

AGENDA

STATE BUILDING CODE TECHNICAL REVIEW BOARD

Friday, May 20, 2022 - 10:00am
Henrico County Tuckahoe Area Library
1901 Starling Drive, Henrico, Virginia 23229

- I. Roll Call **(TAB 1)**
- II. Approval of March 18, 2022 Minutes **(TAB 2)**
- III. Approval of Final Order **(TAB 3)**
 - In Re: Wayne Credle
Appeal No 21-06
- IV. Approval of Final Order **(TAB 4)**
 - In Re: City of Petersburg
Appeal No 21-08
- V. Public Comment
- VI. Appeal Hearing **(TAB 5)**
 - In Re: Clark Construction and JCM Associates
Appeal No 22-01
- VII. Appeal Hearing **(TAB 6)**
 - In Re: Monica and Michael Davis
Appeal No 22-02
- VIII. Secretary's Report
 - a. July 2022 meeting update - location VHC
 - b. Board Elections to be held at the July meeting

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STATE BUILDING CODE TECHNICAL REVIEW BOARD

James R. Dawson, Chair
(Virginia Fire Chiefs Association)

W. Shaun Pharr, Esq., Vice-Chair
(The Apartment and Office Building Association of Metropolitan Washington)

Vince Butler
(Virginia Home Builders Association)

J. Daniel Crigler
(Virginia Association of Plumbing-Heating-Cooling Contractors and the Virginia Chapters of the Air Conditioning Contractors of America)

Alan D. Givens
(Virginia Association of Plumbing-Heating-Cooling Contractors and the Virginia Chapters of the Air Conditioning Contractors of America)

David V. Hutchins
(Electrical Contractor)

Christina Jackson
(Commonwealth at large)

Joseph A. Kessler, III
(Associated General Contractors)

R. Jonah Margarella, AIA, NCARB, LEED AP
(American Institute of Architects Virginia)

Eric Mays
(Virginia Building and Code Officials Association)

Joanne D. Monday
(Virginia Building Owners and Managers Association)

Elizabeth C. White
(Commonwealth at large)

Aaron Zdinak, PE
(Virginia Society of Professional Engineers)

Vacant
(Virginia Building and Code Officials Association)

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1 STATE BUILDING CODE TECHNICAL REVIEW BOARD
2 MEETING MINUTES
3 March 18, 2022
4 Henrico County Tuckahoe Area Library
5 1901 Starling Drive, Henrico, Virginia 23229
6

Members Present

Members Absent

Mr. James R. Dawson, Chairman
Mr. W. Shaun Pharr, Esq., Vice-Chairman
Mr. Vince Butler
Mr. Joseph Kessler
Mr. R. Jonah Margarella
Mr. Eric Mays, PE
Mr. Aaron Zdinak, PE

Mr. Daniel Crigler
Mr. Alan D. Givens
Mr. David V. Hutchins
Ms. Christina Jackson
Ms. Joanne Monday
Ms. Elizabeth White

- 7 Call to Order The meeting of the State Building Code Technical Review Board
8 (“Review Board”) was called to order at approximately 10:00 a.m. by
9 Secretary Travis Luter.
- 10
11 Roll Call The roll was called by Mr. Luter and a quorum was present. Mr. Justin
12 I. Bell, legal counsel for the Board from the Attorney General’s Office,
13 was also present.
- 14
15 Approval of Minutes The draft minutes of the February 11, 2022 meeting in the Review
16 Board members’ agenda package were considered. Mr. Mays moved
17 to approve the minutes as presented. The motion was seconded by Mr.
18 Zdinak and passed with Mr. Butler abstaining.
- 19
20 Public Comment Chair Dawson opened the meeting for public comment. Mr. Luter
21 advised that no one had signed up to speak. With no one coming
22 forward, Chair Dawson closed the public comment period.
- 23
24 New Business Wayne Credle; Appeal No. 21-06:
25
26 A hearing convened with Chair Dawson serving as the presiding
27 officer. The hearing was related to the home located at 5517 Popular
28 Hall Drive in the City of Norfolk.
- 29
30 The following persons were sworn in and given an opportunity to
31 present testimony:
32
33 Wayne Credle, Property Owner
34 Sherry Johnson, City of Norfolk Property Maintenance Official

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Also present was:

Katherine Taylor, legal counsel for the City of Norfolk

After testimony concluded, Chair Dawson closed the hearing and stated a decision from the Review Board members would be forthcoming and the deliberations would be conducted in open session. It was further noted that a final order reflecting the decision would be considered at a subsequent meeting and, when approved, would be distributed to the parties, and would contain a statement of further right of appeal.

Decision: Wayne Credle; Appeal No. 21-06:

After deliberations, Mr. Mays moved that the appeal was moot as the structure has been demolished; therefore, no violations of the USBC existed. The motion was seconded by Mr. Pharr and passed unanimously.

City of Petersburg.; Appeal No. 21-08:

A hearing convened with Chair Dawson serving as the presiding officer. The hearing was related to the commercial building located at 3270 South Crater Road in the City of Petersburg.

The following persons were sworn in and given an opportunity to present testimony:

- Joaquin Reyes, Owner of Plaza Mexico
- Lawrence Lin Sr., Witness for Plaza Mexico
- James Reid Jr., City of Petersburg Fire Marshal
- Jeffrey T. Fleming, Witness for the City of Petersburg
- Larry Mann, Witness for the City of Petersburg
- James Darrington, Witness for the City of Petersburg
- William Sizemore, Property Owner

Also present was:

- Michael Lee, legal counsel for Plaza Mexico
- Anthony Williams, legal counsel for the City of Petersburg

After testimony concluded, Chair Dawson closed the hearing and stated a decision from the Review Board members would be forthcoming and the deliberations would be conducted in open session. It was further noted that a final order reflecting the decision would be considered at a subsequent meeting and, when approved, would be distributed to the parties, and would contain a statement of further right of appeal.

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83 Decision: City of Petersburg.; Appeal No. 21-08:
84
85 After deliberations, Mr. Mays moved to uphold the local appeals board.
86 The motion was seconded by Mr. Butler.
87
88 After further deliberations Mr. Mays withdrew his motion and Mr.
89 Butler withdrew his second.
90
91 Mr. Pharr then moved that Plaza Mexico lacked standing as Plaza
92 Mexico had no right to occupy the commercial building located at 3270
93 South Crater Road in the City of Petersburg. The motion was seconded
94 by Mr. Mays and passed unanimously.
95
96 Secretary's Report Mr. Luter informed the Board of the current caseload for the upcoming
97 meeting scheduled for May 20, 2022.
98
99 Attorney Bell provided legal updates to the Board.
100
101 Adjournment There being no further business, the meeting was adjourned by proper
102 motion at approximately 1:30 p.m.
103
104
105 Approved: May 20, 2022
106
107
108 _____
109 Chairman, State Building Code Technical Review Board
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112 _____
113 Secretary, State Building Code Technical Review Board

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1 VIRGINIA:

2
3 BEFORE THE
4 STATE BUILDING CODE TECHNICAL REVIEW BOARD

5
6 IN RE: Appeal of Wayne Credle
7 Appeal No. 21-06

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9 DECISION OF THE REVIEW BOARD

10
11 Procedural Background

12
13 The State Building Code Technical Review Board (Review Board) is a Governor-
14 appointed board established to rule on disputes arising from application of regulations of the
15 Department of Housing and Community Development. See § 36-108 and 36-114 of the Code of
16 Virginia. The Review Board’s proceedings are governed by the Virginia Administrative Process
17 Act (§ 2.2-4000 et seq. of the Code of Virginia).

18 Case History

19 On June 1, 2021, the City of Norfolk Department of Neighborhood Development (City),
20 the agency responsible for the enforcement of Part III of the 2015 Virginia Uniform Statewide
21 Building Code (Virginia Maintenance Code or VMC), issued a Notice of Violation (NOV) for the
22 structure located at 5517 Popular Hall Drive, in the City of Norfolk, owned by Wayne and Juanita
23 Credle (Credle). The NOV cited a violation of VMC Section 106.1 deeming the structure unsafe
24 or unfit for human occupancy and ordered the repair or demolish and removal of the structure
25 within 30 days of the date of the notice. The NOV also cited 10 other VMC violations:

26 The local appeals board heard Credle’s appeal on July 22, 2021 and ruled to uphold the
27 decision of the City. Credle further appealed to the Review Board.

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28 A Review Board hearing was held on March 18, 2022. Appearing at the Review Board
29 hearing for the City of Norfolk were Sherry Johnson and Katherine Tayler, legal counsel. Wayne
30 Credle attended the hearing on his behalf.

31 Findings of the Review Board

32 A. Whether the appeal was properly before the Review Board.

33 Credle argued that the process the City followed to cite violations of the VMC and to
34 demolish and remove his home were unfair.

35 The City, through legal counsel, argued that the City followed the VMC, City Code, and
36 state law in citation and enforcement of the VMC, city code, and demolition and removal of the
37 structure.

38 The Review Board agrees with the City and, since the building had been demolished and
39 removed, there was no possible relief the Board could provide Credle as violations cannot exist in
40 a structure that no longer exists; therefore, the Review Board finds the appeal is moot.

41 Final Order

42 The appeal having been given due regard, and for the reasons set out herein, the Review
43 Board orders as follows:

44 A. Whether the appeal was properly before the Review Board.

45 The decision of the City and local appeals board is upheld and the appeal is moot.

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49 _____
Chairman, State Building Code Technical Review Board

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53 Date entered: _____ May 20, 2022 _____

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Certification

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As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty (30) days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a Notice of Appeal with W. Travis Luter, Sr., Secretary of the Review Board. In the event that this decision is served on you by mail, three (3) days are added to that period.

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1 VIRGINIA:
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3 BEFORE THE
4 STATE BUILDING CODE TECHNICAL REVIEW BOARD
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6 IN RE: Appeal of City of Petersburg
7 Appeal No. 21-08
8

9 DECISION OF THE REVIEW BOARD
10

11 Procedural Background
12

13 The State Building Code Technical Review Board (Review Board) is a Governor-
14 appointed board established to rule on disputes arising from application of regulations of the
15 Department of Housing and Community Development. See § 36-108 and 36-114 of the Code of
16 Virginia. The Review Board’s proceedings are governed by the Virginia Administrative Process
17 Act (§ 2.2-4000 et seq. of the Code of Virginia).
18

18 Case History

19 On September 30, 2021, the City of Petersburg Fire Marshal’s Office (City), the agency
20 responsible for the enforcement of the Virginia Statewide Fire Prevention Code (VSFPC),
21 conducted an inspection of the commercial building located at 3270 South Crater Road, in the City
22 of Petersburg, leased by Joaquin Reyes-Macias and operating as Plaza Mexico, Inc. The inspection
23 revealed that Plaza Mexico, Inc. was operating without the required operational permit. The City
24 issued a Corrective Work Order (CWO) citing a violation of VSFPC Section 107.2 requiring an
25 operational permit for place of assembly under the A2 use group. The CWO further stated that all
26 operations shall cease and desist at the location until a current operational permit was obtained.

27 The local appeals board heard the Plaza Mexico appeal in December of 2021 and ruled to
28 overturn the decision of the City. The City further appealed to the Review Board.

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29 A Review Board hearing was held on March 18, 2022. Appearing at the Review Board
30 hearing for the City of Petersburg were James H. Reid, Jr., Jeffrey T. Fleming, Larry Mann, James
31 Darrington, William Sizemore, and Anthony Williams, legal counsel. Appearing at the Review
32 Board hearing for Plaza Mexico were Lawrence Lin Sr., Joaquin Reyes and Michael Lee, legal
33 counsel.

34 Findings of the Review Board

35 A. Whether to uphold the decision of the City and overturn the decision of the local appeals
36 board that a violation of VSFPC Section 107.2 Permits required exists.

37 The City, through legal counsel, argued that Plaza Mexico was operating without the
38 required operational permit pursuant to VSFPC Section 107.2. The City further argued that on
39 September 30, 2021, the night the inspection occurred, Plaza Mexico was operating as a nightclub
40 and was in violation of VSFPC Sections 108.4 (3), (4), (6), (7) and 301.3. Lastly, the City argued
41 that Plaza Mexico had no right to occupy the commercial building as Plaza Mexico did not have a
42 valid lease with the new owner of the commercial building who had recently purchased the
43 foreclosed property; furthermore, the previous lease was not recorded.

44 Plaza Mexico, through legal counsel, argued that after the September 30, 2021 inspection,
45 Plaza Mexico filed an application with the City for the required operational permit to operate a
46 restaurant, which the City denied. Plaza Mexico also argued that its application was denied
47 because the City felt that since Plaza Mexico had previously operated as a nightclub while its
48 permit to operate as a restaurant was expired, it would likely continue to operate in that manner.
49 Plaza Mexico further argued that the permit could not be denied for perceived previous bad acts
50 and that the permit should be approved and issued for operation as a restaurant as requested in its

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51 application. Lastly, Plaza Mexico argued that it had a valid lease to occupy the commercial
52 building through 2025.

53 The Review Board finds that Plaza Mexico lacks standing as Plaza Mexico has no right to
54 occupy the commercial building based on state foreclosure law which extinguished the lease from
55 the previous owner of the property.

56 Final Order

57 The appeal having been given due regard, and for the reasons set out herein, the Review
58 Board orders as follows:

59 A. Whether to uphold the decision of the City and overturn the decision of the local appeals
60 board that a violation of VSFPC Section 107.2 Permits required exists

61 The appeal is dismissed due to the lack of standing because Plaza Mexico had no right to
62 occupy the commercial building at 3270 South Crater Road, in the City of Petersburg, based on
63 the state foreclosure law, which extinguished the lease from the previous owner of the property.

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67 _____
Chairman, State Building Code Technical Review Board

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71 Date entered: _____ May 20, 2022 _____

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Certification

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76 As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty (30) days
77 from the date of service (the date you actually received this decision or the date it was mailed to
78 you, whichever occurred first) within which to appeal this decision by filing a Notice of Appeal

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79 with W. Travis Luter, Sr., Secretary of the Review Board. In the event that this decision is served
80 on you by mail, three (3) days are added to that period.

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VIRGINIA:

BEFORE THE
STATE BUILDING CODE TECHNICAL REVIEW BOARD

IN RE: Appeal of Clark Construction Group and JCM Associates
Appeal No. 22-01

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VIRGINIA:

BEFORE THE
STATE BUILDING CODE TECHNICAL REVIEW BOARD

IN RE: Appeal of Clark Construction Group and JCM Associates
Appeal No. 22-01

REVIEW BOARD STAFF DOCUMENT

Suggested Statement of Case History and Pertinent Facts

1. On March 29, 2021, the Fairfax County Department of Land Development Services (County), the agency responsible for the enforcement of Part 1 of the 2012 Virginia Uniform Statewide Building Code (Virginia Construction Code or VCC), received information regarding natural gas shutoff valves and regulators that were installed in kitchen cabinets concealed by the natural gas cooktop and electric wall oven in 140 units on floors nine through 25 at the property, constructed by Clark Construction Group (Clark) and located at 1650 Silver Hill Drive McLean, in Fairfax County.

2. Upon inspection of the property, the following two violations of the VCC and six violations of the 2012 Virginia Fuel Gas Code (VFGC) were cited.

- a) VCC Section 108.1 When applications [for permits] are required. Gas permits will be required for each residential unit.
- b) VCC Section 113.3 Minimum inspections. Each residential unit will need a gas test and final inspection.
- c) VFGC Section 409.1.2 Prohibited locations. Shutoff valves shall be prohibited in concealed locations and furnace plenums.

- d) VFGC Section 409.1.3 Access to shutoff valves. Shutoff valves shall be located in places so as to provide access for operation and shall be installed so as to be protected from damage.
- e) VFGC Section 409.3.1 Multiple tenant buildings. In multiple tenant building, where a common piping system is installed to supply other than one-and two-family dwellings, shutoff valves shall be provided for each tenant. Each tenant shall have access to the shutoff valve serving that tenant's space.
- f) VFGC Section 409.5.1 Located within the same room. The [appliance] shutoff valve shall be located in the same room as the appliance. The shutoff valve shall be within six feet of the appliance, and shall be installed upstream of the union, connector, or quick disconnect device it serves. Such shutoff valves shall be provided with access.
- g) VFGC Section 410.1 Pressure regulators. Access shall be provided to pressure regulators.
- h) VFGC Section 623.1 Cooking appliances. Cooking appliances...shall be installed in accordance with the manufacturer's installation instructions.

3. On September 29, 2021, the County issued a Corrective Work Order (CWO) for the cited violations.

4. On October 28, 2021, Clark filed a timely appeal to the Fairfax County Board of Building Code Appeals (local appeals board).

5. On December 8, 2021, the local appeals board denied Clark's appeal.

6. On January 6, 2022, Clark further appealed to the Review Board.

7. This staff document along with a copy of all documents submitted will be sent to the parties and opportunity given for the submittal of additions, corrections or objections to the staff document, and the submittal of additional documents or written arguments to be included in the information distributed to the Review Board members for the appeal hearing before the Review Board.

Suggested Issues for Resolution by the Review Board

1. Whether to uphold the decision of the County and local appeals board that a violation of VCC Section 108.1 When applications [for permits] are required exists.

2. Whether to uphold the decision of the County and local appeals board that a violation of VCC Section 113.3 Minimum inspections exists.

3. Whether to uphold the decision of the County and local appeals board that a violation of VFGC Section 409.1.2 Prohibited locations exists.

4. Whether to uphold the decision of the County and local appeals board that a violation of VFGC Section 409.1.3 Access to shutoff valves exists.

5. Whether to uphold the decision of the County and local appeals board that a violation of VFGC Section 409.3.1 Multiple tenant buildings exists.

6. Whether to uphold the decision of the County and local appeals board that a violation of VFGC Section 409.5.1 Located within the same room exists.

7. Whether to uphold the decision of the County and local appeals board that a violation of VFGC Section 410.1 Pressure regulators exists.

8. Whether to uphold the decision of the County and local appeals board that a violation of VFGC Section 623.1 Cooking appliances exists.

Basic Documents

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County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

CORRECTIVE WORK ORDER

Virginia Construction Code

This order is representative of the 140 Corrective Work Orders that were issued for all of the units on floors 9 through 25.

DATE OF ISSUANCE: September 29, 2021

METHOD OF SERVICE: Certified Letter 7021 1970 0001 1504 5018

LEGAL NOTICE ISSUED TO: Clark Construction Group, LLC
C T Corporation System., Registered Agent
4701 Cox Road Suite 285
Glen Allen, Virginia 23060-6808

CONTRACTOR LICENSE#: 2705085523

LOCATION OF VIOLATION: The Condominium on Silver Hill Drive
Units located on the 22nd Floor
The Verse Condo

TAX MAP REF: 0293 39 0901

CASE #: 202101374 **SR#:** 181090

The previous Corrective Work Orders and Notices of Violation are rescinded. This Corrective Work Order is being reissued to reflect the current code violations regarding the units in the Condominium on Silver Hill Drive—The Verse Condo.

Per authority granted by the Virginia Construction Code, the County received information on March 29, 2021 related to the above referenced properties regarding natural gas shutoff valves and natural gas line pressure regulators installed within the cavity space of the residential units kitchen base cabinet, concealed by a fixed-in-place natural gas cooktop and a fixed-in-place electric wall oven. Violations of the 2012 Virginia Fuel Gas Code (VFGC), as referenced by the 2012 Virginia Construction Code, the applicable building code for this project, were found. You will need to apply for appropriate permits to correct these violations and ensure inspections are completed. You have 30 days to correct the violations.

Violation #1 USBC Section 108.1 *When applications [for permits] are required.* Gas permits will be required for each individual residential unit. Residential unit permits can be combined into one permit to cover all the residential units contained on an individual floor.



Violation #2 USBC Section **113.3 *Minimum inspections.*** Each individual residential unit will need a first gas test and a final inspection.

Violation #3 VFGC Section **409.1.2 *Prohibited locations.*** *Shutoff valves shall be prohibited in concealed locations and furnace plenums. As defined in VFGC Chapter 2, concealed location, Spaces above, below or behind readily removable panels or doors shall not be considered as concealed.* There are no readily removable panels or doors provided to access the shutoff valve.

Violation #4 VFGC Section **409.1.3 *Access to shutoff valves.*** *Shutoff valves shall be located in places so as to provide access for operation and shall be installed so as to be protected from damage. As defined in VFGC Chapter 2, access shall be by either ready access, or by means of the removal or movement of a panel, door, or similar obstruction. The fixed-in-place appliances used to access the tenant/appliance shutoff valves, natural gas cooktop and electric wall oven, provide neither ready access or are equivalent to a panel, door, or similar obstruction.*

Violation #5 VFGC Section **409.3.1 *Multiple tenant buildings.*** *In multiple tenant buildings, where a common piping system is installed to supply other than one- and two-family dwellings, shutoff valves shall be provided for each tenant. Each tenant shall have access to the shutoff valve serving that tenant's space.* Tenants do not have access to the shutoff valve serving their unit, see Violation #4 above.

Violation #6 VFGC Section **409.5.1 *Located within same room.*** *The [appliance] shutoff valve shall be located in the same room as the appliance. The shutoff valve shall be within 6 feet (1829 mm) of the appliance, and shall be installed upstream of the union, connector or quick disconnect device it serves. Such shutoff valves shall be provided with access.* The appliance shutoff valve provided in these units are not provided with access, see Violation #4 above. Please note, the 2018 VFGC Section 409.5.1 provides additional language that states *Shutoff valves serving movable appliances, such as cooking appliances and clothes dryers, shall be considered to be provided with access where installed behind such appliances.* This is not an option. This option pertains only to an appliance shutoff valve. This shutoff valve serves as the tenant shutoff valve, see Violation #5. Additionally, this option does not pertain to the line pressure regulator installed directly downstream of the tenant shutoff valve, within the same cavity, see Violation #7.

Violation #7 VFGC Section **410.1, *Pressure regulators.*** *Access shall be provided to pressure regulators.* The line pressure regulator is installed directly downstream of the tenant shutoff valve, within the same cavity. See access comments in Violation #4.

Clark Construction Group, LLC
C T Corporation System., Registered Agent
Page 3 of 3

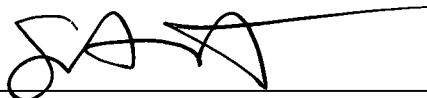
Violation #8 VFGC Section **623.1, Cooking appliances.** *Cooking appliances . . . shall be installed in accordance with the manufacturers installation instructions.* Unit cooktops are not installed per the manufacturer's installation instructions. The manufacturer's installation instructions for the installed cooktops (Bosch NGM8056UC) require these cooktops to be secured to the countertop with mounting hardware provided with the cooktop.

You are directed to notify Scott Hagerty, Combination Inspector, by return correspondence to 12055 Government Center Parkway, Suite 334, Fairfax, VA 22035 or by telephone at 703-508-5402. Failure to do so shall result in the immediate initiation of a Notice of Violation and eventual legal action to bring the above referenced property into compliance.

If you have any questions, you may contact Scott Hagerty at 703-508-5402 cell, 703-324-4038 office.

Order Issued By: Scott Hagerty
Technical Assistant to the Building Official
Land Development Services
Scott.hagerty@fairfaxcounty.gov

Signature: _____





Record Summary Report

Record No.: CDAPPL-2021-00014
Date: 10/28/2021 6:07:09 PM

Code Appeal

Record Summary

Record Number: CDAPPL-2021-00014 **Submittal Date:** 10/28/2021 **Issue Date:** 10/28/2021
Type: Code Appeal **Expiration Date:**
Project Name: The Verse Condominium **Project Description:** The Project is a 25 story condominium tower above a podium. The appeal is to a corrective work order regarding the location of gas valves. The building has been occupied since November of 2019.

Contact

Contact Type: Applicant
Full Name: Raymond Grill
Organization Name: Ray Grill Consulting PLLC **Email:** Ray@raygrillconsulting.com **Primary Number:** 2025602801
Secondary Number: 7038022183
Contact Address: 13002 GRAPHITE COURT, CLIFTON VA 20124

Attachment C

RESOLUTION

WHEREAS the Fairfax County Board of Building Code Appeals (the Board) is duly appointed to resolve disputes arising out of enforcement of the Virginia FGC/2012 Edition as referenced by the Virginia USBC/2012 Edition;

and

WHEREAS an appeal has been timely filed and brought to the attention of the Board; and WHEREAS a hearing has been duly held to consider the aforementioned appeal; and WHEREAS, the Board has fully deliberated this matter; now, therefore, be it

RESOLVED, that the matter of

Appeal No. CDAPPL-2021-00014

In RE: Fairfax County Department of Land Development Services (LDS) v. Clark Construction Group, LLC

The appeal is denied (5-0-0 CNV)

FURTHER, be it known that:

- 1. This decision is solely for this case and its surrounding circumstances.
2. This decision does not serve as a precedent for any future cases or situations, regardless of how similar they may appear.

12/09/2021 | 13:41:18 EST

Date: December 8, 2021

DocuSigned by: Dave Conover
Signature: Dave Conover
Chairman, Board of Building Code Appeals

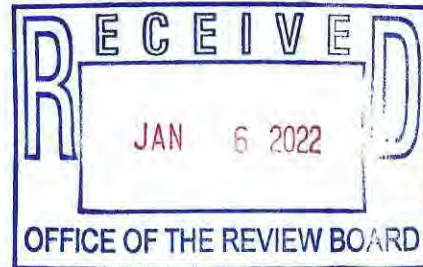
Note: Upon receipt of this resolution, any person who was a party to the appeal may appeal to the State Building Code Technical Review Board within twenty-one (21) days of receipt of this resolution. Application forms are available from the Virginia Department of Housing and Community Development, 600 East Main Street, Suite 300, Richmond, VA 23219 or by calling 804.371.7150.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
State Building Codes Office and Office of the State Technical Review Board
Main Street Centre, 600 E. Main Street, Suite 300, Richmond, Virginia 23219
Tel: (804) 371-7150, Fax: (804) 371-7092, Email: sbco@dhcd.virginia.gov

APPLICATION FOR ADMINISTRATIVE APPEAL

Regulation Serving as Basis of Appeal (check one):

- Uniform Statewide Building Code
 - Virginia Construction Code
 - Virginia Existing Building Code
 - Virginia Maintenance Code
- Statewide Fire Prevention Code
- Industrialized Building Safety Regulations
- Amusement Device Regulations



Appealing Party Information (name, address, telephone number and email address):

Clark Construction Group, LLC 7500 Old Georgetown Road Bethesda, MD 20814 Attn: Lee DeLong Ph: 301-272-8262 M: 202-369-5844 email: lee.delong@clarkconstruction.com	Agent: Ray Grill, P.E. Ray Grill Consulting PLLC 13002 Graphite Court Clifton, VA 20124 Ph: 202-560-2801 email: ray@raygrillconsulting.com
---	--

Opposing Party Information (name, address, telephone number and email address of all other parties):

Mr. Jay Riat, P.E., Building Official Email: Jay.Riat@fairfaxcounty.gov
Fairfax County 12055 Government Center Parkway
Fairfax, VA 22035
Phone: 703-324-1017

Additional Information (to be submitted with this application) Please see summary letter: Attachment B

- o Copy of enforcement decision being appealed See Attachment D
- o Copy of the decision of local government appeals board (if applicable) See Attachment C.
- o Statement of specific relief sought Please see the Attachment B.

CERTIFICATE OF SERVICE

I hereby certify that on the 30th day of December, 2021, a completed copy of this application, including the additional information required above, was either mailed, hand delivered, emailed or sent by facsimile to the Office of the State Technical Review Board and to all opposing parties listed.

Note: This application must be received by the Office of the State Technical Review Board within five (5) working days of the date on the above certificate of service for that date to be considered as the filing date of the appeal. If not received within five (5) working days, the date this application is actually received by the Office of the Review Board will be considered to be the filing date.

