loose trim . . . . .  | ✓                           | ✓                           | ✓                            | ✓                             |
| Wash and rinse exterior walls. Wax metal siding if desired (page 20) . . . . .                | ✓                           | ✓                           | ✓                            |                               |
| Wipe exterior walls with a damp cloth . . . . .   |                             |                             |                              | ✓                             |
| Lubricate windows and doors, check tightness of fit and correct warpage (page 21) . . . . .   |                             |                             |                              | ✓                             |
| Wash windows and doors . . . . .  | ✓                           | ✓                           | ✓                            | ✓                             |
| Caulk any small cracks around openings . . . . .  | ✓                           | ✓                           | ✓                            | ✓                             |
| Check the anchoring system for slack and tighten turnbuckles if necessary (page 10) . . . . . | ✓                           | ✓                           | ✓                            | ✓                             |
| Clean and grease wheel bearings, hubs and jack mechanism (page 21) . . . . .                  |                             | ✓                           |                              |                               |
| Clean and wash hitch and steel frame. Paint if necessary (page 21) . . . . .                  | ✓                           |                             | ✓                            |                               |
| Inspect vents in skirting for obstructions . . . . .  | ✓                           | ✓                           | ✓                            | ✓                             |
| Wrap the fuel supply line with insulation . . . . .   |                             |                             | ✓                            |                               |
| Check the fuel supply line for leaks and kinks . . . . .                                      |                             |                             | ✓                            | ✓                             |
| Check and clean the flue pipe and roof jack (page 15) . . . . .                               | ✓                           | ✓                           | ✓                            | ✓                             |
| Fill the oil tank . . . . .   |                             | ✓                           |                              |                               |
| Check fresh air intakes and remove obstructions (page 15) . . . . .                           | ✓                           | ✓                           | ✓                            | ✓                             |
| Inspect the furnace (page 15) . . . . .   |                             |                             | ✓                            | ✓                             |
| Clean and oil the furnace blower . . . . .  | ✓                           | ✓                           | ✓                            | ✓                             |
| Clean the filter on the air conditioner (page 16) . . . . .                                   | ✓                           | ✓                           |                              |                               |
| Protect water pipes from freezing (page 16) . . . . .   |                             |                             | ✓                            |                               |
| Inspect, clean and oil all exhaust fans . . . . .   | ✓                           |                             | ✓                            |                               |
| Check floors for level (page 9) . . . . .   | ✓                           |                             | ✓                            |                               |
| Check blocking for cracking and slippage . . . . .  | ✓                           |                             |                              |                               |
| Wax interior trim (page 22) . . . . .   |                             | ✓                           |                              | ✓                             |

## WHEN YOU MOVE YOUR HOME

We hope you won't ever need to move your home from its original site. But if you do there are many steps you must take to prepare for a safe move.

First, call a professional mover and arrange a time for the move. Never try to move your home yourself.

Check the condition of tires and wheels. If you have followed the maintenance instructions in this manual, they should be ready to go. If you see a problem, tell your mover in advance so that he will be prepared to solve it for you.

Arrange with local utility companies to disconnect gas, oil, and electrical lines.

Pack breakable items such as dishes, knickknacks, and clocks in cartons among towels and pillows.

Tie items too big to pack, such as floor lamps and pictures, to the sofa where they won't move if the driver has to stop suddenly.

Run strips of masking tape diagonally across the fronts of chests and cabinets to keep drawers and doors from opening.

Tape doors to appliances shut. If any appliance must be moved for better distribution of weight, ask the mover to do it for you. He has the equipment to do the job more quickly and safely than you can.

Place furniture so its weight is evenly distributed throughout your home. Do not place cartons or heavy fur-

niture at the front or rear ends of your home, or along the walls outside the I-beams.

Disconnect the drain line and water supply line, and cap both outlets to keep out dust and dirt during the move.

Close all windows and lock all doors. Tape them shut as an extra precaution.

### CONSULT YOUR MOVER

If you like, you can have your mover completely prepare your home for the move. He will be happy to do so for a standard fee that includes full responsibility for the work he does.

Since he is responsible for your home while it is in transit, ask your mover how he wants you to distribute the load. Loose items in a moving mobile home tend to shift toward the front and the right side. Most of the loose items and the weight, then, should be placed near the center of the home and on the rear side of a partition. Heavy unbreakable items should be placed over the axles.

And here's an important warning. Do not ship anything inside your home that was not on the original factory invoice. Your home must not be used as a truck. Pianos, freezers, large trunks, lawn equipment, blocks, and similar heavy items must be shipped separately. Your mover probably will not accept the moving job with such items on board anyway.