

Minutes of the State Appeals Board
Appeal #15-01
Tuesday, January 27, 2015
Hearing 8:45 a.m.

Preliminaries:

- **Appeals Board Members:**
 - Scott McKown, Chair – State Appeals Board, Assistant Director – Construction Codes & Licensing Division (CCLD) – DLI
 - Michael Godfrey, Manager of Education, Rules and Code Development, CCLD
 - Jerry Norman, Construction Code Section Chief, CCLD
 - Doug Nord, Construction Code Section Chief, CCLD
 - Chris Meier, Construction Code Representative 2, CCLD
- **Other Appearances:**
 - Eric Beecher, Assistant Attorney General representing the Board – Office of the Attorney General
 - Lyndy Lutz, Administrative support, CCLD – DLI
 - Loren Kohnen, Building Official, City of Excelsior
 - Chris Becker, President of Twin City Fireplace & Stone Company (TC Fireplace)
 - Jon Monson, The Landschute Group
- Scott McKown welcomed everyone and introduced himself as the Chair of the State Appeals Board, introduced board members and Eric Beecher. The State Appeals Board was convening to hear an appeal from Chris Becker and the determination made by the Building Official, Loren Kohnen.
- Chair McKown stated that the appeal is based on:
 - 1) Mr. Kohnen’s reference to the State Building Code, Section 1346.5621, Section 621 of the International Fuel Gas Code, Unvented Room Heaters, which states; “Unvented room heaters and unvented decorative appliances shall not be installed in any dwelling or occupancy,” and
 - 2) Mr. Kohnen states the porch is in the same occupancy as the rest of the structure; IRC-1. Accordingly, he states that the answer is no per the State Building Code.
- Chair McKown noted that the meeting would be recorded in order to produce minutes of the hearing and he asked that speakers clearly state their name and who they are representing. He then asked Mr. Beecher to address the Board.
- Mr. Eric Beecher introduced himself as an Assistant Attorney General with the State representing the Board. He is not a member or the Board and will not participate in making decisions. His roll is procedural to help the Board make a record. The rule under which the proceedings are taken is MN Rule 1300.0230 which limits the

Board's authority to interpret a provision of the code and also requires decisions and findings be rendered in writing; therefore, if the Board so moves he will work with Chair McKown to prepare the Findings of Fact and Order setting forth today's decision.

Call To Order/ 8:45 am

- Chair McKown called the meeting to order and reviewed hearing procedures:
 - The hearing will begin with open, public Findings of Fact where each party will have an opportunity to speak. After this testimony is closed there will be a discussion among Board members and technical questions can be asked to provide clarification in order to present a motion. He asked that testimony be limited to 30 minutes each and technical code requirements of the case be adhered to. He again asked that everyone speak their name clearly when addressing the Board. Mr. Becker would be the first to address the Board with Mr. Kohnen following.
- Chris Becker – TC Fireplace. Their appeal is based on the manufacturer's instructions of the fireplace being approved for this installation – they meet the criteria within the manufacturer's instructions and do not agree that the deck is an occupancy or an occupiable space to live in. In addition, they also meet the criteria to be in the application, outdoors, based on manufacturer's instructions. It is an outdoor decorative appliance and is listed and classified as such. The ruling that it is an unvented heater is incorrect. There is multiple different listing criteria according to the American National Standards Institute – unvented fireboxes are listed to Z21.11.2-2013 and Z.223.1. The fireplace in question is listed under Z21.97-2014 which is a completely different criteria, not classified as unvented but classified as outdoor. The listing criteria allows installation of the fireplace into a screen porch with only one open area of screen with a minimum of 96 square feet. They have over 246 square feet of open air, unscreened space so they meet the criteria.
- Jon Monson – The Landschute Group, Owner/President. He is the architect and builder of the home. He has been a registered architect for over 30 years. He would not participate in anything that would cause a health or safety concern for his client. Mark Cleppe is a pilot and was unable to be present. Mr. Cleppe does not believe there is a safety hazard and in earlier discussions with the City (Excelsior) he offered to give a waiver/deed restriction to the city. Monson noted there are differences between unvented room heaters, unvented decorative appliances, and outdoor gas fireplaces; he hoped the Board would see that the fireplace in question is not an unvented room heater or an unvented decorative appliance and that the NEC Standards conform and exceed their minimum requirements.
- Becker added that the most troubling thing through this process was the fact that every other discussion he had with the Building Official (Mr. Kohnen) regarding a gas fireplace always came back to the manufacturer's instructions which within our

Code, the Residential Building Code, the Fuel Gas and Mechanical Code, and the IFGC, specifically instruct us to do so. In this case that was not done. It is important to note that the instructions for a specific appliance, whether it is a fireplace or a toaster, must be considered important. This is what our Government, The American Standards Institute, has determined is the safe application for these specific appliances and they've trusted the test agencies (UL, Omni) to certify them under that criteria and in this application has been disregarded.

- Loren Kohnen, Metro West Inspections, Building Official for the City of Excelsior. Kohnen noted that it is a covered porch that they are discussing, not just a deck. Does it have an occupancy? He agrees that every structure, every part of a structure, any use, all have an occupancy and he determined this occupancy is an IRC-1 residential occupancy. All parts of it would be considered as such. This is how he came up with the part on the Building Code about unvented decorative appliances shall not be installed in any dwelling or occupancy. If the appliance is vented it can be directed through duct work or through a chimney or vent above the building or get it out of the occupancy itself but the main determination is he considers it an unvented appliance. It is probably venting but you can't direct the venting from the fireplace. If the doors and windows are open on the house then carbon monoxide will enter the house from this unvented appliance. He considers something vented as a furnace where you have an actual vent directing the carbon monoxide to the exterior of the house. He considers this an occupancy, same as the house, it is not an accessory. He has been doing zoning in municipalities for more than 20 years too and accessory structures are accessory to a principal building. If you are going to have a detached garage, and this is where the applicant came up with the 3,000 square feet, which is a detached garage, this is an accessory to the main structure.
- Godfrey asked if the city zoning would permit the deck to be built before the house. Kohnen said probably not. Godfrey added that it would be accessory to the house then.
- Kohnen referred to information from the applicant that said the installation must conform to all local codes and in the absence of local codes must comply with the national fuel gas code. It also states the fireplace must be installed to comply with local, regional, state, and national codes and regulations; consult an insurance carrier, local building inspector, local fire officials and authorities having jurisdiction. He knows the local Fire Marshal there would not approve of it either. But then it's a lady Fire Marshal. As a building official, it is an occupancy and it is exactly what the state code says. You cannot install this appliance in any occupancy.
- Godfrey commented on Kohnen's citing IFGC 1346.5621, Section 621. Back in 2003 they had a public hearing on the Mechanical Codes because the unvented technology industry was trying to get provisions in the code, which they did, but then they were removed because it would have permitted unvented room heaters in the dwelling itself. The only intention deleting IFGC Section 621 was so that unvented room

heaters could not be installed within the dwelling and has nothing to do with porches, decks or anything outside at all. When you are reading that section and saying it shall not be installed in any dwelling or any occupancy we meant in the dwelling. The deck is not a dwelling. Godfrey noted that definitions in the IRC are not as complicated as the IBC. It is intended to be a relatively simple, straight forward code for the construction of dwellings; however, they did provide a definition of a deck “exterior floor system”. If you look at a balcony it is an exterior floor so when they say exterior that means exterior to the dwelling or the building that it is attached to. Within the context of the IRC when referring to a single or two-family dwelling or townhouse when they say exterior this means that part of the building, the deck, is an exterior part and not part of the dwelling. In the installation instructions for the outdoor listed fireplace, on page 12, item f (see Attachment A) it reads “Moisture Resistance – This outdoor appliance will shed moderate amounts of water, but is not waterproof. This appliance must be enclosed or covered with noncombustible finish material and all joints sealed to prevent water infiltration”. In view of the installation instructions to protect the fireplace, the covering that is protecting the fireplace helps meet the requirement of the standard to install the fireplace.

- Becker referred to the carbon monoxide comment made by Mr. Kohnen. Vented, direct vent gas fireplaces have a guideline for their terminal to a window or a door that is 12 inches. If that vented, gas fireplace terminal exits the outside wall of a dwelling it can be 12 inches from a window and you can open that window, run that fireplace, and not be affected from a health perspective. This fireplace is 10 feet away from a door or window and this should have no relevance in this conversation. If the standard for vented is 12 inches they are far exceeding this.
- Godfrey noted that gas appliances, generally including furnaces and water heaters, are only permitted to operate producing an extremely small (.04%, or 4 parts per million of carbon monoxide) therefore the products of combustion are almost free of carbon monoxide. Carbon monoxide occurs when the products get re-burned. In referring to the photographs of the installation there is free open area all the way around the fireplace except for the enclosure and a small roof over the appliance; therefore, his concern for carbon monoxide poisoning for this particular installation is practically zero.
- Kohnen stated that Mr. Godfrey described a deck but this is more than a deck, it has a roof over the structure, it is not considered a deck, it is considered a porch because the roof is attached to the house. He doesn't know what else you could call it except the same occupancy as the house itself. It has to have the same one, what occupancy do you give the deck when it's attached to a house.
- Godfrey asked Mr. Kohnen what occupancy classification he would give to parking stalls in front of garage doors on a driveway?

- Kohnen said they don't have one. They aren't considered structures.
- Godfrey said sure they are, anything is considered a structure if you look at the definition of the code and noted "anything that is built". Godfrey said his point is that the definitions in the IRC describe a deck as an exterior system. In simple terms again, this is outside the dwelling.
- Kohnen said it is not a deck; it is a partially covered porch. Godfrey stated that even if the porch were completely covered with a roof and open sides as is currently, it would still comply and doesn't have an occupancy. Kohnen clarified by asking Godfrey if it doesn't have an occupancy then it doesn't have any requirements.
- Godfrey said if it's an IRC-1 where is the smoke alarm? Kohnen stated that you don't have to have a smoke alarm in every portion of the building, you only have to have one in the basement.
- Godfrey replied that it has to cover the entire building though, correct? Kohnen said that smoke alarms don't cover the entire building, only certain areas, this is in the code. But this is a porch, not a deck. When he was growing up they used to sleep on the porch in the summertime when it was hot so what would you consider it? Nothing I guess. It doesn't have an occupancy so then you don't have to have a building permit, it isn't required by the code. Every structure that he knows of when he dealt with an attorney in one of the cities he worked for contacted the State and they said that if it has a roof or even just walls then it is considered a structure.
- Godfrey stated he wasn't saying that it isn't a structure. But if any classification applies to it, it would be an IRC-4, an accessory structure – if any applies to it at all and therefore since it's an IRC-4 smoke alarms aren't needed to protect the deck or enclosed porch.
- Kohnen said it has an occupancy. Godfrey noted that if you give it an occupancy at all, it cannot be anything other than an IRC-4 because it is in fact an accessory structure to the dwelling. Kohnen then stated that Godfrey agreed with him because that is exactly what the code says "occupancy". It isn't permitted in any occupancy.
- Monson said he doesn't disagree with unvented room heaters or unvented decorative appliances not being permitted in any dwelling or occupancy but by ANSI Standards it is defined as something other than what is precluded by the code. All of this discussion by Mr. Kohnen is moot because they are not talking about an unvented room heater or an unvented decorative appliance. They are talking about an entirely different animal that he believes has different standards and they have met that criteria.
- Chris Meier asked Monson if he was the designer of the home and Monson replied yes. Meier asked Monson if the unvented, outdoor decorative appliance was

implemented into the design when it was submitted for code review and Monson replied yes. Meier asked Monson if the area (porch) was included in energy calculations for the interior of the building and Monson replied no.

- Becker referred to page 5 of the (manufacturer's) instructions in response to it (the space in question) being a porch and said the criteria is laid out for it being a porch. Even if you want to consider it a porch, they meet the criteria. The plan that is attached (Attachment A) shows the covered area with the measurements of square foot, open-air. As Mr. Monson stated, the point that Mr. Kohnen is trying to make is moot because it isn't an unvented appliance, it is an outdoor fireplace that is outdoors.
- Monson asked Becker if a permit to install the appliance was applied for and installation was done with the consent of the Excelsior Building Department and only after the fact they said they couldn't do this (installation of the appliance). Becker replied yes, he has the permit.
- Monson said that 3 or 4 years ago they got a permit and installed the same unit and have done so in other areas and they found inspectors that respect the proper interpretation of the code so this is an anomaly.
- Chair McKown asked Becker if he had the Cleppe's permit and Becker produced the Inspection Report Card (outdoor) (See Attachment B).
- Kohnen said this isn't what the questions is, is this an occupancy or isn't it? That is the question and what we relied on – exactly how the state code reads, occupancy. Does this porch have an occupancy or doesn't it? This is what the question is.
- Godfrey said if there is a need to assign an occupancy classification to this, which he doesn't believe one is needed, he would assign an IRC-4 which is an accessory structure because it is not part of the dwelling.
- Nord asked Mr. Kohnen if there was something different down the street where there is a similar installation and whether it was also a porch. Kohnen replied that he didn't recall.
- Becker added that the location is 203rd street and there was an identical unit installed in a true screen porch less than 4 years ago.
- Chair McKown said there are two different issues – one, is the porch part of the occupancy, and secondly, can the unit be installed outside the dwelling unit? There are two different issues at hand and Mr. Kohnen is referencing one standard and you (Becker) are saying that your appliance meets the requirements of another standard and they wouldn't even be installed on the same standard. They wouldn't even be in the same code section. Is this correct?

- Becker said he isn't positive which definition of these occupancies, IRC-1 or IRC-4, would be used to define the deck but added that the deck is not an occupancy. Within the application that it is installed, it meets the listing and it isn't an unvented room heater, this isn't its classification, it is outside.
- Godfrey noted that Building Officials asked that they be provided occupancy classifications so they could mark on their plans IRC-1 meaning single family dwelling, IRC-2 meaning duplex, IRC-3 meaning townhouse. There was no intention to define anything more than that. The main reason was to have an occupancy classification so their records would reflect whether properties were single, two-family or three-family – this is the main reason for these classifications.
- Becker asked if an IRC-4 would be a detached garage or a shed. Godfrey said yes including similar accessory structures. Becker stated so it's a deck.
- Meier said that in regards to Becker's definition of outdoor decorative appliances and different categories of appliances, there is a category 1, 2, 3 and 4 appliance which is implementing to the indoor of the structure. This specific appliance is an outdoor decorative appliance. Becker replied yes, absolutely. Inside the manual, page 4, the ANSI guideline type is outdoor decorative appliance. It can never be installed inside.
- Meier noted that this was why he asked Mr. Monson how the home was designed. Typically they look at a home having to comply with certain energy requirements and the requirements of 1346.5621 for unvented heaters or decorative appliances within a dwelling. If that was considered part of the IRC-1 it would need energy calculations implemented on the structure and this was not done; therefore, he would reference the fireplace as an outdoor decorative appliance because it is in the exterior of the building.
- Godfrey referred to page 1 of the installation manual, lower right corner "Carbon Monoxide Hazard – This appliance can produce carbon monoxide which has no odor. Using it in an enclosed space can kill you. Never use this appliance in an enclosed space such as a camper, tent or home." Godfrey stated that in this case there is no danger of carbon monoxide poisoning.
- Meier then asked Loren Kohnen if there was any discussion to implement a CO detector on the porch. Kohnen replied no.
- Godfrey stated that there would be a problem installing smoke alarms and carbon monoxide detectors outside as their listing only allows them to operate in spaces above 30 degrees or they become non-functional.

- Kohnen agreed with Mr. Godfrey. Those detectors do not work in cold weather. He referred to the first page of the installation manual “Warning: For Outdoor Use Only.” This has a roof over it, it’s considered a structure, and it has walls apparently on three sides. What would you consider it? Outdoors? He doesn’t think so. He wouldn’t let his kids play on it if I told them to go play outdoors. You expect them to go outdoors and play. You tell your kids to go outdoors on the porch? He has never heard of this before in Minnesota.
- Nord asked Kohnen if he considered the space under the porch roof as indoor space and Kohnen replied that it could be. Nord said not what it could be, the way it is today; do you look at it as indoors? Kohnen said no but he considers it part of the dwelling. Nord said IMC 303 discusses outdoor locations for appliances in other than “indoor” locations and it does state these appliances must be installed per their listing. This is listed as an outdoor appliance. The others ones you refer to are listed for inside that we don’t allow. So it is an indoor/outdoor issue, not what it could be today.
- Nord again asked Kohnen if he considers it indoors. Kohnen replied no, he wouldn’t consider it basically indoors but he considers it to have an occupancy the same as the house. That is the question and was his question from the very beginning. That is the way he reads it. As Mr. Godfrey explained how this took place, then it should be part of the code saying that decks and that sort of thing have to be only indoors but it says occupancy so from now on then we just don’t give it an occupancy if somebody wants to use an appliance in or outside of the home.
- Nord to Kohnen, if you have this same situation and on that deck there was an area for an outdoor kitchen with a grill, would you allow that on the deck? Let’s say the outdoor grill doesn’t have wheels and doesn’t move – would you allow this? Kohnen said you would probably have to allow it. There aren’t any restrictions.
- Nord said he believed some of those units might be under the same ANSI Standard. Godfrey said they are not.
- Meier added that the scope of the standard applies to new installed decorative gas appliances for outdoor installations. They have LP cylinders also so it could be a grill. Nord added that it is similar because it has the potential to put off a lot of heat.
- McKown closed the proceedings for board discussion and the opportunity for questions of Becker, Monson, and Kohnen for clarification. He asked if anyone would like to add anything before closing. Becker and Monson replied no. Kohnen added that he is talking about occupancy, does it have an occupancy or doesn’t it?