Signature of Applicant: 

Name of Applicant: Raymond A. Grill, P.E.
(please print or type)

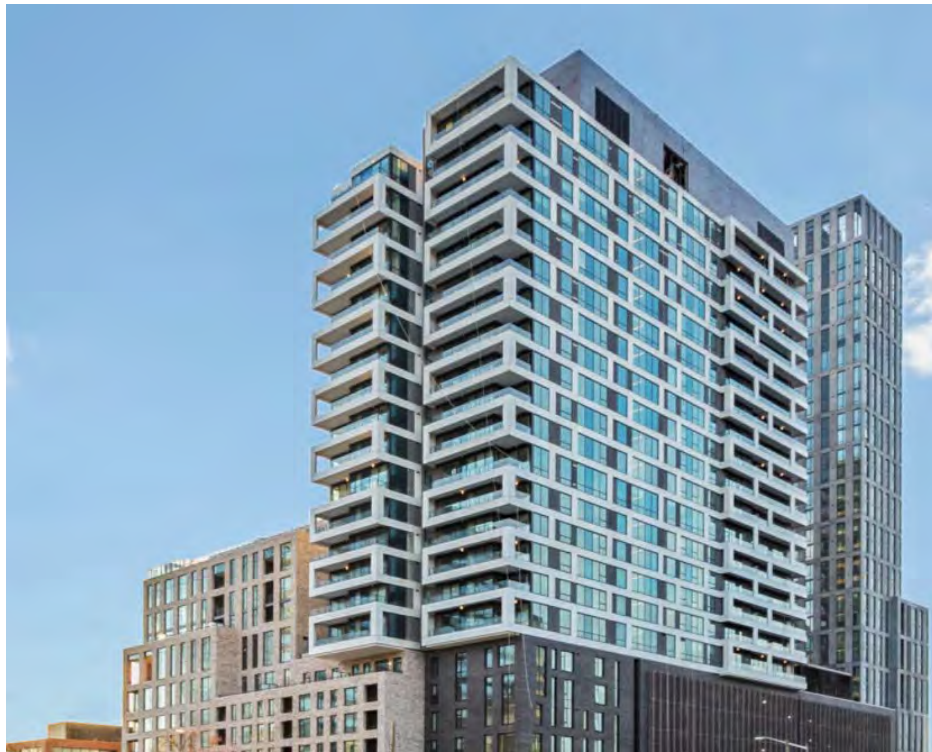
Statement of Relief Sought

Ray Grill Consulting, PLLC

13002 Graphite Court
Clifton, VA 20124
202-560-2801

October 27, 2021

1650 Silver Hill Dr., McLean, VA – Gas Valve Installation Appeals Board Supporting Material



This document responds to the issues raised in the Corrective Work Order dated September 29, 2021. The original Corrective Work Order was dated June 3, 2021 (See Attachment A). A code modification was submitted to address the corrective Work Order (See Attachment B for the supporting material for the code modification). The Code modification was rejected and an appeal to the Board of Appeals was submitted (See Attachment C). At that point, the original Corrective Work Order was rescinded and reissued.

This appeal is addressing the latest Corrective Work Order dated September 29, 2021 and responds to each violation. The violation from the Corrective Work Order is reproduced below with a response to each violation.

Gas Cooktop

Installation Manual

NGM5056UC, NGM5656UC, NGM8056UC, NGM8656UC,
NGMP056UC, NGMP656UC, NGM8046UC, NGM8646UC



BOSCH
Invented for life



Violation #1

Violation #1 USBC Section **108.1** *When applications [for permits] are required.* Gas permits will be required for each individual residential unit. Residential unit permits can be combined into one permit to cover all the residential units contained on an individual floor.

Response:

Violation #1 implies that the work was not permitted. The project was permitted, plan reviewed and approved. The Verse Condominium is one of three high-rise towers above a podium. The project went through an extensive plan review process and inspection process before occupancy. First occupancy was in November 2019. Installation of gas appliances are scrutinized within Fairfax County. Every unit and cook top installation would have been inspected.

Violation #2

Violation #2 USBC Section **113.3** *Minimum inspections.* Each individual residential unit will need a first gas test and a final inspection.

Response:

The installation of the gas piping was tested prior to acceptance by the County inspectors. That is standard operating procedure for acceptance of gas installations. Final inspection was also required prior to approval. The inspection process of a high-rise residential project is extensive. This was not a hidden feature or overlooked by inspectors during the construction process.

Violation #3

Violation #3 VFGC Section **409.1.2** *Prohibited locations. Shutoff valves shall be prohibited in concealed locations and furnace plenums. As defined in VFGC Chapter 2, concealed location, Spaces above, below or behind readily removable panels or doors shall not be considered as concealed. There are no readily removable panels or doors provided to access the shutoff valve.*

Response:

The location of the gas valves for the cooktops is not a concealed location as defined by the International Fuel Gas Code (IFGC). The following definition is excerpted from the IFGC.

[M] **CONCEALED LOCATION.** A location that cannot be accessed without damaging permanent parts of the building structure or finish surface. Spaces above, below or behind readily removable panels or doors shall not be considered as concealed.

❖ The space above a "drop-in" tile suspended ceiling system, for example, would not be considered a concealed location.

Access to the gas valve is easily achieved by removing two screws and easily sliding the oven out of the cabinet below the cooktop. Gas shut off valves are typically placed behind appliances such as free-standing stoves and dryers and are always considered to be accessible. Some of these appliances can weigh a multiple of the weight of the ovens in the Verse. The oven in the verse weighs approximately 149 pounds (See product cut sheet noted as Attachment D). Attachment E is of a residential free-standing stove which weighs

425 pounds. The installation instructions note the gas valve to be located behind the free-standing stove. This 425-pound stove has to be moved in order to access the gas valve.

The image below shows the oven slid out from the cabinet to allow access to the valve.

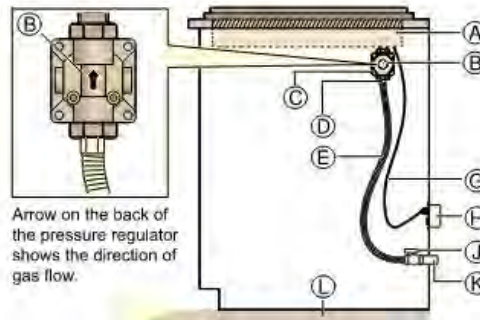


The image below illustrates the gas valve location which is located behind the oven. This location is consistent with the manufacturer's installation instructions. (See Attachment G).



The image below is from the installation manual (Attachment G).

Side View Gas Cooktop Installation



Gas and Electrical Location

A	Rough-in Cooktop Box
B	Arrow on Pressure Regulator
C	Pressure Regulator
D	1/2" Female Pipe Threads
E	Flexible Gas Line
G	Power Cord (60 inches/1,524mm)
H	120 Volt Receptacle
J	Gas Cut-off Valve
K	Gas Supply Line Stub-out
L	Floor

Violation #4

Violation #4 VFGC Section **409.1.3 Access to shutoff valves.** *Shutoff valves shall be located in places so as to provide access for operation and shall be installed so as to be protected from damage. As defined in VFGC Chapter 2, access shall be by either ready access, or by means of the removal or movement of a panel, door, or similar obstruction. The fixed-in-place appliances used to access the tenant/appliance shutoff valves, natural gas cooktop and electric wall oven, provide neither ready access or are equivalent to a panel, door, or similar obstruction.*

Response:

The VFGC definition is the same as the IFGC definition. The commentary elaborates on the intent of the definition of “access” as follows:

[M] **ACCESS (TO).** That which enables a device, *appliance* or *equipment* to be reached by *ready access* or by a means that first requires the removal or movement of a panel, door or similar obstruction (see also “[Ready access](#)”).

❖ **Access to equipment means that the equipment can be physically reached without someone having to remove a permanent portion of the structure.** Access to equipment and appliances is necessary to facilitate inspection, observation, maintenance, adjustment, repair or replacement. It is acceptable, for example, to install equipment in an interstitial space that would require removal of lay-in suspended ceiling panels to gain access. Equipment would not be considered as being provided with access if it were necessary to remove or open any portion of a structure other than panels, doors, covers or similar obstructions intended to be removed or opened [also see the definition of “[Ready access \(to\)](#)”].

Access can be described as the capability of being reached or approached for the purpose of inspection, observation, maintenance, adjustment, repair or replacement. Achieving access may first require the removal or opening of a panel, door or similar obstruction and may require overcoming an obstacle such as elevation.

The gas valves can be easily accessed without removal of permanent construction. As noted earlier, only two screws need to be removed to allow the oven below the cooktop to be slid out to provide access to the gas valve. The fire department responded to a gas leak call by a unit owner. The Fire Marshal, Chief Walser indicated that they had no trouble during the call and access the valve as necessary.

Violation #5

Violation #5 VFGC Section **409.3.1 Multiple tenant buildings.** *In multiple tenant buildings, where a common piping system is installed to supply other than one- and two-family dwellings, shutoff valves shall be provided for each tenant. Each tenant shall have access to the shutoff valve serving that tenant’s space. Tenants do not have access to the shutoff valve serving their unit, see Violation #4 above.*

Response:

Each unit has only one gas appliance which is the cooktop. The tenants have as much access to the valve in their unit as any other multi family residential building. The following language from the IFGC Commentary notes that the valves can be located in a common area. Gas valves in a common area that can be accessed by all of the tenants. Most if not all common gas valve rooms in a multi-family residential building would be kept

secure and be accessible only to authorized personnel. Washington Gas which is the gas supplier provides explicit instructions to its customers regarding the handling of potential gas leaks. Attachment F is the instructions provided by Washington Gas. They explicitly instruct people to immediately evacuate the area and when in a safe location, call 911 and the gas company. These pamphlets are mailed to all customers and these instructions are noted on their web site. The purpose of the gas valve is not for occupant use. The gas valve is provided for the maintenance and replacement of gas appliances by competent professionals.

Violation #6

*Violation #6 VFGC Section 409.5.1 Located within same room. The [appliance] shutoff valve shall be located in the same room as the appliance. The shutoff valve shall be within 6 feet (1829 mm) of the appliance, and shall be installed upstream of the union, connector or quick disconnect device it serves. Such shutoff valves shall be provided with access. The appliance shutoff valve provided in these units are not provided with access, see Violation #4 above. Please note, the 2018 VFGC Section 409.5.1 provides additional language that states *Shutoff valves serving movable appliances, such as cooking appliances and clothes dryers, shall be considered to be provided with access where installed behind such appliances.* This is not an option. This option pertains only to an appliance shutoff valve. This shutoff valve serves as the tenant shutoff valve, see Violation #5. Additionally, this option does not pertain to the line pressure regulator installed directly downstream of the tenant shutoff valve, within the same cavity, see Violation #7.*

Response:

The gas valve is located adjacent to the gas cooktop utilizing the flexible connection provided by the manufacturer of the cooktop. The image below is from the installation manual (Attachment G). The image shows a cooktop above an oven with cabinet drawers on either side. The valve would need to be installed below the cooktop and behind the oven as is the typical installation. The installation instructions also show the gas valve located below the cooktop at the back of the cabinet which would be behind the oven below the cooktop.

The installation was considered to be code compliant at the time of plan review and during the inspection process. There are 140 condominium units which would have been inspected.

Violation #7 VFGC Section 410.1, Pressure regulators. Access shall be provided to pressure regulators. The line pressure regulator is installed directly downstream of the tenant shutoff valve, within the same cavity. See access comments in Violation #4.

Response:

The pressure regulator is supplied with the cooktop and an integral part of the appliance. It is not intended to be installed separately or remote form the cook top. This is noted in the installation instructions provided in Attachment G

Violation #8 VFGC Section **623.1, Cooking appliances. Cooking appliances . . . shall be installed in accordance with the manufacturers installation instructions.** Unit cooktops are not installed per the manufacturer's installation instructions. The manufacturer's installation instructions for the installed cooktops (Bosch NGM8056UC) require these cooktops to be secured to the countertop with mounting hardware provided with the cooktop.

Response:

This item is in reference to missing clips that are intended to secure the cooktop to the countertop. These clips will be installed as required by the manufacturer's installation instructions.

Additional Planned Mitigation

During the site inspection on July 13, 2021, it was also agreed with the Fire Marshal, Chief John Walser, that instructions for accessing the valve would be printed on reflective labels that would be placed on the inside door of the unit electrical panel and under the kitchen sinks to assist any emergency responders in locating the valve should it be necessary (See Attachment H). It was also agreed with Chief Walser that the main gas room in the basement of the building would be provided with a more descriptive label noting it as being the main gas room and the valves within the gas room would be provided with more descriptive labels describing the areas of the building that each valve serves.

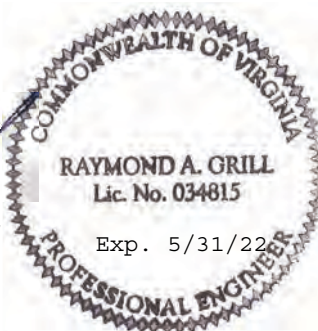
In conclusion, the gas valve locations and installations were plan reviewed and inspected and approved. The building has been occupied since November of 2019 without any issues. There have been no safety concerns raised.

We appreciate your consideration of this appeal

Sincerely,



Raymond A. Grill, P.E., FSFPE
Principal





County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

CORRECTIVE WORK ORDER

This is representative of the 140 Corrective Work Orders that were issued for all of the units on floors 9 through 25.

Virginia Construction Code

DATE OF ISSUANCE: June 3, 2021

METHOD OF SERVICE: Certified Letter 7020 0090 0002 2345 5621

LEGAL NOTICE ISSUED TO: Clark Construction Group, LLC
C T Corporation System., Registered Agent
4701 Cox Road Suite 285
Glen Allen, Virginia 23060-6808

CONTRACTOR LICENSE#: 2705085523

LOCATION OF VIOLATION: The Condominium on Silver Hill Drive
Units located on the 15th Floor
The Verse Condo

TAX MAP REF: 0293 39 0901

CASE #: 202101374 **SR#:** 181090

Per authority granted by the Virginia Construction Code, the County received information on March 29, 2021 regarding the concealed shut off valves related to above referenced properties. Violations of the 2012 Virginia Fuel Gas Code (VFGC), as referenced by the 2012 Virginia Construction Code, effective July 14, 2014, the applicable building codes, were found. You will need to apply for a permit per floor to conduct the repairs and ensure inspections are completed. You have 60 days to correct the violations.

Violation #1 VFGC 108.1 When applications are required: Gas permits will be required for each floor of the structure that contain individual condo units. All condo units located on individual floors can be combined into one permit to cover that floor.

Violation #2 VFGC 113.3 Minimum inspections: Each individual unit will need a first gas test and final inspection.

Violation #3 VFGC 409.1.2 Prohibited locations: The shutoff valve serving the gas cooktop is installed in a concealed location. This is a violation of this code section.



Attachment A

Clark Construction Group, LLC
C T Corporation System., Registered Agent
Page 2 of 2

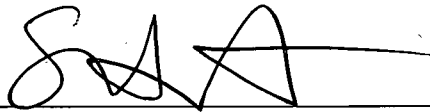
Violation #4 VFGC 409.1.3 Access to shutoff valves: Access to shutoff valves shall be by either *ready access*, as defined in VFGC Chapter 2 or by means of the removal or movement of a panel, door, or similar obstruction. The fixed-in-place appliance used to access this appliance shutoff valve is not a similar obstruction. This is a violation of this code section.

You are directed to notify Scott Hagerty, Combination Inspector, by return correspondence to 12055 Government Center Parkway, Suite 334, Fairfax, VA 22035 or by telephone at 703-508-5402. Failure to do so shall result in the immediate initiation a Notice of Violation and eventual legal action to bring the above referenced property into compliance.

If you have any questions, you may contact Scott Hagerty at 703-508-5402 cell, 703-324-4038 office.

Order Issued By: Scott Hagerty
Technical Assistant to the Building Official
Land Development Services
Scott.hagerty@fairfaxcounty.gov

Signature: _____



Ray Grill Consulting, PLLC

13002 Graphite Court
Clifton, VA 20124
202-560-2801

July 20, 2021

1650 Silver Hill Dr., McLean, VA – Gas Valve Installation Code Modification Supporting Material

Cited Code Deficiency

The deficiency was cited after a complaint by a condominium owner. The technical sections of the International Fuel Gas Code that were cited include the two following sections.

409.1.2 Prohibited locations. Shutoff valves shall be prohibited in concealed locations and *furnace plenums*.

409.1.3 Access to shutoff valves. Shutoff valves shall be located in places so as to provide *access* for operation and shall be installed so as to be protected from damage.

The Verse Condominium building is a 25-story tower which is one of three high-rise towers above a common garage. The project was permitted and inspected and issued Certificates of Occupancy. The first occupants moved into The Verse in November of 2019.

Built Condition

Fairfax County requires a permit and inspection of all fuel gas installations. The installations at The Verse were permitted, inspected and approved.

Each unit contains a single gas appliance consisting of a Bosch gas cooktop installed within the kitchen counter. An electric oven is installed directly below the cooktop. The image below from the Bosch installation manual is representative of the typical installation.

Attachment B

1650 Silver Hill Drive
Gas Valve Code Modification

July 20, 2021



The gas valve is located between the cooktop and the oven. Access to the gas valve is provided by opening the oven, removing two screws, one on each side of the oven, and sliding the oven out of the cabinet.

The image below illustrates the oven removed from the cabinet. This process was witnessed to be accomplished in less than 1 minute.

1650 Silver Hill Drive
Gas Valve Code Modification

July 20, 2021



Attachment B

1650 Silver Hill Drive
Gas Valve Code Modification

July 20, 2021

The following image shows the gas valve within the cabinet. The red arrow is pointing to the gas valve and also shows the gas regulator which is provided with the appliance. It is easily reached from the front of the counter.



The above installation is not significantly different than a gas valve located behind a free-standing gas range or behind a gas dryer. In the author’s opinion, it is easier to access this valve than the valves behind a typical gas range or gas dryer installation.

Purpose of the Gas Shutoff

The appliance gas shutoff valve is provided primarily to control the gas to the appliance. It is used when service or replacement of the appliance is required. If the homeowner believes there is a gas leak, Washington Gas directs that the occupant leave the building and go to a safe area before calling 911 and the Gas Emergency Leak Line. They do not direct the occupant to look for the leak or operate any valves. The directions from the Washington Gas web site are provided below.

What should I do if I think I smell natural gas?

While not all suspected gas odors are the result of an actual gas leak, this can only be determined by qualified personnel. If a person smells gas or hears the hissing of escaping gas, inside or outside a building:

DO	DON'T
<ul style="list-style-type: none"> • Leave the area, leaving doors and windows open to ventilate if possible. • Move to a safe location and call 911 and then call the Washington Gas Emergency Leak Line at 844-WASHGAS (927-4427), selecting option 1. 	<ul style="list-style-type: none"> • Smoke, or light a match, candle or other flame. • Turn electrical appliances or lights on or off, operate motorized equipment or vehicles, or use any device that could cause a spark or source of ignition, including telephones and cell phones.

“Appliance shutoff” is also defined in the VFGC. The definition further explains the purpose of the appliance shutoff valve.

VALVE. A device used in *pipng* to control the gas supply to any section of a system of *pipng* or to an *appliance*.

Appliance shutoff. A valve located in the *pipng* system, used to isolate individual appliances for purposes such as service or replacement.

Practical Difficulty in Complying with the Correction Notice

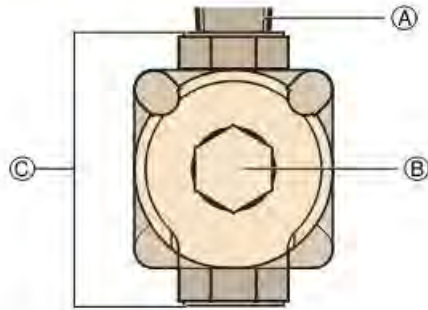
Fairfax County staff have indicated that the valve must be accessible without having to remove the oven. Relocation of all of the gas valves in the units would be a hardship and require significant relocation of piping.

The relocation of the valve and regulator may also put them in a location where they would be subject to inadvertent damage by the homeowner. The manufacturer’s instruction note that the regulator should be installed after the cooktop has been installed to prevent damage. The manufacturer also notes that the regulator is not to be field adjusted. The following is an image from the installation manual.

Connect Gas Supply

The gas inlet to the unit is located at the right rear of the cooktop.

Install the pressure regulator (supplied with unit) to manifold pipe using Teflon tape on threads of manifold pipe. Turn to hand tighten plus 1/4 turn, not exceeding 1 turn for alignment. To prevent possible damage to the gas pressure regulator, install it after the cooktop is in its permanent position. When the regulator is securely installed on the manifold pipe, the conversion nut will be easily accessible.



Pressure Regulator

- A** Manifold Pipe
- B** Conversion Nut
- C** Pressure Regulator

▲ WARNING

Do not attempt any adjustment of the pressure regulator, except when converting to propane. Adjustments could lead to leaks or cause incorrect gas pressure to the appliance.

The Corrective Work Order notes in Violation #3 that the gas shut off valve is located in a concealed location. “Concealed Location” is defined by the Virginia Fuel Gas Code (VFGC) as follows.

CONCEALED LOCATION. A location that cannot be accessed without damaging permanent parts of the building structure or finish surface. Spaces above, below or behind readily removable panels or doors shall not be considered as concealed.

1650 Silver Hill Drive
Gas Valve Code Modification

July 20, 2021

As noted in the images above and through field investigation, the location of the valve is not in a concealed location since the oven can easily be slid out of the cabinet to provide access to the gas valve.

The Corrective Work Order notes in Violation #4 that access to the valve be by either “ready access” as defined by VFGC Chapter 2 or by means of the removal or movement of a panel, door, or similar obstruction. The VFGC defines “Access” as follows.

[M] ACCESS (TO). That which enables a device, *appliance* or *equipment* to be reached by ready *access* or by a means that first requires the removal or movement of a panel, door or similar obstruction (see also “Ready *access*”).

As noted in the definition of access, removal of a panel, door, or similar obstruction is allowed to provide access to the valve. The removal of the oven could be interpreted and apparently was interpreted to provide appropriate access to the gas shut off valve during the up to 140 unit inspections.

The 2018 International Fuel Gas Code was revised to clarify the code intent regarding the location of appliance shut off valves noting that shutoff valves serving appliances are considered to be provided with access when located behind movable appliances. The code change and reason are provided below for information.

409.5.1 Located within same room. The shutoff valve shall be located in the same room as the *appliance*. The shutoff valve shall be within 6 feet (1829 mm) of the *appliance*, and shall be installed upstream of the union, connector or quick disconnect device it serves. Such shutoff valves shall be provided with *access*. Shutoff valves serving movable appliances, such as cooking appliances and clothes dryers, shall be considered to be provided with access where installed behind such appliances. *Appliance* shutoff valves located in the firebox of a *fireplace* shall be installed in accordance with the *appliance* manufacturer's instructions.

Reason: To clarify that an appliance shutoff valve installed behind or beside a movable appliance is allowed as long as the valve can be accessed by moving the appliance. There is some field confusion on the term "access" which is being misinterpreted as requiring the valve to be located in sight and readily accessible. At least one State, Georgia, has amended the IFGC to clarify that appliance shutoff valves can be installed in such locations. The State amendment reads: "409.5.4 Appliance valves, Shutoff valves located behind appliances such as range/ovens and clothes dryers shall be considered accessible."

Proposed Mitigation

An inspection of a typical installation was conducted on July 13, 2021 with plan review and inspection staff of the Building Department and Chief Walser representing the Department of Fire and Rescue.

During the inspection, there were not specific safety hazards identified. The concern was centered on locating the valve in order to shut off the gas supply in a unit.

1650 Silver Hill Drive
Gas Valve Code Modification

July 20, 2021

To facilitate locating the valve by emergency responders, it is proposed that instructions be provided in each unit which would be located on the inside of the electrical panel access door and on the back or sidewall of the cabinet under the sink. The instruction will be printed on adhesive labels and would be subject to approval by the Department of Fire and Rescue.

It was also agreed that the main gas room in the building would be provided with a more descriptive label indicated that the gas shut off valves were located in the room and more descriptive tags would be provided on the individual gas riser valves.

We appreciate your consideration of this request and look forward to your reply.

Sincerely,



Raymond A. Grill, P.E., FSFPE
Principal





County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

August 11, 2021

Raymond Grill, P.E.
Ray Grill Consulting, PLLC
13002 Graphite Court
Clifton, Virginia 20124

Subject: The Verse Condominium
1650 Silver Hill Drive, McLean

Code Reference: 2012 Virginia Fuel Gas Code (VFGC)

File Reference: CDMOD-2021-00030

Dear Mr. Grill:

This is in response to your request for a modification of the VFGC Section 409.1.2, *Prohibited locations*, which states that fuel gas shutoff valves shall be prohibited in concealed locations, and Section 409.1.3, *Access to shutoff valves*, which requires fuel gas shutoff valves to be located in places so as to provide access for operation and be installed so as to be protected from damage.

Your request is to install a fuel gas shutoff valve, along with an appliance regulator, in the cabinet space below a fixed-in-place gas cooktop appliance in each tenant space located at the subject property. The fuel gas shutoff valve will operate as the tenant shutoff valve as required by VFGC 409.3 and the appliance shutoff valve as required by VFGC 409.5.

Your request is to access the fuel gas shutoff valve and the appliance regulator by removing a fixed-in-place, electric oven that is secured and mounted within the base cabinet below the gas cooktop appliance. Your request is based on language that was added to the 2018 VFGC Section 409.5.1 which states "Shutoff valves serving movable appliances, such as cooking appliances and clothes dryers, shall be considered to be provided with access where installed behind such appliances."

Your request is to provide an adhesive label with instructions for emergency responders indicating how to access the shutoff valve. You propose to place one label on the inside of the electrical panel access door and another label on the back or side wall of the cabinet under the sink (assuming the kitchen sink). You state that the proposed method of providing instructions for the removal of the fixed-in-place electric oven in order to access the shutoff valve equates to the shutoff valve as being in a non-concealed location.



Raymond Grill, P.E.
 1650 Silver Hill Drive, McLean
 August 11, 2021
 Page 2 of 3

After due consideration, your request is denied for the following reasons:

1. VFGC Section 409.1.3 requires fuel gas shutoff valves, whether they be tenant shutoff valves or appliance shutoff valves, to be located in places so as to provide *access* for operation. VFGC Chapter 2 defines *access* (to) as “That which enables a device, appliance or equipment to be reached by ready access or by a means that first requires the removal or movement of a panel, door or similar obstruction.” The removal of a fixed-in-place, cabinet mounted, one hundred-ninety-pound electric oven does not equate to either “ready access” or “a panel, door or similar obstruction.”
2. VFGC Section 409.3.1 states “Each tenant shall have access to the shutoff valve serving that tenant’s space.” Requiring a tenant to remove a fixed-in-place, cabinet mounted, one hundred-ninety-pound electric oven in order to access their tenant shutoff valve does not meet the spirit or functional intent of this code requirement. It is likely that many tenants will not have the physical capabilities to undertake such an exercise.
3. The added language contained in 2018 VFGC Section 409.5.1 regarding shutoff valves serving movable appliances:
 - a. Is specific to appliance shutoff valves and is not applicable to tenant shutoff valves or regulators. Excerpts from the ICC IFGC Code Commentary:
 - i. Section 409.5, “Appliance shutoff valves are not considered to be emergency valves, but rather, are considered to be service valves that allow the appliance to be serviced, repaired, replaced or shut down.”
 - ii. Sections 409.3/409.3.1, “A separate shutoff valve for each building or tenant space will allow isolation of any building or space in the event of an emergency or when work must be performed on the piping system.” and “Each tenant space and dwelling unit in buildings having more than two dwellings must have its own shutoff valve to allow isolation from the common piping system.”

In the event of an emergency, the proposed shutoff valve cannot be readily accessed, nor is it capable of isolating the tenant from the common piping system serving the rest of this building.
 - b. Is specific to movable appliances, not fixed-in-place appliances, and
 - c. Is specific to movable appliances served by the shutoff valve, not to different appliances unassociated with the shutoff valve.
4. VFGC Chapter 2 defines *concealed location* as “A location that cannot be accessed without damaging permanent parts of the building structure or finish surface. Spaces above, below or behind readily removable panels or doors shall not be considered as concealed.” The shutoff valve and appliance regulator are concealed within a cavity of a base cabinet that can only be accessed by removing fixed-in-place appliances. These devices are not accessed by means of “readily removable panels or doors.”

Raymond Grill, P.E.
1650 Silver Hill Drive, McLean
August 11, 2021
Page 3 of 3

Attachment C

You have the right to appeal this decision to the Board of Building Code Appeals within 30 days from the date you receive this letter. You may arrange an appeal or obtain information on the appeals process by visiting the county website at www.fairfaxcounty.gov/landdevelopment/code-interpretations-modifications-and-appeals or by contacting the secretary to the board, Carla Guerra-Moran, at 703-324-1780, TTY 711 or carla.guerra-moran@fairfaxcounty.gov.

This response is project specific and applies to the subject address only. Should you have any questions or need more information on this matter, please contact Richard Grace at 703-324-1687, TTY 711 or at richard.grace@fairfaxcounty.gov.

