Manufactured Home Update

Oregon Department of Consumer & Business Services ■ Building Codes Division April 2000

Consumer Assistance Program inspects older mobile homes

by Ken Cochran

Homes inspected by the Consumer Assistance Program in the "older" category are usually built prior to June 15, 1976. These pre-HUD homes need inspection because they lack an insignia of compliance or because the local building department requires it.

Local building departments may require the homes to have an insignia prior to providing a final inspection approval on the homes. The homeowners are advised to contact Building Codes Division for applicable inspections and subsequent approval.

A review of several recent pre-HUD mobile home inspections indicates a need for us to provide additional information to the affected homeowners. Many of the problems could have been alleviated or taken care of before the inspections with just a little advance knowledge of requirements.

Older homes ... *continued on page 2*

Inside

Ineffective close-ups can bite back

by Anthony Clifton

Often when I am in the field inspecting a new manufactured house, if the installer is on site, he will complain to me about the excessive and (in some cases) useless close-up fasteners being installed by the manufacturer.

When I ask for evidence to substantiate his claim, he'll show me installed fasteners that may penetrate only the roofing material.

In these situations, the factories may have used lathe or paneling rolled into the plastic and ¾-inch staples placed no farther than 2 inches on center.

These fasteners create more work for the installers and the possibility of leaks. Otherwise, they're ineffective.

Some factories may install these fasteners to protect their product, but they may wish to consider the end result: charge-backs from the installers who seal the holes (at least the ones they find).

Another result should be even more important: the possibility of a roof leak. How expensive is repair of a roof leak compared to reviewing what a factory does to close the house? Consider how effective, or, in the case of the short staples, how ineffective the close-up is. ■

Improper perimeter blocks

Older homes ... *continued from page 1*

A few examples from older mobile home inspections:

- There is a lack of perimeter blocking under sidewalls, which may not have been required when the homes were installed; however, if the home has been relocated, perimeter blocking under sidewalls is required to meet the current OMDS.
- Underfloor bottom boards in many circumstances were observed to have large, unpatched holes. Such holes are required to be sealed against rodents according to current OMDS. Rodent sealing also was required at the time of construction of these older homes.
- Bottom-board voids are often observed to be lacking insulation. Insulation voids must be filled for the home to meet minimum heating and cooling requirements of the codes.
- Homes often lack required bond attachments panelboard-to-chassis or chassis-to-chassis (multi-wide homes). Other non-current-carrying metallic parts on the homes such as gas piping, etc., also are required to be bonded to chassis. We've found them to be rusted, broken loose, or otherwise non-effective in providing required bond. Proper bond connections are important to safe home installation.
- Wear-and-tear items we've found during inspections that require corrective measures:

  – Exterior surfaces that aren't weather resistant, made of approved materials, or sealed correctly.

  – Unsound floors and dry rot around toilets, tubs, showers, water heaters, recessed entries and other areas that are often damp.
- Another problem is alterations or installations that do not appear to be original or that don't show evidence of proper permitting and inspection.

Any questions about these homes should be referred to the Building Codes Division, Statewide Services Section, Consumer Assistance Program, Al Endres, (503) 378-5975, or Ken Cochran, (503) 378-3731. ■

Poor shingling causes problems

by Anthony Clifton

In the field, I have been noticing that the shingle installer will start the course of shingles too high above factory-installed shingles, which leaves too much exposed shingle. The lower edge of the roofing paper is exposed to the weather. There are two problems with this: One is the paper covering the asphalt tab strips on the lower course of shingles so that the course cannot tab. The second is the paper wicking water under the shingles and possibly creating a leak.

On more occasions than not, I find installers don't know the installation requirements on laminated shingles: they install their fasteners above the designated fastener placement line applied by the shingle manufacturer. By placing the fasteners above the designated area, the possibility of shingle damage is fairly high. Another issue regarding the installation of the laminated shingle is the installer using the paint line (designated for the fastener placement) to align the bottom of the shingles, which again creates the problem of too much exposed shingle.

Without a doubt, most of these problems would not exist if installers would just take the few minutes needed to read the installation instructions. That, plus understanding what they've read, is all there is to making these issues non-issues! Please do not hesitate to call Tony Clifton, (503) 378-2620, with any questions on this issue. ■

Ventless gas heaters reviewed

by Patrick Lewis, Policy and Technical Services Section

Many building officials ask if ventless gas room heaters and fireplaces are permitted in manufactured homes.