Board discussion:

- Chair McKown closed the presentation portion of fact finding and advised the Board to ask questions for clarification and he noted that open discussion would continue until a member of the Board made a motion. When all members are in agreement the motion will be voted on and approved one way or the other, then the Facts of Findings would be produced with a public statement to follow with the Board's findings. At that time he and Mr. Beecher would work on producing written requirements.
- Godfrey noted this was the first time that the issue of a deck having an occupancy classification ever came up. If an occupancy classification has to be assigned it cannot be anything more than an IRC-4. IRC-4 is for garages, storage sheds and similar structures – all accessory structures. The dwelling is the main use of the building and anything attached is an accessory building – a garage and decks would be accessory buildings. He finds no need to classify the building as an IRC-4 structure; however, if someone forced the issue to classify it then he doesn't see how it could be classified as anything other than an IRC-4. The unvented room heaters that are being cited here is an incorrect citation. The citation is for unvented room heaters and the appliance in question is not an unvented room heater.
- Jerry Norman disagreed with Mr. Godfrey. He believed Mr. Kohnen made the correct call in classifying the deck as the same occupancy as the house, IRC-1, mainly because it has a roof covering the entire deck. If it were an accessory structure it wouldn't have a covering over it; however, to a large extent this isn't the point. This doesn't matter that it is an IRC-1, he understands the reference by Mr. Kohnen and the prohibition on it, but it is for the unvented room heaters and as Mr. Becker said if you look at the International Fuel Gas Code it gives a standard for those unvented room heaters which this doesn't fall into, meaning the appliance technically is not under that standard implying it isn't an unvented room heater. It is under a totally different standard and although this isn't the code in which this was being applied to the International Fuel Gas Code that was adopted Saturday, Jan. 24, 2015, has a new section which has not been amended or deleted. "IFGC, Section 636 Outdoor Decorative Appliances. Permanently fixed-in place outdoor decorative appliances shall be tested in accordance with ANSI Z21.97 and shall be installed in accordance with the manufacturer's instructions." Cut and dry – this is a section that has not been deleted. It is totally independent of the unvented room heaters. Mr. Kohnen did not have this International Fuel Gas Code. This is a new section that hasn't been amended. This clearly defines that these fireplaces are not to be viewed as an unvented appliance in association with how they were cited. Many times the code is slow to react to industry and new products. Clearly this appliance was cited as an unvented room heater and it is a totally different appliance. It is governed under a totally different standard and this is how to look at the device when you inspect it and install it.

- Meier remarked on Mr. Norman's comments and said this came about because of the way the IFGC was formatted. There was nothing in there that was specific to outdoor appliances. They referenced the gas to the appliance but they didn't have any ANSI or UL listing to that appliance. This came into effect in 2012 and was in NFPA 54 previously which is the other ANSI 223 code for gas piping installations. It has been there but we just didn't have it in our code. Anytime he has looked at this in the past, he couldn't get to that application because NFPA 54 was adopted. However, could he have accepted as an alternate? Yes, absolutely. He believed that Mr. Kohnen wanted to say that the porch (which Mr. Kohnen called a deck with a roof) cannot have an unvented room heater. We don't have that application here. The definition of an unvented room heater is specific to 5621 in a different ANSI Standard. We have an outdoor application and this is what he is trying to get across. Meier noted that Monson did not put energy compliance on the area because it is an unconditioned space that is basically outdoors. Therefore specific to the appliance installed in this outdoor application, it meets the intent of the ANSI Standards for outdoor decorative appliance. If you look at criteria for gas burning appliances and you look at the volume that it takes to create combustion, it is about 10 cubic feet. There is a threshold of 27 cubic feet per cubic foot which is 1,000 BTUs. We have a 3 times parameter because we look at dilution air, secondary air (ventilation air) and combustion air. If you were to have an unvented room heater, which we don't have, it has an oxygen depletion sensor. The sensor is formatted less than 21 cubic feet and will shut the appliance down at 19 cubic feet. There is so much volume in the porch area because it is open. Meier asked Norman if the definition of walls define a room.
- Norman said the definitions in one section were not intended to apply to that type of situation. There are definitions in the state building code, IBC (International Building Code), which would not be the code that would apply to this application except in the case where the IRC does not have the definition of a room and the IRC would direct the user to another international code definition. The definition of room is a room that is bounded by more than 80 percent of its perimeter by partitioning over 6 feet in height which encloses more than 80 percent of the perimeter. This definition is found in IBC 1305.1002 of the current state building code.
- Meier commented to Mr. Norman's definition of a room in 1305 and said in looking at the perimeter of the porch; it is not a room as defined in IBC 1305. Consequently, he doesn't need to look at it for energy calculations either, it is an outdoor area. The outdoor decorative appliance has proper installation in this instance.
- Norman said you do not apply unvented provisions to all appliances. This is a totally different appliance than the unvented room heater. If you applied unvented to all appliances you would never be allowed to have a gas stove as it is not vented.

A motion was made by Godfrey. Chair McKown asked if anyone wished to second the motion, but none was forthcoming. After discussion among and between the board members, during which Chair McKown and other members questioned whether the Board could reach agreement on all elements of Godfrey's motion, Mr. Beecher suggested the best way to move forward could be to withdraw the current motion and break it down into smaller motions. Beecher said it seems that the Board wasn't going to agree on whether there was an occupancy. Beecher further stated that as he understood the Board's conversation, the Board did not believe it needed to decide the occupancy issue to answer the question whether this installation is permitted. He suggested making a motion to resolve whether the installation is permitted or not and why or why not. Godfrey withdrew his motion.

Norman made a motion to approve the installation provided it is in compliance with its listing and testing based on that MN Rule 1346.5621 was not intended to apply to outdoor decorative appliances, it was merely intended to apply to those unvented room heaters cited in the standard of the section. And that outdoor decorative appliances having a totally different standard are to be installed in accordance with that other standard and listing as further clarified in the 2015 amendment to the State Building Code adopting the 2012 International Fuel Gas Code. Godfrey seconded the motion. Chair McKown asked the Board for a vote and the board voted unanimously in favor of the motion.

A motion was made by Godfrey to grant authority to Chair McKown to act on the Board's behalf to produce the final written Findings and Order of the board with the reasons thereto. Meier seconded the motion. Chair McKown asked the Board for a vote and the Board voted unanimously in favor of the motion.

A motion was made by Chair McKown to adjourn the meeting at 9:30 a.m. Norman seconded the motion. The vote was unanimous to adjourn the meeting.

Installation Manual

Installation and Appliance Setup

INSTALLER: Leave this manual with party responsible for use and operation.

OWNER: Retain this manual for future reference.

NOTICE: DO NOT discard this manual!

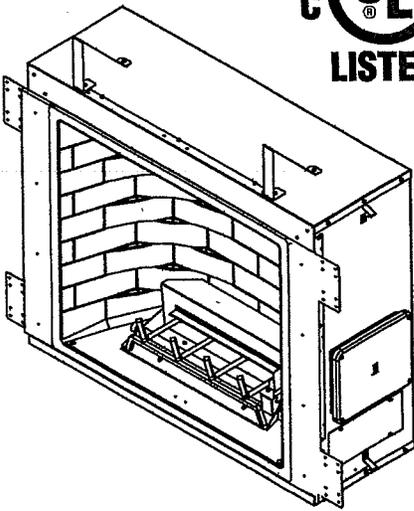
outdoor
lifestyles
by hearth & home technologies®

Models:

CARODG36I-B

CARODG42I-B

GAS-FIRED



WARNING! Risk of Fire!

Do not install glass doors on this fireplace. Glass doors could cause overheating of adjacent structures.

DANGER

If you smell gas:

1. Shut off gas to the appliance.
2. Extinguish any open flame.
3. If odor continues, keep away from the appliance and immediately call your gas supplier or fire department.

WARNING: For Outdoor Use Only.

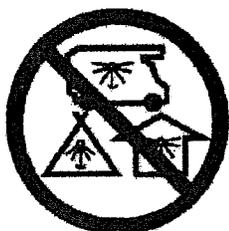
WARNING

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

An LP-cylinder not connected for use shall not be stored in the vicinity of this or any other appliance.

WARNING: Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

DANGER



CARBON MONOXIDE HAZARD

This appliance can produce carbon monoxide which has no odor.

Using it in an enclosed space can kill you.

Never use this appliance in an enclosed space such as a camper, tent or home.

▲ Safety Alert Key:

- **DANGER!** Indicates a hazardous situation which, if not avoided will result in death or serious injury.
- **WARNING!** Indicates a hazardous situation which, if not avoided could result in death or serious injury.
- **CAUTION!** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE:** Used to address practices not related to personal injury.

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→ = Contains updated information.

Installation Standard Work Checklist

ATTENTION INSTALLER:
Follow this Standard Work Checklist

This standard work checklist is to be used by the installer in conjunction with, not instead of, the instructions contained in this installation manual.

Customer: _____
Lot/Address: _____
Model (circle one): **CARODG36I-B**
CARODG42I-B

Date Installed: _____
Location of Fireplace: _____
Installer: _____
Dealer/Distributor Phone # _____
Serial #: _____

 **WARNING! Risk of Fire or Explosion! Failure to install appliance according to these instructions could lead to a fire or explosion.**

Appliance Install

	YES	IF NO, WHY?
Verified that the enclosure is insulated or sealed. (Pg. 12)	<input type="checkbox"/>	_____
Required non-combustible board is installed. (Pg. 12)	<input type="checkbox"/>	_____
Verified clearances to combustibles. (Pg. 9-12)	<input type="checkbox"/>	_____
Fireplace is leveled and secured. (Pg. 13)	<input type="checkbox"/>	_____

Electrical Section 5 (Pg. 14-17)

Unswitched power (110-120 VAC) provided to the appliance.	<input type="checkbox"/>	_____
Switch wires properly installed.	<input type="checkbox"/>	_____

Gas Section 6 (Pg.18-20)

Proper appliance for fuel type.	<input type="checkbox"/>	_____
Was a conversion performed?	<input type="checkbox"/>	_____
Leak check performed and inlet pressure verified.	<input type="checkbox"/>	_____

Finishing Section 7 (Pg. 21)

Combustible materials not installed in non-combustible areas.	<input type="checkbox"/>	_____
Verified all clearances meet installation manual requirements.	<input type="checkbox"/>	_____
Mantels and wall projections comply with installation manual requirements.	<input type="checkbox"/>	_____

Appliance Setup Section 8 (Pg. 22-25)

All packaging and protective materials removed (inside & outside of appliance).	<input type="checkbox"/>	_____
Refractories, logs, media and embers installed correctly.	<input type="checkbox"/>	_____
Mesh, doors, or decorative front properly installed.	<input type="checkbox"/>	_____
Manual bag and all of its contents are removed from inside/under the appliance and given to party responsible for use and operation.	<input type="checkbox"/>	_____
Started appliance and verified no gas leaks exist.	<input type="checkbox"/>	_____

Hearth & Home Technologies recommends the following:

- Photographing the installation and copying this checklist for your file.
- That this checklist remain visible at all times on the appliance until the installation is complete.

Comments: Further description of the issues, who is responsible (Installer/ Builder/ Other Trades, etc) and corrective action needed _____

Comments Communicated to party responsible _____ by _____ on _____
 (Builder / Gen. Contractor/) (Installer) (Date)

→ = Contains updated information.

4066-982 4/14

1 Product Specific and Important Safety Information

A. Appliance Certification

MODELS: CARODG36I-B, CARODG42I-B
LABORATORY: Underwriters Laboratories, Inc. (UL)
TYPE: Outdoor Decorative Gas Appliances
STANDARD: ANSI Z21.97-2014, CSA 2.41-2014

This product is listed to ANSI standards for "Outdoor Decorative Gas Appliances" and "Gas Fired Appliances for Use at High Altitudes."

NOTICE: This installation must conform with local codes. In the absence of local codes you must comply with the National Fuel Gas Code, ANSI Z223.1-latest edition in the U.S.A. and the CAN/CGA B149 Installation Codes in Canada.

When an appliance is for connection to a fixed piping system, the installation must conform with local codes, or in the absence of local codes with the **National Fuel Gas Code, ANSI Z223.1/NFPA 54, or International Fuel Gas Code.**

B. BTU Specifications

Models	Min/Max Input BTUH	Orifice Size (DMS)
CARODG36I-B (NG)	36,000/55,000	#27 / .144
CARODG36I-B (LP)	29,000/50,000	#46 / .081
CARODG42I-B (NG)	33,000/65,000	#24 / .152
CARODG42I-B (LP)	37,000/62,000	#43 / .089

C. High Altitude Installations

NOTICE: If the heating value of the gas has been reduced, these rules do not apply. Check with your local gas utility or authorities having jurisdiction.

When installing above 2000 feet elevation:

- In the USA: Reduce input rate 4% for each 1000 feet above 2000 feet.
- In CANADA: Input ratings are certified without a reduction of input rate for elevations up to 4500 feet (1370 m) above sea level. Please consult provincial and/or local authorities having jurisdiction for installations at elevations above 4500 feet (1370 m).

Check with your local gas utility to determine proper orifice size.

D. Non-Combustible Materials Specification

Material which will not ignite and burn. Such materials are those consisting entirely of steel, iron, brick, tile, concrete, slate, glass or plasters, or any combination thereof.

Materials that are reported as passing **ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 °C** shall be considered non-combustible materials.

E. Combustible Materials Specification

Materials made of or surfaced with wood, compressed paper, plant fibers, plastics, or other material that can ignite and burn, whether flame proofed or not, or plastered or unplastered shall be considered combustible materials.

F. Electrical Codes

NOTICE: This appliance must be electrically wired and grounded in accordance with local codes or, in the absence of local codes, with **National Electric Code ANSI/NFPA 70-latest edition or the Canadian Electric Code CSA C22.1.**

- A 110-120 VAC circuit for this product must be protected with ground-fault circuit-interrupter protection, in compliance with the applicable electrical codes, when it is installed in locations such as in bathrooms or near sinks.

G. Fuel

This appliance must not be used to burn solid fuel.

2 Getting Started

A. Design and Installation Considerations

The Carolina Series outdoor gas appliance is designed for outdoor use and may be installed as a standalone unit or built into an outside wall. It may be installed in screened porches and lanais that meet these minimum requirements:

- Minimum porch area - 96 square feet
- Minimum ceiling height - 82 in.
- Minimum distance from top of appliance opening to ceiling - 49.5 in.

A minimum of one wall can be screened but must be open to outside ventilation. Minimum requirements are:

- Minimum screen area - 64 square feet
- Minimum screen top height - 80 in.

If this appliance is to be installed within a wall, you must:

- Provide access to the gas controls.
- Slope outdoor floor (and hearth) away from appliance.
- Flash the perimeter of the appliance, corners and the appliance face in a manner consistent with regional practices as required to prevent water penetration around the appliance or manage water that may penetrate the appliance. See Section 3 for more information regarding wall and enclosure construction.

The appliance may be installed on a wood or noncombustible deck.

Refer to Section 3 for clearances.

Installation MUST comply with local, regional, state and national codes and regulations. Consult insurance carrier, local building inspector, fire officials or authorities having jurisdiction over restrictions, installation inspection and permits.

Before installing, determine the following:

- Where the appliance is to be installed.
 - Clearance to side walls
 - Location of adjacent stairwells
 - Doors
 - Windows
 - Walkways
 - Wires
 - Possibility of flooding or running water
- Gas supply piping requirements.
- Electrical wiring requirements.
- Framing and finishing details.



Installation and service of this appliance should be performed by qualified personnel. Hearth & Home Technologies suggests NFI certified or factory trained professionals, or technicians supervised by an NFI certified professional (www.nficertified.org).

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. For assistance or additional information, consult a qualified service technician, service agency or your dealer.