Sincerely,



Jay Riat, P.E.
Building Official

cc: Dan Willham, Deputy Building Official, Building Code Research and Development
Krishna Loomba, Deputy Director, Building Division
James Canter, Chief of Inspections, Building Division
Lee Craft, Engineer III, Building Division
Richard Grace, Code Specialist III, Building Code Research and Development
John L. Walser, Battalion Chief, Fire Prevention Services
William C. Aceto, P.E., Chief Engineer, Office of the Fire Marshal

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Ray Grill Consulting, PLLC

13002 Graphite Court
Clifton, VA 20124
202-560-2801

August 21, 2021

1650 Silver Hill Dr., McLean, VA – Gas Valve Installation Appeals Board Supporting Material



This document responds to issues raised in the Code Modification denial letter dated August 11, 2021.

The specific reasons for denial are provided below with our response.

1. VFGC Section 409.1.3 requires fuel gas shutoff valves, whether they be tenant shutoff valves or appliance shutoff valves, to be located in places so as to provide *access* for operation. VFGC Chapter 2 defines *access* (to) as “That which enables a device, appliance or equipment to be reached by ready access or by a means that first requires the removal or movement of a panel, door or similar obstruction.” The removal of a fixed-in-place, cabinet mounted, one hundred-ninety-pound electric oven does not equate to either “ready access” or “a panel, door or similar obstruction.”

Response:

The installation of the valves was reviewed by numerous inspectors over the course of the construction of the project. The location of the gas valves which only serve one appliance (the cooktop) was approved and deemed to be in compliance. The inspection process of a high-rise residential project is extensive. This was not a hidden feature or overlooked by inspectors during the construction process.

The installation was considered compliant and can still be interpreted to be in compliance with the code requirement for access. Please see the additional information provided in the Code Modification supporting documentation dated 7/20/2021.

2. VFGC Section 409.3.1 states “Each tenant shall have access to the shutoff valve serving that tenant’s space.” Requiring a tenant to remove a fixed-in-place, cabinet mounted, one hundred-ninety-pound electric oven in order to access their tenant shutoff valve does not meet the spirit or functional intent of this code requirement. It is likely that many tenants will not have the physical capabilities to undertake such an exercise.

Response:

Section 409.3.1 was not identified in the Corrective Work Order. This is a new alleged deficiency.

As stated above, this condition was considered code compliant and could still be considered code compliant. This is a standard way of installing gas cooktops. As noted below, access to the gas valve is not intended for emergency use. It is intended for use when the appliance is required to be serviced, removed or replaced. Fairfax County requires a permit for installation or replacement of any gas appliance. If the cooktop were to be replaced, a licensed professional would be required to pull a permit and perform the work. The work is also inspected by the county after it is completed. There are many jurisdictions that enforce the International Plumbing Code that do not require a permit for replacement of a gas appliance. The homeowner would never have a reason to access the gas valve. If there is an emergency, Washington Gas directs the occupant to immediately leave the premises and call 911 and the Washington Gas emergency number for assistance. Please see the additional information provided in the Code Modification supporting documentation dated 7/20/2021.

3. The added language contained in 2018 VFGC Section 409.5.1 regarding shutoff valves serving movable appliances:
 - a. Is specific to appliance shutoff valves and is not applicable to tenant shutoff valves or regulators. Excerpts from the ICC IFGC Code Commentary:
 - i. Section 409.5, “Appliance shutoff valves are not considered to be emergency valves, but rather, are considered to be service valves that allow the appliance to be serviced, repaired, replaced or shut down.”
 - ii. Sections 409.3/409.3.1, “A separate shutoff valve for each building or tenant space will allow isolation of any building or space in the event of an emergency or when work must be performed on the piping system.” and “Each tenant space and dwelling unit in buildings having more than two dwellings must have its own shutoff valve to allow isolation from the common piping system.”
In the event of an emergency, the proposed shutoff valve cannot be readily accessed, nor is it capable of isolating the tenant from the common piping system serving the rest of this building.
 - b. Is specific to movable appliances, not fixed-in-place appliances, and
 - c. Is specific to movable appliances served by the shutoff valve, not to different appliances unassociated with the shutoff valve.

Response:

Section 409.5.1 was not identified in the Corrective Work Order. This is a new alleged deficiency.

The reason notes that the gas valve is not for emergency use and then notes that it should be accessible for emergency use by the tenant. We disagree that the tenant should be operating this valve in an emergency. This would be directly in conflict with the direction given by Washington Gas in the event of a gas leak as noted above.

There is only one gas appliance in each unit. The gas valve to that unit was considered the unit shut off valve at the time of permitting and inspection approvals.

A site visit was conducted prior to the submission of the code modification. Attendees included LDS staff and the Fire Marshal, Chief John Walser. During that site visit, it was agreed by management that reflective adhesive signs would be located on the electrical panel board door and under the sink directly adjacent to the oven noting the location of the gas valve and the simple instructions for accessing it. It was also agreed that a mockup of the signs would be provided to the Chief for Fire Department approval before installation. It was also agreed with the Chief that more descriptive signage would be provided on the Gas Valve room of the building and on the valves of the gas risers denoting the buildings served by each riser. Please see the additional information provided in the Code Modification supporting documentation dated 7/20/2021.

August 21, 2021

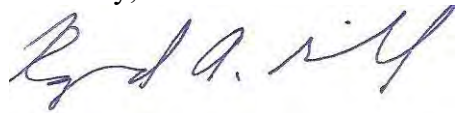
4. VFGC Chapter 2 defines *concealed location* as “A location that cannot be accessed without damaging permanent parts of the building structure or finish surface. Spaces above, below or behind readily removable panels or doors shall not be considered as concealed.” The shutoff valve and appliance regulator are concealed within a cavity of a base cabinet that can only be accessed by removing fixed-in-place appliances. These devices are not accessed by means of “readily removable panels or doors.”

Response:

The gas valves are easily accessed by the removal of 2 screws. The accompanying video shows a technician removing the oven in less than a minute to access the gas valve. This gas valve is much easier to access than the gas valve behind a freestanding stove or behind a gas dryer. Removal of the under-counter oven requires the removal of two screws. Removal of the oven for access to the valve does not require damaging permanent parts of the building.

We appreciate your consideration of this appeal

Sincerely,



Raymond A. Grill, P.E., FSFPE
Principal

**Documents Submitted
By Clark Construction Group and
JCM Associates**

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Appealing Party Information:

The appealing party is The Boro I Residential Condo, LP, a Delaware limited partnership (“Appealing Party”), which served as the developer of The Verse Condominium located at 1650 Silver Hill Drive, McLean, Virginia (“Project”). The Project is a residential condominium containing 140 units and the issue on appeal relates to the gas shut off valves for the gas cooktops installed in the individual residential units. As the developer of the Project and seller of the individual residential units, the Appealing Party did not install the gas cooktops nor the shut off valves. Rather the Appealing Party contracted with Clark Construction Group, LLC to serve as general contractor for the Project and Clark Construction Group, LLC contracted with JCM Associates, Inc. as the mechanical and plumbing subcontractor for the Project, which parties were responsible for the installation of the gas cooktops and shut off valves. In addition, the Appealing Party contracted with Shalom Baranes Associates, PC (“SBA”) as the architect of record for the condominium project and SBA subcontracted with Girard Engineering (now known as Salas O’Brien) as the mechanical, electrical and plumbing engineer of record for the condominium project. The Corrective Work Orders dated September 21, 2021 and the Notices of Violation dated November 17, 2021 issued by Fairfax County and the Resolution issued on December 8, 2021 by the Fairfax County Board of Building Code Appeals, which collectively formulate the subject matter of this Appeal, were issued to Clark Construction Group, LLC and JCM Associates, Inc. Notwithstanding, as the developer of the Project, The Boro I Residential Condo, LP submits this appeal of the Resolution issued against Clark Construction Group, LLC and JCM Associates, Inc. on behalf of the responding parties.

The address of the Appealing Party is The Boro I Residential Condo, LP c/o The Meridian Group, 3 Bethesda Metro Center, Suite 1400, Bethesda, Maryland 20814.

The Applicant signing below is agent for the Appealing Party.

Agent:



Raymond A. Grill, P.E., LEED AP, FSFPE
Principal

Ray Grill Consulting, PLLC
13002 Graphite Court
Clifton, VA 20124
202-560-2801
Ray@raygrillconsulting.com

Ray Grill Consulting, PLLC

13002 Graphite Court
Clifton, VA 20124
202-560-2801

W. Travis Luter Sr., CBO, Secretary
Commonwealth of Virginia, DHCD
Office of the State Technical Review Board
Main Street Centre
600 E. Main Street, Suite 300
Richmond, VA 23219

Delivered via email to: travis.luter@dhcd.virginia.gov; sbco@dhcd.virginia.gov

December 30, 2021

**Appeal of Fairfax County Board of Building Code Appeals Resolution of Appeal CDAPPL-2021-00014
1650 Silver Hill Drive, McLean, VA – The Verse Condominium –
Fairfax County Corrective Work Order Case #:202101374 – SR#: 181090, Dated
September 29, 2021.**

Dear Mr. Luter,

The issue that we are appealing is the Fairfax County determination that the gas valves serving kitchen cooktops within dwelling units are not easily accessible.

This issue applies to 140 dwelling units in a 23-story high rise tower. The building was granted first occupancy and was occupied in November of 2019. Drawings were approved noting the location of the gas valves, permits were issued, and inspections were conducted as required by Fairfax County prior to occupancy.

In April of 2021, a notice of violation was issued as a result of an occupant complaint. A code modification request was submitted to the County which was denied. An appeal to the local board was filed. Prior to the appeal board meeting, the original Notice of Violation was rescinded, and a new Notice of Violation was issued on November 17, 2021. At that time, it was determined since there was no new material to be presented that it was appropriate to file an appeal to the Fairfax County Local Board of Building Code Appeals. Throughout the time of the above activity, the contractors and developer have been in discussions with Fairfax County to attempt to reach a solution which is still ongoing. Meetings were conducted on site to review the issue with Fairfax County Building and Fire Department representatives. During initial reviews it was agreed with the Fire Marshal that reflective labels with clear instruction on removal of the

oven for access to the gas valve would be provided in each unit. Labels would be installed in the electrical panel board and below the kitchen sink.

Summary

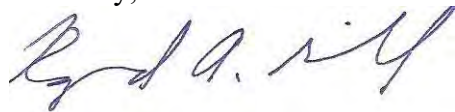
The alternative to allow the current access with signage being provided as noted above (which is also described in the attached supporting material) is being requested based on Section 106.3 of the VCC (Issuance of modifications). Access to the gas valve by removal of the oven below the cooktop is as easy as a typical gas valve installation for a gas stove/oven combination or gas dryer installation. If the cooktop and oven were a single unit, the code specifically allows the stove to be moved to access the valve. The current installation was approved 140 times within this building. A safety issue has not been identified by anyone.

We have included videos showing the ease of access to the shut off valve. We believe that the access being provided meets the intent of the building code.

We have also included the material submitted to the local board of appeals.

Thank you for your consideration.

Sincerely,



Raymond A. Grill, P.E., FSFPE
Principal



County of Fairfax, Virginia

MEMORANDUM

DATE: November 29, 2021

TO: Members of the Local Board of Building and Fire Code Appeals

FROM: Melissa Smarr, Code Specialist III, Land Development Services

SUBJECT: Appeal response for Condominiums on Silver Hill Drive—The Verse Condo

Staff respectfully requests the Fairfax County Local Board of Building Code Appeals (Board) uphold the Building Official's determination of the Corrective Work Order issued on September 29, 2021, and Notice of Violation issued on November 17, 2021, for violations of the Virginia Uniform Statewide Building Code and the Virginia Fuel Gas Code.

Staff Position

The appeals filed by Clark Construction Group and the JCM Associates Inc. concern gas shut off valves to which the homeowners have no ready access. The County is requesting the Board uphold the code violations so they can be abated.

Violation #1 VUSBC Section **108.1** *When applications [for permits] are required.* Gas permits will be required for each individual residential unit.

--Residential unit permits can be combined into one permit to cover all the residential units contained on an individual floor.

Violation #2 VUSBC Section **113.3** *Minimum inspections.*

--Each individual residential unit will need a first gas test and a final inspection.

Violation #3 VFGC Section **409.1.2** *Prohibited locations. Shutoff valves shall be prohibited in concealed locations and furnace plenums. As defined in VFGC Chapter 2, concealed location, Spaces above, below or behind readily removable panels or doors shall not be considered as concealed.*

--There are no *readily removable panels or doors* provided to access the shutoff valve.

Violation #4 VFGC Section **409.1.3** *Access to shutoff valves. Shutoff valves shall be located in places so as to provide access for operation and shall be installed so as to be protected from*

damage. As defined in VFGC Chapter 2, *access* shall be by either *ready access*, or by means of the removal or movement of a panel, door, or similar obstruction.

--The fixed-in-place appliances used to access the tenant/appliance shutoff valves, natural gas cooktop and electric wall oven, provide neither *ready access* or are equivalent to a panel, door, or similar obstruction.

Violation #5 VFGC Section **409.3.1 Multiple tenant buildings.** *In multiple tenant buildings, where a common piping system is installed to supply other than one- and two-family dwellings, shutoff valves shall be provided for each tenant. Each tenant shall have access to the shutoff valve serving that tenant's space.*

--Tenants do not have access to the shutoff valve serving their unit, see Violation #4 above.

Violation #6 VFGC Section **409.5.1 Located within same room.** *The [appliance] shutoff valve shall be located in the same room as the appliance. The shutoff valve shall be within 6 feet (1829 mm) of the appliance, and shall be installed upstream of the union, connector or quick disconnect device it serves. Such shutoff valves shall be provided with access. The appliance shutoff valve provided in these units are not provided with access, see Violation #4 above. Please note, the 2018 VFGC Section 409.5.1 provides additional language that states *Shutoff valves serving movable appliances, such as cooking appliances and clothes dryers, shall be considered to be provided with access where installed behind such appliances.**

--This is not an option. This option pertains only to an appliance shutoff valve. This shutoff valve serves as the tenant shutoff valve, see Violation #5. Additionally, this option does not pertain to the line pressure regulator installed directly downstream of the tenant shutoff valve, within the same cavity, see Violation #7.

Violation #7 VFGC Section **410.1, Pressure regulators.** *Access shall be provided to pressure regulators.*

--The line pressure regulator is installed directly downstream of the tenant shutoff valve, within the same cavity. See *access* comments in Violation #4.

Violation #8 VFGC Section **623.1, Cooking appliances.** *Cooking appliances . . . shall be installed in accordance with the manufacturers installation instructions.*

--Unit cooktops are not installed per the manufacturer's installation instructions. The manufacturer's installation instructions for the installed cooktops (Bosch NGM8056UC) require these cooktops to be secured to the countertop with mounting hardware provided with the cooktop.

Ray Grill Consulting, PLLC

13002 Graphite Court
Clifton, VA 20124
202-560-2801

October 27, 2021

**1650 Silver Hill Drive, McLean, VA – Gas Valve Installation
Board of Appeals – Corrective Work Order Case #: 202101374
SR#: 181090, Dated September 29, 2021**

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30" Single Wall Oven

800 Series – Stainless Steel HBL8451UC

A2-APP3.1 
BOSCH
 Invented for life

HBL8451UC
 Stainless Steel

Also available in:

Black HBL8461UC

The Bosch wall oven installs flush and features a QuietClose™ door.

Features & Benefits

Dampened hinges softly and quietly guide the QuietClose™ door shut.

A full-extension telescopic rack offers safe access to the oven cavity.

Touch control with SteelTouch™ buttons makes operating the oven easier.

The wall oven is designed to be installed flush with cabinetry.

Bosch wall ovens are compatible with most competitors' cutouts.

Genuine European Convection for even baking results on multiple racks.

General Properties

Cooking modes	Bake, Variable Broil (hi & low), Roast, Warm, Sabbath, Proof Dough, Convection Bake, Convection Broil, Convection Roast, Pizza, Multi Rack Genuine European Convection, Convection Conversion, Temperature Probe, Fast Preheat
---------------	--

Cleaning type	Self Clean
Telescopic rack	1
Illumination type	Incandescent
Interior lights	2

Oven Performance

Bake / broil element wattages	2,400 / 3,800 W
Convection element wattages	2,000 W

Technical Details

Watts (W)	6,325 W
Circuit breaker (A)	30 A
Volts (V)	240 / 208 V
Frequency (Hz)	60 Hz
Power cord length (in)	50"
Plug type	Fixed Connection, No Plug
Energy source	Electric



CONDITIONS OF REVIEW

REVIEWED REVIEWED AS NOTED REVISE & RESUBMIT

This review by Cacconi Simone Inc. is for the sole purpose of ascertaining conformance with the general design concepts. This review shall not mean that Cacconi Simone Inc. approved the detail design inherent in the shop drawings/submittal, responsibility for which shall remain with the contractor submitting same, and such review shall not relieve the contractor of his responsibility for errors or omissions in the shop drawings/submittal or of his responsibility for meeting all requirements of the construction and contract documents and all applicable codes. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication process or to technique of construction and installation, and for co-ordination of the work for all sub-trades.

CACCONI SIMONE INC. BY DT DATE 03 APR 2018

For help and assistance w
 Notes: All height, width an
 notice. Consult the produc
 literature or you may conta

Warranties: Bosch warrant
 timeline begins to run upo
 defects in material and wor
 from the date of purchase c

For more information on our entire line of products, go to www.bosch-home.com/us or call 1-800-944-2904

© BSH Home Appliances Corporation. All rights reserved. Bosch is a registered trademark of Robert Bosch GmbH.

Dimensions & Weight

Overall appliance dimensions (HxWxD)(in)	29" x 29 3/4" x 24 1/2"
Required cutout size (HxWxD) (in)	27" – 28 5/8" x 28 1/2" x 23 1/2"
Oven cavity size (cu. ft.)	4.6
Overall oven interior dimensions (HxWxD) (in)	17 13/16" x 24 1/8" x 18"
Usable oven interior dimensions (HxWxD) (in)	12 5/16" x 23 1/4" x 15 1/4"
Net weight (lbs)	149 lbs

Accessories—Included

Included	1 Telescopic and 2 Standard Oven Racks, Temperature Probe
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Accessories—Optional


HEZTR301
 30" Telescopic Rack


or call 1-800-944-2904 Mon-Fri 5am to 6pm PST Sat 6am to 3pm PST
 restricted right to change product materials and specifications, at any time, without
 to making cutout. Applicable product warranty can be found in accompanying product

eriod of three hundred and sixty-five (365) days from the date of purchase. The foregoing
 ed, for any reason whatsoever. This Product is also warranted to be free from cosmetic
 hip, dents, or other damage) to the finish of the Product, for a period of thirty (30) days
 color variations due to inherent differences in painted and porcelain parts, as well as
 specifically excludes any display, floor, "As Is", or "B" stock appliances.

11/16

PRD366GHU

36-INCH DUAL-FUEL PRO HARMONY® RANGE

PROFESSIONAL SERIES, STANDARD-DEPTH, PORCELAIN COOKTOP SURFACE



FEATURES & BENEFITS

- ★ - Exclusive, patented Star® Burner—most even heating, unsurpassed flame coverage
- ★ - QuickClean Base® designed for easy surface cleaning
- ★ - Precision simmering capabilities as low as 100°F (375 BTU) with 2 ExtraLow® Simmer burners
- ★ - Superfast 2-hour self-clean mode—fastest in the industry
 - Professional style, continuous cast iron grates

TECHNICAL DETAILS

Circuit Breaker (A)	35 A
Volts (V)	240 / 208 V
Frequency (Hz)	60 Hz
Plug Type	No Plug
Power Cord Length (in)	Purchase Separately
Energy Source	Gas and Electric
Gas Type	Natural Gas 15 mbar (USA)
Alternative Gas Type	Liquid Gas 27.5 mbar (USA)

SEE PAGE 2 FOR OPTIONAL ACCESSORIES

GENERAL PROPERTIES

Oven Capacity	4.8 cu. ft.
Cooking Modes - Main / Large Cavity	Bake, Convection Bake, Broil, Convection Broil, Self Clean, Extended Bake
Cooking Modes - Small Cavity	N/A
Programs	Sabbath Function
Cleaning Type	Self Clean
Type of Grate	Continuous Cast Iron
Controls	Metal Knobs
Sealed Burners	Yes

OVEN PERFORMANCE

Bake Power	2,000 W
Broil Power	4,000 W
Convection Power	2,750 W

BURNER PERFORMANCE

Total Number of Cooktop Burners	6
Power of Front Left Burner BTU	18,000 and XLO (NG)
Power of Back Left Burner BTU	18,000 and XLO (NG)
Power of Back Center Burner BTU	18,000 (NG)
Power of Front Center Burner BTU	18,000 (NG)
Power of Center 12" Electric Griddle (W)	N/A
Power of Center 12" Electric Grill (W)	N/A
Power of Far Right 12" Electric Griddle (W)	N/A
Power of Back Right Burner BTU	18,000 (NG)
Power of Front Right Burner BTU	18,000 (NG)

DIMENSIONS & WEIGHT

Overall Appliance Dimensions (HxWxD) (in)	35 7/8"–36 3/4" x 35 15/16" x 24 3/4"
Required Cutout Size (HxWxD) (in)	35 7/8"–36 3/4" x 36" x 24"
Adjustable Range Height (in.)	7/8"
Net Weight (lbs)	425 lbs

ACCESSORIES (INCLUDED)

1 X Island Trim, 3 X Full Access Telescopic Rack, 1 X Broiler Pan

WARRANTY

Limited Warranty, Entire Appliance, Parts and Labor	2 Year
---	--------

WHAT TO DO IF YOU SMELL NATURAL GAS QUÉ HACER SI SIENTE OLOR A GAS NATURAL

2. REACT! / ¡REACCIONE!

If you suspect a natural gas leak or other gas emergency, evacuate the area immediately and from a safe location call **911** and then **844-WASHGAS (927-4427)**. Do not attempt to locate the source of the odor.

*Si sospecha que hay una fuga de gas u otra emergencia relacionada con el gas, evacue el área inmediatamente y llame al **911** y luego al **844-WASHGAS (927-4427)** desde un lugar seguro. No intente localizar la fuente del olor.*

DO / LO QUE SE DEBE HACER



Leave the area, leaving windows and doors open to ventilate, if possible. Abandone el área, si es posible deje las puertas y ventanas abiertas para que se ventile.



Move to a safe location and call **911** and then call the **Washington Gas Emergency Leak Line at 844-WASHGAS (927-4427), selecting option 1.** Váyase a un lugar seguro y llame al **911** y luego llame a la **Línea de emergencias para fugas de Washington Gas al 844-WASHGAS (927-4427), seleccione la opción 1.**



3. RESPOND! / ¡RESPONDA!

When notified of a natural gas leak, Washington Gas dispatches trained technicians **24 hours a day, seven days a week** to investigate and assess. If a leak poses an immediate hazard, technicians will make the area safe and remain on scene until repairs are completed. Leaks that are determined to be non-hazardous will be scheduled for repair at a later date.

*Al recibir una notificación sobre una fuga de gas natural, Washington Gas envía técnicos capacitados al lugar las **24 horas del día, los 7 días de la semana**. Si una fuga representa un peligro potencial, el técnico se asegurará de que el área sea segura y Washington Gas realizará reparaciones inmediatas. Las fugas que se determine que no son peligrosas se programarán para su reparación en una fecha posterior.*

DON'T / LO QUE NO SE DEBE HACER



Don't smoke, or light a match, candle or other flame.

No fume ni encienda un fósforo, una vela u otra llama.



Don't turn electrical appliances or lights on or off, operate motorized equipment or vehicles, or use any device that could cause a spark or source of ignition, including telephones and cell phones.

No encienda o apague aparatos eléctricos o luces, opere equipos o vehículos motorizados, ni use ningún dispositivo que pueda causar una chispa o una fuente de ignición, incluyendo teléfonos fijos y celulares.



MORE INFORMATION / MÁS INFORMACIÓN

For more information on Natural Gas Safety go to www.washingtongas.com/safety



Para obtener más información acerca de la seguridad del gas natural vaya a www.washingtongas.com/espanol

Gas Cooktop

Installation Manual

NGM5056UC, NGM5656UC, NGM8056UC, NGM8656UC,
NGMP056UC, NGMP656UC, NGM8046UC, NGM8646UC



BOSCH
Invented for life



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This Bosch Appliance is made by
 BSH Home Appliances Corporation
 1901 Main Street, Suite 600
 Irvine, CA 92614

Questions?

1-800-944-2904

www.bosch-home.com/us

We look forward to hearing from you!

▲ Safety Definitions

▲ WARNING

This indicates that death or serious injuries may occur as a result of non-observance of this warning.

▲ CAUTION

This indicates that minor or moderate injuries may occur as a result of non-observance of this warning.


NOTICE: This indicates that damage to the appliance or property may occur as a result of non-compliance with this advisory.

Note: This alerts you to important information and/or tips.

IMPORTANT SAFETY INSTRUCTIONS

READ AND SAVE THESE INSTRUCTIONS

Gas Appliance Safety

 **WARNING:** If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS**
 - Do not try to light any appliance.
 - Do not touch any electrical switch.
 - Do not use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

⚠ IMPORTANT SAFETY INSTRUCTIONS

READ AND SAVE THESE INSTRUCTIONS

IMPORTANT: SAVE THESE INSTRUCTIONS FOR THE LOCAL ELECTRICAL INSPECTOR'S USE.

INSTALLER: LEAVE THESE INSTRUCTIONS WITH THE UNIT FOR THE OWNER.

OWNER: PLEASE RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.

WARNING

When properly cared for, your new appliance has been designed to be safe and reliable. Read all instructions carefully before use. These precautions will reduce the risk of burns, electric shock, fire and injury to persons. When using kitchen appliances, basic safety precautions must be followed including those in the following pages.

WARNING

Do not repair, replace or remove any part of the appliance unless specifically recommended in the manuals. Improper installation, service or maintenance can cause injury or property damage. Refer to this manual for guidance. All other servicing must be done by an authorized service agency.

- Install a gas shutoff valve near the appliance. It must be easily accessible in an emergency.
- Leak testing must be conducted by the installer according to the instructions in this manual.
- The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing at pressures in excess of 1/2 psi (3.5 kPa).
- The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.5 kPa).
- The minimum supply pressure must be 1" water column above the manifold pressure printed on the data plate.
- The maximum supply pressure must not exceed 14.0 inches water column (34.9 Millibars).
- For Massachusetts installations:
 - Installation must be performed by a qualified or licensed contractor, plumber or gas fitter qualified or licensed by the state, province or region where this appliance is being installed.
 - Shut-off valve must be a "T" handle gas cock.

- Flexible gas connector must be new and not longer than 36 inches.
- Installer-show the owner where the gas shut-off valve is located.

Propane Gas Installation

- The propane gas tank must be equipped with its own high pressure regulator. In addition, the regulator supplied with this unit must also be used.
- The appliance is shipped from the factory for use with natural gas. It must be converted for use with propane. A qualified technician or installer must do the conversion.

Equipment and Usage Safety Requirements

- The cooktop must be used in conjunction with a suitable ventilation system.
- Remove all tape and packaging before using the appliance. Destroy the packaging after unpacking the appliance. Never allow children to play with packaging material.
- Never modify or alter the construction of the appliance. For example, do not remove panels, wire covers or screws.
- To eliminate the risk of burns or fire while reaching over heated surface units, cabinet storage space located above the surface units should be avoided. If cabinet storage is to be provided, the risk can be reduced by installing a hood that projects horizontally a minimum of 5 inches beyond the bottom of the cabinet.
- Verify that cabinets above the cooktop are a maximum of 13 inches (330mm) deep.

Appliance Handling Safety

CAUTION



- Unit is heavy and requires at least two people or proper equipment to move.
 - Hidden surfaces may have sharp edges. Use caution when reaching behind or under appliance.
-

⚠ IMPORTANT SAFETY INSTRUCTIONS

READ AND SAVE THESE INSTRUCTIONS

Safety Codes and Standards

- This appliance complies with one or more of the following standards:
ANSI Z21.1, Household Cooking Gas Appliances
- It is the responsibility of the owner and the installer to determine if additional requirements and/or standards apply to specific installations.
- 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, in Canada, the *Natural Gas and Propane Installation Code, CSA B149.1*.
- The appliance must be electrically grounded in accordance with local codes or, in the absence of local codes, with the *National Electrical Code ANSI/NFPA 70* or the *Canadian Electric Code, CSA C22.1-02*.