The 1997 Oregon Manufactured Dwelling Standard, Section 1101(e), requires heat-producing appliances other than ranges, dryers, furnaces, and water heaters to be listed and approved for manufactured-home use.

Manufactured-home gas-burning heating appliances are required to be listed to UL 307B-First Ediition-1982 with revision May 18, 1987. UL 307B not only requires gas-burning heating appliances to be vented, it requires them to be sealed-combustion appliances. Since ventless gas room heaters or fireplaces cannot meet this standard, they are not permitted in manufactured dwellings. ■

Temporary limited installer licenses

by Albert Endres

It still surprises me to hear the lack of knowledge people seem to have about temporary limited installer licenses. Calls come in to the office regularly about this very important aspect of the licensing requirement for limited installers.

Aside from the fact that it is unlawful to perform work as an installer without this license, there is one very practical reason to ensure you attain and validate these licenses for your employees: The license provides indisputable documentation that the person holding a series of these licenses has been gaining the experience necessary to qualify for a full license.

What makes it even more important is the fact that the requirements to attain a license may become more restrictive in the future.

The temporary limited installer license allows a person to perform all of the work performed by a fully licensed installer as long as the work is done under the direct supervision of the fully licensed installer. This temporary license costs $10 and is good for 60 days. This gives the employer a very inexpensive way to be legal while he or she evaluates the employee.

When the 60 days are up, another license can be purchased and validated for 60 days.

You can continue this practice until the installer attains the experience necessary to attend training to become a fully licensed installer or limited installer.

Applications for a temporary limited installer license can be obtained from the Building Codes Division. Please contact Heather Gravelle, (503) 378-3980, for applications or information. ■

R4.2 vs. R8 heat-duct crossovers

by Al Rust, SAA Inspector

Some factories in Oregon have been shipping R4.2 heat-duct crossovers in non-Super Good Cents homes built to HUD standards. While R4.2 ducts are in compliance with HUD standards, they do not comply if the home is installed in Oregon (OMDS 603 (1)).

The cost difference between R4.2 and R8 heat-duct crossovers, according to one source, is $6.30. The reason for using R4.2 instead of R8 crossovers is, apparently, the cost savings to the factories.

This cost savings is not a blessing for the installer who installs a home in Oregon, as he must use R8. When the installer finds that he has a home with R4.2 he must make a decision to install it or to throw the crossover away and replace it with the required product out of his or the dealer's inventory.

If the MDI installs the R4.2 crossover and the set-up inspector discovers it, the installer will be required to replace it with R8. The cost savings turns into a real hassle for the MDI, the dealer, the inspector, and the homeowner.

It must also be a hassle to the factory to inventory two heat ducts, store them separately and keep track of the homes they go into. Is a $6.30 savings worth it? ■

Centerline endwall piers

by Larry Giardina

Multi-section homes need piers under the centerline columns at their endwalls.

Placing an endwall pier on 16 x 16-inch concrete footing pads can be a challenge when a home has a ridge-beam span beginning at the endwall.

This is especially challenging when the span is long enough to require more than two pads.

The centerline endwall footing may be too wide to fit between the main frame pier footings when the pads are placed perpendicular to the frames. Orienting the pads parallel with the frames places the pier too far from the column-support location.

One solution to this problem is to excavate a space for the centerline endwall footing, allowing part of it to be placed outside and below the skirting.

The excavation needs to be deep enough to allow the footing to be completely covered by backfill.

It is important that the backfill be compacted and graded away from the home to keep the footing from being undermined by water.

Another solution to the centerline endwall footing problem may involve alternative pier designs by Oregon-licensed engineers. ■

Homeowner expectations and the walk-through

by Mark Campion

Over the years, Building Codes Division has developed a fairly good understanding of how retailers and factories approach the process of getting homes from set-up to possession by the homeowners.

Most retailers or factories conduct a formal walk-through with the homeowners before the keys are handed over.

Although there is no single, ideal way to conduct walk-throughs, talking with retailers, factories, and homeowners has led us to believe that the following thoughts are relevant to all transactions.