B. Tools and Supplies Needed

Before beginning the installation be sure that the following tools and building supplies are available.

Tape measure	Framing material
Pliers	Hammer
Phillips screwdriver	Manometer
Gloves	Framing square
Voltmeter	Electric drill and bits (1/4 in.)
Plumb line	Safety glasses
Level	Reciprocating saw
3/4 in. wrench	Crescent wrench
7/8 in. wrench	1/4 in. nut driver
7/16 in. wrench	Pipe sealant
Flat blade screwdriver	
Non-corrosive leak check solution	
1/2 - 3/4 in. length, #6 or #8 Self-drilling screws	
Caulking material (300°F minimum continuous exposure rating)	

C. Inspect Appliance and Components

- Carefully remove the appliance and components from the packaging.
- Remove screen package from grate, set aside.
- Remove packaging from gas logs and lava rock, which are packaged separately and located on top of the firebox along with the lava rock.
- Report any parts damaged in shipment to your dealer.
- **Read all of the instructions before starting the installation. Follow these instructions carefully during the installation to ensure maximum safety and benefit.**

WARNING! Risk of Fire or Explosion! Damaged parts could impair safe operation. **DO NOT** install damaged, incomplete or substitute components. Keep appliance dry.

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance or vent system component.
- Modification of the appliance.
- Installation other than as instructed by Hearth & Home Technologies.
- Improper positioning of the gas logs.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.

Any such action may cause a fire hazard.

WARNING! Risk of Fire, Explosion or Electric Shock! **DO NOT** use this appliance if any part has been under water. Call a qualified service technician to inspect the appliance and to replace any part of the control system and/or gas control which has been under water.

3 Framing and Clearances

A. Appliance/Decorative Front Dimension Diagrams

Dimensions are actual appliance dimensions. Use for reference only. For framing dimensions and clearances refer to Section 5.

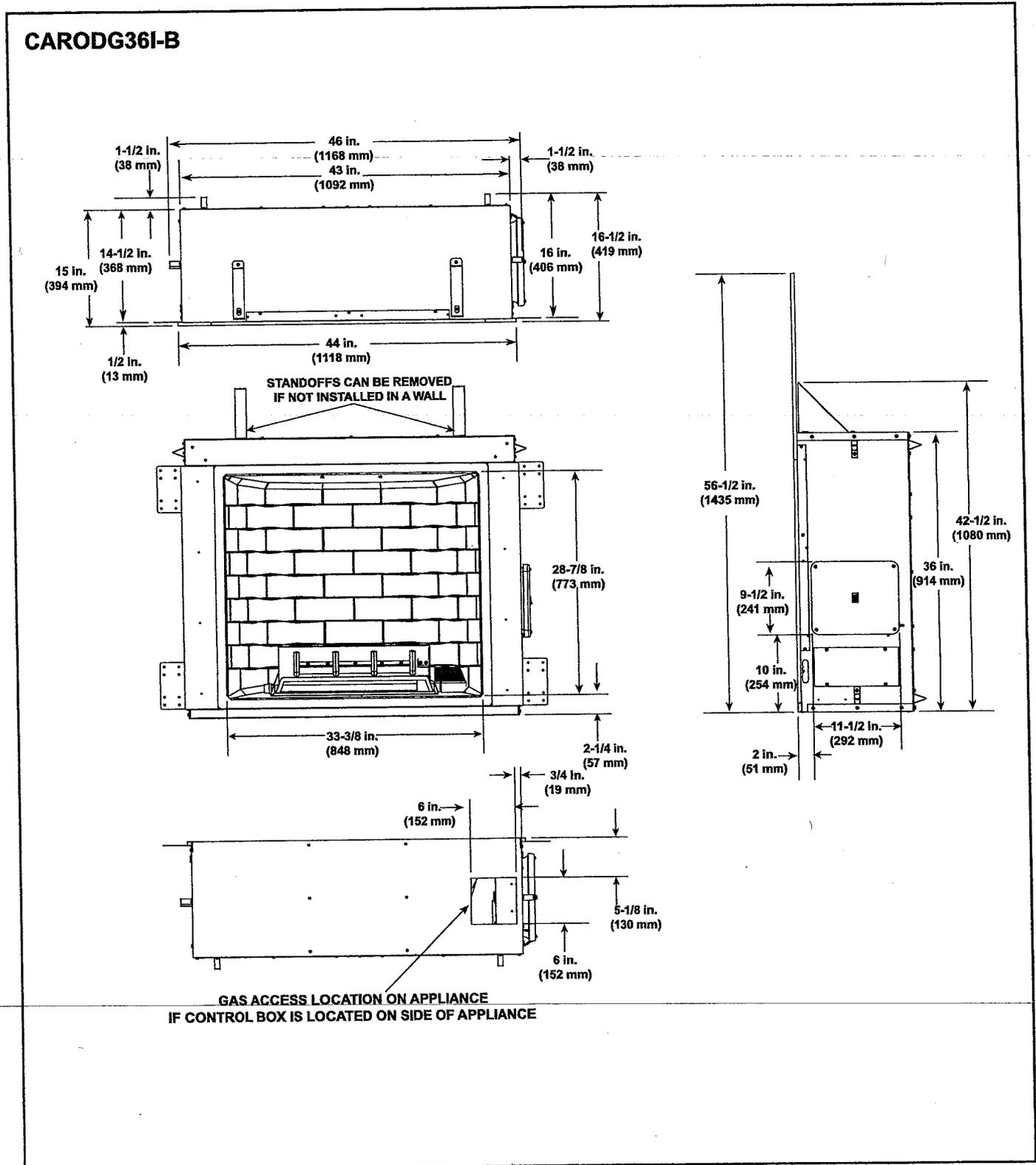


Figure 3.1 Appliance Dimensions - CARODG36I-B

CARODG42I-B

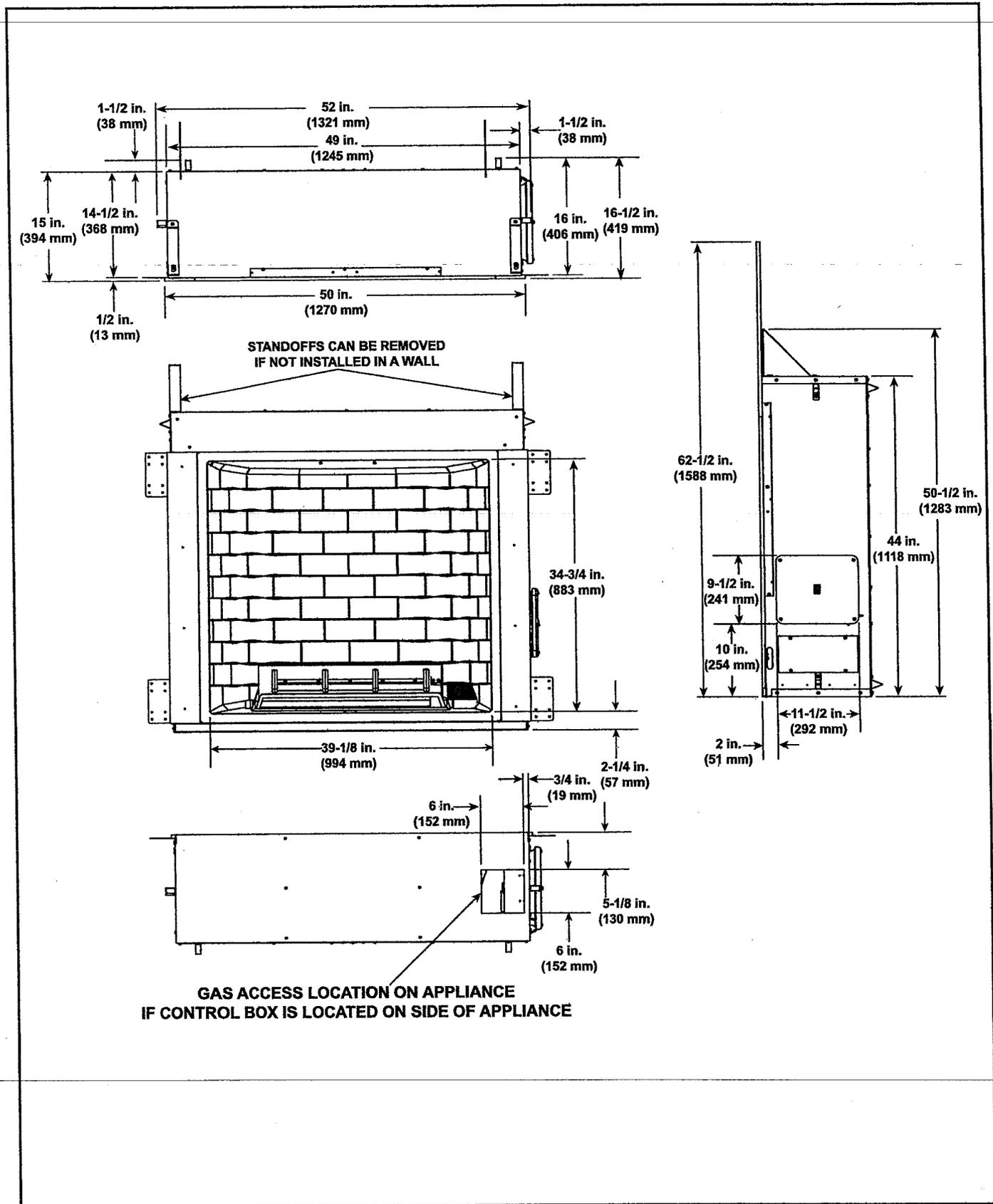


Figure 3.2 Appliance Dimensions - CARODG42I-B

B. Clearances to Combustibles

When selecting a location for the appliance it is important to consider the required clearances to walls (see Figure 3.4).

WARNING! Risk of Fire or Burns! Provide adequate clearance around air openings and for service access. Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.

WARNING! Risk of Fire or Burns! The appliance is hot and wind may cause flames to reach out in front.

- Keep furniture, draperies and other combustibles away.
- Locate the appliance away from traffic areas.
- Do not block air openings.
- DO NOT place rugs, carpeting or other combustible materials on the floor directly in front of the appliance.
- Clean up fallen leaves, branches and other combustible materials before using the appliance.
- See Figure 3.3 or Figure 3.4 for required clearances.
- Install on wood or solid noncombustible surfaces extending full width and depth to prevent damage.
- **DO NOT** install directly on carpeting, vinyl, plastic composite decking or combustible surfaces other than wood.
- When installed on wood, a 16" noncombustible hearth extension in front of the appliance is recommended. See Figure 3.5.

WARNING! Risk of Fire! Maintain specified air space clearances to appliance:

- *Insulation and other materials must be secured to prevent accidental contact.*
- *The chase/enclosure must be properly blocked to prevent blown insulation or other combustibles from entering and making contact with the appliance.*
- *Failure to maintain airspace may cause overheating and a fire.*

CARODG36I, CARODG36IL

NOTICE: Illustrations reflect typical installations and are FOR DESIGN PURPOSES ONLY. Illustrations/diagrams are not drawn to scale. Actual installation may vary due to individual design preference.

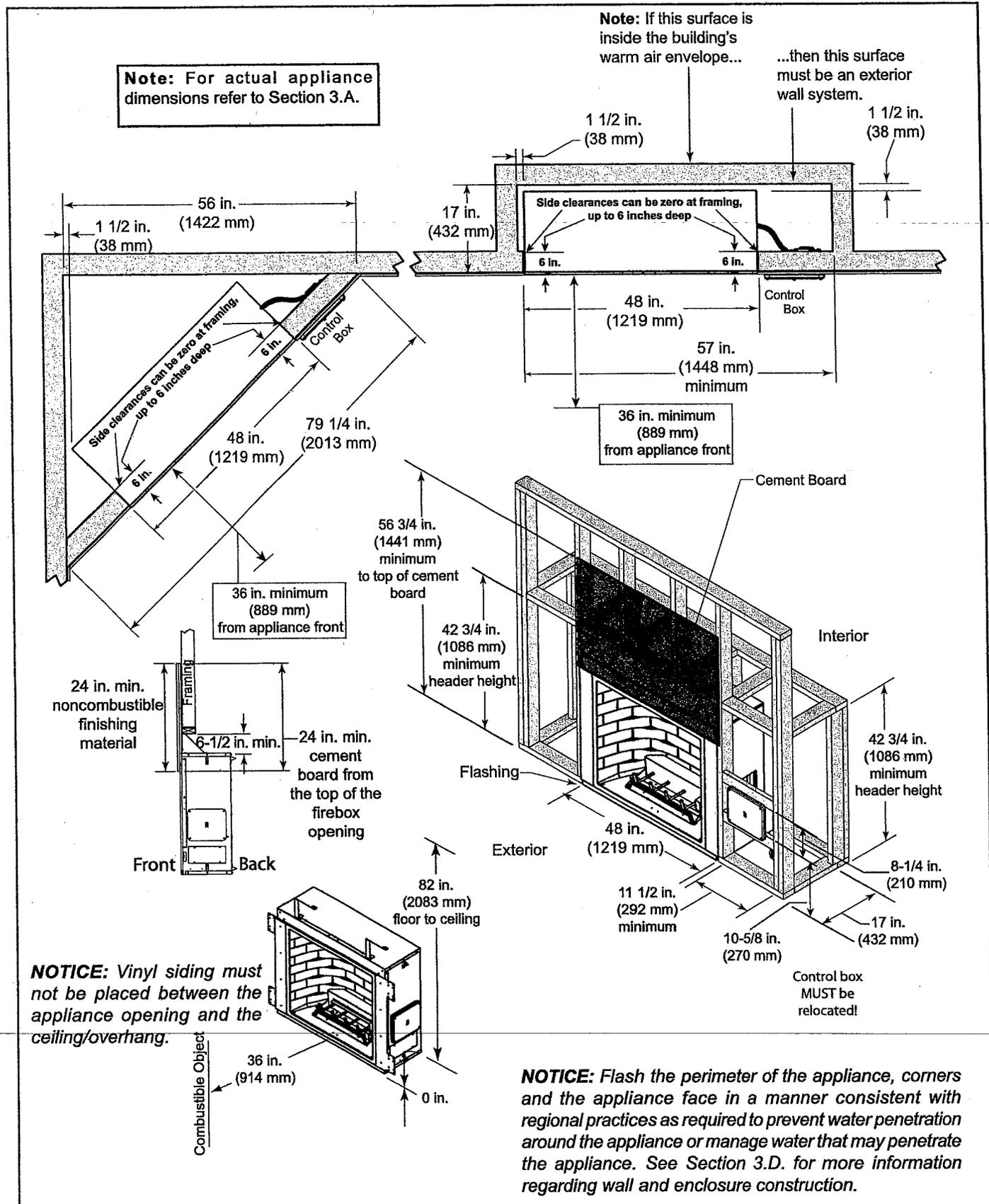


Figure 3.3 Appliance Locations and Framing Dimensions - CARODG36I-B

CARODG42I, CARODG42IL

NOTICE: Illustrations reflect typical installations and are FOR DESIGN PURPOSES ONLY. Illustrations/diagrams are not drawn to scale. Actual installation may vary due to individual design preference.