Proposition 65 Warning:

This product may contain a chemical known to the State of California, which can cause cancer or reproductive harm. Therefore, the packaging of your product may bear the following label as required by California:

STATE OF CALIFORNIA PROPOSITION 65 WARNING:



WARNING

Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Note: IMPORTANT SAFETY NOTICE: The California Safe Drinking and Toxic Enforcement Act requires the Governor of California to publish a list of substances known to the state to cause cancer, birth defect or other reproductive harm, and requires businesses to warn customers of potential exposure to such substances. The burning of gas cooking fuel and the elimination of soil during self-cleaning can generate small amounts of carbon monoxide. The fiberglass insulation in Self Clean ovens gives off very small amounts of formaldehyde during the first several cleaning cycles. California lists formaldehyde as a potential cause of cancer. Carbon monoxide is a potential cause of reproductive toxicity. Exposure to these substances can be minimized by:

1. Providing good ventilation when cooking with gas.
2. Operating the unit according to the instructions in this manual.

Electric Safety

- Before you plug in an electrical cord, be sure all controls are in the OFF position.
- For appliances equipped with a cord and plug, do not cut or remove the ground prong. It must be plugged into a matching grounding type receptacle to avoid electrical shock. If there is any doubt as to whether the wall receptacle is properly grounded, the customer should have it checked by a certified electrician.
- This appliance should be installed in accordance with the National Electric Code or Canadian Electrical Code. It is required that the cooktop be installed on a grounded, non-GFCI branch circuit.
- Installer-show the owner the location of the circuit breaker or fuse. Mark it for easy reference.
- Before installing, turn power OFF at the service panel. Lock service panel to prevent power from being turned ON accidentally.
- Be sure your appliance is properly installed and grounded by a certified technician. Installation, electrical connections and grounding must comply with all applicable codes.

High Altitude Installation

Contact customer service for use at altitudes above 2,000 feet (610 meters).

Before You Begin

Tools and Parts Needed

- Phillips Head Screwdriver
- Precision Flathead Screwdriver
- Tape Measure
- Teflon Tape (Gas Rated)
- Adjustable Wrench or Channel Lock Pliers

Parts Included

- Foam Tape
- Mounting Brackets (4)
- Screws, #10-32 x 2 1/2" (63.8 mm) (4)
- Sheet Metal Screws, #8 x 3/8" (9.5 mm) (4)
- Washers (4)
- Burner Grates (3)
- Burners
 - 30" models: (4) or (5)
 - 36" models: (5)
- Burner Caps
 - 30" models: (4) or (5)
 - 36" models: (5)
- Pressure Regulator
- LP Gas Conversion Kit

Note: If parts are missing or damaged, call the number or write to the address listed on the inside back cover.

General Information

Overall Dimensions

	30" Models	36" Models
Width (Side to Side)	31" (788 mm)	37" (940 mm)
Depth (Front to Back)	21 1/4" (540 mm)	21 1/4" (540 mm)
Height (Top to Bottom)	3 13/16" (97 mm)	3 13/16" (97 mm)

Note: These are overall dimensions NOT cutout dimensions.

Preparation

Electrical Requirements

▲ CAUTION

Do not use an extension cord with the gas cooktop.

This appliance requires a 60 Hz, 15 Amp, 120 VAC connection. Plan the installation so that the power connection is accessible from the front of the cabinet.

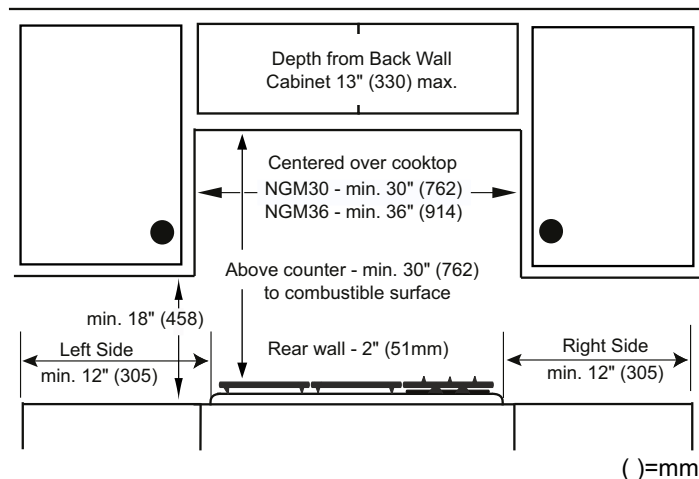
Gas Requirements

Supply Pressure:

- **Natural Gas:** 7 inches water column (14.9 Millibars)
- **Propane Gas:** 11 inches water column (27.4 Millibars)

The propane gas tank must be equipped with its own high pressure regulator in addition to the pressure regulator supplied with this unit. The cooktop is shipped from the factory for use with natural gas. For use with LP conversion, a certified technician or installer must do the conversion.

Cabinet Requirements



- Instructions are based on standard American cabinets 36" high (91cm) x 24" deep (61cm) with a 25" (63cm) countertop.
- The maximum depth of a cabinet installed above the cooktop is 13" (33cm).

Note: All measurements given must be precisely followed. If nonstandard cabinets are used, make sure they are installed with minimum dimensions shown.

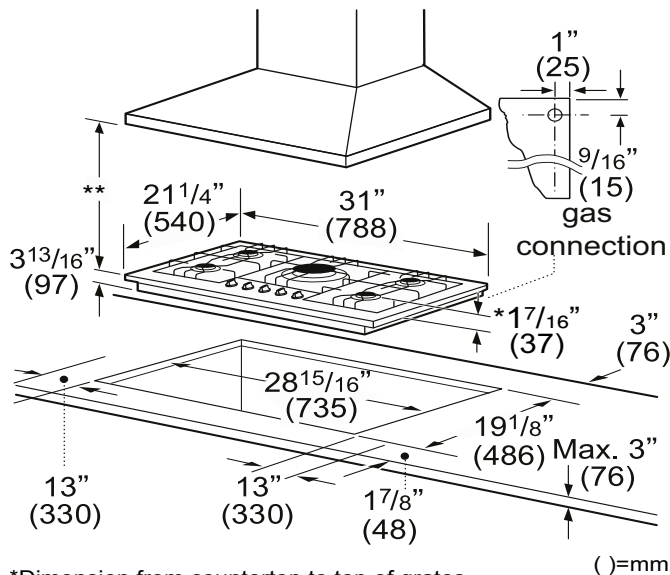
Hook Up

A manual gas shut-off valve must be installed external to the appliance, in a location accessible from the front, for the purpose of shutting of the gas supply.

- Plan the installation of the unit so that the power cord, gas shut-off valve and gas pressure regulator are accessible from the front of the cabinet.
- The supply line must not interfere with the back of the unit.
- Make sure the gas supply is turned off at the manual shut-off valve before connecting to the appliance.

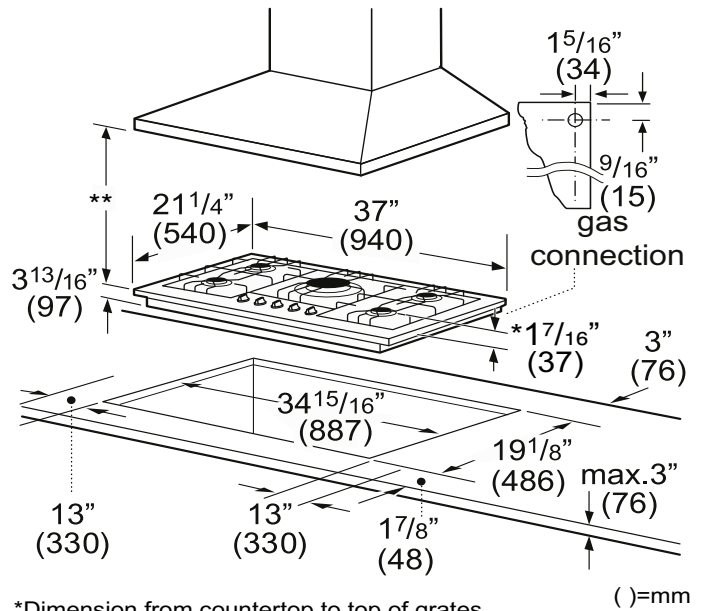
Countertop Requirements

Note: All measurements given must be precisely followed. If nonstandard cabinets are used, make sure they are installed with minimum dimensions shown in image below.



*Dimension from countertop to top of grates
 **When installed in combination with a hood, refer to hood manufacturer's requirements for installation.

30" Models



*Dimension from countertop to top of grates
 **When installed in combination with a hood, refer to hood manufacturer's requirements for installation.

36" Models

Mounting Requirements

Use the hold down brackets supplied. See "Install the Cooktop" section for further details.

Ventilation Requirements

We strongly recommend the installation of ventilation with the appliance. The appliance must be installed according to the furnished instructions.

CAUTION

The appliance should not be installed with a ventilation system that blows air downward toward the burners. This type of ventilation system may cause ignition and combustion problems with the gas cooking appliance resulting in personal injury or unintended operation.

Installation Procedure

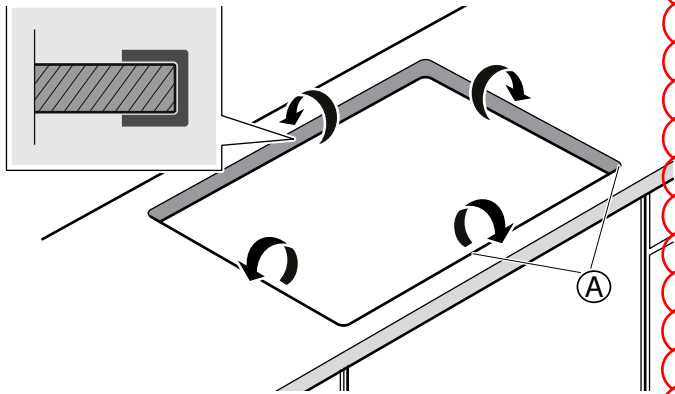
Prepare the Countertop

▲ WARNING

To avoid electrical shock hazard, before installing the cooktop, switch power off at the service panel to prevent the power from being switched on accidentally.

Cut out the countertop per the dimensions shown in the section “**Cabinet Requirements**”.

Some solid surface materials require different cutting methods. Consult with the solid surface manufacturer for the correct cutting method needed. Apply heat reflective tape such as Scotch Aluminum Foil Tape #425 or #427 (not included) around the cutout so that it folds over the top and sides. Do not wrap the tape underneath the cooktop. Be sure the tape extends beyond the outermost flange of the cooktop. All corners should be covered with tape.



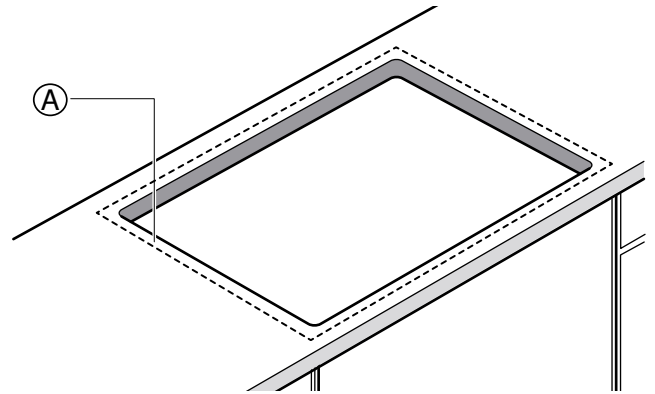
Solid Surface Countertops-Counter Cutout

A Heat Reflective Tape

Seal the Cooktop with Foam Tape

Note: Failure to install the foam tape may affect burner performance.

Apply the self adhesive foam tape in one continuous rectangle directly to the counter around the perimeter of the cutout as shown by the dotted line in the image below. The foam tape should be flush with the edge of the cutout.

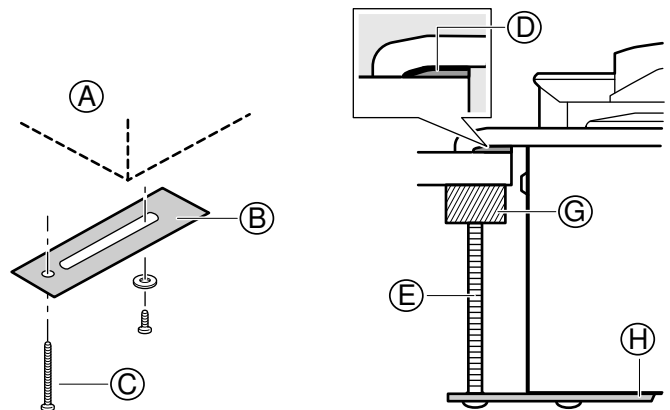


Foam Tape Placement-Counter Cutout

A Foam Tape Placement

Install the Cooktop

Insert the cooktop into the cutout. Attach the clamps of the mounting brackets packaged with the cooktop. Use the washer and screws provided.



Adjust the mounting brackets to desired position and tighten screws to cooktop. Insert adjusting screw into clamp and secure cooktop to countertop.

Attaching Mounting Brackets

A	Cooktop
B/H	Hold Down Bracket
C/E	Adjusting Screw
D	Foam Tape (Seal)
G	Wooden Block (to be used with solid surfacing material)

Note: For solid surface material installations:

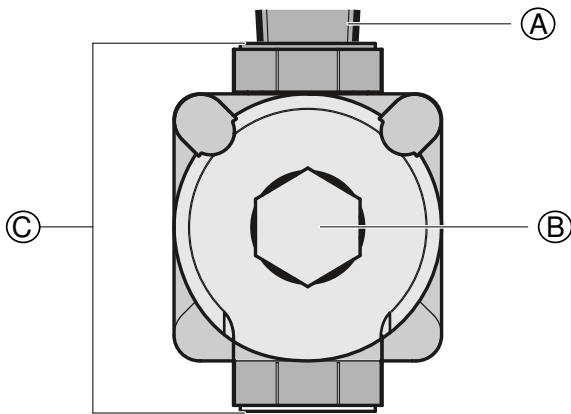
- Insert a wooden block between the end of the screw and the bottom of the countertop.
- Do not overtighten adjusting screw.
- Trim excess aluminum tape around cooktop flange.

Tip: Install hold down bracket without the adjusting screw installed. Turn hold down brackets flush with the sides of the cutout. This will help with inserting cooktop in hard-to-reach spaces.

Connect Gas Supply

The gas inlet to the unit is located at the right rear of the cooktop.

Install the pressure regulator (supplied with unit) to manifold pipe using Teflon tape on threads of manifold pipe. Turn to hand tighten plus 1/4 turn, not exceeding 1 turn for alignment. To prevent possible damage to the gas pressure regulator, install it after the cooktop is in its permanent position. When the regulator is securely installed on the manifold pipe, the conversion nut will be easily accessible.



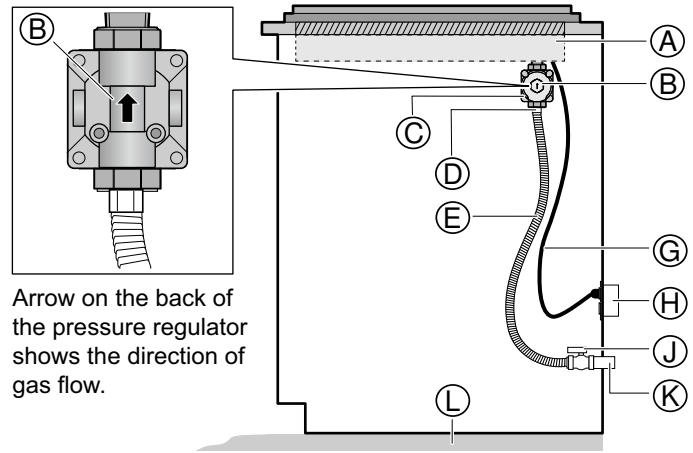
Pressure Regulator

A	Manifold Pipe
B	Conversion Nut
C	Pressure Regulator

▲ WARNING

Do not attempt any adjustment of the pressure regulator, except when converting to propane. Adjustments could lead to leaks or cause incorrect gas pressure to the appliance.

Side View Gas Cooktop Installation



Arrow on the back of the pressure regulator shows the direction of gas flow.

Gas and Electrical Location

A	Rough-in Cooktop Box
B	Arrow on Pressure Regulator
C	Pressure Regulator
D	1/2" Female Pipe Threads
E	Flexible Gas Line
G	Power Cord (60 inches/1,524mm)
H	120 Volt Receptacle
J	Gas Cut-off Valve
K	Gas Supply Line Stub-out
L	Floor

Connect the gas supply line to the unit pressure regulator using a 1/2" flex gas line connector between manual shut-off valve and pressure regulator. Always use a new flex line.

Check supply line connections for leaks using a soap solution or non-corrosive leak detection fluid. Do not use a flame of any sort.

1. Turn on gas.
2. Apply a soap solution or non-corrosive leak detection fluid to all joints and fittings in the gas connection between the shut-off valve and the cooktop. Include gas fittings and joints in the cooktop if connections may have been disturbed during installation. Bubbles appearing around fittings and connections indicate a leak.
3. If a leak appears, turn off supply line gas shut-off valve and tighten connections.
4. Retest for leaks by turning on the supply line gas shut-off valve. When leak check is complete (no bubbles appear), test is complete.
5. Wipe off all soap solution or detection fluid residue.

Attachment G

Important Notes for Gas Connection:

- The appliance and its individual gas shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psi (3.5kPa).
- The appliance must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.5kPa).

Connect Electrical Supply

Before connecting the 5-foot (1.5m) supply cord to a wall receptacle, make certain that gas shut-off valve and all burner controls are in OFF position.

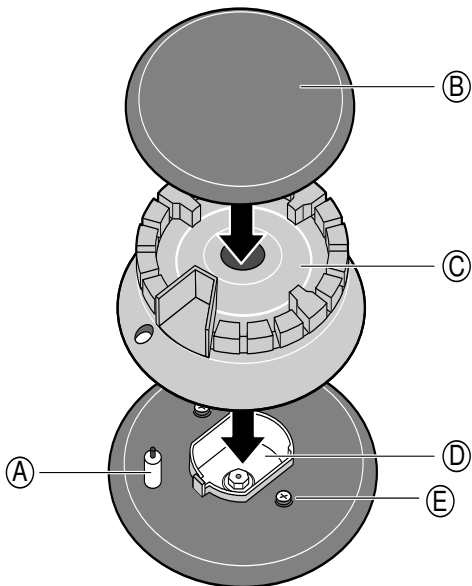
Burner Cap and Burner Base Placement

▲ WARNING

To prevent flare-ups, do not use the cooktop without all burner caps and all burner grates properly positioned.

▲ WARNING

To prevent burns, do not touch burner caps or grates while hot. Turn the cooktop off and allow the entire cooktop to cool.

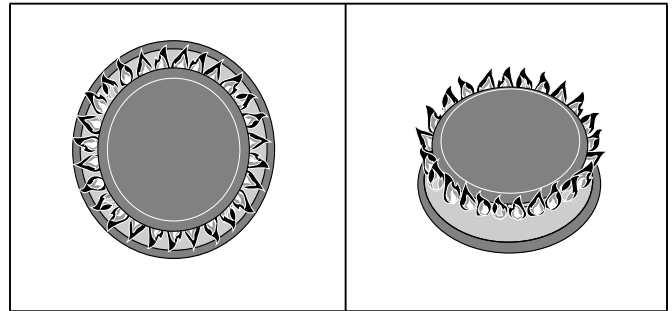


A	Igniter
B	Burner Cap
C	Burner Base
D	Jet Holder
E	Panhead Screw

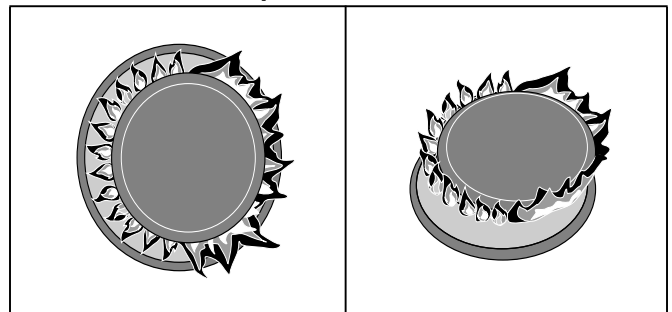
The burner caps must be properly placed for the cooktop to function properly. If the burner cap is not properly placed, one or more of the following problems may occur:

- Burner flames are too high.
- Burner flames extend too far on sides.
- Stainless steel discolors.
- Burners do not ignite.
- Burner flames light unevenly.
- Burner emits gas odor.

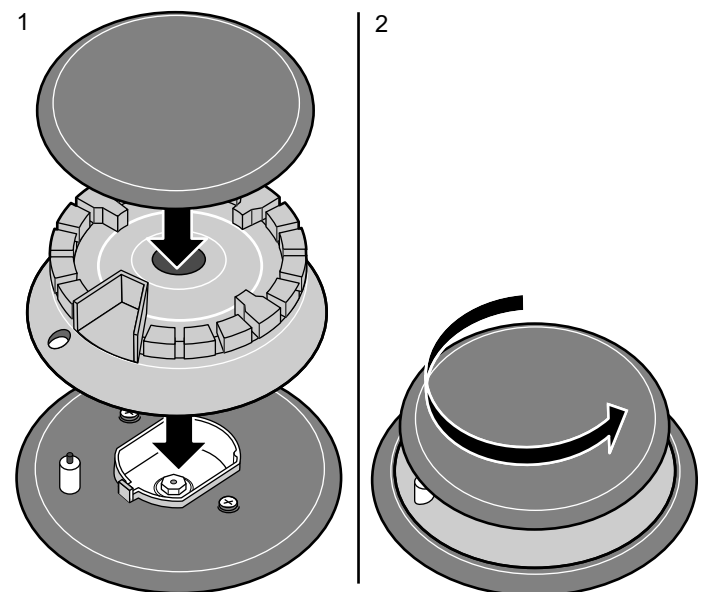
Correct Burner Cap Placement



Incorrect Burner Cap Placement

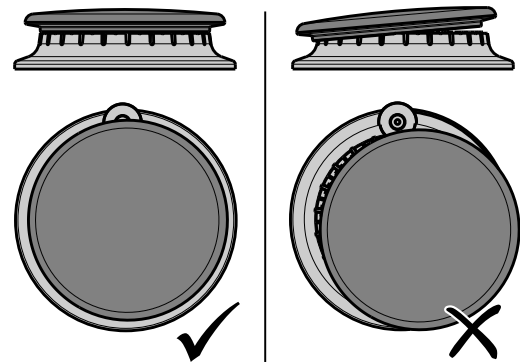


Burner Base and Burner Cap Placement



Attachment G

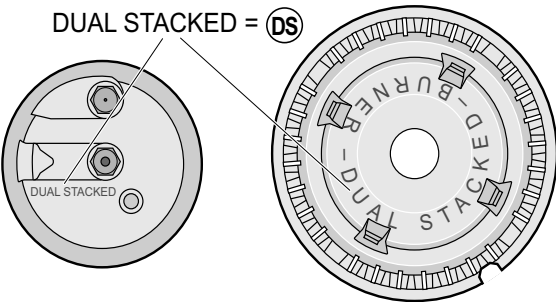
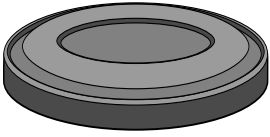
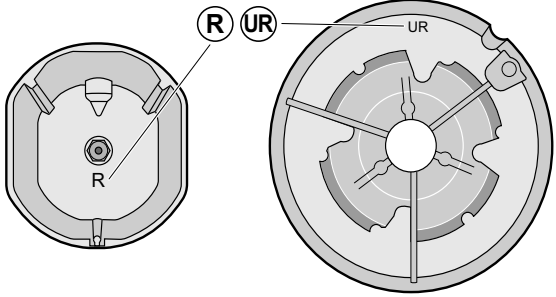
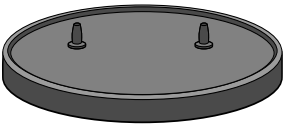
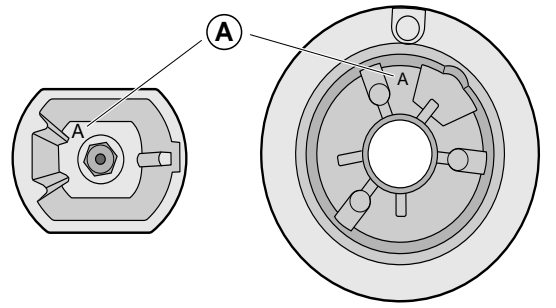
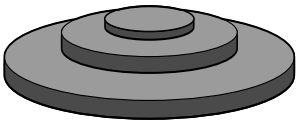
- After electrical connection is complete, place each burner base on the corresponding location on the cooktop.
- Pay special attention to avoid damaging the igniter during installation of the base.
- The small hole or cutout near the edge should also line up with the igniter.
- Once each burner base is located and resting evenly, place each burner cap on its correct burner base.
- Place burner cap gently on top of base so that the prongs of the burner base fit snugly into the groove of the burner cap.
- Make sure the cap is centered on the burner base and lies flat and that there is no gap between the burner base and the burner cap.



- Gently try to move the burner cap from side to side to check for proper placement. If placement is correct, the cap will click from side to side as the prongs hit the grooved ridge on the underside of the cap.
- If the maintop is removed by a certified installer (for example to check electrical or piping connection) the panhead screws that were removed must be re-installed to ensure proper functionality of burners.

Correct Placement for Burner Base and Burner Cap

Corresponding Jet Holder and Burner Base	Burner Cap Dimensions	Corresponding Burner Cap
<p>Diagram showing the burner base and jet holder labeled 'R'. The burner base has a central hole and several prongs. The jet holder is a small circular component with a central hole and a small notch. The burner base is shown with the jet holder inserted into its center.</p>	<p>3 15/16" (100 mm)</p>	<p>Diagram showing the burner cap for size R. It is a circular cap with a central hole and a small notch on the side.</p>
<p>Diagram showing the burner base and jet holder labeled 'SR'. The burner base has a central hole and several prongs. The jet holder is a small circular component with a central hole and a small notch. The burner base is shown with the jet holder inserted into its center.</p>	<p>2 15/16" (75 mm)</p>	<p>Diagram showing the burner cap for size SR. It is a circular cap with a central hole and a small notch on the side.</p>
<p>Diagram showing the burner base and jet holder labeled 'A'. The burner base has a central hole and several prongs. The jet holder is a small circular component with a central hole and a small notch. The burner base is shown with the jet holder inserted into its center.</p>	<p>2 3/16" (55 mm)</p>	<p>Diagram showing the burner cap for size A. It is a circular cap with a central hole and a small notch on the side.</p>

 <p>DUAL STACKED = DS</p>	<p>3 7/8" (98.5 mm)</p>	
 <p>R UR</p>	<p>4 1/2" (116 mm)</p>	
 <p>A</p>	<p>3 3/4" (95 mm) OptiSim® Burner Cap</p>	

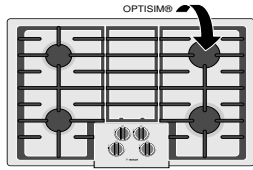
- The jet holder and the burner base have corresponding letter demarcations to ensure proper placement of the burner base.
- The corresponding letters can be found on the inside bottom of the jet holder and on the bottom of the burner base.

Notes

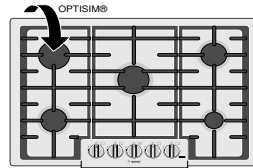
- The cooktop comes with an extra burner cap.
- The A/A burner cap is for an auxiliary burner. It can be replaced with the OptiSim® burner cap. See instructions under **OptiSim® Burner Cap Placement** for proper location and correct installation.

The OptiSim® has been designed to work with the small burner located in the rear position of the cooktop and is used to provide optimal simmering for delicate sauces while minimizing the risk of scorching.

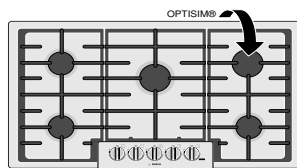
OptiSim® Burner Cap Placement
30" 4 Burner



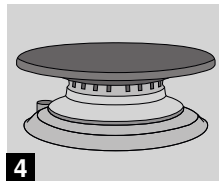
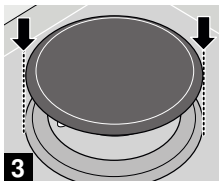
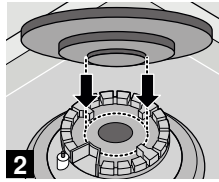
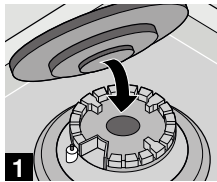
30" 5 Burner



36" 5 Burner



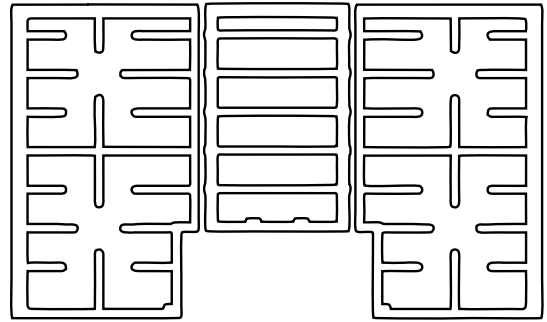
OptiSim® Burner Cap Installation



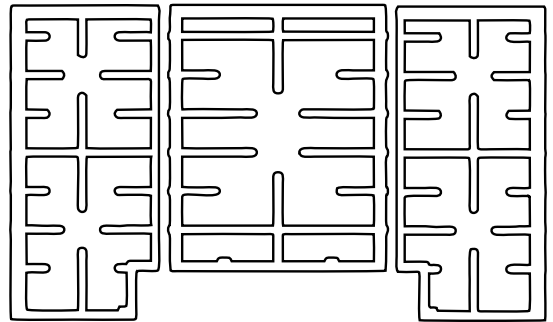
When properly installed the cap will extend beyond the burner base and raised surface.