Warranties, service and maintenance

The walk-through is an excellent time to discuss the terms of the warranty, whom to report problems to and request service from, whole-house ventilation operation and appliances, homeowner maintenance, and the assorted literature that comes with purchasing a home.

For those who offer a tape-and-texture warranty, this is a good time to go over the policy.

Many of these items have already been discussed at the dealership during the sales process, but reinforcement is a good idea.

Prior to the walk-through with the homeowner, the service technicians and managers have usually checked the home a couple of times and identified those items not meeting their quality-control standards.

Most corrections will have been made before the walk-through. Some corrections are scheduled for a later date or are awaiting parts.

The walk-through is the most appropriate time for the homeowner to identify remaining concerns. Most walk-throughs will, therefore, generate a written list of items needing correction or decision. There should be a written copy for the homeowner.

If the factory or dealer determines that an item will not be addressed, the retailer or factory should let the homeowner know on the spot — or, at the latest, within a couple of weeks, and *in writing*.

Delaying a decision or not informing the homeowners creates ill will.

Many homeowners just want to know what is going to be fixed. They are often understanding as long as their concerns are addressed. However, they prefer not to be kept wondering.

Squeaky floors, tricky problems

Without a doubt, floor squeaks are awkward to work on, sometimes difficult to fix, and a major homeowner concern.

Although most people in the industry know that a floor squeak caused by loose decking or a loose lag bolt is a noncompliance (reference HUD 3280.305), we are surprised when we find homes during consumer complaint inspections that are a couple of years old and still have squeaking floors.

In these situations, the homeowners tell us that they have reported the squeaks within the warranty period.

Structural vs. cosmetic squeaks

A distinction exists between structural floor squeaks and those that are merely "cosmetic" annoyances. Examples of cosmetic squeaks are carpet-pad squeaks, floor joists that depress slightly on a heat-duct run, and binding heat-duct boots. Even freshwater piping rubbing against a joist due to contraction and expansion has caused squeaks of the cosmetic-but-annoying variety.

Where decking has broken the bond with the joist, "squeak enders" include re-securing the decking from above. For carpeted areas, there are special screws with heads that break off.

If the decking depresses at panel edges that move because of joist wane, then a 2-by backer can support the edge.

Lag-bolt compliance

Lag bolts may or may not be a noncompliance. For example, many factories exceed the number of lag bolts required by the DAPIA. If the loose lag bolt is a required one, a fix is necessary; if the lag bolt is not required, a fix can only be recommended. This is a detail distinction.

Lag bolts that have stripped out the wood can be approached two ways. If they're on the I-beam, move the lag bolts over to the other side of the I-beam. If they're at an outrigger, extension clips probably will have to be added.

In extreme cases, where the joist is broken, a 2-by backer may need to be added.

A commonsense distinction should also be made between bolts that are slightly loose and those that allow for significant movement and noise. ■

Installer certification tag-reporting update

by Irene Lickiss

It has been over a year now since the reporting requirements have changed for the installer certification tags. The general feedback from all of you has been very positive.You seem to like the simplification of the reporting requirements, which has resulted in more uniform reporting on a regular basis.

It has had a positive effect in my duties as well. Those of you who are old pros are doing an exceptional job of reporting! I really appreciate your efforts. It has been great being able to build a working rapport with you all.

Those of you who are fairly new installers, you cannot fully appreciate the simplification of the report form. I wanted to touch on some requirements:

Reporting is *due monthly*. I am able to issue tags based on reports from previous tags issued. There is a 30-tag-issue limit based on existing unreported tags. Due to the simplification of the information requested, I need everything that is requested. Please review the (10/99) packet that was sent to you. You will find valuable information regarding ordering and reporting on your certification tags as well as samples.

One home can have several tag reports filed.

When you have trouble getting a serial number for the manufactured home or an owner's name, check with the dealer or the contractor who hired you. They have to have this information in order to do their jobs.

I am available to answer questions or clear up misunderstandings. You may reach me at (503) 373-1257.

If any installers have not reported tags you have used, you should do so. According to rules, I cannot issue tags if these used tags go unreported 60 days beyond installation. ■

Kudos to local tag sleuths

by Irene Lickiss

I would like to commend Lisa McCormick of Capitol Awning and Paula Fery of Santiam Homes for their extra work and effort in clearing up an incredible backlog of unreported tags.