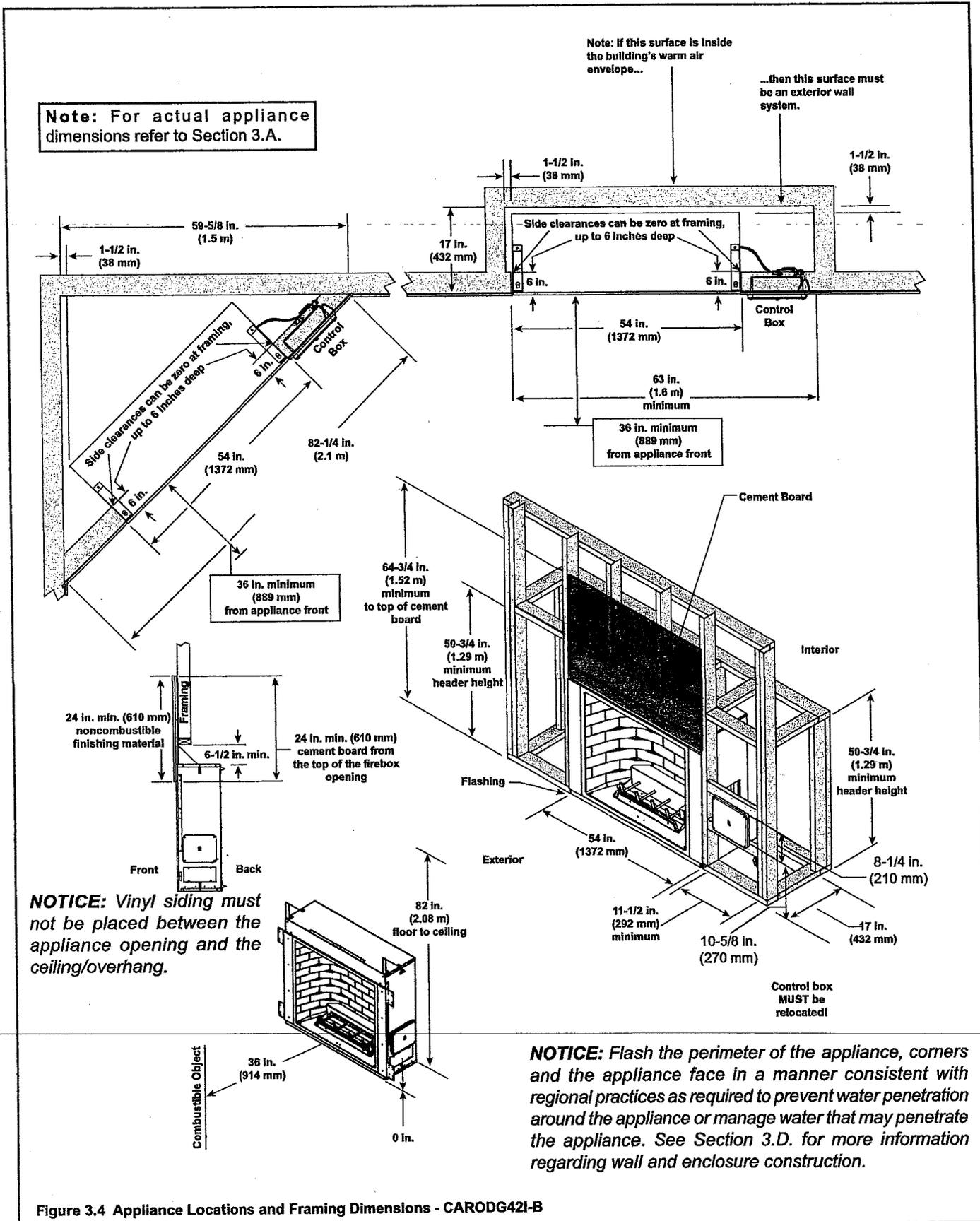


Figure 3.4 Appliance Locations and Framing Dimensions - CARODG42I-B

WARNING! Risk of Fire! Comply with all minimum clearances to combustibles as specified. Framing or finishing material closer than the minimums listed must be constructed entirely of non-combustible materials (i.e., steel studs, concrete board, etc).

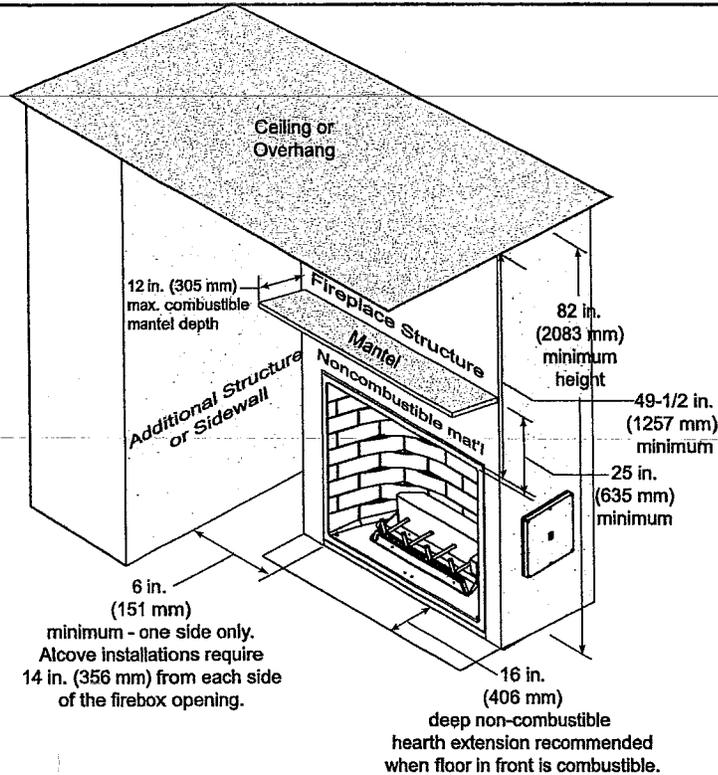


Figure 3.5 Clearances to Combustibles

C. Hearth Extension/Floor Protection

WARNING! Risk of Fire! Hearth extension recommended to protect combustible floors in front of appliance.

D. Stand-Alone Installation

This appliance may be installed as a stand-alone unit.

- Construct a stand-alone surround of non-combustible materials.
- Cement board or other Noncombustible material can be applied directly to the metal and covered with Non-combustible facing material.
- Air space clearances are not required for stand-alone construction with non-combustible materials.
- Tape and seal all joints and corners.
- Provide proper flashing and moisture management if installed on surfaces that may rot or otherwise be damaged by water. (See also Section 4.B.)

When the stand-alone surround is constructed completely of noncombustible materials, stand-offs may be removed to permit a smaller structure.

E. Built-in Installation

When this appliance is installed into a wall, we recommend that the wall be an exterior wall system.

- See framing measurements in Figure 3.3 and 3.4.
- You must maintain 1 ½ in. (38mm) air space at the back and sides (except the first 6 inches from the front can be zero to the framing). See Figures 3.3 and 3.4.
- The header must not be placed below the top of the top standoffs.
- Noncombustible wall sheathing material is required the first 24 in. above the top of the firebox opening.

- A 24 inch tall cement board has been provided for this installation and has been fastened to the back of the appliance for shipping purposes.
- Put a bead of caulking across the top of the firebox flange before installing 24 inch tall cement board.
- The control box **MUST** be relocated to be easily accessible. See Section 5.C.
- Flash the perimeter of the appliance, corners and the appliance face in a manner consistent with regional practices as required to prevent water penetration around the appliance or manage water that may penetrate the appliance. See Section 3.D. and Figure 3.1 (CARODG361-B) and 3.2 (CARODG421-B) for more information regarding wall and enclosure construction.

F. Moisture Resistance

This outdoor appliance will shed moderate amounts of water, but is not waterproof. This appliance must be enclosed or covered with noncombustible finish material and all joints sealed to prevent water infiltration.

The firebox will not perform as an exterior wall. Moisture penetration must be considered for construction that places the appliance in structure walls or on moisture sensitive surfaces.

When installed on exterior walls: Hearth & Home Technologies recommends that the chase be constructed outside the structure's weather envelope. Where the platform meets the wall, use a flashing detail similar to that required for attached decks. Chase platforms, including hearths should slope away from the structure at 1/8 in. to 1/4 in. per foot. The appliance can be shimmed level.

4 Appliance Preparation

A. Securing and Leveling Appliance

CAUTION! Risk of Cuts, Abrasions or Flying Debris.
Wear protective gloves and safety glasses during installation. Sheet metal edges are sharp.

Position, level, and secure the appliance.

- Place the appliance into position on either a wood or noncombustible continuous flat surface.
- Level the appliance from side to side and front to back.
- Shim the appliance with noncombustible material, such as sheet metal, as necessary.
- Nailing tabs must be moved from shipping position to installation position and secured to framing. Bend the two nailing tabs out on each side. See Figure 4.1.

B. Flashing

- Flash the appliance in a manner consistent with regional practices to prevent water penetration around the appliance. Due to elevated temperatures across the top of the appliance, metal flashing and high temperature sealant must be used. Adhesive polymeric flashing materials may melt.
- For brick, stone, stucco and similar construction, weep screeds should be installed per regional codes.
- See Section 3.F. and Figures 3.1 and 3.2 for more information regarding wall and enclosure construction required to prevent moisture penetration into the structure. The appliance will shed moderate amounts of water but is not waterproof.

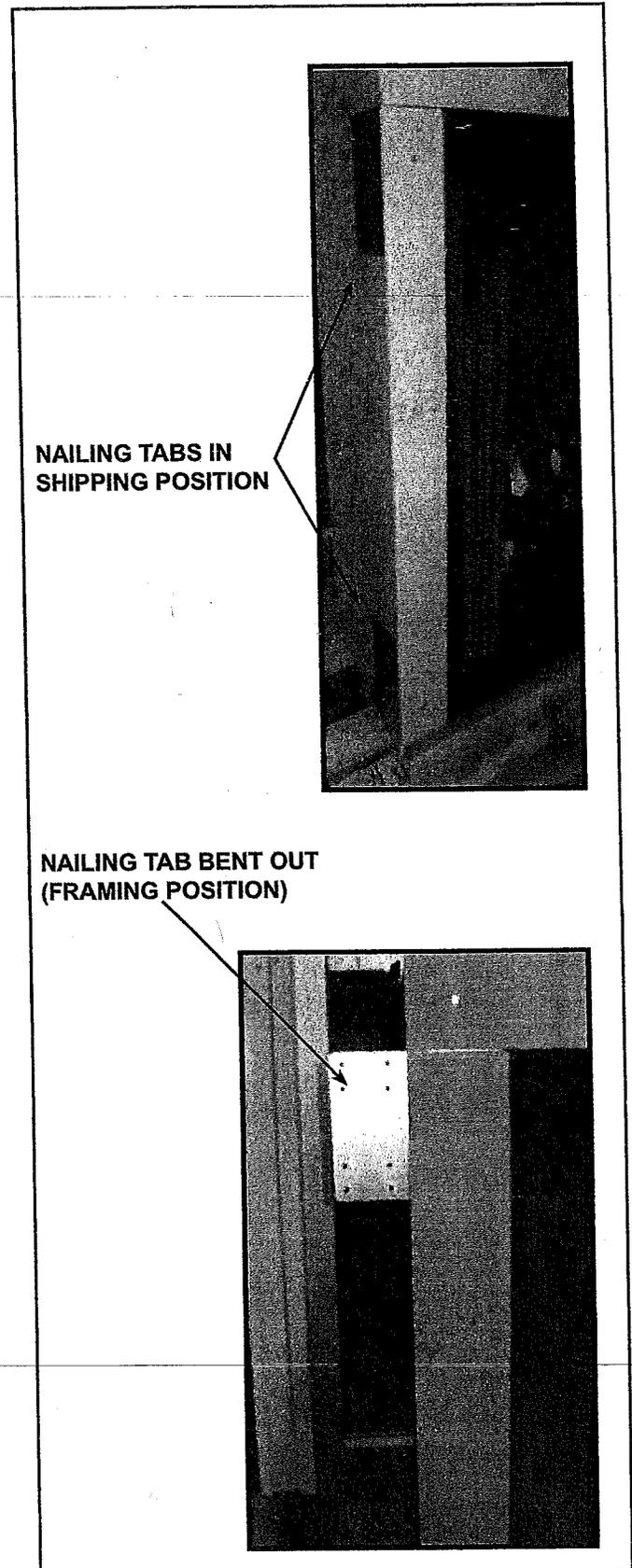


Figure 4.1 Positioning and Securing Nailing Tab

5 Electrical Information

A. General Information

Note: If a gas conversion is to be done on this appliance, it should be done before electrical connections are made. See Section 6 Gas Information.

WARNING! Risk of Shock or Explosion! DO NOT wire 110-120 VAC to the valve or to the appliance wall switch. Incorrect wiring will damage controls.

NOTICE: This appliance must be electrically wired and grounded in accordance with local codes or, in the absence of local codes, with **National Electric Code ANSI/NFPA 70-latest edition** or the **Canadian Electric Code CSA C22.1**.

- Wire the appliance junction box to unswitched 110-120 VAC. This is required for proper operation of the appliance.
- A 110-120 VAC circuit for this product must be protected with ground-fault circuit-interrupter protection in compliance with the applicable electrical codes.
- Low voltage and 110-120 VAC voltage cannot be shared within the same wall box.

Electrical Service and Repair

WARNING! Risk of Shock! Label all wires prior to disconnection when servicing controls. Wiring errors could cause improper and dangerous operation. Verify proper operation after servicing.

WARNING! Risk of Shock! Replace damaged wire with type 105° C rated wire. Wire must have high temperature insulation.

B. Wiring Requirements

IntelliFire Plus™ Pilot Ignition System Wiring

- Wire the appliance junction box to 110-120 VAC for proper operation of the appliance.

WARNING! Risk of Shock or Explosion! DO NOT wire IPI controlled appliance junction box to a switched circuit. Incorrect wiring will override IPI safety lockout.

- This appliance is equipped with an IntelliFire Plus™ control valve which operates on a 6 volt/1.5 AMP system.
- Plug the 6 volt transformer plug into the appliance junction box to supply power to the appliance.
- This appliance is supplied with an electric kit which is located in the control box. A wiring diagram is shown in Figure 8.1.
- The appliance comes standard with an OFF/ON switch on the control box lid
- Optional RC100 wireless wall switch (OFF/ON). For use with the electric kit.

Hearth & Home Technologies recommends that IntelliFire Plus™ wireless controls be used for their features and functionality with the IntelliFire Plus™ ignition system.

NOTICE: RC100 must be protected from the elements.

- The module should be in the REMOTE position. Putting the switch in the OFF position will disable all appliance controls.

C. Installing the Electric Kit

- Remove four screws to remove cover from the control box.

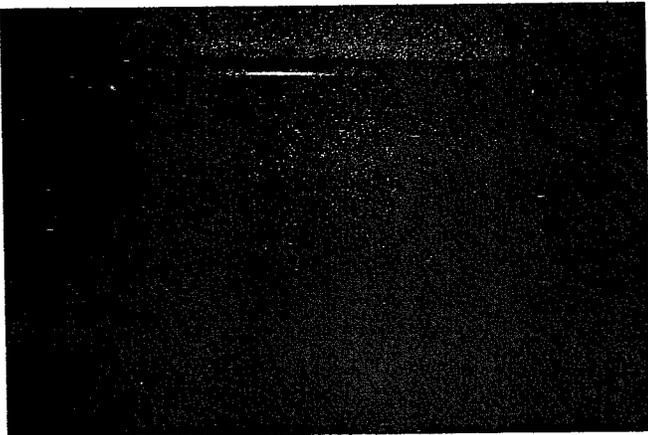


Figure 5.1 Remove Control Cover

- Remove the junction box bracket by prying loose with a screwdriver. Remove the two screws shown in Figure 5.2. Cut out and remove insulation from behind junction box bracket as shown in Figure 5.3.

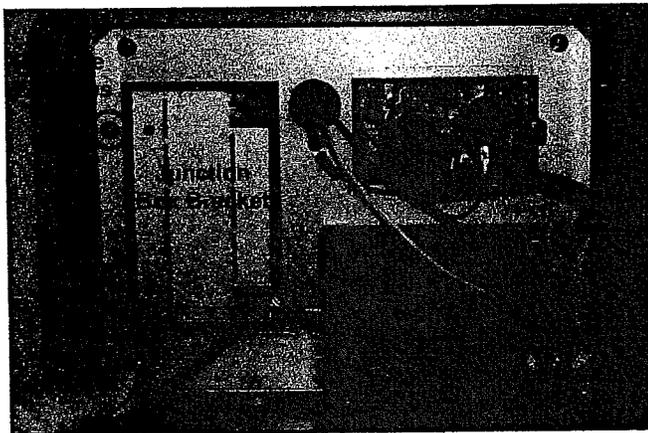


Figure 5.2 Remove Junction Box Bracket & Two Screws

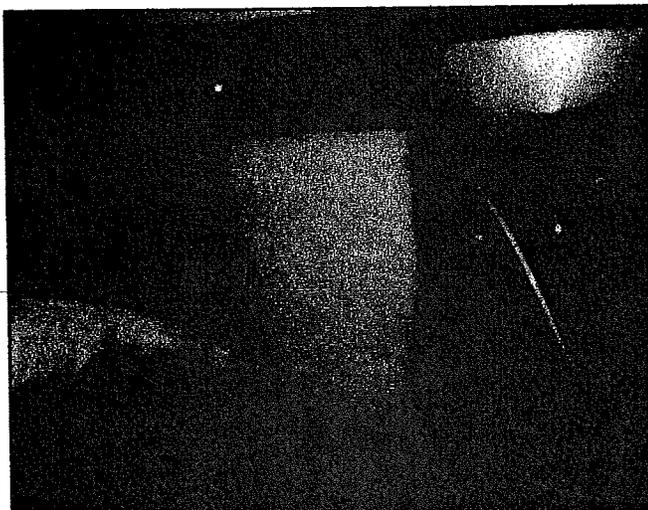


Figure 5.3 Cut and Remove Insulation

- Make hand bends to bracket as shown in Figure 5.4:

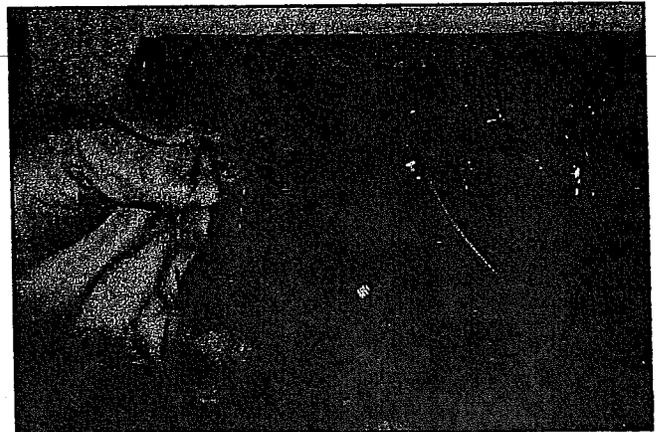


Figure 5.4 Hand-bend Bracket

- Fasten bracket to junction box with two screws (provided with junction box).