Install Burner Grates

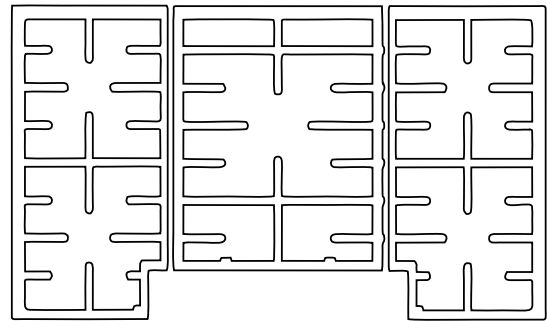
Properly position and install each burner grate as shown in the illustration below.



30" 4 Burner



30" 5 Burner



36" 5 Burner

▲ WARNING

To prevent flare-ups, properly support pots and avoid spills, all grates must be properly positioned on the cooktop whenever the cooktop is in use. Each of the four feet must be placed into the corresponding dimples in the cooktop. Do not use a grate if the rubber feet are missing or damaged.

For replacement of rubber feet: Call Customer Support at 1-800-944-2904.

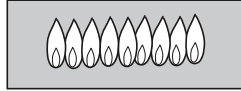
Check the Installation

Place each correct sized burner cap in its seated, notched position and check the operation of the electric igniters. Check flame characteristics. Flame should be blue with a minimal yellow tip on the outer cone of the flames.

Checking Flame Characteristics

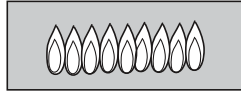
Yellow Flames:

Further adjustment is required.



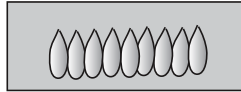
Yellow Tips on Outer Cones:

Normal for LP Gas



Soft Blue Flames:

Normal for Natural Gas



Note: If the flame is completely or mostly yellow, verify that the regulator is set for the correct fuel. After adjustment, retest.

Some yellow streaking is normal during the initial start-up. Allow unit to operate 4-5 minutes and re-evaluate before making adjustments.

Service

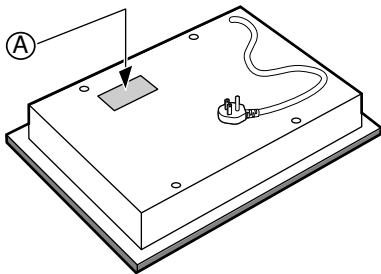
Before Calling Service

If the igniters do not spark or the “on” indicator lights (available in some models) do not glow, check the power source to see if a fuse has blown or if the circuit breaker has tripped.

Refer to the Statement of Limited Warranty in the Use and Care Manual. See the Use and Care Manual for troubleshooting information.

Product Rating Label

The rating label shows the model number and the FD number (production number/product’s unique identifier) of your cooktop. It is located on the underside of the cooktop.



Rating Label Location

A Rating Label

Model number and FD Number

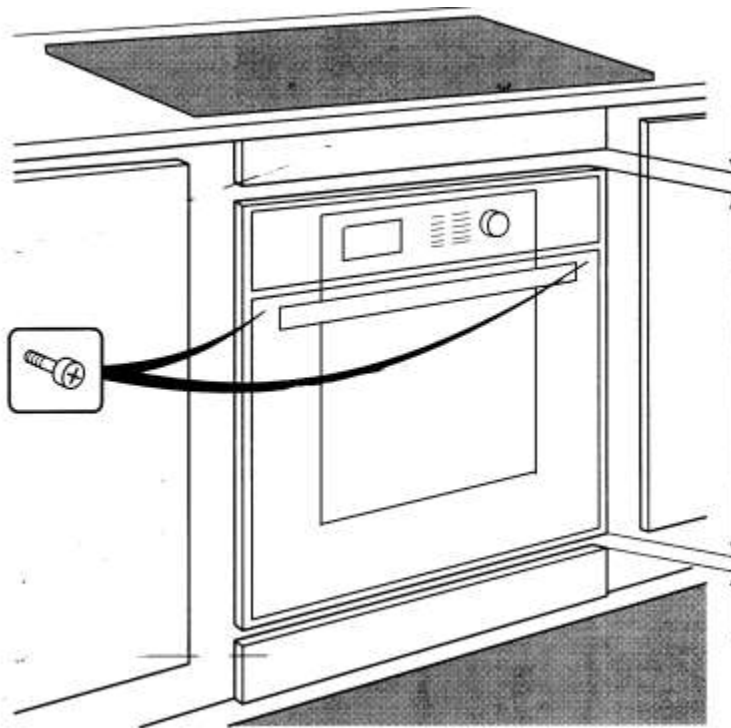
The model number and the FD number of your appliance are found on the rating label. Make a note of these numbers in the space below to save time in the event your appliance requires service.

Model #	FD #
Bosch Customer Support	800-944-2904

Keep your invoice or escrow papers for warranty validation if service is needed.

Cooktop Gas Shutoff Valve is located under the cooktop behind the oven.

Open the oven door and remove the screw on each side of the frame of the oven and slide out the oven to access the shutoff valve.



TO: Jake Dixon
Clark Construction Group, LLC
7500 OLD GEORGETOWN RD STE 3
BETHESDA, MD 20814-6803

RE: Process Served in Virginia

FOR: Clark Construction Group, LLC (Domestic State: MD)

ENCLOSED ARE COPIES OF LEGAL PROCESS RECEIVED BY THE STATUTORY AGENT OF THE ABOVE COMPANY AS FOLLOWS:

TITLE OF ACTION: Re: The Condominium on Silver Hill Drive Units located on the 22nd Floor The Verse Condo // To: Clark Construction Group, LLC

DOCUMENT(S) SERVED: --

COURT/AGENCY: None Specified
Case # 202101374

NATURE OF ACTION: Code Violation / Code Enforcement

ON WHOM PROCESS WAS SERVED: C T Corporation System, Glen Allen, VA

DATE AND HOUR OF SERVICE: By Certified Mail on 10/04/2021 postmarked: "Not Post Marked"

JURISDICTION SERVED : Virginia

APPEARANCE OR ANSWER DUE: None Specified

ATTORNEY(S) / SENDER(S): None Specified

ACTION ITEMS: CT has retained the current log, Retain Date: 10/04/2021, Expected Purge Date: 10/09/2021

Image SOP

Email Notification, Paul Ryan paul.ryan@clarkconstruction.com

Email Notification, Shane Morgan shane.morgan@clarkconstruction.com

Email Notification, Jake Dixon jake.dixon@clarkconstruction.com

Email Notification, Rowan Glass rowan.glass@clarkconstruction.com

Email Notification, Jay Cox jay.cox@clarkconstruction.com

REGISTERED AGENT ADDRESS: CT Corporation System
4701 Cox Road
Suite 285
Glen Allen, VA 23060
866-401-8252
EastTeam2@wolterskluwer.com

**Service of Process
Transmittal**

10/04/2021

CT Log Number 540349971

TO: Jake Dixon
Clark Construction Group, LLC
7500 OLD GEORGETOWN RD STE 3
BETHESDA, MD 20814-6803

RE: Process Served in Virginia

FOR: Clark Construction Group, LLC (Domestic State: MD)

The information contained in this Transmittal is provided by CT for quick reference only. It does not constitute a legal opinion, and should not otherwise be relied on, as to the nature of action, the amount of damages, the answer date, or any other information contained in the included documents. The recipient(s) of this form is responsible for reviewing and interpreting the included documents and taking appropriate action, including consulting with its legal and other advisors as necessary. CT disclaims all liability for the information contained in this form, including for any omissions or inaccuracies that may be contained therein.

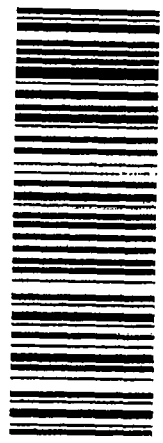
DOCKET HISTORY:

DOCUMENT(S) SERVED:	DATE AND HOUR OF SERVICE:	TO:	CT LOG NUMBER:
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--	By Certified Mail on 08/18/2021 postmarked on 08/13/2021	Jake Dixon Clark Construction Group, LLC	540094990

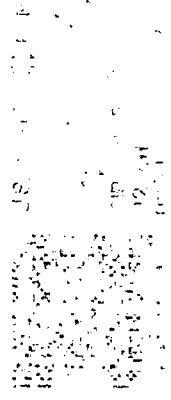
Staff Note:

The following proof of mailing, corrective work order, and process of transmittal was replicated for floors 9-25

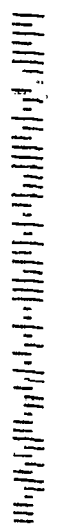
CERTIFIED MAIL



7021 1970 0001 1504 5018



CLARK CONSTRUCTION GROUP, LLC.
CT CORPORATION SYSTEM, REGISTERED AGENT
4701 COX ROAD SUITE 285
GLEN ALLEN, VIRGINIA 23060





County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

CORRECTIVE WORK ORDER

Virginia Construction Code

DATE OF ISSUANCE: September 29, 2021

METHOD OF SERVICE: Certified Letter 7021 1970 0001 1504 5018

LEGAL NOTICE ISSUED TO: Clark Construction Group, LLC
C T Corporation System., Registered Agent
4701 Cox Road Suite 285
Glen Allen, Virginia 23060-6808

CONTRACTOR LICENSE#: 2705085523

LOCATION OF VIOLATION: The Condominium on Silver Hill Drive
Units located on the 22nd Floor
The Verse Condo

TAX MAP REF: 0293 39 0901

CASE #: 202101374 **SR#:** 181090

The previous Corrective Work Orders and Notices of Violation are rescinded. This Corrective Work Order is being reissued to reflect the current code violations regarding the units in the Condominium on Silver Hill Drive—The Verse Condo.

Per authority granted by the Virginia Construction Code, the County received information on March 29, 2021 related to the above referenced properties regarding natural gas shutoff valves and natural gas line pressure regulators installed within the cavity space of the residential units kitchen base cabinet, concealed by a fixed-in-place natural gas cooktop and a fixed-in-place electric wall oven. Violations of the 2012 Virginia Fuel Gas Code (VFGC), as referenced by the 2012 Virginia Construction Code, the applicable building code for this project, were found. You will need to apply for appropriate permits to correct these violations and ensure inspections are completed. You have 30 days to correct the violations.

Violation #1 USBC Section 108.1 *When applications [for permits] are required.* Gas permits will be required for each individual residential unit. Residential unit permits can be combined into one permit to cover all the residential units contained on an individual floor.



Violation #2 USBC Section **113.3 *Minimum inspections.*** Each individual residential unit will need a first gas test and a final inspection.

Violation #3 VFGC Section **409.1.2 *Prohibited locations.*** *Shutoff valves shall be prohibited in concealed locations and furnace plenums. As defined in VFGC Chapter 2, concealed location, Spaces above, below or behind readily removable panels or doors shall not be considered as concealed.* There are no readily removable panels or doors provided to access the shutoff valve.

Violation #4 VFGC Section **409.1.3 *Access to shutoff valves.*** *Shutoff valves shall be located in places so as to provide access for operation and shall be installed so as to be protected from damage. As defined in VFGC Chapter 2, access shall be by either ready access, or by means of the removal or movement of a panel, door, or similar obstruction. The fixed-in-place appliances used to access the tenant/appliance shutoff valves, natural gas cooktop and electric wall oven, provide neither ready access or are equivalent to a panel, door, or similar obstruction.*

Violation #5 VFGC Section **409.3.1 *Multiple tenant buildings.*** *In multiple tenant buildings, where a common piping system is installed to supply other than one- and two-family dwellings, shutoff valves shall be provided for each tenant. Each tenant shall have access to the shutoff valve serving that tenant's space.* Tenants do not have access to the shutoff valve serving their unit, see Violation #4 above.

Violation #6 VFGC Section **409.5.1 *Located within same room.*** *The [appliance] shutoff valve shall be located in the same room as the appliance. The shutoff valve shall be within 6 feet (1829 mm) of the appliance, and shall be installed upstream of the union, connector or quick disconnect device it serves. Such shutoff valves shall be provided with access.* The appliance shutoff valve provided in these units are not provided with access, see Violation #4 above. Please note, the 2018 VFGC Section 409.5.1 provides additional language that states *Shutoff valves serving movable appliances, such as cooking appliances and clothes dryers, shall be considered to be provided with access where installed behind such appliances.* This is not an option. This option pertains only to an appliance shutoff valve. This shutoff valve serves as the tenant shutoff valve, see Violation #5. Additionally, this option does not pertain to the line pressure regulator installed directly downstream of the tenant shutoff valve, within the same cavity, see Violation #7.

Violation #7 VFGC Section **410.1, *Pressure regulators.*** *Access shall be provided to pressure regulators.* The line pressure regulator is installed directly downstream of the tenant shutoff valve, within the same cavity. See access comments in Violation #4.

Clark Construction Group, LLC
C T Corporation System., Registered Agent
Page 3 of 3

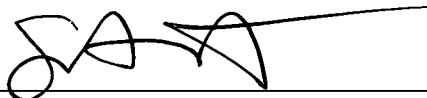
Violation #8 VFGC Section **623.1, Cooking appliances.** *Cooking appliances . . . shall be installed in accordance with the manufacturers installation instructions.* Unit cooktops are not installed per the manufacturer's installation instructions. The manufacturer's installation instructions for the installed cooktops (Bosch NGM8056UC) require these cooktops to be secured to the countertop with mounting hardware provided with the cooktop.

You are directed to notify Scott Hagerty, Combination Inspector, by return correspondence to 12055 Government Center Parkway, Suite 334, Fairfax, VA 22035 or by telephone at 703-508-5402. Failure to do so shall result in the immediate initiation of a Notice of Violation and eventual legal action to bring the above referenced property into compliance.

If you have any questions, you may contact Scott Hagerty at 703-508-5402 cell, 703-324-4038 office.

Order Issued By: Scott Hagerty
Technical Assistant to the Building Official
Land Development Services
Scott.hagerty@fairfaxcounty.gov

Signature: _____



TO: Jake Dixon
Clark Construction Group, LLC
7500 OLD GEORGETOWN RD STE 3
BETHESDA, MD 20814-6803

RE: Process Served in Virginia

FOR: Clark Construction Group, LLC (Domestic State: MD)

ENCLOSED ARE COPIES OF LEGAL PROCESS RECEIVED BY THE STATUTORY AGENT OF THE ABOVE COMPANY AS FOLLOWS:

TITLE OF ACTION: Re: The Condominium on Silver Hill Drive Units located on the 12th Floor The Verse Condo // To: Clark Construction Group, LLC

DOCUMENT(S) SERVED: --

COURT/AGENCY: None Specified
Case # 202101374

NATURE OF ACTION: Code Violation / Code Enforcement

ON WHOM PROCESS WAS SERVED: C T Corporation System, Glen Allen, VA

DATE AND HOUR OF SERVICE: By Certified Mail on 10/04/2021 postmarked: "Not Post Marked"

JURISDICTION SERVED : Virginia

APPEARANCE OR ANSWER DUE: None Specified

ATTORNEY(S) / SENDER(S): None Specified

ACTION ITEMS: CT has retained the current log, Retain Date: 10/04/2021, Expected Purge Date: 10/09/2021

Image SOP

Email Notification, Paul Ryan paul.ryan@clarkconstruction.com

Email Notification, Shane Morgan shane.morgan@clarkconstruction.com

Email Notification, Jake Dixon jake.dixon@clarkconstruction.com

Email Notification, Rowan Glass rowan.glass@clarkconstruction.com

Email Notification, Jay Cox jay.cox@clarkconstruction.com

REGISTERED AGENT ADDRESS: CT Corporation System
4701 Cox Road
Suite 285
Glen Allen, VA 23060
866-401-8252
EastTeam2@wolterskluwer.com

**Service of Process
Transmittal**

10/04/2021

CT Log Number 540349983

TO: Jake Dixon
 Clark Construction Group, LLC
 7500 OLD GEORGETOWN RD STE 3
 BETHESDA, MD 20814-6803

RE: Process Served in Virginia

FOR: Clark Construction Group, LLC (Domestic State: MD)

The information contained in this Transmittal is provided by CT for quick reference only. It does not constitute a legal opinion, and should not otherwise be relied on, as to the nature of action, the amount of damages, the answer date, or any other information contained in the included documents. The recipient(s) of this form is responsible for reviewing and interpreting the included documents and taking appropriate action, including consulting with its legal and other advisors as necessary. CT disclaims all liability for the information contained in this form, including for any omissions or inaccuracies that may be contained therein.

DOCKET HISTORY:

DOCUMENT(S) SERVED:	DATE AND HOUR OF SERVICE:	TO:	CT LOG NUMBER:
--	By Certified Mail on 10/04/2021 postmarked: "Not Post Marked"	Jake Dixon Clark Construction Group, LLC	540349985
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--	By Certified Mail on 10/04/2021 postmarked: "Not Post Marked"	Jake Dixon Clark Construction Group, LLC	540349978
--	By Certified Mail on 10/04/2021 postmarked: "Not Post Marked"	Jake Dixon Clark Construction Group, LLC	540349975
--	By Certified Mail on 10/04/2021 postmarked: "Not Post Marked"	Jake Dixon Clark Construction Group, LLC	540349971
--	By Certified Mail on 10/04/2021 postmarked: "Not Post Marked"	Jake Dixon Clark Construction Group, LLC	540349957
--	By Certified Mail on 08/18/2021 postmarked on 08/13/2021	Jake Dixon Clark Construction Group, LLC	540094990

Link to the video showing access to the gas valve

https://raygrillconsultingllc-my.sharepoint.com/:v:/g/personal/ray_raygrillconsulting_com/EZNBsU5E3Z9MgeZ-dPIGK1oB5KwUtR_pbM1zeqiauQPegQ?e=nDNeOi

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Documents Submitted By Fairfax County

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County of Fairfax, Virginia

MEMORANDUM

DATE: January 28, 2022

TO: Chairman and Members
State Building Code Technical Review Board

FROM: Jay Riat
Building Official
Land Development Services

Paul Emerick
Senior Assistant County Attorney
Office of the County Attorney, Fairfax County

Richard Grace
Code Specialist III
Land Development Services

SUBJECT: Appeal Hearing

REFERENCE: Fairfax County Board of Building Code Appeals Resolution
Appeal CDAPPL-2021-00014
Clark Construction Group, LLC vs Fairfax County

CODE: 2012 Virginia Fuel Gas Code

Purpose

The Fairfax County Building Official and his representatives respectfully ask the State Building Code Technical Review Board to uphold his decision regarding the Corrective Work Order issued on September 29, 2021, and Notice of Violation issued on November 17, 2021, by upholding the December 8, 2021 resolution by the Fairfax County Board of Building Code Appeals (BBCA).

The County position is outlined on the Corrective Work Order and Notice of Violation.

Attachments included with this package:

- 1- September 29, 2021 Corrective Work Order
- 2- November 17, 2021 Notice of Violation
- 3- December 8, 2021 BBCA Resolution
- 4- Chief Walser Email Statement

- 5- Maxitrol Pressure Regulator Guidebook
- 6- Thermador Gas Range Install Manual
- 7- Video File – Cooktop Removal Provided by Contractor
- 8- Video File – Wall Oven Removal Provided by Contractor

Staff Note:

Clark Construction Group filed its appeal to the LBBCA on October 28, 2021. The NOV was issued on November 17, 2021.



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

NOTICE OF VIOLATION

Virginia Construction Code

DATE OF ISSUANCE: November 17, 2021

METHOD OF SERVICE: Certified Letter 7021 1970 0000 9961 1452

LEGAL NOTICE ISSUED TO: Clark Construction Group, LLC
C T Corporation System., Registered Agent
4701 Cox Road Suite 285
Glen Allen, Virginia 23060-6808

CONTRACTOR LICENSE#: 2705085523

LOCATION OF VIOLATION: The Condominium on Silver Hill Drive—
The Entire Condominium Building, Floors 9-25
The Verse Condo

TAX MAP REF: 0293 39 0901

CASE #: 202101374 **SR#:** 181090

Per authority granted by the Virginia Construction Code, the County received information on March 29, 2021 regarding the concealed shut off valves related to above referenced properties. Violations of the 2012 Virginia Fuel Gas Code (VFGC), as referenced by the 2012 Virginia Construction Code, effective July 14, 2014, the applicable building codes violations, were found. This Notice of Violation will include all habitable floors of the condominium building.. You have 30 days to correct the violations.

Violation #1 VFGC Section **108.1** *When applications [for permits] are required.* Gas permits will be required for each individual residential unit. Residential unit permits can be combined into one permit to cover all the residential units contained on an individual floor.

Violation #2 VFGC Section **113.3** *Minimum inspections.* Each individual residential unit will need a first gas test and a final inspection.

Violation #3 VFGC Section **409.1.2** *Prohibited locations. Shutoff valves shall be prohibited in concealed locations and furnace plenums. As defined in VFGC Chapter 2, concealed location, Spaces above, below or behind readily removable panels or doors shall not be considered as concealed.* There are no readily removable panels or doors provided to access the shutoff valve.

Violation #4 VFGC Section **409.1.3 Access to shutoff valves**. *Shutoff valves shall be located in places so as to provide access for operation and shall be installed so as to be protected from damage.* As defined in VFGC Chapter 2, *access* shall be by either *ready access*, or by means of the removal or movement of a panel, door, or similar obstruction. The fixed-in-place appliances used to access the tenant/appliance shutoff valves, natural gas cooktop and electric wall oven, provide neither *ready access* or are equivalent to a panel, door, or similar obstruction.

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You have the right to appeal this Notice of Violation in accordance with Section 119.5 of the Virginia Construction Code. The appeals are heard by the Fairfax County Board of Building and Fire Prevention Code Appeals. Appeal application forms may be obtained by contacting:

Fairfax County Board of Building and Fire Prevention Code Appeals
Attention: Secretary to Board
12055 Government Center Parkway, Suite 444
Fairfax, Virginia 22035-5504
Telephone: 703-324-5175 TTY 711

<https://www.fairfaxcounty.gov/landdevelopment/code-interpretations-modifications-and-appeals>

Failure to submit an application for appeal within the time limit established shall constitute acceptance of the code official's decision. Failure to correct these defects within the time limits specified shall result in legal action being taken under the applicable State and County Codes.

If you have any questions, you may contact Scott Hagerty at 703-508-5402 cell, 703-324-4038 office.

Order Issued By: Scott Hagerty
Technical Assistant to the Building Official
Land Development Services
Scott.hagerty@fairfaxcounty.gov

Signature: _____

Grace, Richard

From: Walser, John
Sent: Thursday, November 18, 2021 10:34 AM
To: Grace, Richard
Subject: RE: Varse Gas Valve Appeal

Good morning,

All of the statements that were attributed to me are correct. After Ray and I discussed the posting of the sign, I did also say that the requirements in the building code still needed to be satisfied.

Let me know if you need anything else.

Thanks, John

Battalion Chief John L. Walser

Fairfax County Fire and Rescue Department
Fire Prevention Technical Services
571-355-1993 (c)



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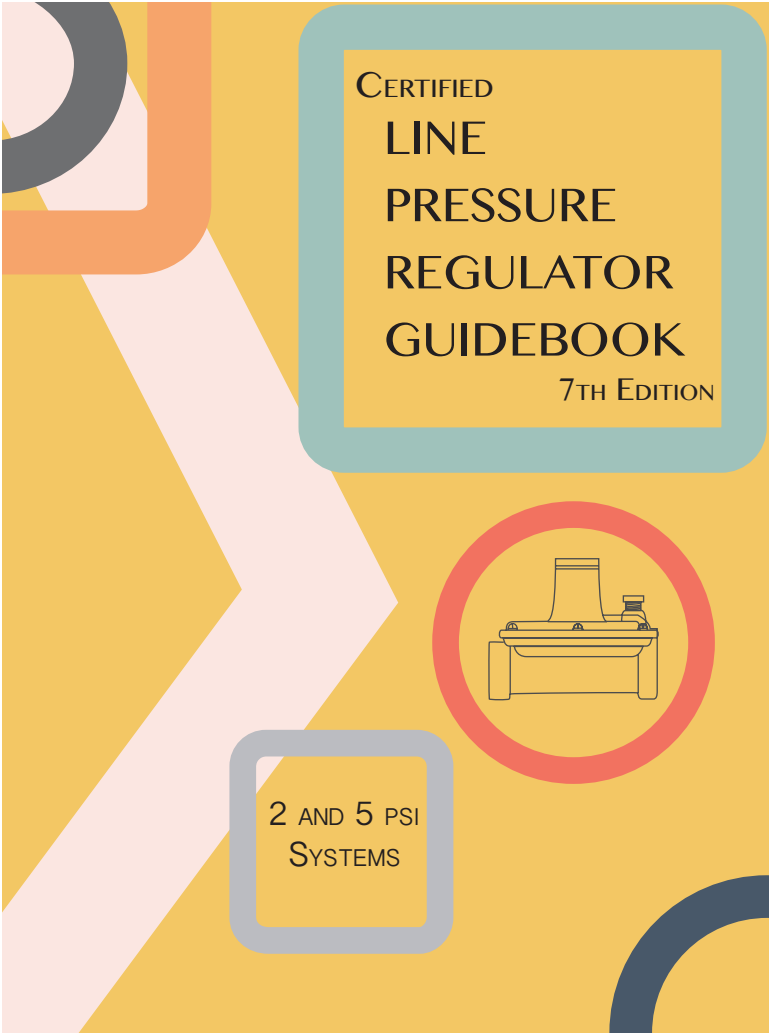
From: Grace, Richard <Richard.Grace@fairfaxcounty.gov>
Sent: Wednesday, November 17, 2021 7:45 AM
To: Walser, John <John.Walser@fairfaxcounty.gov>
Subject: Varse Gas Valve Appeal

Hi John,

I have been meaning to reach out to you for some time now to discuss the Varse gas valve installations and the role you and fire service staff have played in this developing issue. Is it possible to get about 30 minutes of your time this week to talk about this. Ray Grill has submitted an appeal application and has used your name in his supporting documents (see attached). I'd like to get your input on this, as well as an accounting of the emergency response to the homeowner gas leak. Your name appears on pages 6 and 8 in the Appealed Code Documentation pdf.

Thanks,

Richard



MAXITROL®

2

This Handbook contains information from national heating and plumbing ordinances or codes that may have been adopted or incorporated by local authorities. The Handbook should only be used as a guideline and should not be considered as a supplement or replacement of the existing ordinance or code for a particular area or industry. The color yellow on tags depicted herein is a trademark of the Maxitrol Company and all rights are reserved.

Maxitrol Company recommends that all installation contractors refer to their local requirements and applicable ordinances or codes, such as those found in the International Mechanical Code, International Plumbing Code, National Electrical Code, American Gas Association Standards, and National Board of Fire Underwriters.

MAXITROL COMPANY IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN RELIANCE BY ANYONE OF ANY INFORMATION SET FORTH IN THIS HANDBOOK WITHOUT ADDITIONAL REFERENCE TO LOCAL REQUIREMENTS AND APPLICABLE ORDINANCES OR CODES.



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6

LINE PRESSURE REGULATORS

ANSI Z21.80/CSA 6.22 is the standard for line pressure regulators, suitable for application in natural, manufactured, mixed gases, liquefied petroleum gases and LP gas-air mixture piping systems. Maxitrol, in compliance with ANSI Z21.80/CSA 6.22, offers line pressure regulators for 2 psi piping systems and piping systems up to 5 psi.

Maxitrol's 325 Series regulators are also certified (ANSI Z21.18) as appliance regulators. Appliance regulators were often used as line pressure regulators before the ANSI Z21.80/CSA 6.22 standard was developed.



Figure 1: 325-3L with 12A09 \checkmark Limit[®] Vent Limiting Device

NOTE: With the implementation of ANSI Z21.80/CSA 6.22 standard, appliance regulators should no longer be used as line regulators.

Maxitrol places a yellow sticker on the regulator stack identifying it as a certified gas line pressure regulator, and a yellow tag is attached to its \checkmark Limit[®] identifying it as a certified vent limiting device.