Both spent about a year and a half dedicating many hours of their time finding unreported dealer-issued installer tags. They worked tirelessly and came out on top of the situation! I have enjoyed working with both of them and salute their efforts.

You installers who work for Capitol Awning and Santiam Homes: Let these ladies know how much you appreciate the work they do for you. ■

Building officials share ideas with inspector

by Al Rust, SAA Inspector

As of November 1998, I have had the pleasure of visiting 71 building officials from around this state. As directed by lead worker Albert Endres, I visited all building officials involved with the Manufactured Housing Installation Inspection Program.

The meetings are informal, short, and packed full of information about the Oregon SAA program and all the programs that we are involved in.

The following information is covered in the meetings: Manufactured Dwelling Administrative Rules, Chapter 918; Manufactured Dwelling Park Rule; retailer monitoring; the Oregon Customer Assistance Program; the Installer and Inspector Training Program; the Installation Monitoring Survey Program; and any other areas of interest to building officials. I've found the meetings very informative.

If you are a building official or chief inspector whom I have not had the pleasure of meeting, please give me a call at BCD, (503) 378-8053, and I will be glad to meet with you. ■

Q&A: Manufactured structures and park trailers

by Patrick Lewis, Policy and Technical Services Section

Since our last article on park trailers was published, we have received numerous new questions on the subject.

Question: *Can I build a deck under an awning next to my park trailer and enclose it without it becoming a cabana?*

Answer: No. Oregon Revised Statute (ORS) 446.003 permits awnings to be enclosed only on one side. The same statute defines a cabana as a structure with two or more walls used adjacent to and in conjunction with the park trailer to provide additional living space. What you have described meets the definition of a cabana. It would have to be constructed accordingly, and be subject to the maximum combined-size restrictions of 400 square feet.

Question: Can I build a non-heated and non-insulated room addition without electrical outlets to the side of a park trailer so that it is an enclosed patio rather than a cabana?

Answer: No. ORS 446.003 does not permit a covered patio adjacent to a park trailer to be enclosed — *this would still be a cabana*. Without heat, insulation, or electrical outlets, the cabana would not comply with the Oregon One and Two Family Dwelling Specialty Code, as required.

Question: Since cabanas are required to meet the Oregon One and Two Family Dwelling Specialty Code, if I build a room addition adjacent to a park trailer that isn't built to the Oregon One and Two Family Dwelling Specialty Code, would it no longer be a cabana?

Answer: No. *It would still be a cabana* because it's enclosed; it would just be a cabana out of compliance with the Oregon One and Two Family Dwelling Specialty Code. Building a structure that does not meet code does not make it exempt from the code.

Question: Why is there so much disparity bewteen laws and regulations for park trailers and manufactured dwellings?

Answer: Neither state nor federal laws ever intended to treat these two structures in the same manner. Each has a separate and distinct purpose, and they are not meant to be interchangeable. Manufactured dwellings are intended to be used as permanent, full-time residences; park trailers are intended for temporary recreational, seasonal, or emergency use. Consider the following differences:

- Park trailers are constructed and intended to be used as recreational vehicles; manufactured dwellings are constructed and intended to be used as single-family dwellings.
- Park trailers are built to minimal American National Standard Institute A119.5 Standard for Recreational Park Trailers; manufactured homes are built to the much more stringent federal Manufactured Home Construction and Safety Standards.
- Manufactured dwellings are not limited by size or number of additions; park trailers are limited to a maximum of 400 square feet excluding lofts and covered porches.
- Park trailers are limited to a single chassis mounted on wheels; manufactured dwellings can have multiple chassis and have the wheels and axles removed.
- Manufactured dwellings are required to be installed to a stringent standard that ensures a foundation capable of lasting the life of the home; park trailers are installed to a minimal standard designed for temporary placement.
- Because the park trailer is mobile and temporary, it is permitted in recreational areas, forest lands, outside urban growth boundaries, and along beaches and rivers where single-family dwellings are usually not permitted.
- Because of the park trailer's ability to be moved rapidly, it is allowed in floodways where no other structure would be permitted.
- Because park trailers are limited to recreational and seasonal use and should have no impact on schools, recreation parks may be permitted when dwelling construction faces a moratorium if area schools have reached maximum capacity.
- Because of their temporary use, recreation parks for park trailers are required to provide half the sanitary sewer facilities that manufactured dwelling parks are required to have.
- Manufactured-dwelling installers are required to be trained, tested, and licensed; park trailer installers have no licensing requirements. ■

What are acceptable skirting materials?

by Tom Nicolai

Many consider skirting on manufactured dwellings to be the easiest part of the installation. Because of this thinking, many aspects of the skirting installation are frequently overlooked or done incorrectly.