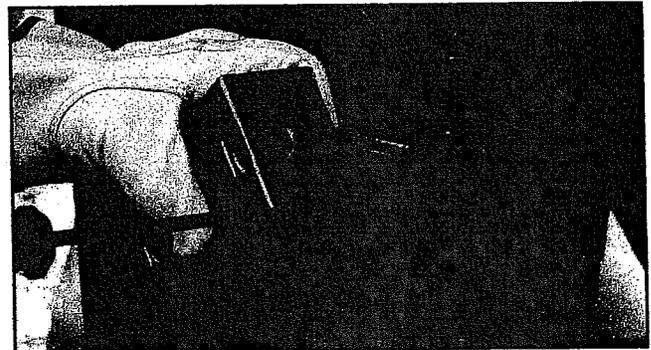


Figure 5.5 Fasten Bracket to Junction Box

- Thread wire into junction box.
- Place junction box into the control box, matching holes as shown, and fasten with the two screws removed in Figure 5.6.

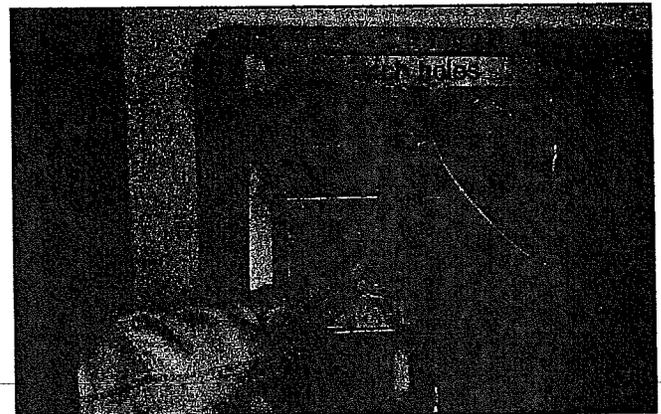


Figure 5.6 Place & Fasten Junction Box

- Wire the GFI receptacle as shown below:

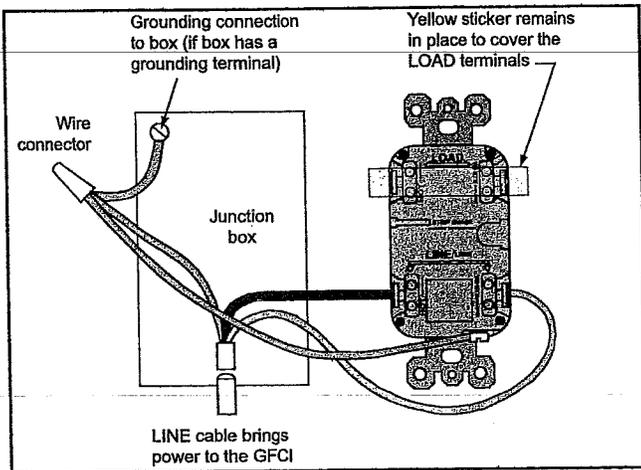


Figure 5.7 Wire the GFI Receptacle

- Assemble the junction box.

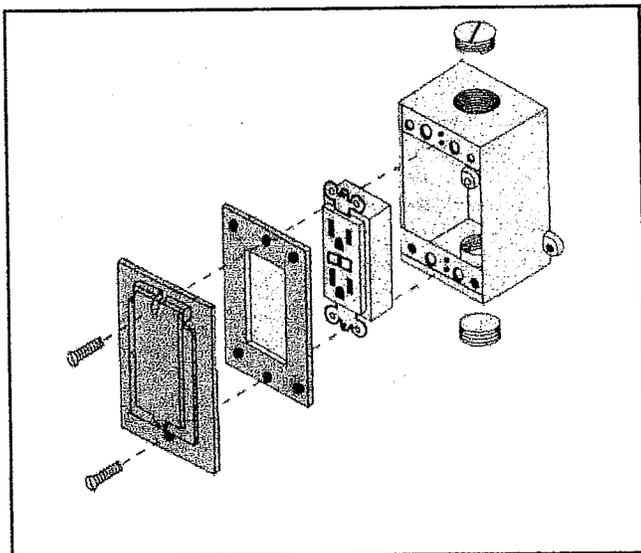


Figure 5.8 Assemble Junction Box

- Connect the red and black wires of the wiring assembly included with the electric kit to the red and black wires to the switch and module. Plug the power supply wire into the wire assembly and then into the outlet. See Figure 5.10.
- If installing optional remote control, disconnect the brown module wire from the red jumper wire. See Figure 5.10. Follow the instructions included with the remote control.
- Replace the cover on the control box.

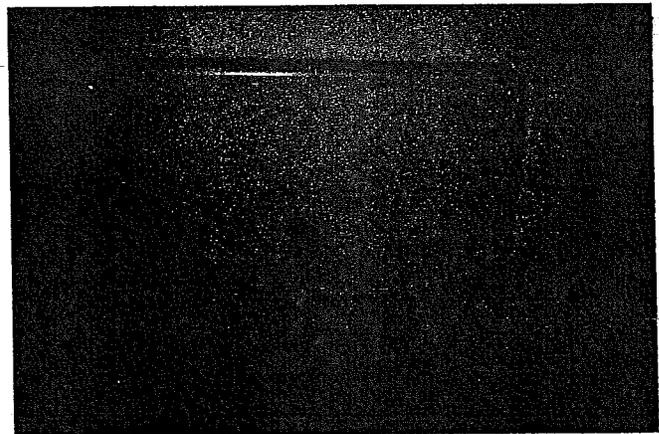


Figure 5.9 Replace Control Cover

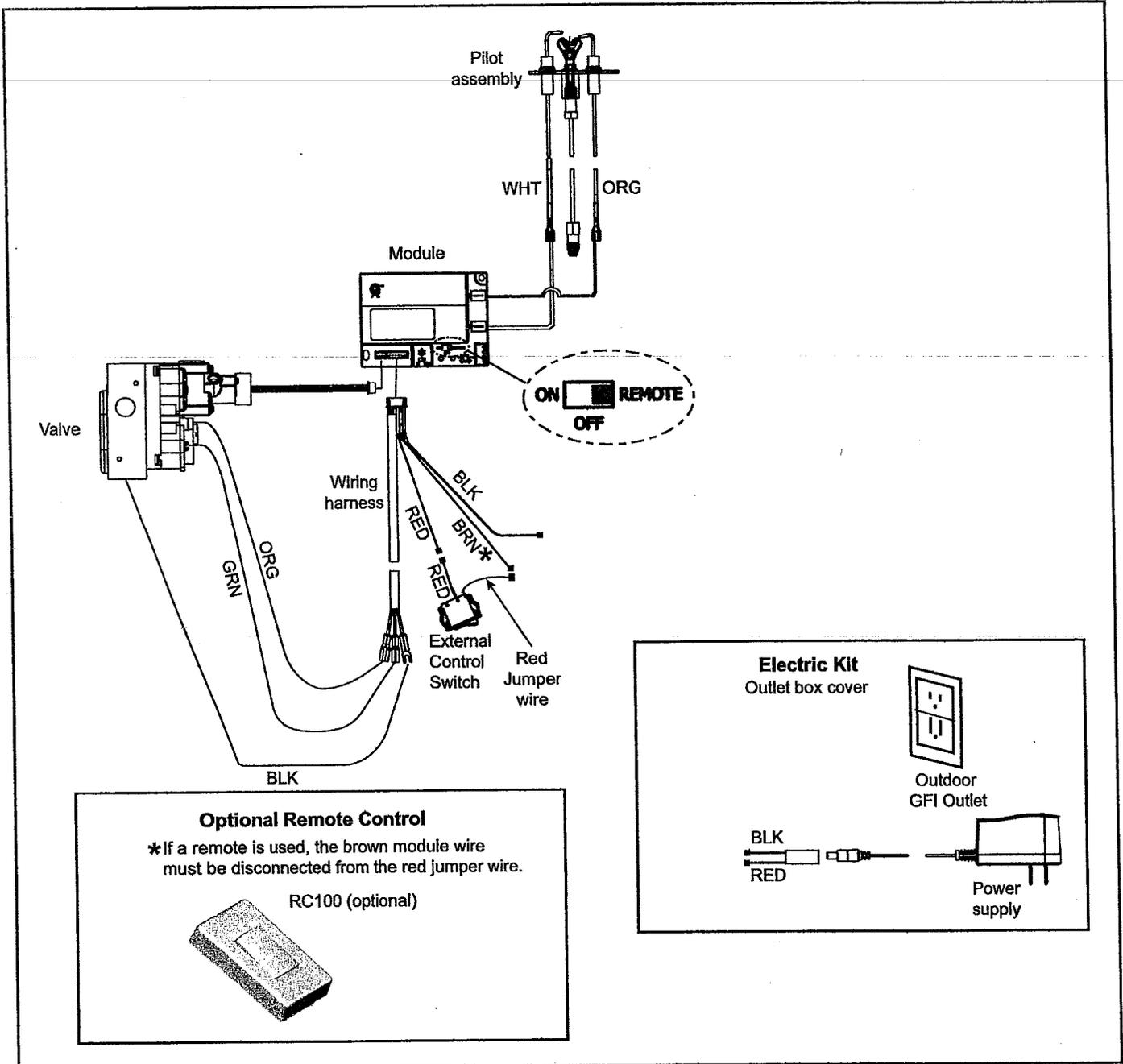


Figure 5.10 Intermittent Pilot Ignition (IPI) Wiring Diagram with Electric Kit and Optional Remote Control

6 Gas Information

A. Fuel Conversion

- Make sure the appliance is compatible with available gas types.
- Conversions must be made by a qualified service technician using Hearth & Home Technologies specified and approved parts.

B. Gas Pressure

- Optimum appliance performance requires proper input pressures.
- Gas line sizing requirements will be determined in ANSI Z223.1 National Fuel Gas Code in the USA and CAN/CGA B149 in Canada.
- Pressure requirements are:

Gas Pressure	Natural Gas	Propane
Minimum inlet pressure	5.0 in. w.c.	11.0 in. w.c.
Maximum inlet pressure	10.0 in. w.c.	13.0 in. w.c.
Manifold pressure	3.5 in. w.c.	10.0 in. w.c.

These pressures can be verified through the access panel as shown in Section 6.D Valve Access.

When an appliance is for connection to a fixed piping system, the installation must conform with local codes, or in the absence of local codes with the **National Fuel Gas Code, ANSI Z223.1/NFPA 54, or International Fuel Gas Code.**

WARNING! Risk of Fire or Explosion! High pressure will damage valve. Low pressure could cause explosion.

- Verify inlet pressures. Verify minimum pressures when other household gas appliances are operating.
- Install regulator upstream of valve if line pressure is greater than 1/2 psig.

▲ WARNING	
	Fire Risk. Explosion Hazard. High pressure will damage valve.
	<ul style="list-style-type: none"> • Disconnect gas supply piping BEFORE pressure testing gas line at test pressures above 1/2 psig. • Close the manual shutoff valve BEFORE pressure testing gas line at test pressures equal to or less than 1/2 psig.

Note: Have the gas supply line installed in accordance with local codes, if any. If not, follow ANSI 223.1. Installation should be done by a qualified installer approved and/or licensed as required by the locality. (In the Commonwealth of Massachusetts installation must be performed by a licensed plumber or gas fitter).

Note: A listed (and Commonwealth of Massachusetts approved) 1/2 in. (13 mm) T-handle manual shut-off valve and flexible gas connector are connected to the 1/2 in. (13 mm) control valve inlet.

- **If substituting for these components, please consult local codes for compliance.**

C. Gas Connection

- If control box is to be relocated, move it at this time to avoid making the gas connection more than once.
- Refer to Reference Section 3 for location of gas line access in appliance.
- Gas line may be run through knockout(s) provided.

Note: Gas line **MUST** be run from right side of appliance.

- The gap between supply piping and gas access hole may be caulked with caulk with a minimum of 300°F continuous exposure rating or stuffed with non-combustible, unfaced insulation to prevent cold air infiltration.
- Ensure that gas line does not come in contact with outer wrap of the appliance. Follow local codes.
- Pipe incoming gas line into valve compartment.
- Connect incoming gas line to the 1/2 in. (13 mm) connection on manual shutoff valve.

WARNING! Risk of Fire or Explosion! Support control when attaching pipe to prevent bending gas line.

- A small amount of air will be in the gas supply lines.

Light the appliance. It will take a short time for air to purge from lines. When purging is complete the appliance will light and operate normally.

WARNING! Risk of Fire! DO NOT change valve settings. This valve has been preset at the factory.

The access panel is located below the control box. It will be easier to make gas connection after the control box is in its final position. If necessary, relocate control box prior to making gas connection. See Section 6.D.

- Remove the screws holding the access panel.
- Set the panel and screws aside for reinstallation.

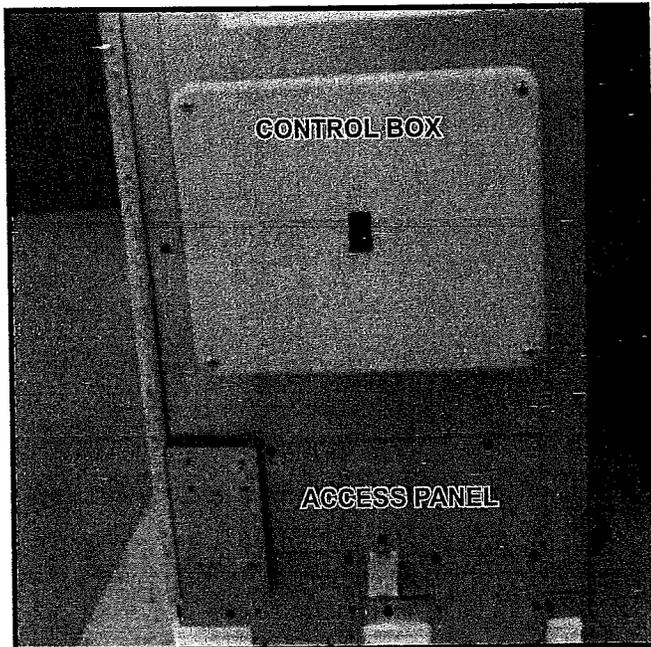


Figure 6.1 Control Box & Access Panel Locations

- The incoming gas line can be installed from the bottom of the appliance structure, from the side or from the rear.
- The incoming line should be connected to the 1/2 in. connection on the manual shutoff valve provided with the appliance.
- Cut cable ties holding manual shutoff valve and the flex line and pilot line prior to finishing to allow for easy access.

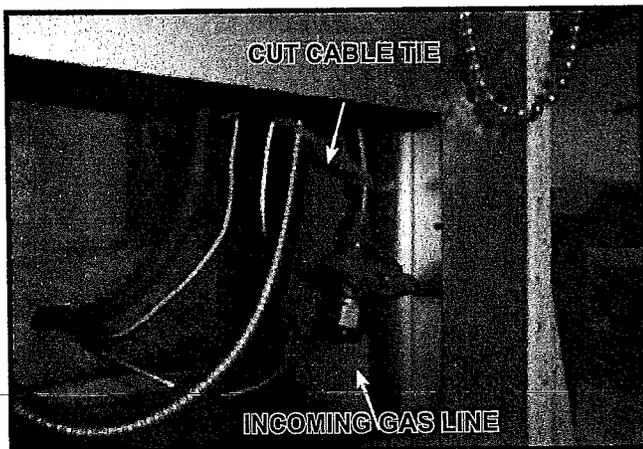


Figure 6.2 Connect Incoming Gas Line to Manual Shutoff Valve

- Accessibility to the shutoff valve is required after installation, or another accessible shutoff is required.

- The flex line and gas shutoff valve can be accessed after installation by removing four screws from the valve mounting bracket at the rear of the control box.