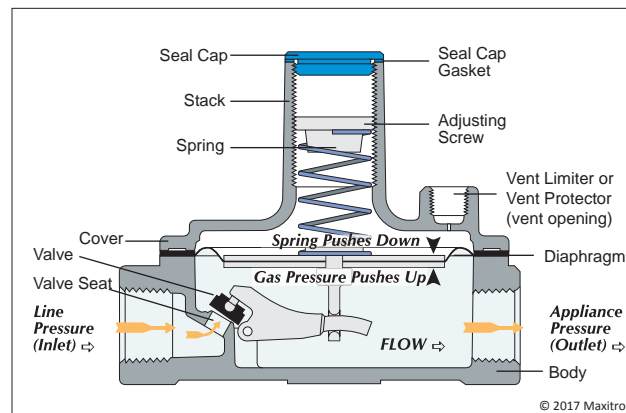


Figure 2: 325-3L Cutaway

- ▶ CSA design certified for 2 psi and up to 5 psi inlet pressures, (over 2 psi requires OPD) ANSI Z21.80/CSA 6.22.
- ▶ Designed for dead end lock up.
- ▶ Does not contain internal relief.
- ▶ Approved with **v**Limiten[®] vent limiting device (regulators up to 2" NPT).
- ▶ Suitable for natural, manufactured, mixed gases, liquefied petroleum gases and LP gas-air mixture piping systems.

2 PSI PIPING SYSTEMS

Maxitrol's 325 L-Series are CSA certified (ANSI Z21.80/CSA 6.22) for 2 psi inlet pressure, with an outlet pressure range of 7 to 11 inches w.c. (see page 16).

The L-models are for use on 2 psi piping systems such as CSST (corrugated stainless steel), semirigid copper tubing, or steel/black iron pipe. The regulators reduce pounds of pressure to a level within the appliance or equipment's operating supply range. The line regulator is located upstream of appliances already fitted with a regulator.

B Models: Imblue Technology® increases corrosion resistance and provides extra protection against the elements for regulators used in outdoor applications.

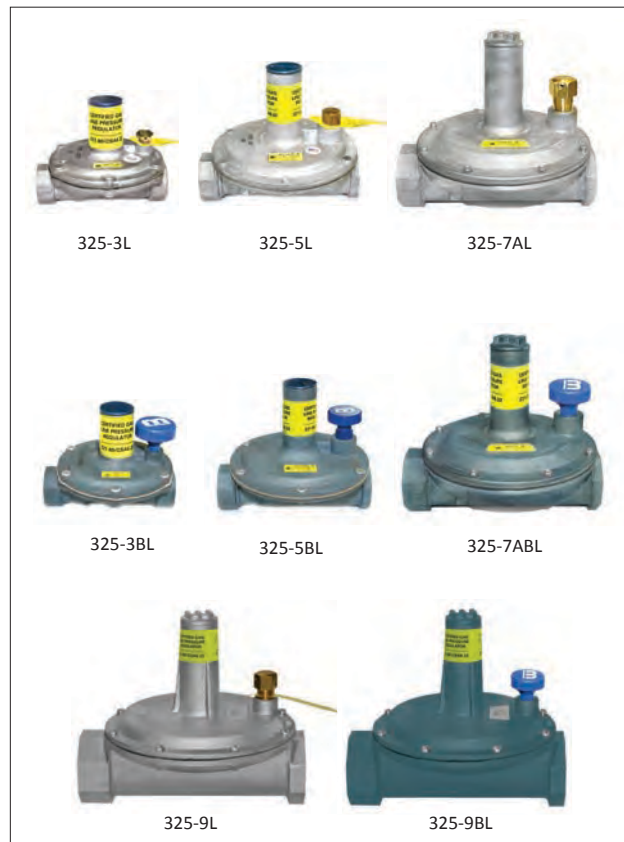


Figure 3: 325-L(B) Models: Pipe sizes from 3/8" to 2"

PIPING SYSTEMS UP TO 5 PSI

Maxitrol's 325 L-Series with overpressure protection devices (OPDs) are CSA certified (ANSI Z21.80/CSA 6.22) for up to 5 psi inlet pressure, and 7 to 11 inches w.c. outlet pressure (see page 18).

The L-models with OPDs are for use on piping systems up to 5 psi such as CSST (corrugated stainless steel), semirigid copper tubing, or steel/black iron pipe. The regulators reduce pounds pressure to a level within the appliance or equipment's operating supply range. The line regulator is located upstream of appliances already fitted with a regulator.

At supply pressures in excess of 2 psi, the ANSI Z21.80/CSA 6.22 standard for line pressure regulators requires an overpressure protection device - OPD. The OPD must be integral or factory pre-assembled, approved and tested for use with the regulator, to limit the downstream pressure to 2 psi maximum, in the event of line regulator failure.



Figure 4: 325-L Models with OPDs

NOTE: Imblue Technology® Regulators available for all models above.

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LINE PRESSURE REGULATOR OPTIONS

As optional accessories, the regulators and OPDs offer a **v**Limiter[®] vent limiting device. The 12A09, 12A39, or 12A49 **v**Limiter[®] vent limiting devices eliminate the need to run vent piping to an outside area. In the event of a diaphragm rupture, gas escapement is limited to within the ANSI standard requirements.

NOTE: Maxitrol line pressure regulators DO NOT contain an internal relief function.



Figure 5: 325-7AL with **v**Limiter[®] 12A49

vProtector® VENT PROTECTORS

Designed for outdoor applications. Use on vent opening to protect breather hole from the elements and debris (see Figure 6).



Figure 6: 325-7ABL with vProtector® 13A25



Figure 7: vProtector® Vent Protectors

NOTE: 13A15 and 13A15-5 vProtector® vent protectors are available for 325-3(B)L or 325-5A(B)L. 13A25 is available for 325-7A(B)L or 325-9(B)L. **Consult Maxitrol Company regarding other configurations.**

√Limiter® VENT LIMITING DEVICE MAXIMUM ALLOWABLE VENTING RATE

A √Limiter® vent limiting device used with Maxitrol regulators **DOES NOT** release or relieve gas into the environment during normal operation.

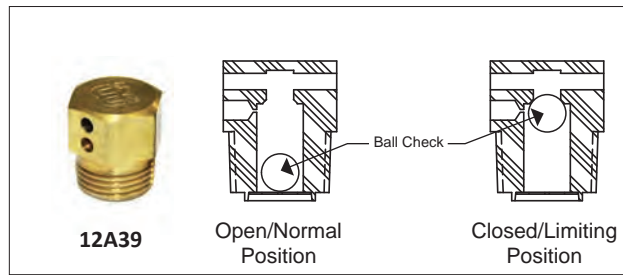


Figure 8: 12A39 Ball Check Cutaway



Figure 9: √Limiter® Vent Limiting Devices

√Limiter® vent limiting devices are designed for use indoors and in spaces where limiting the amount of gas escapement due to diaphragm failure is critical. **√Limiter® vent limiting devices should not be used outdoors if they are exposed to the environment.** 13A15, 13A15-5 and 13A25 √Protector® vent protectors are available for all outdoor applications to ensure proper vent protection.

√Limiter® vent limiting devices can only be installed in regulators for which they are certified. √Limiter® vent limiting devices must only be installed directly into the vent connection of the regulator without intermediate pipe or fittings. When using a vent limiting device, the regulator must be mounted in a horizontal upright position.

Requirements for √Limiter® Vent Limiting Device	Specific Gravity	Maximum allowable flow rate, cubic feet per hour (cm ³ /s)
Vent limiter for use only with natural, manufactured, mixed gases, and LP gas-air mixtures.	0.64	2.5 (19.6)
Vent limiter for use with liquefied petroleum gases.	1.53	1.0 (7.9)

NOTE: √Limiter® vent limiting devices meet ANSI Z21.80/CSA 6.22. The requirement states “Vent limiters shall be of materials having melting points of not less than 800°F (427°C).”

2 PSI LINE PRESSURE REGULATORS

GASES

Suitable for application in natural, manufactured, mixed gases, liquefied petroleum gases and LP gas-air mixture piping systems.

MAXIMUM INLET PRESSURE

CSA certified.....2 psi (13.8 kPa)

EMERGENCY EXPOSURE LIMITS

Inlet side only.....65 psi (450 kPa)

OUTLET PRESSURE RANGE

Certified spring.....7 - 11" w.c.

AMBIENT TEMPERATURE LIMITS: -40°F to 205°F (-40°C to 96°C)

MAXIMUM INDIVIDUAL LOAD

Largest single appliance served by the regulator

325-3(B)L	140,000 Btu/hr
325-5(B)L.....	425,000 Btu/hr
325-7A(B)L.....	1,250,000 Btu/hr
325-9(B)L.....	2,250,000 Btu/hr
325-11(B)L.....	4,450,000 Btu/hr

NOTE: Btu/hr is based on 0.64 sp gr GAS with 1,000 Btu/CF

CAPACITY: Total load of multiple appliances combined

NOTE: Capacity table is used to determine the maximum multiple appliance load. The largest single appliance served by the regulator should not exceed the maximum individual load specified above.

325-3(B)L (3/8", 1/2").....	250,000 Btu/hr
325-5(B)L (1/2").....	500,000 Btu/hr
325-5(B)L (3/4", 1").....	600,000 Btu/hr
325-7A(B)L (1 1/4", 1 1/2").....	1,250,000 Btu/hr
325-9(B)L (1 1/2", 2").....	2,250,000 Btu/hr
325-11(B)L.....	4,450,000 Btu/hr

NOTE: Btu/hr is based on 0.64 sp gr GAS with 1,000 Btu/CF

√Limiter® VENT LIMITING DEVICE

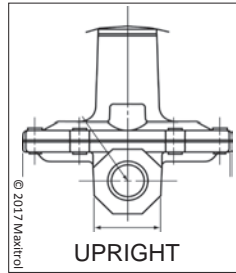
325-3(B)L	12A09
325-5(B)L.....	12A39
325-7A(B)L.....	12A49
325-9(B)L.....	12A49

√Protector® VENT PROTECTOR FOR OUTDOOR APPLICATIONS

325-3(B)L.....	13A15
325-5(B)L.....	13A15-5
325-7A(B)L.....	13A25
325-9(B)L.....	13A25

MOUNTING

The 325 Series is suitable for multi-positional mounting. But when using a vent limiting device, the regulator must be mounted in a horizontal upright position. Install the regulator properly with gas flowing as indicated by the arrow on the casting (see the Safety Warning Instructions bulletin, GPR_CSA_2PSI_MI_EN.FR).



NOTE: Please refer to the Measurement Conversion Calculator on Maxitrol.com for conversions from natural to LP.

NOTE: 1 CFH = 1000 Btu of Natural Gas
 1 CFH = 2500 Btu of LP/Propane
 Formula for converting flow rates in different gases:

$$Q_2 = Q_1 \times \sqrt{\frac{S_1}{S_2}}$$

Where: Q is flow rate
 S is specific gravity

5 PSI LINE PRESSURE REGULATORS

To comply with the Standard for Line Pressure Regulators, ANSI Z21.80/CSA 6.22, installations exceeding 2 psi nominal require a tested and approved overpressure protection device (OPD, factory pre-assembled)* for use with the regulator.

GASES

Suitable for application in natural, manufactured, mixed gases, liquefied petroleum gases, and LP gas-air mixture piping systems.

MAXIMUM INLET PRESSURE

CSA certified.....5 psi (34.5 kPa)

EMERGENCY EXPOSURE LIMITS

Inlet side only.....65 psi (450 kPa)

OUTLET PRESSURE RANGE

Certified spring.....7-11" w.c.

MAXIMUM INDIVIDUAL LOAD

325-3(B)L47 ($\frac{3}{8}$ ", $\frac{1}{2}$ ") (with OPD 47)	125,000 Btu/hr
325-3(B)L48 ($\frac{1}{2}$ ") (with OPD 48).....	200,000 Btu/hr
325-5(B)L48 ($\frac{1}{2}$ ") (with OPD 48).....	235,000 Btu/hr
325-5(B)L48 ($\frac{3}{4}$ ") (with OPD 48).....	320,000 Btu/hr
325-5(B)L600 ($\frac{3}{4}$ ") (with OPD 600).....	425,000 Btu/hr
325-5(B)L600 (1") (with OPD 600).....	465,000 Btu/hr
325-7A(B)L210D($1\frac{1}{4}$ ", $1\frac{1}{2}$ ") (with OPD 210D).....	1,250,000 Btu/hr
325-9(B)L210E($\frac{1}{2}$ ", 2") (with OPD 210E).....	2,250,000 Btu/hr

MAXIMUM CAPACITY

325-3(B)L47 ($\frac{3}{8}$ ", $\frac{1}{2}$ ") (with OPD 47)	125,000 Btu/hr
325-3(B)L48 ($\frac{1}{2}$ ") (with OPD 48).....	200,000 Btu/hr
325-5(B)L48 ($\frac{1}{2}$ ") (with OPD 48).....	235,000 Btu/hr
325-5(B)L48 ($\frac{3}{4}$ ") (with OPD 48).....	320,000 Btu/hr
325-5(B)L600 ($\frac{3}{4}$ ") (with OPD 600).....	425,000 Btu/hr
325-5(B)L600 (1") (with OPD 600).....	465,000 Btu/hr
325-7A(B)L210D($1\frac{1}{4}$ ", $1\frac{1}{2}$ ") (with OPD 210D).....	1,250,000 Btu/hr
325-9(B)L210E ($\frac{1}{2}$ ", 2") (with OPD 210E).....	2,250,000 Btu/hr

***NOTE:** Even though the Maxitrol 5 psi line regulator with OPD is shipped as an assembly it is important to check the pre-assembled pipe connection between the regulator and the OPD for leakage.

NOTE: Heating value specific gravity may vary based on location. Please contact local utility or gas supplier.

NOTE: Please refer to the Measurement Conversion Calculator on Maxitrol.com for conversions from natural to LP.

√**Limiter® VENT LIMITING DEVICE**

325-3(B)L.....	12A09
325-5(B)L.....	12A39
325-7A(B)L.....	12A49
OPD 47.....	integral vent limiting orifice with dust cap
OPD48.....	12A09
OPD600.....	12A09
OPD210D.....	12A39
OPD210E.....	12A49

√**Protector® VENT PROTECTORS FOR OUTDOOR APPLICATIONS**

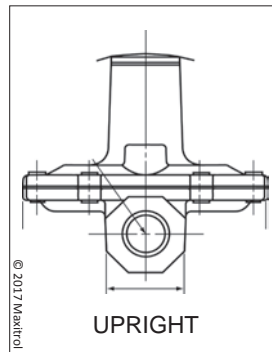
325-3(B)L	13A15
325-5(B)L.....	13A15-5
325-7A(B)L.....	13A25
325-9(B)L.....	13A25
OPD47.....	includes dust cap
OPD48.....	13A15
OPD600.....	13A15
OPD 210D.....	13A15-5
OPD210E.....	13A25

NOTE: Vent limiters certified for 5 psi natural gas only.

AMBIENT TEMPERATURE LIMITS: -40°F to 205°F (-40°C to 96°C)

MOUNTING

The 325 Series with OPD is suitable for limited horizontal mounting (less than or equal to 90° from upright). But when using the vent limiting device, the regulator must be mounted in a horizontal upright position. Install the regulator properly with gas flowing as indicated by the arrow on the casting (see the Safety Warning Instructions bulletin, LPROPD_MI_EN.FR).



NOTE: If a 325 Series Regulator with OPD is used without a vent limiter, each vent must be run separately to the outdoors.

NOTE: 1 CFH = 1000 Btu of Natural Gas
 1 CFH = 2500 Btu of LP/Propane
 Formula for converting flow rates in different gases:

$$Q_2 = Q_1 \times \sqrt{\frac{S_1}{S_2}} \quad \text{Where: } Q \text{ is flow rate}$$

S is specific gravity

LINE PRESSURE REGULATOR SPECIFICATION CHART

The Certified Line Pressure Regulators have a 7 to 11" w.c. spring factory set to 8" w.c. outlet pressure and can be adjusted to 11" w.c. for LP.

Line Pressure Regulators CSA Certified*	Spring (inches w.c.)	Color	Factory Set Outlet Pressure (in. w.c.)	Certification Label	Vent Limiter	Vent Connection Pipe Size	
Line Pressure Regulator							
325-3L	7 - 11	White	8 for NG 11 for LP	Cert	2 PSI	12A09	1/8" NPT
325-5L	7 - 11	White	8 for NG 11 for LP	Cert	2 PSI	12A39	3/8" NPT
325-7AL	7 - 11	White	8 for NG 11 for LP	Cert	2 PSI	12A49	1/2" NPT
325-9L	7 - 11	White	8 for NG 11 for LP	Cert	2 PSI	12A49	1/2" NPT
325-11L	7 - 11	White	8 for NG 11 for LP	Cert	2 PSI		3/4" NPT
Over Pressure Protection Devices (OPD)							
325-3L47	7 - 11	White	8 for NG 11 for LP	Cert	5 PSI	12A09 + NONE	1/8" NPT + Integral
325-3L48	7 - 11	White	8 for NG 11 for LP	Cert	5 PSI	12A09 + 12A09	1/8" NPT + 1/8" NPT
325-5L48	7 - 11	White	8 for NG 11 for LP	Cert	5 PSI	12A39+ 12A09	3/8" NPT + 1/8" NPT
325-5L600	7 - 11	White	8 for NG 11 for LP	Cert	5 PSI	12A39 + 12A09	3/8" NPT + 1/8" NPT
325-7AL210D	7 - 11	White	8 for NG 11 for LP	Cert	5 PSI	12A49+ 12A39	1/2" NPT + 3/8" NPT
325-9L210E	7 - 11	White	8 for NG 11 for LP	Cert	5 PSI	12A49+ 12A49	1/2" NPT + 1/2" NPT

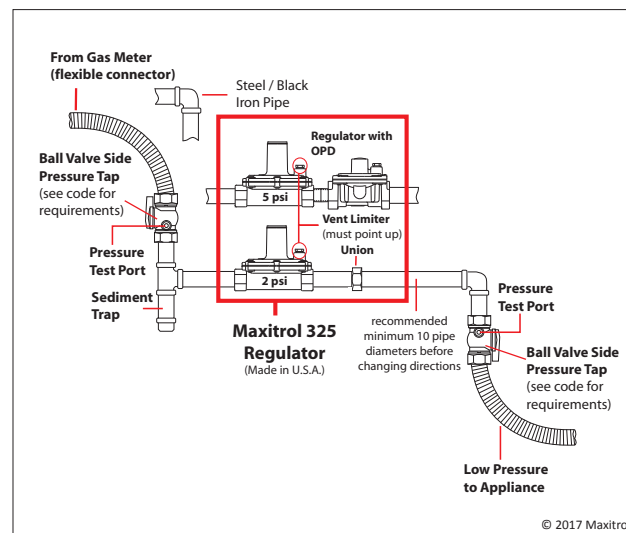
*ANSI Z21.80/CSA 6.22

NOTE: 325-L's ordered for LP applications will have a standard factory set outlet pressure of 11" w.c.

NOTE: Please refer to the Measurement Conversion Calculator on Maxitrol.com for conversions from natural to LP.

TYPICAL REGULATORS/MANIFOLD CONFIGURATION

(Refer to National and Local Codes for Requirements)



LINE PRESSURE REGULATOR LOCKUP TEST INFORMATION

Whenever introducing or restoring the gas supply to the line pressure regulator, open the manual valve **very slowly** in the line supplying the line pressure regulator.

NOTE: Lock up pressure testing and piping system testing are **separate tests**. Pressure testing of a piping system is done with the line pressure regulator removed or isolated.

CLASS I & II REGULATORS

Line pressure regulators are intended for use in a building's gas distribution system. Line pressure regulators are installed between the building's service regulator (or LP 2 psi service regulator) and the gas appliance's pressure regulator. Appliance pressure regulators are certified to ANSI Z21.18/CSA 6.3.

CLASS I OR CLASS II REGULATORS

- Line pressure regulators are classified in accordance with their intended application and are designated either Class I or Class II. The class designation must be located on the regulator's label.

LINE PRESSURE REGULATOR APPLICATIONS

- Class I regulators are primarily used with residential and light commercial appliances that use ½ psi rated inlet pressure controls.
- Class II regulators are primarily used with industrial appliances that use controls having a rated inlet pressure up to 2 psi.

MAXIMUM OUTLET PRESSURE SETTING

- Class I regulators have a maximum outlet pressure setting of ½ psi.
- Class II regulators have a maximum outlet pressure setting of 2 psi.

CERTIFIED RATED INLET PRESSURE

- Class I regulators can be certified for a rated inlet pressure of 2, 5, or 10 psi.
- Class II regulators can be certified for a rated inlet pressure of 5 or 10 psi.

CLASS I & II REGULATORS


OVER-PRESSURE PROTECTION DEVICE

- Class I regulators certified to a rated inlet pressure of 5 or 10 psi require an overpressure protection device (OPD). Separate OPD's shall be factory pre-assembled and supplied to the field as a unit. Class I regulators rated for 5 or 10 psi cannot be sold separately unless they have an integral OPD.
- Class II regulators certified to a rated inlet pressure of 5 or 10 psi and capable of being adjusted to deliver outlet pressures of less than ½ psi require an overpressure protection device (OPD). Separate OPD's shall be factory pre-assembled and supplied to the field as a unit. Class II regulators supplied with adjustment means capable of outlet pressure below ½ psi cannot be sold separately unless they have an integral OPD.

LINE PRESSURE REGULATORS

WITH **VENT LIMITING MEANS**

Certified vs. non-Certified construction.

The vast majority of installations require the line pressure regulator to be located at or near the appliance and, therefore, deep within the confines of the home or building. Having to run vent piping from this location is expensive, unsightly, and a lot of work. Using a line pressure regulator with a  vent limiting device that has been tested and approved to ANSI Z21.80/CSA 6.22 eliminates the need to run vent piping.

Maxitrol vent limiting devices are tested and approved to ANSI Z21.80/CSA 6.22 for use with our line pressure regulators.

Don't be fooled. Regulators using safety or double diaphragm vent limiter designs DO NOT COMPLY with the vent limiting device requirements stated in ANSI Z21.80/CSA 6.22 and MUST BE VENTED TO THE OUTSIDE. The National Fuel Gas Code NFPA54/ANSI Z223.1 only allows line pressure regulators that are listed with approved vent limiting means. Regulators constructed with double or safety diaphragm vent limiting means ARE NOT LISTED with an approved vent limiting means.

INSTALLER NOTE

When installing the Maxitrol 325 Series regulator it is important to ensure the mating pipe threads and internals are clean and free of loose debris and excessive pipe sealant. Loose debris or pipe sealant may become lodged in the valve/seat area of the 325 and inhibit the regulator's ability to properly lock-up.

If the level of pipe system cleanliness is unacceptable or unknown we recommend installing Maxitrol GF Gas Filters (see bulletin GF_MBH_EN) directly ahead of the 325 to eliminate possible seat contamination due to system debris.

NFPA 54/ANSI Z223.1 NATIONAL FUEL GAS CODE

Instructions that the installation shall be performed in accordance with local codes or, in the absence of local codes, in accordance with the *National Fuel Gas Code, ANSI Z223.1*, or the *Natural Gas and Propane Install Code, NFPA 54/ANSI Z223.1 CSA B149.1*, as applicable.

5.8 GAS PRESSURE REGULATORS.

5.8.1 Where Required. A line pressure regulator or gas appliance pressure regulator, as applicable, shall be installed where the gas supply pressure is higher than that at which the branch supply line or appliances are designed to operate or vary beyond design pressure limits.

5.8.2 Listing. Line pressure regulators shall be listed in accordance with ANSI Z21.80/CSA 6.22, *Line Pressure Regulators*.

5.8.3 Overpressure Protection. Where the gas supply design pressure in piping systems located indoors exceeds 2 psi (14 kPa) and line pressure regulators are installed to reduce the supply pressure to 14 in. w.c. (3.4 kPa) or less, all of the following shall apply:

- (1) Regulators shall be provided with factory-installed overpressure protection devices.
- (2) Overpressure protection devices shall limit the pressure downstream of the line pressure regulator to 2 psi (14 kPa) in the event of failure of the line pressure regulator.

NFPA 54/ANSI Z223.1 NATIONAL FUEL GAS CODE

5.8.4 Location. The gas pressure regulator shall be accessible for servicing.

5.8.5 Regulator Protection. Pressure regulators shall be protected against physical damage.

5.8.6 Venting.

5.8.6.1 Line Pressure Regulators. Line pressure regulators shall comply with all of the following:

- (1) An independent vent to the exterior of the building, sized in accordance with the regulator manufacturer's instructions, shall be provided where the location of a regulator is such that a ruptured diaphragm will cause a hazard.
 - (a) Where more than one regulator is at a location, each regulator shall have a separate vent to the outdoors or, if approved by the authority having jurisdiction, the vent lines shall be permitted to be manifolded in accordance with accepted engineering practices to minimize back pressure in the event of diaphragm failure.
 - (b) Materials for vent piping shall be in accordance with Section 5.6.

EXCEPTION: A regulator and vent limiting means combination listed as complying with ANSI Z21.80/CSA 6.22, Line Pressure Regulators, shall be permitted to be used without a vent to the outdoors.

NFPA 54/ANSI Z223.1 NATIONAL FUEL GAS CODE

- (2) The vent shall be designed to prevent the entry of water, insects, or other foreign materials that could cause blockage.
- (3) The regulator vent shall terminate at least 3 ft (0.9 m) from a source of ignition.
- (4) At locations where regulators might be submerged during floods, a special antiflood-type breather vent fitting shall be installed, or the vent line shall be extended above the height of the expected flood waters.
- (5) A regulator shall not be vented to the appliance flue or exhaust system.

8.1.3 Test Preparation.

8.1.3.3 Appliances and equipment that are not to be included in the test shall be either disconnected from the piping or isolated by blanks, blind flanges, or caps. Flanged joints at which blinds are inserted to blank off other equipment during the test shall not be required to be tested.

8.1.3.4 Where the piping system is connected to appliances or equipment designed for operating pressures of less than the test pressure, such appliances or equipment shall be isolated from the piping system by disconnecting them and capping the outlet(s).

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ANSI/CSA STANDARD FOR LINE PRESSURE REGULATORS

Excerpts taken from the Line Pressure Regulators, Third Edition, 2011.

In July of 1994, the Joint Automatic Gas Controls Subcommittee adopted the harmonized draft standard for line pressure regulators, ANSI Z21.80.1993/CSA 6.22, for distribution for review and comment. The harmonized draft standard for line pressure regulators was based on American National Standard for Gas Appliance Pressure Regulator, ANSI Z21.18.1993.

Harmonized Standard for Line Pressure Regulators:

PART 1: CONSTRUCTION

1.1 SCOPE

1.1.1

This standard applies to line pressure regulators, (see Part V, Definitions), constructed entirely of new, unused parts and materials, hereinafter referred to as regulator(s), either individual or in combination with over pressure protection devices, hereinafter referred to as device(s), intended for application in gas piping systems between the service regulator, or LP-gas 2 psi service regulator, and the gas utilization equipment.

1.1.2

This standard applies to regulators for operation with natural, manufactured and mixed gases, liquefied petroleum gases, and LP gas-air mixtures.

ANSI/CSA STANDARD FOR LINE PRESSURE REGULATORS

1.6 ADJUSTMENTS

1.6.1

Adjustable regulators shall be provided with means for making any necessary adjustment of outlet pressure. The adjustment means of spring-type regulators shall be concealed.

Line pressure regulators shall not be capable of an outlet pressure adjustment in excess of the following:

- a. Class I - ½ psi (3.5 kPa); or
- b. Class II - 2 psi (13.8 kPa)

1.11 MATERIALS

1.11.4

Vent limiters shall be of materials having melting points of not less than 800°F(427°C).

1.14 OVERPRESSURE PROTECTION DEVICES

1.14.1

Line pressure regulators rated for inlet pressures in excess of 2 psi (13.8 kPa) and capable of being adjusted to deliver an outlet pressure of ½ psi (3.5 kPa) or less shall be provided with an independent means to limit the downstream pressure to 2 psi (13.8 kPa) maximum in the event of failure of the regulating mechanism.

1.14.2

An overpressure shutoff device (see Part V, Definitions), if provided, shall require a manual procedure to reset the device following actuation.

1.14.3

Line pressure regulators with separate overpressure protection devices shall be factory pre-assembled, and supplied to the field as a unit.

ANSI/CSA STANDARD FOR LINE PRESSURE REGULATORS

2.9 REGULATOR LOCKUP PRESSURE.

A regulator shall “lock up” under no-flow conditions to limit the downstream pressure as indicated in the following method of test.