Proper venting of the crawlspace remains the most common problem. Data recorded on consumer-assistance inspections and installation-monitoring inspections show roughly 26 percent of sets are undervented.

The second most common problem is the use of improper skirting materials. Use of incorrect material for skirting most commonly occurs when something other than block masonry or poured-in-place concrete is used. Skirting is to be constructed of durable rigid material such as wood, vinyl, aluminum, or steel siding suitable for exterior exposure. These materials are required to be installed in accordance with the skirting manufacturer's instructions according to OMDS Section 802(b). Instructions cover support and securement and the product's intended use.

"Intended uses" are the areas in which most mistakes occur. Materials not rated for ground contact are being installed in contact with the ground or installed to retain backfill. Many of these products are intended to be used as exterior siding materials only. The exterior edges are intended to be painted, sealed, flashed, or separated from the ground to eliminate exposure to moisture.

One new siding material being used as a skirting material is made of concrete and wood fiber. Product literature tells users not to place the material closer than six inches from the ground and not to use it to retain backfill. Many believe, because of the concrete content, this material is OK for ground contact. But remember, the product also contains cellulose fibers that may gradually absorb water and break down if exposed to ground moisture or backfill. Water can enter this product through unsealed edges or unpainted back surfaces. Approvals for this product may be forthcoming, however.

Before installing skirting on a home, read the product literature and manufacturer's installation instructions to make sure you are using the product as intended. ■

Making fireplace installation safe

by Albert Endres

The Building Codes Division and the industry recently have been involved in fireplace chimney installation deviations.

As one can imagine, if the chimney is not installed properly in the factory or in the field, serious consequences can occur. We have reports of at least two fires related to improper installation as well as several other documented failures to properly assemble the chimney.

These problems have been traced to both factory and field installations. It is absolutely imperative that everyone follow the fireplace manufacturer's installation instructions *completely*. If you do not understand the instructions, find some parts of instructions missing, or notice that an installation is not properly completed, notify everyone involved: the factory, the retailer, the homeowner, the building inspector. *Do not ignore problems with fireplaces or chimneys and figure it is someone else's job*.

Most chimney problems are with the thimble, which is the outer liner around the actual chimney. The thimble ensures separation between the chimney's high heat and any combustibles. The thimble is required to extend through the roof sheathing. Extensions ensure that this separation happens.

We have experienced missing thimbles, thimbles not extending through the roof sheathing, and thimbles improperly installed — without clearance between the chimney and the thimble.

Sometimes there are problems with the assembly of the chimney itself. Make sure each section is properly connected to the previous section and snapped into place. Check to see that there are enough extension pipes to ensure that the top of the chimney extends at least three feet above where it comes through the roof and at least two feet above the highest elevation of any part of the roof within ten feet of the chimney. Make sure that the weather cap and storm collar are installed. Again, *follow the installation instructions*.

If anyone has questions about this, please call Albert Endres, (503) 378-5975. ■

Codes for manufactured, site-built homes explained

by Tom Nicolai

There are some very good reasons that manufactured dwellings are not built to the same code as site-built housing. Both codes provide a similar level of safety for the occupants, but each achieves it in a different way.

- While site-built homes are constructed from the ground up, manufactured dwellings are built to be mobile, lightweight, and highly flexible.
- Manufactured dwellings are constructed to travel down a highway at 55-plus mph, surviving tremendous road shock and high winds. Site-built housing is constructed from the ground up to stay put and endure the conditions of a single site.

There are many other differences between the codes.The Manufactured Home Construction and Safety Standard is different from site-built codes because the needs of the manufactured housing industry are different. A contractor for site-built homes would have as much difficulty building to the Federal Manufactured Home Construction and Safety Standards as a manufactured home factory would have building to the site-built codes. ■

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