WARNING! Risk of Fire, Explosion or Asphyxiation! Check all fittings and connections with a non-corrosive commercially available leak-check solution. **DO NOT** use open flame. Fittings and connections could have loosened during shipping and handling.

WARNING! Risk of Fire or Explosion! Gas build-up during line purge could ignite.

- Purge should be performed by qualified service technician.
- Ensure adequate ventilation.
- Ensure there are no ignition sources such as sparks or open flames.

D. Valve Access

The valve and controls are located in the control box (Refer to Figure 6.1). Remove the screws and remove the lid.

The control box is designed to be moved out to allow for the thickness of the finish material or moved from the appliance and repositioned.

- Loosen the two bolts found inside the box in the bottom of the control box.
- Slide the box out as necessary.
- Tighten the screws.
- The control box can be removed from the appliance and repositioned (up to approximately 4-1/2 ft. from the appliance).

WARNING! Risk of Fire! Risk of Explosion! DO NOT allow gas line to kink or bend while relocating control box. Gas could leak.

- Make sure the lid will fit over the box without interfering with the finish material.
- The control box lid must be accessible and removable.
- Caulk around the perimeter of the box to prevent water infiltration.

Note: The control box lid can be painted as desired. Use sandpaper or other abrasive material to scuff the surface prior to painting.

E. High Altitude Installations

NOTICE: If the heating value of the gas has been reduced, these rules do not apply. Check with your local gas utility or authorities having jurisdiction.

When installing above 2000 feet elevation:

- In the USA: Reduce input rate 4% for each 1000 feet above 2000 feet.
- In CANADA: Input ratings are certified without a reduction of input rate for elevations up to 4500 feet (1370 m) above sea level. Please consult provincial and/or local authorities having jurisdiction for installations at elevations above 4500 feet (1370 m).

Check with your local gas utility to determine proper orifice size.

7 Finishing

A. Facing Material

The fireplace structure can be covered with any non-combustible material. Refer to Section 1.D.

It is possible for the face of the appliance above the appliance opening to show signs of soot. Clean that area as frequently as necessary to eliminate a build up of soot or permanent discoloration. A non-combustible ledge (shelf) approximately 3 inches above the opening and a minimum of 3 inches out from the face of the appliance incorporated into the facing material will help prevent the soot from going up the wall.

WARNING! Risk of Fire! DO NOT apply combustible materials beyond the minimum clearances. Comply with all minimum clearances to combustibles as specified in this manual. Overlapping materials could ignite.

Note: The control box lid can be painted as desired. Use sandpaper or other abrasive material to scuff the surface prior to painting.

B. Mantel and Wall Projections

WARNING! Risk of Fire! Comply with all minimum clearances to combustibles as specified. Framing or finishing material closer than the minimums listed must be constructed entirely of noncombustible materials (i.e., steel studs, concrete board, etc.).

Figure 7.1 shows the dimensions for mantels or other combustible projections above the appliance opening.

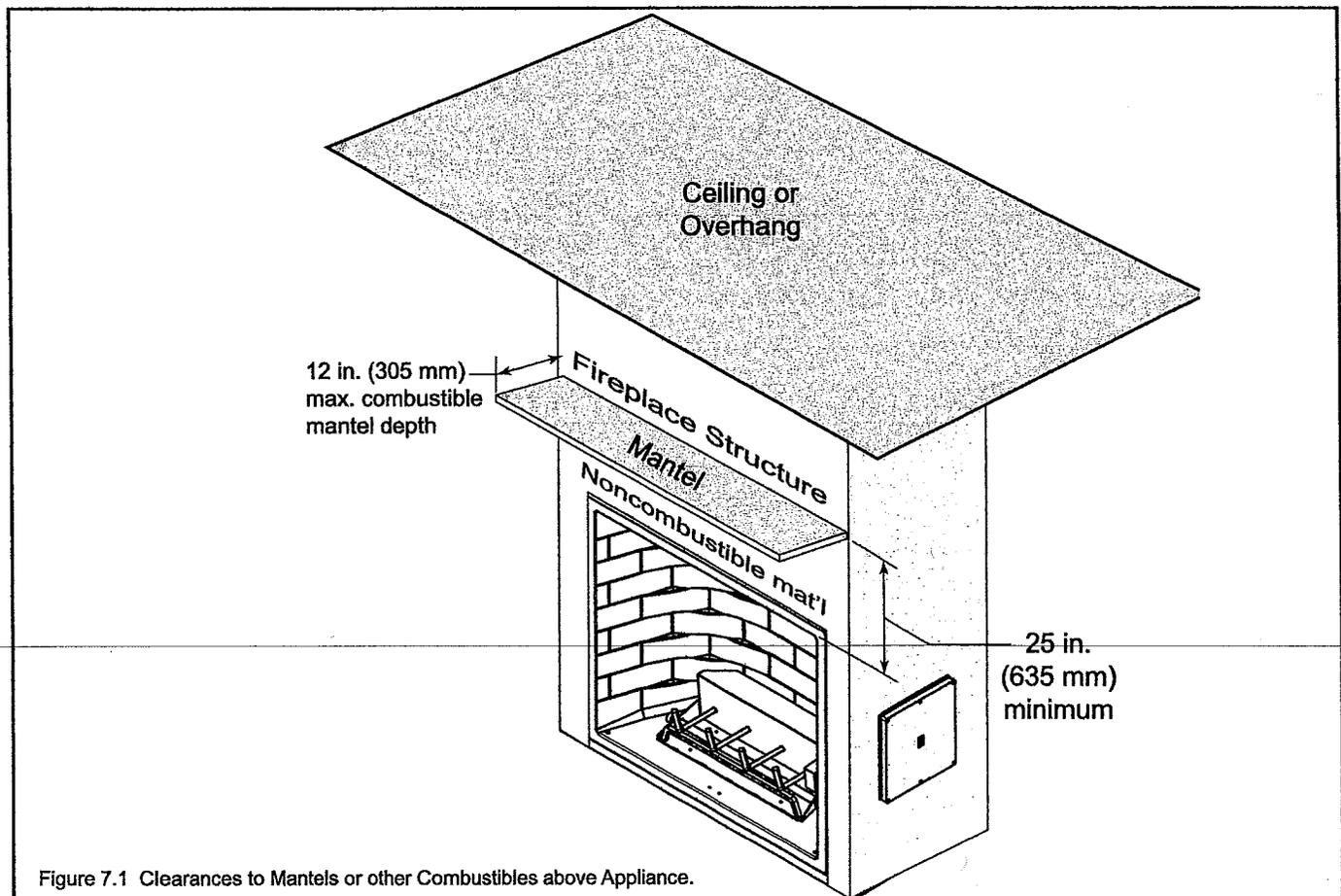


Figure 7.1 Clearances to Mantels or other Combustibles above Appliance.

8 Appliance Setup

A. Remove the Shipping Materials

Remove shipping materials from inside the firebox.

WARNING! Risk of Fire! Close the ball valve before installing the splatter guard to prevent accidental lighting. Remove the splatter guard before lighting the appliance.

→ B. Inspect Firebox

Surface cracking or crazing of firebrick material is normal and expected. All cracks are acceptable and do not require replacement of the unit or the firebox with the exception of:

- Cracks compromising the surface plane of the firebox. See Figure 8.1.

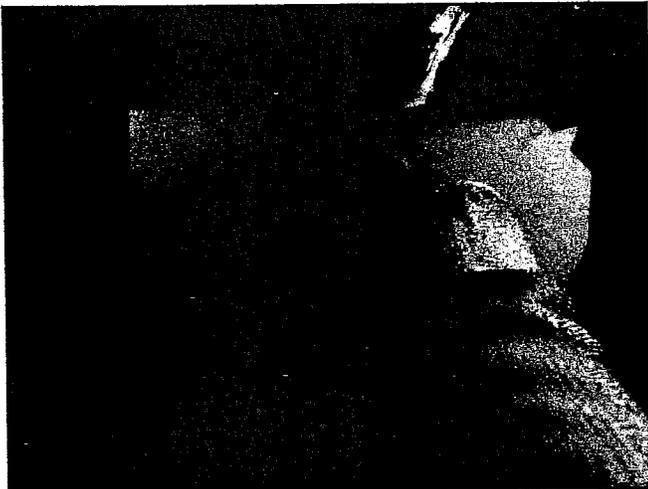


Figure 8.1 Surface plane of firebox is comprised and should be replaced.

C. Clean the Appliance

Clean/vacuum any sawdust that may have accumulated inside the firebox.

D. Optional Accessories

Install approved accessories per instructions included with accessories. Contact your dealer for a list of approved accessories.

WARNING! Risk of Fire and Electric Shock! Use ONLY Hearth & Home Technologies-approved optional accessories with this appliance. Using non-listed accessories could result in a safety hazard and will void the warranty.

E. Install Pilot Shield

Ensure the pilot shield is still in the position shown in the photo below. Shipping could cause it to become displaced.

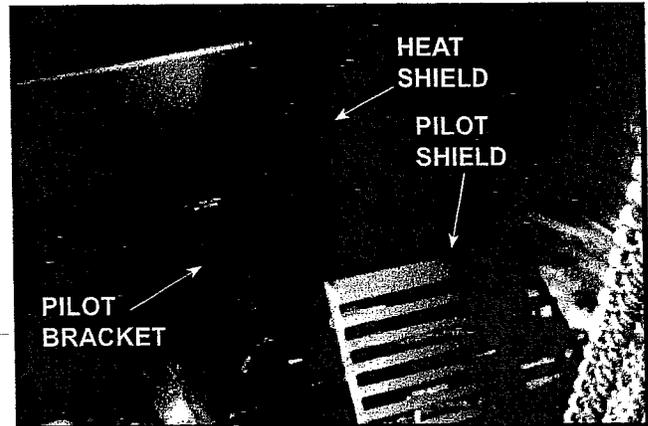


Figure 8.2 Pilot Shield Position

F. Install Lava Rock

Pour lava rock into the burner pan and cover the burner tube. The lava rock level should be at least to the bottom of grate tines, especially from the back side of the burner to the base pan, to reduce risk of sooting. DO NOT cover the burner tube from the right grate support to the pilot assembly. See Figure 8.3 and 8.4. There is extra rock provided to cover the front of the firebox if desired.

NOTICE! Do not cover area around pilot assembly with lava rock. Too much rock will interfere with pilot flame ignition, rectification, and wind stability.

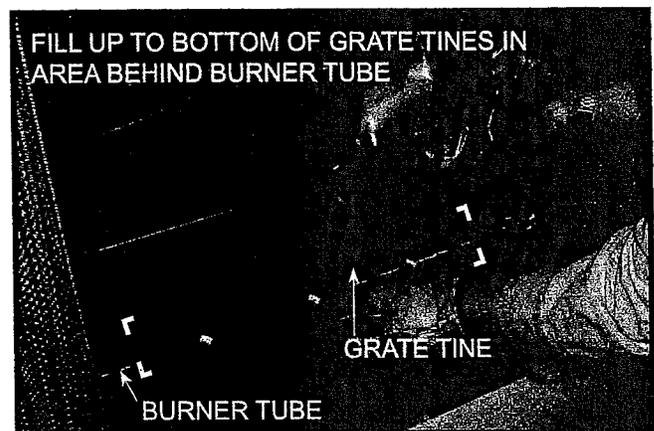


Figure 8.3 Install Lava Rock

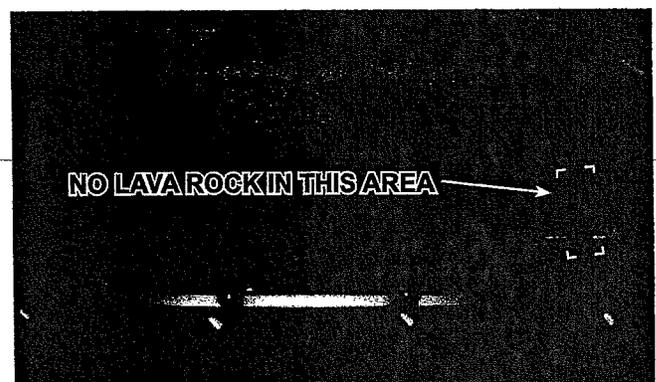


Figure 8.4 Install Lava Rock

G. Install the Log Assembly

- Place the rear log on the shelf against the appliance rear wall. Position log as far back on the shelf as possible.

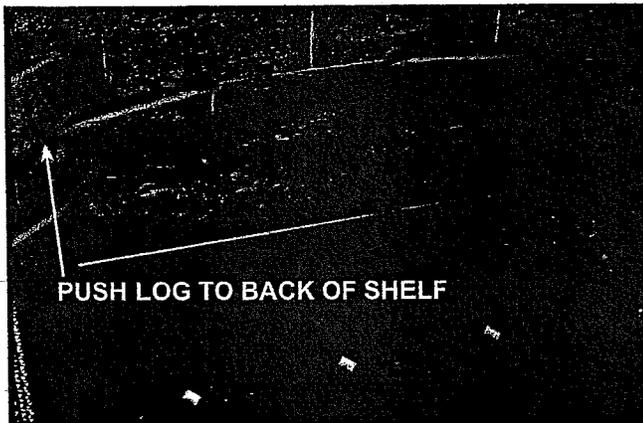


Figure 8.5 Place Rear Log

- Place the left front log on the grate against the front of the grate. Fit notch in log to grate bar as shown below.

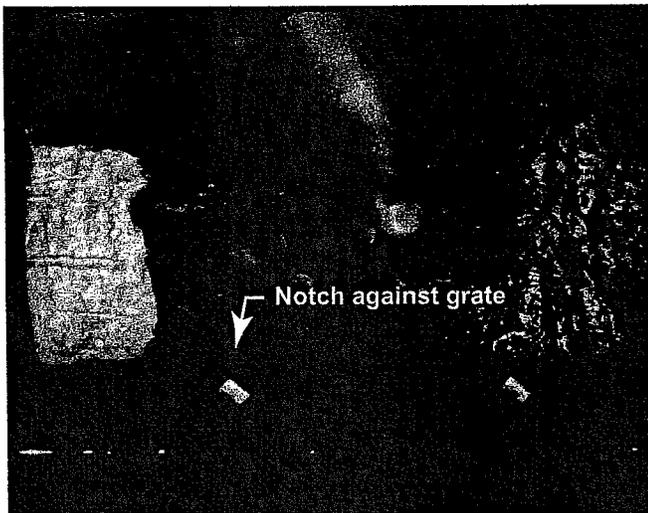


Figure 8.6 Place Left Front Log

- Place right front log on the grate against the front of the grate. Fit notches into the bottom of the log to position it as shown in Figure 8.7

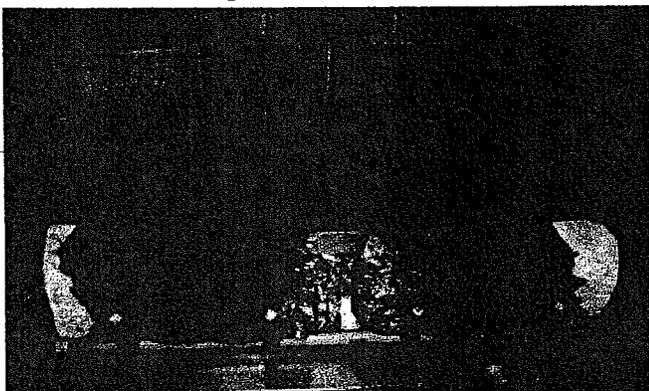


Figure 8.7 Place Right Front Log

- Place top left log on the indentations in the front left log and back log as shown in Figure 8.8.

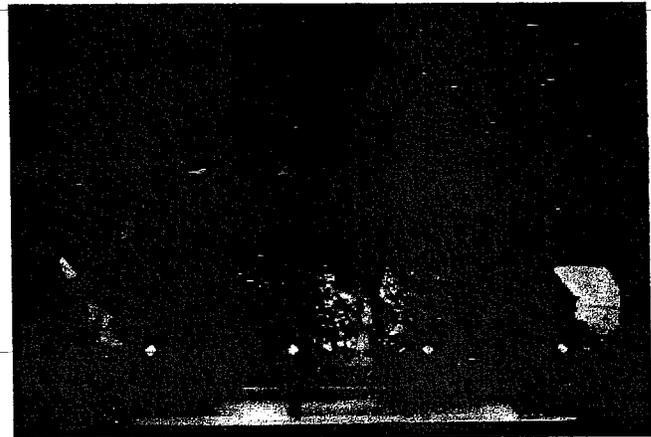


Figure 8.8 Place Top Left Log

- Place the top right log on indentations in the front right log and back log as shown in Figure 8.8 .