METHOD OF TEST.

A regulator shall be mounted as specified in 2.6, Mounting Regulator for Test, and 1.1.4-b.

The regulator, if user adjustable, shall be adjusted to deliver its maximum outlet pressure. The inlet pressure to the regulator shall be adjusted to and maintained at the rated inlet pressure (see 1.1.3). With the instantaneous automatic valve energized (open), the flow adjustment means shall be adjusted to produce a flow equivalent to the maximum individual load capacity specified by the manufacturer (see 1.2-h). The regulator outlet pressure shall be observed and recorded as the initial outlet pressure.

The automatic valve shall then be de-energized, and the resultant regulator lock-up pressure under no-flow conditions shall be allowed to stabilize and shall be noted. This test shall be repeated by cycling the automatic gas valve on and then off for a total of five determinations of the regulator lock-up pressure. None of the lockup pressure readings shall exceed the following (see 1.1.3):

Class I regulator - 150 percent of initial outlet pressure or the initial outlet pressure + 5 in w.c. (1.24 kPa), whichever is greater.

Class II regulator - 150 percent of initial outlet pressure.

ANSI Z21.80/CSA 6.22 LINE PRESSURE REGULATORS

PART V - DEFINITIONS

INLET PRESSURE, RATED: The highest inlet pressure for which the control is intended to be used.

MAXIMUM INDIVIDUAL LOAD CAPACITY: The maximum capacity or flow at which a line pressure regulator will control lockup pressure within acceptable limits.

OVERPRESSURE PROTECTION DEVICE: For the purposes of this standard, a device which under abnormal conditions will act to reduce, restrict or shut off the supply of gas flowing into a system to prevent gas pressure in that system from exceeding 2 psi (13.8 kPa).

- a. **Overpressure Shutoff Device:** An overpressure protection device which functions by completely shutting off the flow of gas into the downstream system.
- b. **Overpressure Relief Device:** An overpressure protection device which functions by discharging gas from the downstream system to a safe location.
- c. **Monitoring Regulator:** An overpressure protection device which functions as a second gas pressure regulator in series with the primary gas pressure regulator.

ANSI Z21.80/CSA 6.22 LINE PRESSURE REGULATORS

REGULATOR, LINE PRESSURE: A gas pressure regulator intended for installation in a building gas distribution system between the building service regulator or LP-gas 2 psi service regulator and gas utilization equipment.

For purposes of this standard, a line pressure regulator is rated for an inlet gas pressure of either 2, 5 or 10 psi (13.8, 34.5 or 68.9 kPa) and is designated as either Class I or Class II as follows:

Class I - Maximum outlet pressure of ½ psi (3.5 kPa)

Class II - Maximum outlet pressure of 2 psi (13.8 kPa)

VENT LIMITER: A means that limits the flow of gas from the atmospheric diaphragm chamber to the atmosphere in the event of a diaphragm rupture. This may be either a limiting orifice or a limiting device.

Limiting Orifice Type: A vent limiter where the flow through the limiter is the same in both directions.

CSA B149.1 NATURAL GAS & PROPANE GAS

5.2 Pressure Regulators

5.2.1.1 Every *regulator* shall be *certified* and be of sufficient size to provide the required flow of gas at the extremes of inlet pressures to which the *regulator* can be exposed. Recognized Standards for certifying *regulators* include

- (a) ANSI Z21.80/CSA 6.22;
- (b) UL 144; and
- (c) CSA 6.18.

5.2.1.3 A *pressure regulator* shall not be bypassed.

5.2.1.5 A *line pressure regulator* shall have

- (a) a manual shut-off *valve* installed upstream of the *regulator*; and
- (b) either a line *relief device* or an *overpressure protection device*. The *regulator* vent and *relief device* vent shall terminate outdoors.

5.2.2.2 Additional requirements for pressure regulators for propane applications

5.2.2.4

When used on a system operating at 2 psig (14 kPa) or less, a *line pressure regulator* equipped with a leak limiting system orificed for 1 ft³/h (0.0283 m³/h) of a gas having a specific gravity of 1.53 shall be exempt from the requirement of Clause 5.2.1.5(b).

A *regulator* with vent limiting means shall be installed in a *ventilated* space only.

5.2.3 Additional requirements for pressure regulators for natural gas applications

CSA B149.1 NATURAL GAS & PROPANE GAS

5.2.3.1

When used on a system operating at 2 psig (14 kPa) or less, a **line pressure regulator** equipped with a leak limiting system orificed for 2.5 ft³/h (0.0706 m³/h) of a gas having a specific gravity of 0.6 shall be exempt from the requirement of Clause 5.2.1.5(b).

A **regulator** with vent limiting means shall be installed in a **ventilated** space only.

5.2.3.2

For systems with inlet pressures above 2 psig (14 kPa), a pressure regulator shall be exempt from compliance with Clause 5.2.1.5(b) of this Code, provided that it is equipped to limit the escape of gas from the vent openings, even in the event of a main diaphragm failure, to less than 2.5 ft³/h (0.0706 m³/h), that it has an **overpressure protection device** set to a pressure either below 2 psig (14 kPa) or 2 times the delivery pressure on the system, and that it is certified to ANSI Z21.80/CSA 6.22.

DEFINITIONS

VENTILATED SPACE

A space where there is an air change by means of natural ventilation or mechanical means, or where the space communicates with the rest of the structure by means of permanent openings.

NOTE: A 12A09, 12A39 and 12A49 vent limiter can only be used with natural gas when used with a 5 psi system.

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CODES FOR VENT LIMITERS**A) National Fuel Gas Code; ANSI Z223.1/NFPA 54 2012.**

“9.1.19 Venting of Gas Appliance Pressure Regulators.

Venting of gas appliance pressure regulators shall comply with the following requirements:

(2) Vent limiting means shall be employed on listed appliance pressure regulators only.

(3) In the case of vents leading outdoors, means shall be employed to prevent water from entering this piping and also to prevent blockage of vents by insects and foreign matter.”

B) International Fuel Code 2011.

“410.3 Venting of regulators.

Pressure regulators that require a vent shall be vented directly to the outdoors. The vent shall be designed to prevent the entry of insects, water and foreign objects.

Exception: *A vent to the outdoors is not required for regulators equipped with and labeled for utilization with an approved vent-limiting device installed in accordance with the manufacturer’s instructions.”*

CODES FOR VENT LIMITERS

C) Uniform Plumbing Code IAPMO/ANSI UPC1-2012.

“1208.7.5 Venting.

1208.7.5.1 Line Gas Pressure Regulators.

Line gas pressure regulators shall be installed in accordance with the following requirements:

(1) An independent vent to the exterior of the building, sized in accordance with the regulator manufacturer’s instructions, shall be provided where the location of a regulator is such that a ruptured diaphragm will cause a hazard. Where more than one regulator is at a location, each regulator shall have a separate vent to the outdoors, or where approved by the Authority Having Jurisdiction, the vent lines shall be permitted to be manifolded in accordance with accepted engineering practices to minimize back pressure in the event of diaphragm failure. Materials for vent piping shall comply with Section 1208.5.

Exception: *A regulator and vent limiting means combination listed in accordance with CSA Z21.80 shall be permitted to be used without a vent to the outdoors.”*

Vent limiters will not prevent water, insects, or other foreign materials from entering the regulator.

If you have any questions, please contact Maxitrol’s Customer Service at (248) 356-1400.

COMMONLY ASKED QUESTIONS

List of Most Frequently Asked Questions from Training Sessions

1. Can I use a Maxitrol 325L with a vLimiter® vent limiting device in a confined space?

United States: Use good plumbing practices and common sense. It is up to the local jurisdiction for review and approval.
Canada: As long as confined space meets the definition for ventilated space as stated in CSA B149.1: Ventilated space - space where there is an air change by means of natural ventilation or mechanical means, or where the space communicates with the rest of the structure by means of permanent openings.

2. Can you mount the 325L in a position other than upright horizontal and then use an elbow, etc, to position the vent limiter in an upright horizontal position?

No. Vent limiters must be installed directly into the vent connection of the regulator without intermediate pipe or fittings. The Codes state you must follow the manufacturer's recommendations.

3. Can a vent limiter or a vent limiter with the ball check removed be used outdoors as a rain cap?

No. vLimiter® vent limiting devices should not be used outdoors if they are exposed to the environment. Use a 13A15, 13A15-5 or 13A25 vProtector® vent protector for outdoor use.

4. What is the vent line recommendation for venting a 325L?

Rule of thumb: increase the vent line one pipe size every 10 to 15 feet.

COMMONLY ASKED QUESTIONS

5. Can you use a bushing with the 13A15 vProtector® vent protector?

Yes. The use of a bushing in the vent port is no different than adding a vent line fitting. It does not affect regulator operation. Also, it is not a part of the gas piping that does not allow bushings; it is on the atmospheric side of the regulator diaphragm.

6. What length of pipe is recommended on the outlet side of the regulator before changing direction and why?

Rule of thumb and manufacturer's recommendation: 10 times the pipe diameter before changing direction. This helps prevent turbulence in the line that can create humming, chatter, and erratic operation.

7. Can a customer field install an OPD to a 325L for use on a 5 psi system?

No. ANSI Z21.80/CSA 6.22 Standard for Certified Line Pressure Regulators states, "Line pressure regulators with separate overpressure protection devices shall be factory pre-assembled, and supplied to the field as a unit." The 325L is certified as a stand alone regulator for 2 psi only.

COMMONLY ASKED QUESTIONS

8. What is Dead-End Lockup? Explain how it works.

When an appliance shuts off, gas pressure downstream of the regulator attempts to equalize with upstream gas pressure. As the outlet pressure increases and begins to exceed the set point pressure, the regulator assumes its fully closed position (this is true for all Maxitrol regulators). Further increases in downstream pressure over set point pressure increases the valve to valve seat sealing force. Regulators capable of dead-end lockup stop inlet to outlet pressure equalization and maintain an outlet pressure slightly above set point pressure under static conditions. The 325's lever action and rubber valve design guarantees consistent and reliable dead-end lockup.

9. What is the maximum allowable lockup pressure?

It is 150% of initial outlet pressure or initial outlet pressure plus 5" w.c., whichever is greater as defined by ANSI/CSA Standards.

10. How can excessive lockup pressure affect the appliance's operation?

Lockup pressure is the regulator outlet pressure under static conditions. If the regulator is undersized, incorrectly placed into service, or mounted too far from the appliance, a higher than desired lockup pressure can occur. This may result in the automatic valves not being able to open until upstream pressure is relieved.

11. Can I use a 12A49 v-Limiter® on all 325-7's?

The 12A49 works with all 325-7's (325-7, 325-7L, 325-7A, 325-7AL).

COMMONLY ASKED QUESTIONS

12. Can I use the 13A15, 13A15-5, 13A25 vent protectors on outdoor applications rather than a vent limiter?

✓Protector® in outdoor applications are designed to limit the entry of water, insects, or other foreign materials that could cause blockage and inhibit the vent function. The ✓Limiter® and ✓Protector® must be inserted directly into the vent opening and the regulator must only be mounted in a horizontal position. ✓Limiter® is intended for indoor applications and can be used in almost all cases instead of a vent line. CSA Certified ✓Limiter® and ✓Protector® are available for all 325 regulators including Overpressure Protection Devices (OPD).

13. What is Imblue Technology®?

Imblue Technology® is an anodized coating that increases corrosion resistance and provides extra protection against the elements for regulators used in outdoor applications.

14. Where should the Imblue® regulators be used?

The Imblue® Regulator should be used anywhere the conditions cause aluminum to oxidize such as coastal water areas, northern climates where roads are salted in the winter, roof-tops where airborne salt particles may impact regulators, water treatment plants, and swimming pool areas.

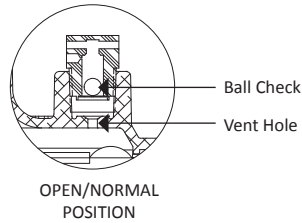
COMMONLY ASKED QUESTIONS

15. Why can't I install a regulator with a \checkmark Limiter[®] sideways or upside down?

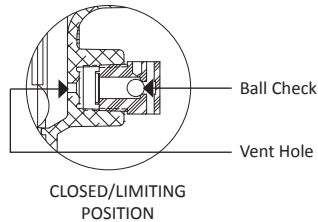
If a regulator with a \checkmark Limiter[®] vent limiting device is installed in any orientation other than the horizontal upright position, the ball check in the vent limiter will roll into the CLOSED/LIMITING POSITION. When the ball check is in the CLOSED/LIMITING POSITION the regulator will experience high lock-up and will not operate properly.



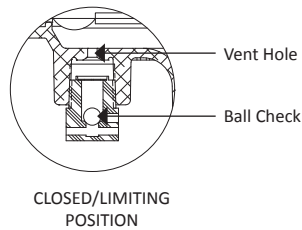
Horizontal Upright Position
CORRECT



Sideways Position
INCORRECT



Upside Down Position
INCORRECT



NOTES



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LPROPD_GB_EN_10.2017 - 7th edition

INSTALLATION INSTRUCTIONS



THERMADOR PROFESSIONAL™ PRO HARMONY® Dual Fuel Ranges

Thermador 
REAL INNOVATIONS FOR REAL COOKS®

INSTALLATION INSTRUCTIONS

THERMADOR PROFESSIONAL™ PRO HARMONY® Dual Fuel Ranges
Cuisinières Mixtes PROFESSIONAL PRO HARMONY^{mc} de THERMADOR
Estufas Mixtas PROFESSIONAL PRO HARMONY® de THERMADOR

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PRD304GHC
PRD304GHU
PRD364GDHC
PRD364GDHU
PRD366GHC
PRD366GHU
PRD486GDHC
PRD486GDHU
PRD364NLHU
PRD364NLHC
PRD486NLHU
PRD486NLHC
PRD484NCHU
PRD484NCHC



Thermador 
REAL INNOVATIONS FOR REAL COOKS®

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Safety Definitions

 WARNING
--

This indicates that death or serious injuries may occur as a result of non-observance of this warning.
--

 CAUTION
--

This indicates that minor or moderate injuries may occur as a result of non-observance of this warning.

NOTICE: This indicates that damage to the appliance or property may occur as a result of non-compliance with this advisory.

Note: This alerts you to important information and/or tips.

This THERMADOR® appliance is made by
BSH Home Appliances Corporation
1901 Main Street, Suite 600
Irvine, CA 92614

Questions?
1-800-735-4328
www.thermador.com

We look forward to hearing from you!

Safety

IMPORTANT SAFETY INSTRUCTIONS **READ AND SAVE THESE INSTRUCTIONS**

Before You Begin

IMPORTANT: Save these Instructions for the Local Gas Inspector's use.

INSTALLER: Please leave these Installation Instructions with this unit for the owner.

OWNER: Please retain these instructions for future reference.

WARNING



ELECTRICAL SHOCK HAZARD

Disconnect power before installing or servicing. Before turning power ON, be sure that all controls are in the OFF position. Failure to do so can result in death or electrical shock.

Examine the appliance after unpacking it. In the event of transport damage, do not plug it in.

Remove all tape and packaging before using the appliance. Destroy the packaging after install. Never allow children to play with packaging material.

IMPORTANT:

Local codes vary. Installer is responsible for ensuring that the installation, gas connections, and grounding comply with all applicable codes. Failure to follow appropriate local codes and regulations may void the warranty.

FOR MASSACHUSETTS INSTALLATIONS:

1. Installation must be performed by a qualified or licensed contractor, plumber or gas fitter qualified or licensed by the state, province or region where this appliance is being installed.
2. Shut-off valve must be a "T" handle gas cock.
3. Flexible gas connector must not be longer than 36" (914 mm).

NOTE: This range is NOT designed for installation in manufactured (mobile) homes or Recreational Park Trailers.

GROUNDING INSTRUCTIONS

This appliance must be grounded. Grounding reduces the risk of electric shock by providing a safe pathway for electric current in the event of a short circuit.

DO NOT install this range outdoors.

WARNING



A child or adult can tip the range over and be killed or seriously injured. Verify that the anti-tip bracket is securely installed. Ensure the anti-tip bracket is engaged when the range is moved.

DO NOT operate the range without the anti-tip bracket in place. Failure to follow the instructions in this manual can result in death or serious burns to children and adults.

Check for proper installation and use of anti-tip bracket. Carefully tip range forward pulling from the back to ensure that the anti-tip bracket engages the range leg and prevents tip-over. Range should not move more than 1" (2.5 cm).

WARNING

If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

- **DO NOT** store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS**
 - **DO NOT** try to light any appliance.
 - **DO NOT** touch any electrical switch.
 - **DO NOT** use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.



IMPORTANT SAFETY INSTRUCTIONS

READ AND SAVE THESE INSTRUCTIONS

Gas Type Verification

Verify the type of gas supplied to the location. Ensure that the appliance is connected to the type of gas for which it is certified. All models are certified for use with natural gas. Field conversion of the appliance for use with propane gas supply will require a conversion kit (PALPKITHN).

Gas Supply

Natural Gas — 6 inch water column. (14.9 mb) min., 14 inch (34.9 mb) maximum

Propane Gas — 11 inch water column. (27.4 mb) min., 14 inch (34.9 mb) maximum

CAUTION

When connecting the unit to propane gas, make certain the propane gas tank is equipped with its own high-pressure regulator in addition to the pressure regulator supplied with the range. The maximum gas pressure to this appliance must not exceed 14.0" water column (34.9 mb) from the propane gas tank to the pressure regulator.

Electric Power Supply

See “STEP 6: Electrical Requirements, Connection & Grounding” on page 16 for specifications.

Check local building codes for the proper method of appliance installation. Local codes vary and it is the responsibility of the installer to ensure installation is in accordance with these codes. Installation, electrical connections and grounding must comply with all applicable codes. In the absence of local codes the appliance should be installed in accordance with the National Fuel Gas Code ANSI Z223.1/NFPA 54 current issue and National Electrical Code ANSI/NFPA 70-current issue. In Canada, installation must be in accordance with the CAN 1-B149.1 and .2 – Installation Codes for Gas Burning Appliances and/or local codes.

This appliance complies with the following standards:

- UL 858, Standard for the Safety of Household Electric Ranges
- ANSI Z21.1, American National Standard for Household Cooking Gas Appliances
- CAN 1-1. 1-M81, Domestic Gas Ranges
- CAN/CSA-C22.2 No. 61, Household Cooking Ranges

It is the responsibility of the owner and the installer to determine if additional requirements and/or standards apply to specific installations.

IMPORTANT:

When installing against a combustible surface, a Low Backguard is required. A THERMADOR™ Low Backguard must be purchased separately. See Step 7 for backguard, kits and installation information.

When using the Flush Island Trim, THERMADOR recommends a minimum 12" (305 mm) rear clearance to a combustible surface (see “Installation Clearances”). Clearances from non-combustible materials are not part of the ANSI Z21.1 scope and are not certified by CSA. Clearances of less than 12" (305 mm) must be approved by the local codes and/or by the local authority having jurisdiction.

Refer to *Table 3, Backguard Kit Model Numbers*, for the correct backguard models that are designed for this range. After selecting the correct backguard, the range must be installed properly, using the minimum clearances to combustible surfaces specified in the Cabinet Preparation instructions beginning on *page 6*.

WARNING

To avoid possible burn or fire hazard, a backguard designed specifically for this range must be installed whenever the range is used.

CAUTION

To eliminate risk of burns or fire caused by reaching over heated surface units, cabinet storage located above the surface units should be avoided.

CAUTION

This unit is designed as a cooking appliance. Based on safety considerations, never use it for warming or heating a room.

WARNING

State of California Proposition 65 Warnings:

This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Installation

Planning Information

Before using your appliance, be sure to read this manual. Pay special attention to the **Important Safety Instructions** located at the beginning of the manual.

TOOLS NEEDED	
7/16" box end wrench or ratchet	1/8" (3.17 mm) drill bit
3/16" (4.76 mm) drill bit	12" Adjustable wrench
Hand or electric drill	Tape measure
T-20 Torx screwdriver	Marking instrument
Level	Furniture dolly
Phillips & flathead screwdrivers	Protective gloves
ITEMS NOT INCLUDED	
Drywall / Concrete Anchors	Pipe Compound / Tape
Rope/Twine	3/4" (19 mm) Flex Line
Strain Relief	Cord Kit or Conduit
2 – NPT Flare Adapters	

STEP 1: Ventilation Requirements

Refer to the *Ventilation Planning Guide* for approved ventilation combinations.



It is **strongly recommended** that this appliance be installed in conjunction with a THERMADOR vent hood. Due to the high heat capability of this unit, particular attention should be paid to the hood and duct work installation to assure it meets local building codes.

Downdraft ventilation should not be used. The *Ventilation Planning Guide* indicates the **ventilation hood options** and **blower capacity guidelines** that are recommended for use with all THERMADOR ranges.

Due to the high heat of the rangetop burners, **do not install a microwave oven/ventilator combination above the range, as these type of units do not provide the proper ventilation and are not suitable for use with the range.**

IMPORTANT:

Ventilation hoods and blowers are designed for use with single wall ducting. However, some local building codes or inspectors may require double wall ducting. Consult local building codes and/or local agencies, before starting, to assure that hood and duct installation will meet local requirements.

NOTICE: Most range hoods contain combustible components which must be considered when planning the installation.

⚠ WARNING

This appliance should not be installed with a ventilation system that directs air in a downward direction toward the range. This type of ventilation system may cause ignition and combustion problems with the appliance resulting in personal injury, property damage, or unintended operation. Ventilating systems that direct the air upwards do not have any restriction.

Ventilation Preparation

1. Select Hood and Blower Models:

- For wall installations, the hood width must, at a minimum, equal the width of the range. Where space permits, a hood larger in width than the range/rangetop may be desirable for improved ventilation performance.
- For island installations, the hood width should overhang the width of the range by a minimum of 3" (76 mm) on each side.

2. Hood Placement:

- For best smoke elimination, the lower edge of the hood should be installed **30"** (762 mm) above the range cooking surface (see "*Installation Clearances*").
- If the **hood contains any combustible materials** (i.e. a wood covering), it must be installed a minimum of **36"** (914 mm) above the cooking surface (see "*Installation Clearances*").

3. Consider Make-Up Air:

- Due to the high volume of ventilation air, a source of outside replacement air is recommended. This is particularly important for tightly sealed and insulated homes. A qualified heating and ventilating contractor should be consulted.

STEP 2: Cabinet Preparation

- The range is a free standing unit. If the unit is to be placed adjacent to cabinets, the clearances shown in *"Installation Clearances" beginning on page 7* are required. The same clearances apply to island installations, except for the overhead cabinets, which must have a space wide enough to accept the flared island hood.
- Any openings in the wall behind the range and in the floor under the range must be sealed.
- The gas and electrical supply should be within the zones shown in *Figure 5 on page 11*.
- When installing against a combustible surface, a Low Backguard is required. A THERMADOR™ Low Backguard must be purchased separately (see *Table 3 on page 18*).
- When using the Flush Island Trim, THERMADOR recommends a minimum 12" (305 mm) rear clearance to a combustible surface (see *"Installation Clearances"*). Clearances from non-combustible materials are not part of the ANSI Z21.1 scope and are not certified by CSA. Clearances of less than 12" (305 mm) must be approved by the local codes and/or by the local authority having jurisdiction.
- When the range is installed against a combustible side wall a minimum clearance of 5" (127 mm) is needed from the side of the range to the wall.
- Always keep appliance area clear from combustible materials, gasoline and other flammable vapors and liquids.
- The maximum depth of overhead cabinets installed on either side of the hood is 13" (330 mm). Wall cabinets must be 18" (457 mm) above the countertop.
- The top edges of the range's side panels must be on the same or higher level as the adjacent countertop. If the range is operated while at a lower height relative to the adjacent cabinet, the cabinet could be exposed to excessive temperatures, causing damage to the cabinet and countertop.
- **DO NOT** obstruct the flow of combustion and ventilation air to the unit.
- There is a 36" (914 mm) minimum clearance required between the top of the cooking surface and the bottom of an unprotected cabinet. A 30" (762 mm) clearance can be used when the bottom of the wood or metal cabinet is protected by not less than 1/4" (6 mm) of a flame retardant material covered with not less than No. 28 MSG sheet steel, 0.015" (0.38 mm) thick stainless steel, 0.024" (0.61 mm) aluminum, or 0.02" (0.51 mm) thick copper.

Flame retardant materials bear the mark: UNDERWRITERS LABORATORIES INC. CLASSIFIED MINERAL AND FIBER BOARDS SURFACE BURNING CHARACTERISTICS, followed by the flame spread and smoke ratings. These designations are shown as "FHC (Flame Spread/Smoke Developed)." Materials with "O" flame spread ratings are flame retardant. Local codes may allow other flame spread ratings. It is the responsibility of the installer to ensure installation is in accordance with these ratings.