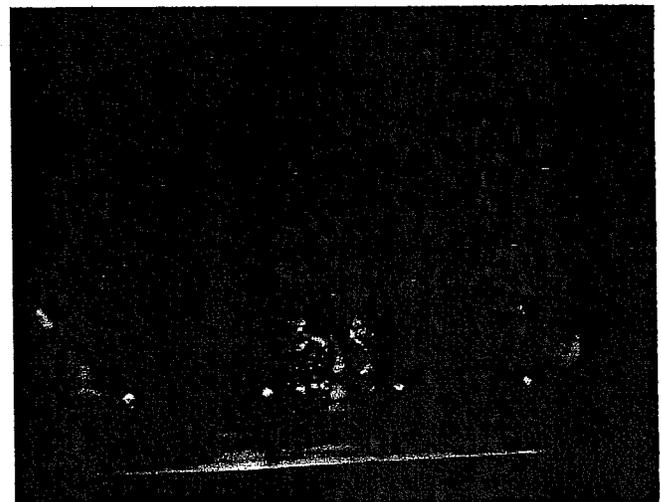


Figure 8.9 Place Top Right Log

- Place top log on the front left log and the top left log as shown in Figure 8.10.

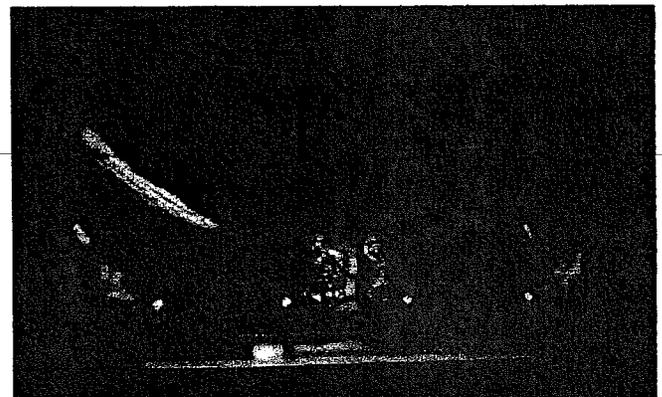


Figure 8.10 Place Top Log on Left Side

- Place the top log on the indentations of the right front log and the back log as shown in Figure 8.11 for Carolina-42.

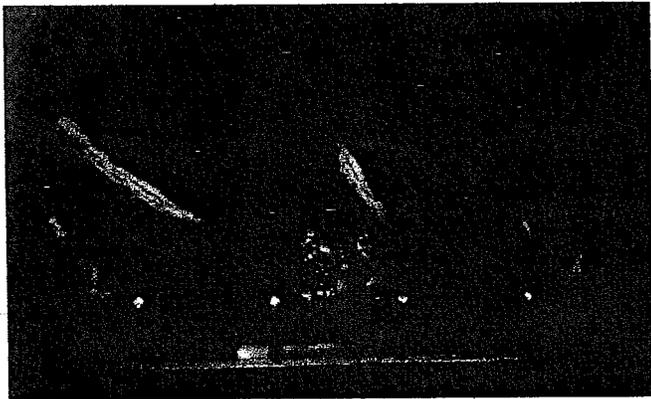


Figure 8.11 Place Top Log in Center- Carolina 42

- Place the top log on the indentations of the left front log and the back log as shown in Figure 8.12 for Carolina-36.



Figure 8.12 Place Top Log in Center- Carolina 36

- Place the top log on the indentations of the right front log and the right rear log as shown in Figure 8.13.

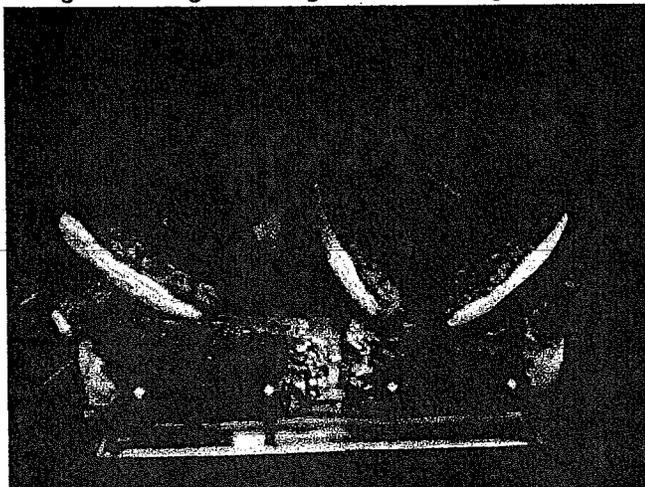


Figure 8.13 Place Right Center Log

H. Place Remaining Lava Rock

- After logs have been placed spread the remainder of the lava rock to cover the floor of the firebox.

I. Install Firescreen

Firescreen must be installed if not installing optional screen door.

- Remove screen and screen rods from packaging.
- Lay the two sides of screen side by side, rings on top, handles meeting in the middle.
- Insert one screen rod through the rings on top. See Figure 8.14.
- Repeat for other screen.

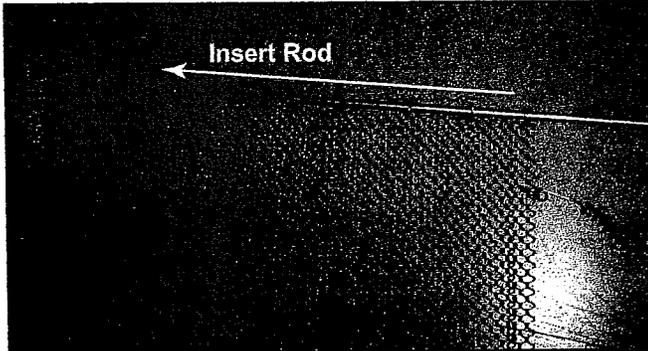


Figure 8.14 Insert Rod into Firescreen

- Remove two screws from the firebox top, set aside.

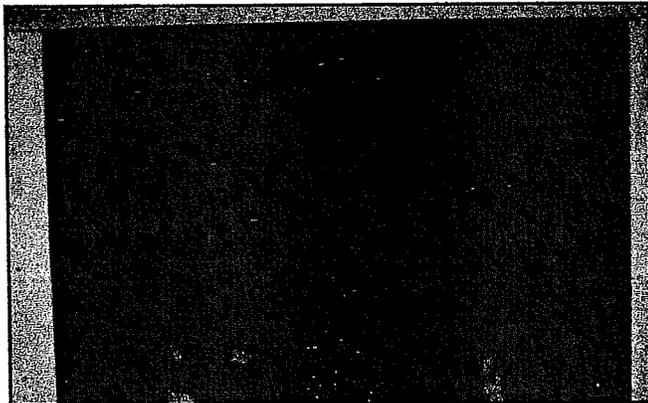


Figure 8.15 Remove Screws from Firebox Top

- Insert left end of the rod in the left screen (handle is on the right) into the hole in the upper left firebox side.

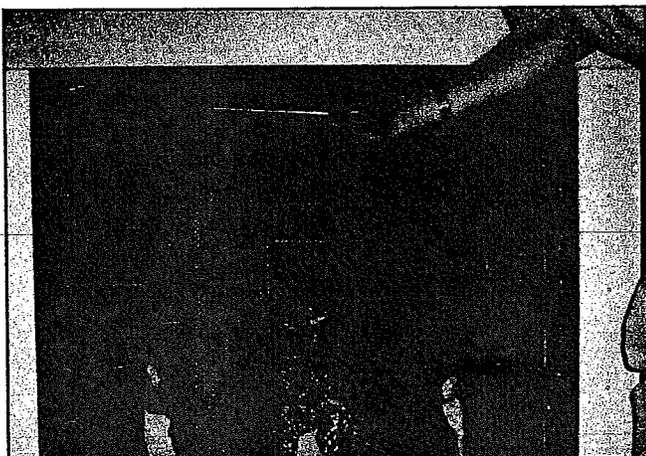


Figure 8.16 Insert Screen Rod

- Fasten rod with one of the screws removed from the firebox top, into the hole shown in Figure 8.15.



Figure 8.17 Fasten Screen Rod to Firebox Top

- Repeat with the right screen.

9 Reference Materials

A. Accessories

Remote Controls, Wall Controls and Wall Switches

Follow the instructions supplied with the control installed to operate your appliance:

For safety:

- Install a switch lock or a wall/remote control with child protection lockout feature.
- Keep remote controls out of reach of children.

See your dealer if you have questions.

Outdoor Lifestyles, a brand of Hearth & Home Technologies
7571 215th Street West, Lakeville, MN 55044
www.hearthnhome.com

Please contact your Outdoor Lifestyles dealer with any questions or concerns.
For the location of your nearest Outdoor Lifestyles dealer,
please visit www.hearthnhome.com.

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7571 215th Street West, Lakeville, MN 55044

Outdoor Gas appliance - for outdoor installation only. Not for use with solid fuel. (Appareil à gaz à flamme nue - pour installation à l'extérieur seulement. Ne doit pas être utilisé avec un combustible solide.)

**ANSI Z21.97-2014
CSA 2.41-2014
Outdoor Decorative
Gas Appliances**



**INSTALLATION
MANUAL**



**OWNER'S
MANUAL**



OUTDOOR
FIREPLACE
MH10080

MADE IN USA

⚠ WARNING! Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to owner's information manual provided with this appliance. For assistance or additional information, consult a qualified installer, service agency or the gas supplier.

⚠ AVERTISSEMENT! Une installation, un ajustement, une modification, une réparation ou un entretien inapproprié peuvent être la cause de blessures ou de dommages. Veuillez lire attentivement les instructions d'installation, d'utilisation et d'entretien avant d'installer ou de réparer ce matériel.

Type of Gas (Sorte De Gaz):
NATURAL GAS

⚠ WARNING! DO NOT store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. An LP-cylinder not connected for use shall not be stored in the vicinity of this or any other appliance.

⚠ AVERTISSEMENT! Ne pas entreposer ni utiliser de l'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de l'appareil, ni de tout autre appareil. Une bouteille de propane qui n'est pas raccordée en vue de son utilisation, ne doit pas être entreposée dans le voisinage de cet appareil ou de tout autre appareil.

Minimum Permissible Gas Supply for Purposes of Input Adjustment.
Approved Minimum (De Gaz) Acceptable 5.0 in. w.c. (Po. Col. d'eau)
Maximum Pressure (Pression) 10.0 in. w.c. (Po. Col. D'eau)
Min/Max Input BTUH: 36,000/55,000
Orifice Size: #27/ .144
Total Electrical Requirements: 110-120Vac, 60Hz., less than 12 Amperes

**Model:
(Modèle): CARODG361-B**

**Serial:
(Série):**

4066-503

RATING PLATE TICKET

PRO: P15089

Originator: D. Kingery

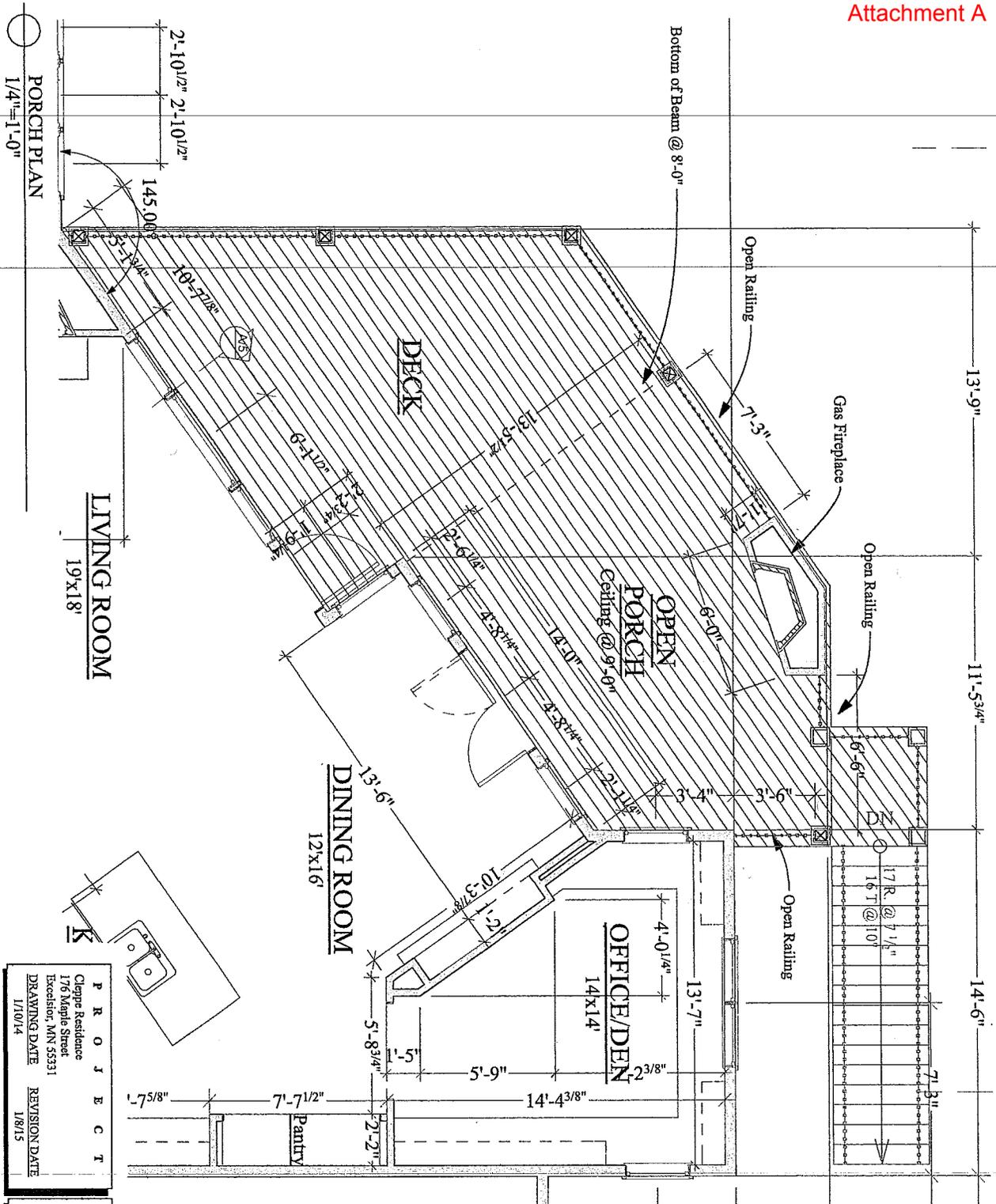
Date: 2-14

Artwork Size: 5-1/4 in. X 6 in. (Not including 3/4 in. for bar code)

Label Material Part #: 100-990

DWN: SS

Printing: Datamax Machine



PORCH VENTED AREA

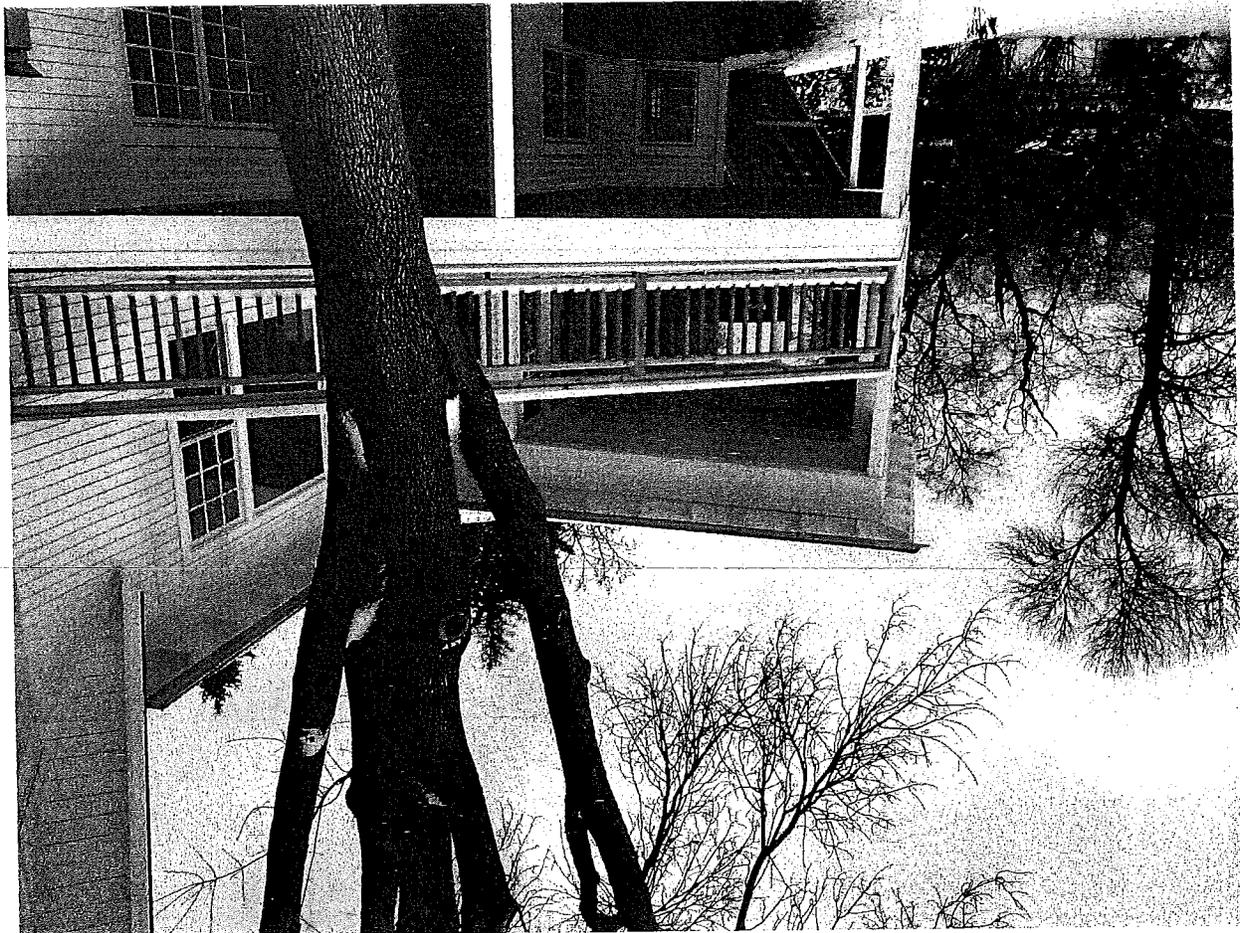
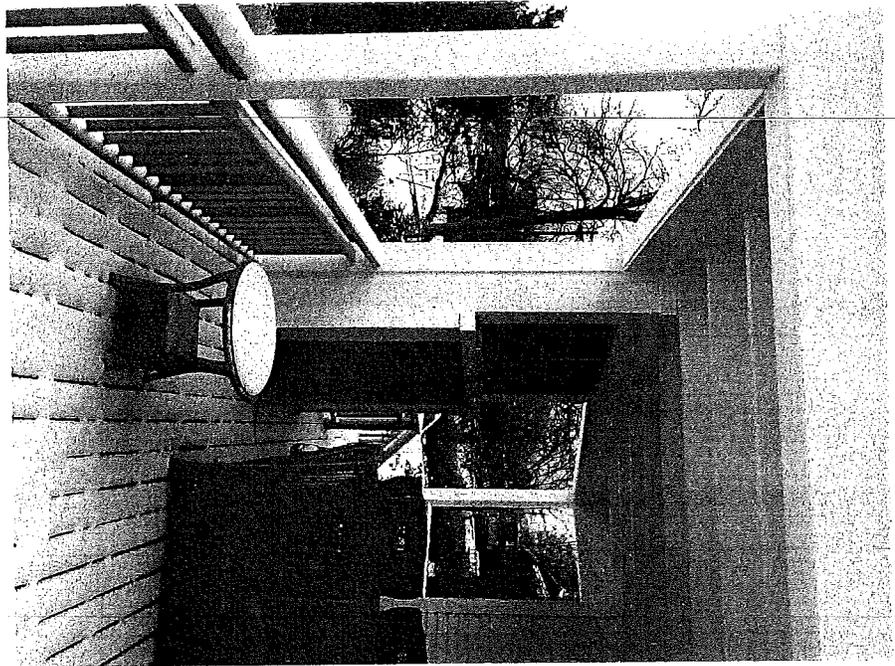
13.5' + 7.25' + 6.5' + 3.5' = 30.75' Linear
 30.75' x 8' = 246 SF Vented Area

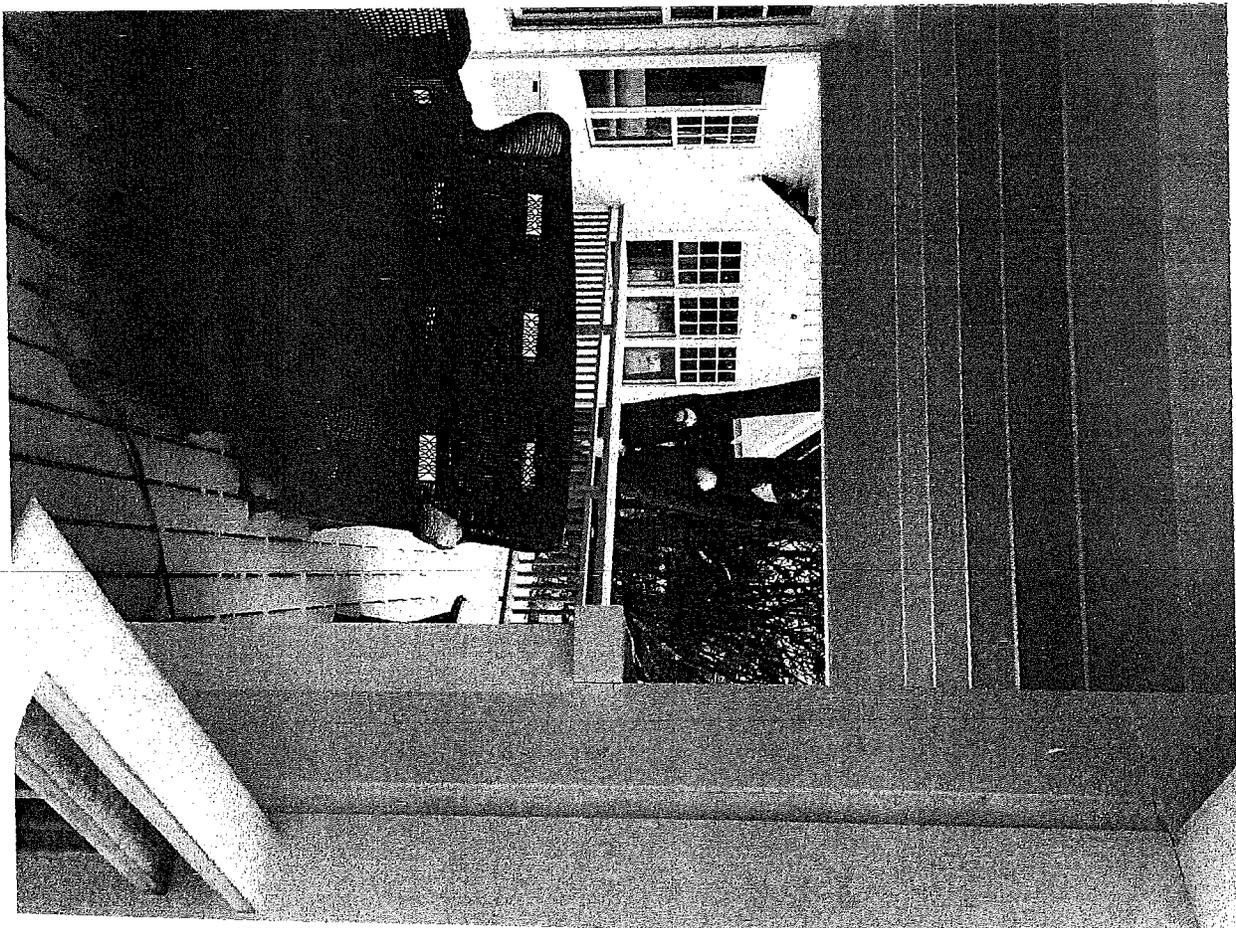
Manufacturer's Minimum Vented Area
 for Screened Porch Installation = 64 SF

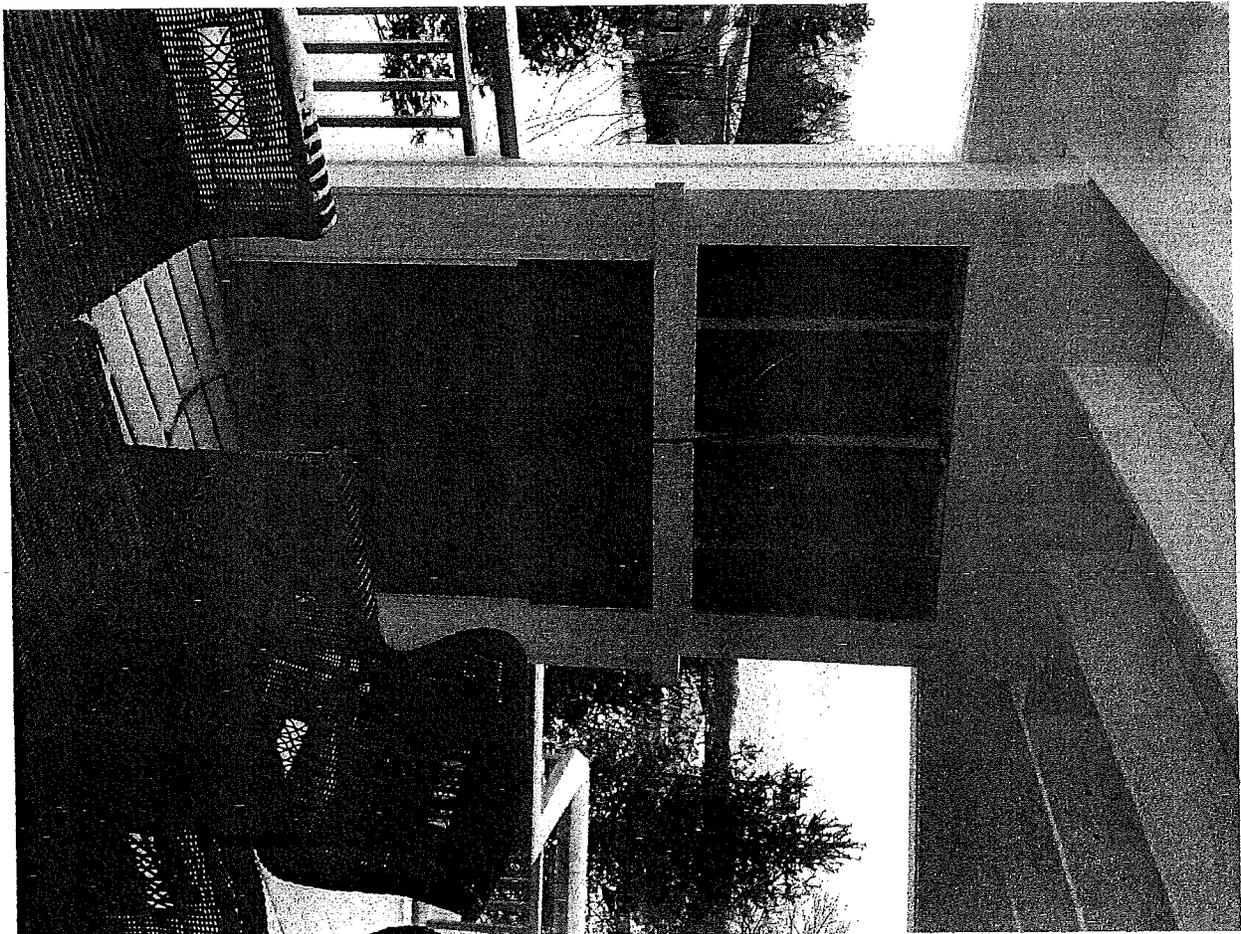
P R O J E C T
 Change Residence
 176 Maple Street
 Excelsior, MN 55331
DRAWING DATE 1/10/14
REVISION DATE 1/8/15

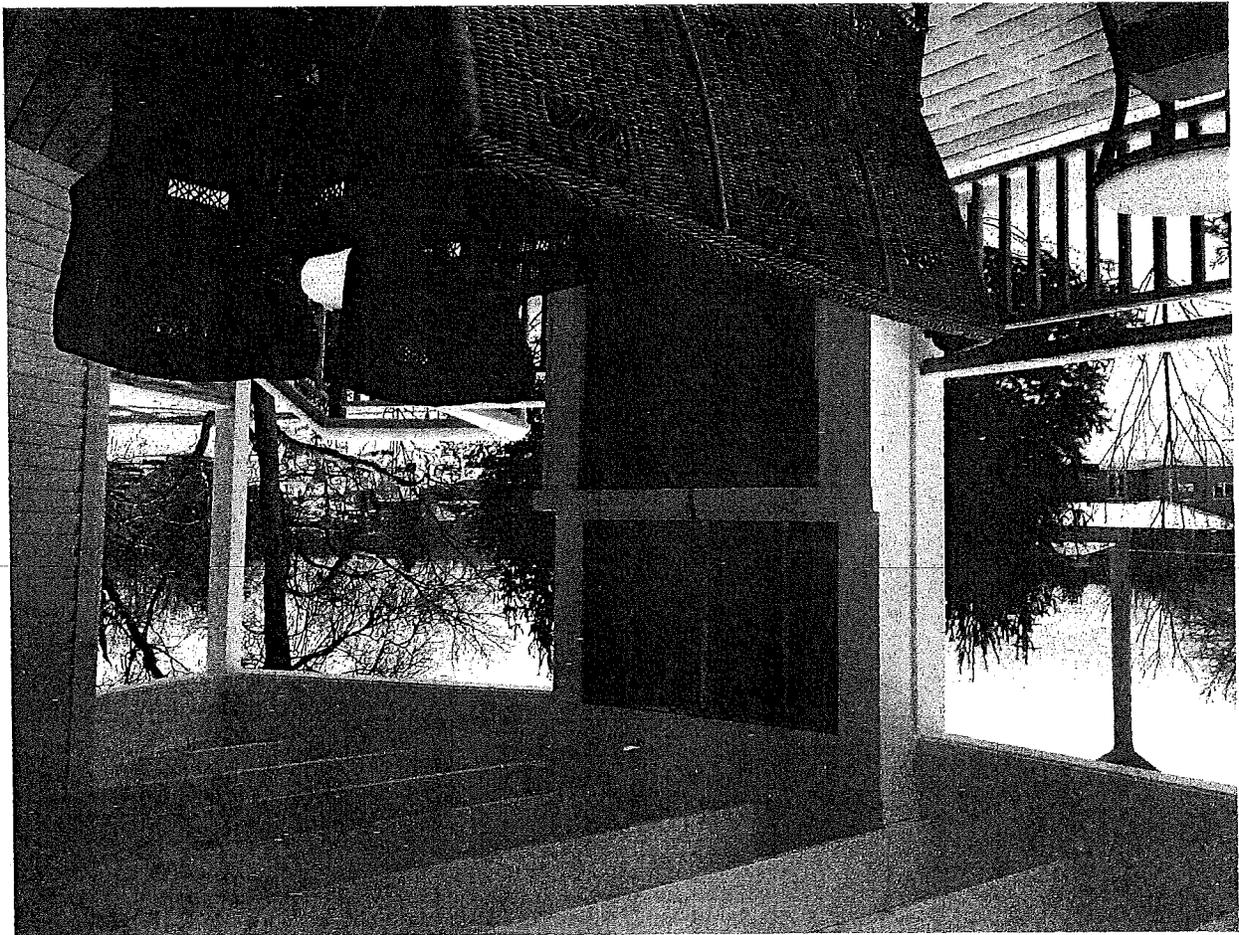
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Landscure
 2022 Water Street #202
 Excelsior, MN 55331
 (952) 476-5416









INSPECTION RECORD CARD

CITY OF Excelsior Date 9-15 20 14
 Building Permit No. 2014-52M Permit Expires **180 days**
 Location 176 Maple St.
 Owner Cleffe
 Contractor and/or Builder Trin Cities Fireplace

TO SCHEDULE INSPECTIONS - CALL 763-479-1720

Permission is hereby granted to install or construct the improvements applied for. This permit is granted upon the condition that the person to whom it is granted, and his agents, employees, and workmen, shall conform in all respects to the Ordinances of the City of Excelsior and to the Statutes of the State of Minnesota in such cases made and provided; this permit may be revoked at any time upon violation of any of the provisions of said Ordinances, Statutes, or for any misrepresentation in the application.

[Signature]
 Building Inspector

Building Inspections

Inspection	Date	Inspector
Site Inspection		
Footings (Before Pouring Concrete)		
Poured Walls (Before Pouring Concrete)		
Framing		
Insulation		
Sheet Rock		
Final		
Fireplace <u>Outdoor</u>		
Decks		
Other:		

Plumbing, Mechanical, & Septic Inspections

Inspection	Date	Inspector
Plumbing R.I.		
Plumbing Final		
Mechanical R.I. (Manometer Test)		
Mechanical Final		
Septic		
Sewer		
Water		
Other:		

NOTE: A Certificate of Occupancy will be issued when compliance with all pertinent codes and ordinances has been achieved.

**THIS CARD MUST BE POSTED IN A CONSPICUOUS LOCATION.
 \$30 FEE CHARGED TO REISSUE A LOST CARD.**