Installation Clearances

Installation Clearances with Lowback

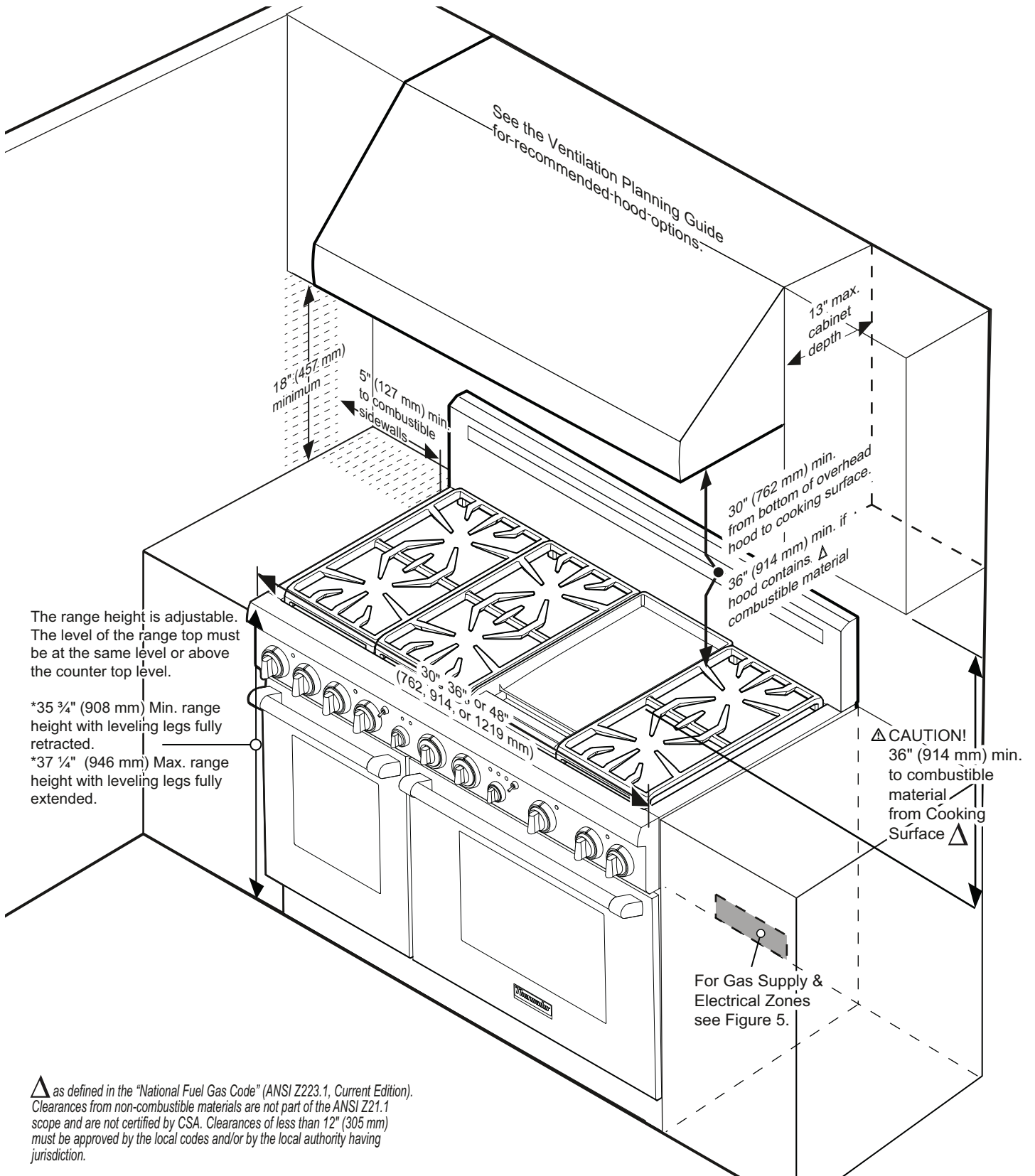
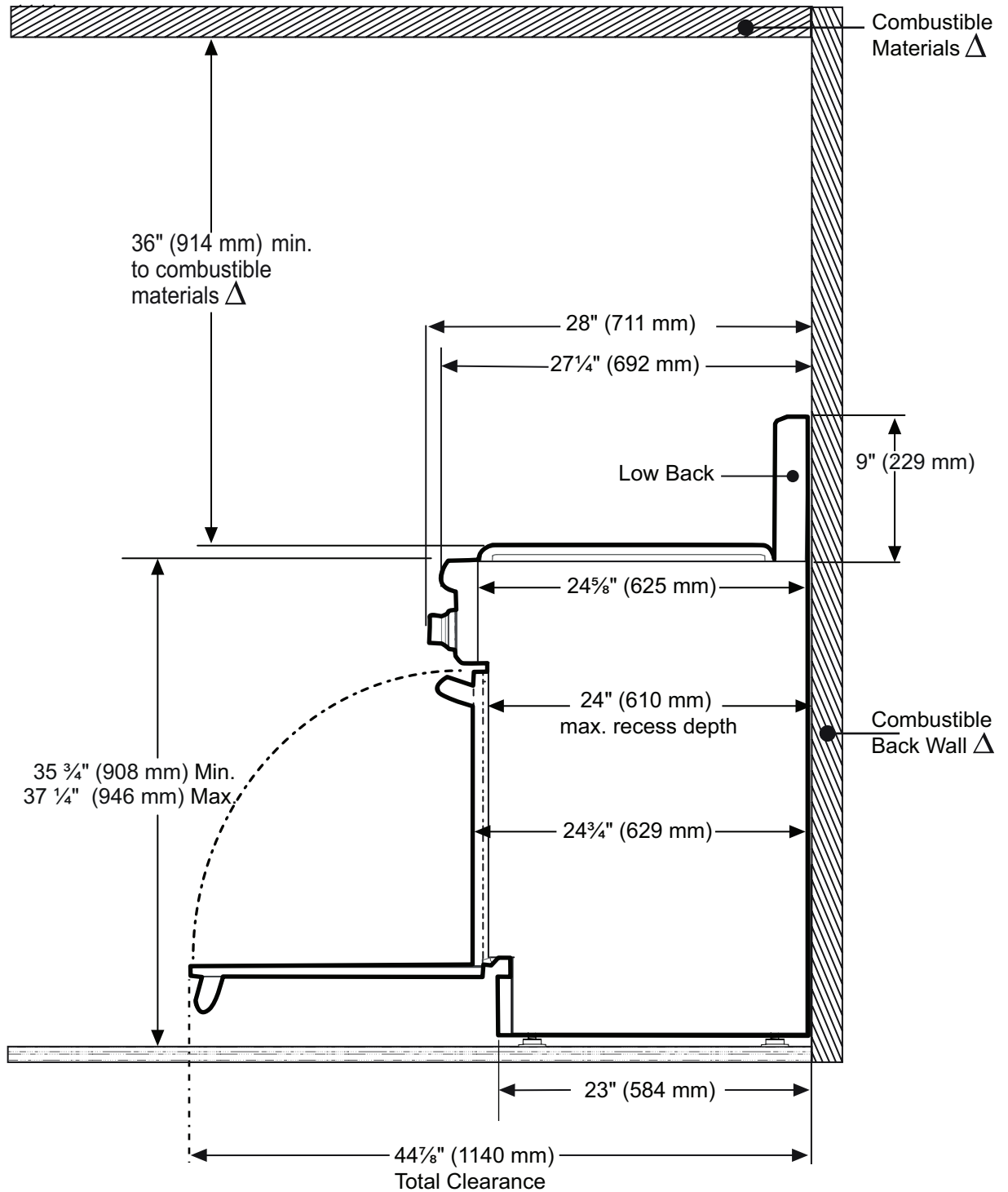


Figure 1: Cabinet Clearances

Installation Clearances with Low Backguard



Δ as defined in the "National Fuel Gas Code" (ANSI Z223.1, Current Edition). Clearances from non-combustible materials are not part of the ANSI Z21.1 scope and are not certified by CSA. Clearances of less than 12" (305 mm) must be approved by the local codes and/or by the local authority having jurisdiction.

Figure 2: Installation Clearances with a Low Backguard

Installation Clearances with Flush Island Trim

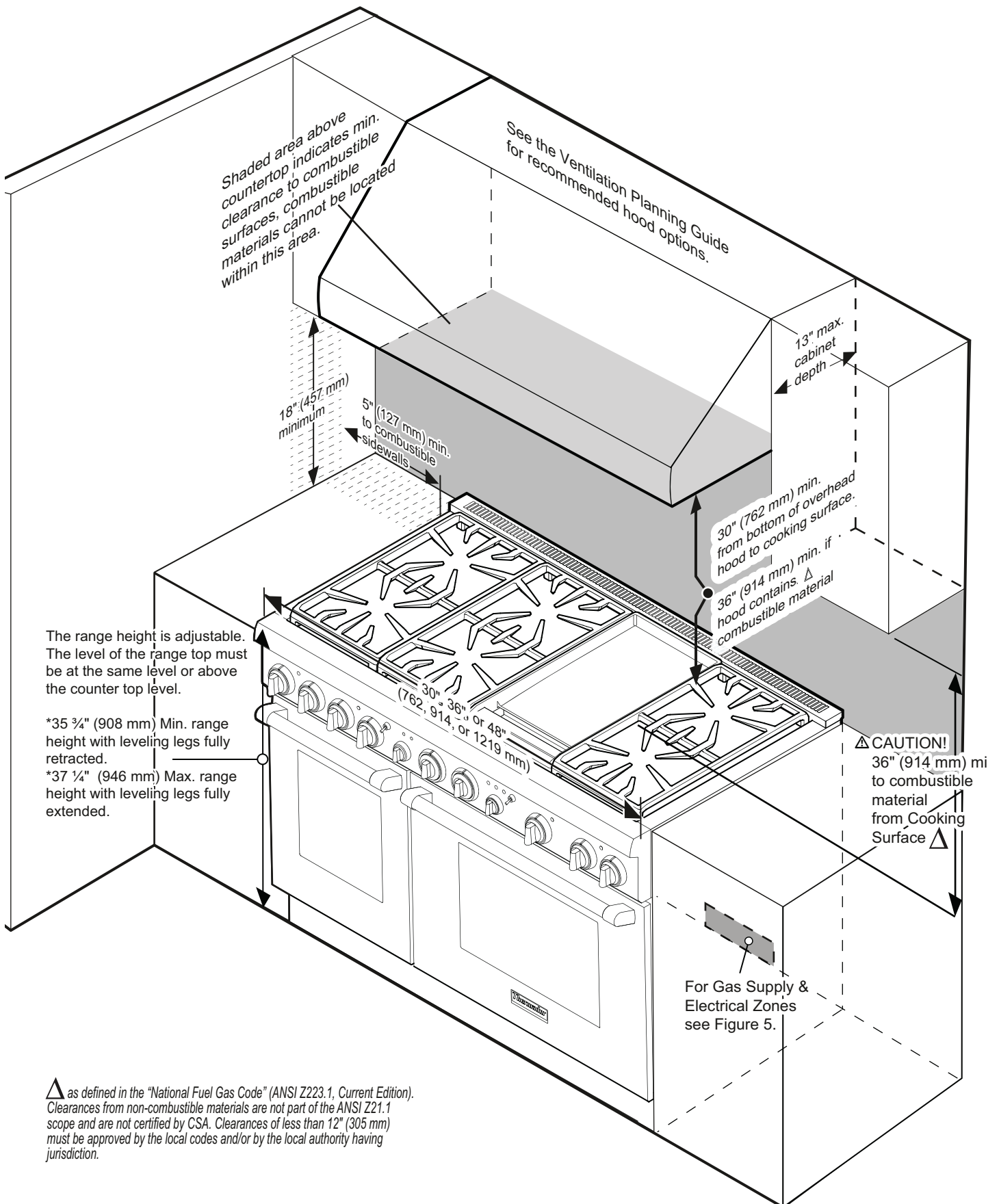
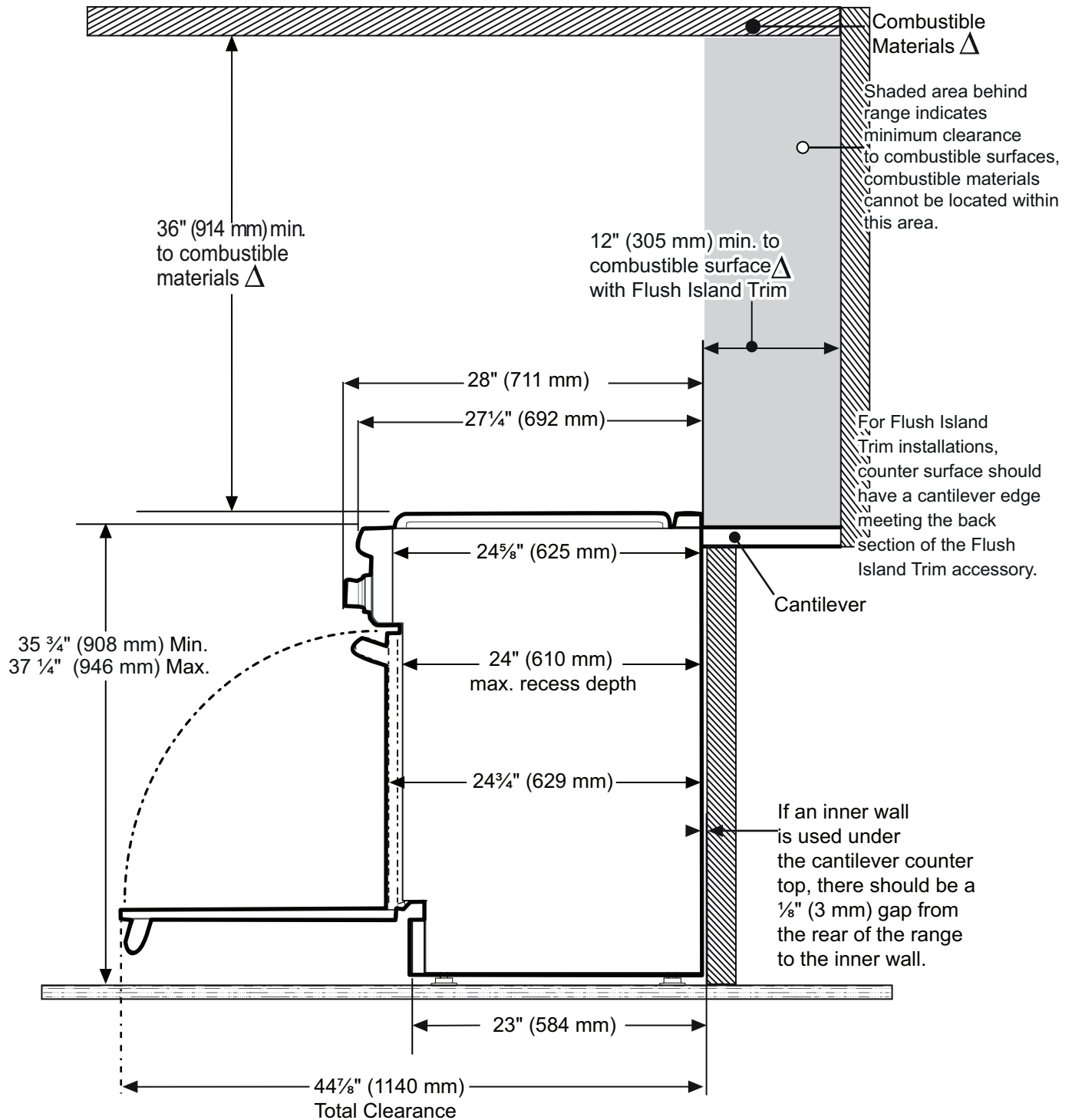


Figure 3: Cabinet Clearances with Flush Island Trim

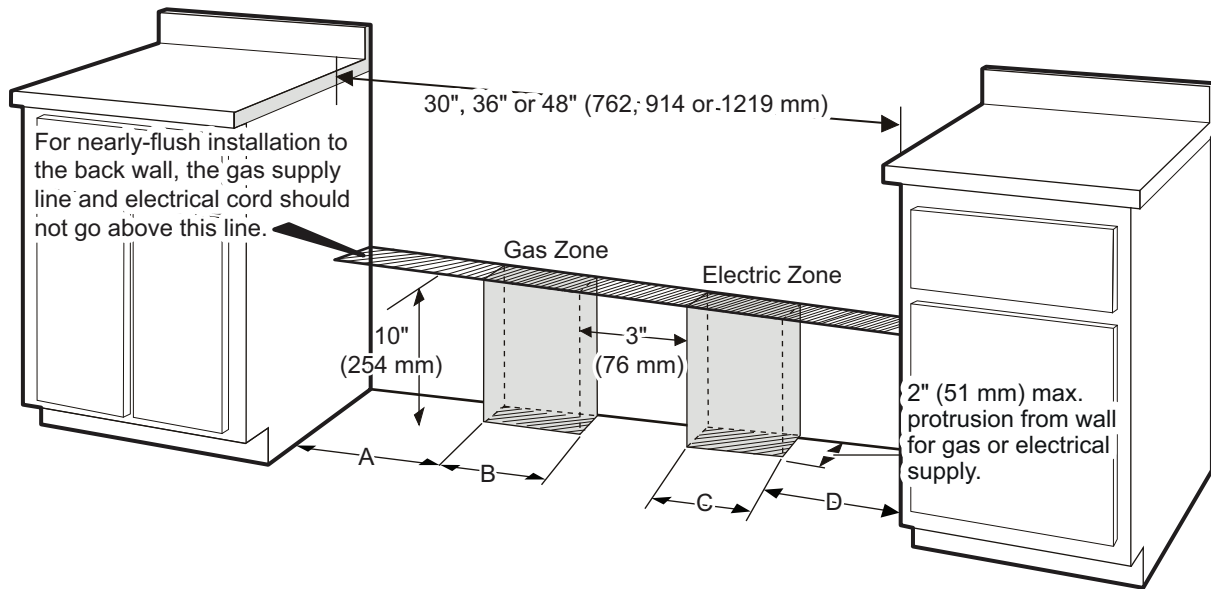
Installation Clearances with Flush Island Trim



Δ as defined in the "National Fuel Gas Code" (ANSI Z223.1, Current Edition). Clearances from non-combustible materials are not part of the ANSI Z21.1 scope and are not certified by CSA. Clearances of less than 12" (305 mm) must be approved by the local codes and/or by the local authority having jurisdiction.

Figure 4: Installation Clearances with a Flush Island Trim

Gas and Electric Supply Clearances



Model	A	B	C	D
30" (762 mm)	5 ³ / ₄ " (146 mm)	15 ⁷ / ₁₆ " (392 mm)	5 ¹³ / ₁₆ " (148 mm)	4 ³ / ₈ " (111 mm)
36" (913 mm)	8 ¹ / ₁₆ " (205 mm)	16 ¹³ / ₁₆ " (503 mm)	8 ¹ / ₈ " (206 mm)	4 ³ / ₈ " (111 mm)
48" (1219 mm)	4 ³ / ₈ " (111 mm)	10 ³ / ₄ " (273 mm)	18 ¹¹ / ₁₆ " (475 mm)	5 ¹⁵ / ₁₆ " (151 mm)

Figure 5: Gas and Electrical Supply Locations

NOTICE:

- If not already present, install gas shut-off valve in an easily accessible location.
- Make sure all users know where and how to shut off the gas supply to the range.
- Any opening in the wall behind the appliance and any opening in the floor under the appliance must be sealed.

The dual fuel ranges may be connected to the power supply with a range supply cord kit or by hard-wiring to the power supply. It is the responsibility of the installer to provide the proper wiring components (cord or conduit and wires) and complete the electrical connection as dictated by local codes and ordinances, and/or the National Electric Code. The units must be properly grounded. Refer to "STEP 6: Electrical Requirements, Connection & Grounding" on page 16 for details. Canadian models have power cord supplied.

The range must be connected only to the type of gas for which it is certified. If the range is to be connected to propane gas, ensure that the propane gas supply tank is equipped with its own high pressure regulator in addition to the pressure regulator supplied with the range. (See "STEP 5: Gas Requirements and Hookup" beginning on page 14.)

NOTE: The range is designed for flush installation to the back wall. For a successful installation, it may be necessary to reposition the gas supply line and the electrical cord as the range is pushed back to its final position.

- **SUGGESTION:** This may be accomplished by carefully pulling on a rope or twine looped around the gas or electrical supply line as the range is pushed back into its final installed position.

Electrical Supply

Installation of the range must be planned so that rough-in of terminal block for the receptacle or conduit connection will allow maximum clearance to the rear of the unit.

When the power supply cord or conduit is connected to the mating receptacle or terminal block cover, the combined plug/receptacle or terminal block cover/conduit connector should protrude no more than 2" (51 mm) from the rear wall. See *Figure 6*.

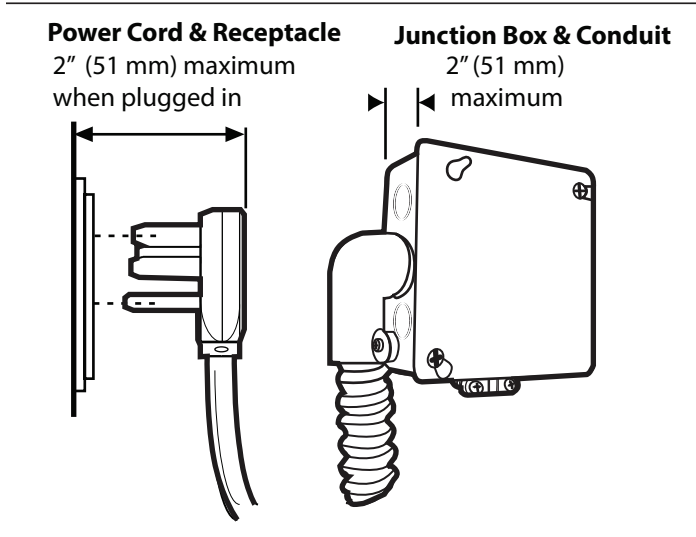


Figure 6: Wall Connection

Refer to *Figure 10 on page 17* for location of terminal block on unit. To minimize binding when the unit is connected to the receptacle or terminal block, orient the receptacle or conduit connector, and slide back into position.

When using a receptacle it may be necessary to recess the receptacle's housing into the rear wall. Refer to Local Electrical Code to determine the minimum volume for all electrical / junction boxes. Follow all local electrical codes.

Mount the receptacle securely to a wall stud, then seal around the receptacle's housing.

NOTE: Canadian models have the power cord supplied with range.

STEP 3: Unpacking and Moving the Range

⚠ CAUTION



DO NOT lift the range by the oven door's handle, as this may damage the door hinges and cause the door to fit incorrectly.

DO NOT lift the appliance by the range's control panel.



The unit is heavy and should be handled accordingly. Proper safety equipment such as gloves and adequate manpower of at least two people must be used in moving the range to avoid injury and to avoid damage to the unit or the floor.

Rings, watches, and any other loose items that may damage the unit or otherwise might become entangled with the unit should be removed.

Hidden surfaces may have sharp edges. Use caution when reaching behind or under appliance.

DO NOT use a hand truck or appliance dolly on the back or front of the unit. Handle from the side only.

	30"	36"	48"
Shipping Weight	377 lbs (171 kg)	395 lbs (179 kg)	560 lbs (254 kg)
Weight without packing materials	293 lbs (133 kg)	337 lbs (153 kg)	470 lbs (213 kg)

Table 1: Range Weight

Unpacking the Range

1. Remove the outer carton and packing materials from the shipping pallet but leave the adhesive-backed foam layer over brushed-metal surfaces, to protect finish from scratches, until the range is installed in its final position.
2. It is recommended that the grates, griddle plate, burner caps and oven racks be removed to facilitate handling. If desired, the oven doors may also be removed (see "*STEP 8: Door Removal and Adjustment*" on page 22). **Do not remove the griddle assembly.**

Moving the Range

Due to the weight, a furniture dolly with soft wheels or an air lift should be used to move this unit. The weight must be supported uniformly across the bottom.

NOTE: Step 4 through Step 8 must be completed before the range is placed in its final position. For proper performance, the range must be level. See “STEP 9: Placing and Leveling the Range” on page 24 for leveling instructions.

Removing the Pallet Bolts

1. To remove the (4) pallet bolts in the front and in the back, use a 7/16" wrench or ratchet and socket to remove the pallet bolt from the bottom of the pallet. Discard the wood packing block inserts.

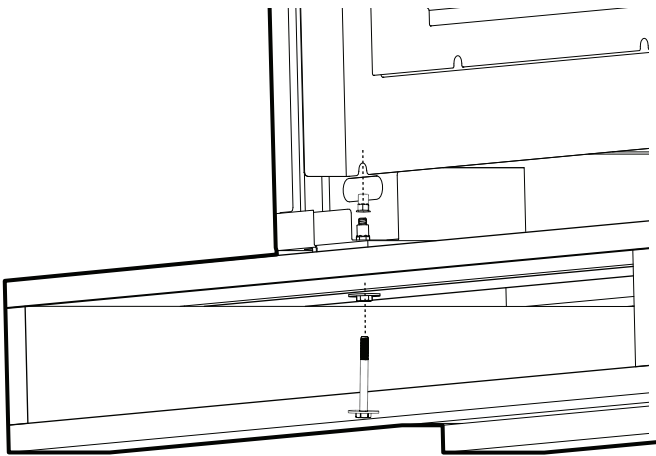


Figure 7: Removal of Shipping Bolts

2. Lift range and remove it from the pallet. Use additional help as required to remove from pallet.
3. Transport the range by dolly close to its final location. Unit should not be dollyed from the front.
4. The range can then be tipped back and supported on the rear legs while the dolly is carefully removed. **THE FLOOR UNDER THE LEGS SHOULD BE PROTECTED BEFORE PUSHING THE UNIT INTO POSITION.**
 - Step 4 through Step 8 must be completed before the range is placed in its final position. For proper performance, the **range must be level**. See “STEP 9: Placing and Leveling the Range” on page 24 for leveling instructions.

STEP 4: Installing the Anti-Tip Device

For all ranges, an anti-tip device must be installed as per these instructions.

⚠ WARNING



RANGE TIPPING HAZARD:

- All ranges can tip and injury can result. To prevent accidental tipping of the range, attach it to the floor by installing the Anti-Tip Device supplied.
- A risk of tip-over may exist if the appliance is not installed in accordance with these instructions. For all ranges an anti-tip device **must** be installed.
- A child or adult can tip the range and be killed.
- **DO NOT** operate the range without the anti-tip device in place and engaged. Failure to do so can result in death or serious burns to children or adults.

If the range is pulled away from the wall for cleaning, service or for any other reason, ensure that the Anti-Tip Device is properly re-engaged when the range is pushed back against the wall. In the event of abnormal usage (such as a person standing, sitting, or leaning on an open door), failure to take this precaution can result in tipping of the range. Personal injury might result from spilled hot liquids or from the range itself.

⚠ WARNING

ELECTRICAL SHOCK HAZARD:

- Use extreme caution when drilling holes into the wall or floor as there may be concealed electrical wires.
- Identify the electrical circuits that could be affected by the installation of the Anti-Tip Device, then turn off power to these circuits.
- Failure to follow these instructions may result in electrical shock or other personal injury.

ATTENTION – PROPERTY DAMAGE

- Contact a qualified installer or contractor to determine the proper method for drilling holes through the wall or floor material (such as ceramic tile, hardwood, etc.)
- Do not slide the range across an unprotected floor.
- Failure to follow these instructions may result in damage to wall or floor coverings.

Important Installation Information

SERVICE PART NO.	QTY	DESCRIPTION
00415078	4	Screw, Phillips, #10 x 1½"
00647936	1	Anti-Tip Bracket, Floor-Mounted

Hardware provided is for mounting through standard thickness wood studs. Installers are responsible to provide hardware for other types of mounting situations.

- The anti-tip bracket may be attached to a solid wood surface having a minimum wall thickness of ¾" (19 mm).
- The thickness of the wall or floor may require use of longer screws, available at your local hardware store.
- In all cases, at least two (2) of the bracket mounting screws must be fastened to solid wood surface.
- Use appropriate anchors when fastening the mounting bracket to any material other than hard-wood or metal.

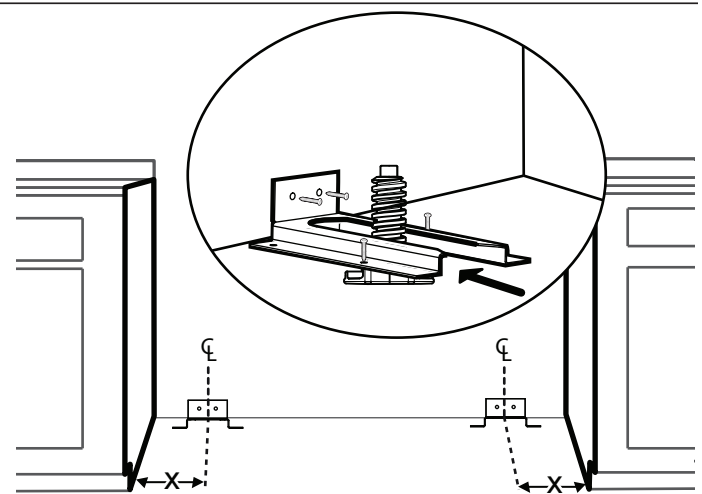
Hole location preparation

- For walls, wall studs, or floors composed of solid wood or metal, drill 1/8" (3 mm) pilot holes.
- For walls or floors composed of drywall, sheet-rock or other soft materials, drill 3/16" (5 mm) holes to a minimum depth of 1¾" (45 mm), then tap plastic anchors into each of the holes using a hammer.
- For walls or floors composed of concrete or concrete block, drill 3/16" (5 mm) holes to a minimum depth of 1¾" (45 mm), then tap concrete anchors into each of the holes using a hammer.
- For walls or floors having ceramic tile covering, drill 3/16" (5 mm) holes through the tile only, then drill into the material behind the tile as indicated immediately above.

Mounting Anti-Tip Bracket

The floor mounted bracket shall be installed as follows:

1. Place bracket on floor in position shown in *Figure 8*.
 - Bracket may be used in either corner of the installation area.
2. Secure to floor and wall stud using the (4) 1½" (38 mm) Phillips head screws provided.
3. Later, when the unit is installed, the adjustable leg will slide under the bracket, as shown in *Figure 8*.
4. If the range is moved to a new location, the Anti-Tip Device must be removed and reinstalled.



Range	Side	Distance of X
30"	Left or Right	2¼" (57 mm)
36"	Left or Right	2⅝" (67 mm)
48"	Left or Right	2½" (64 mm)

Figure 8: Placement of Anti-Tip Bracket

STEP 5: Gas Requirements and Hookup

Verify the type of gas being used at the installation site. **The appliance is shipped from the factory for use with natural gas. It must be converted for use with propane. A qualified technician or installer must do the conversion.** Make certain the range matches the type of gas available at this location.

This appliance has been CSA certified for safe operation up to an altitude of 2,000 ft (610 m) elevation above sea level.

High Altitude — For altitudes above 2,000 feet (610 m) elevation above sea level, adjustments can be made with the High Altitude Packet included with the unit. If flame performance is satisfactory, the contents in this packet will not be required. It is required that a Certified Professional make the high altitude adjustments during installation.

Propane (LP) Gas Appliances – The appliance must first be converted for use with Propane (LP) Gas before it can be converted for use at high altitude. A Propane (LP) Conversion Kit (PALPKITHN) is required and available for purchase from Thermador Customer Service.

⚠ CAUTION

When connecting unit to propane gas, make certain the propane gas tank is equipped with its own high pressure regulator in addition to the pressure regulator supplied with the appliance. The pressure of the gas supplied to the appliance regulator must not exceed 14" water column (34.9 mb).

NATURAL GAS REQUIREMENTS

Inlet Connection:	1/2" NPT internal (Minimum 3/4" dia. flex line)
Supply Pressure:	6" min. to 14" max. water column (14.9 to 34.9 mb)
Manifold Pressure:	5" water column (12.5 mb)

PROPANE GAS REQUIREMENTS

Inlet Connection:	1/2" NPT internal (Minimum 3/4" dia. flex line)
Supply Pressure:	11" min. to 14" max. water column (27.4 mb to 34.9 mb)
Manifold Pressure:	10" water column (24.9 mb)

Hook Up

The gas supply connections shall be made by a competent technician and in accordance with local codes or ordinances. In the absence of local codes, the installation must conform to the National Fuel Gas Code ANSI Z223.1/ NFPA54- current issue.

1. A manual gas shut-off valve must be installed external to the appliance, in a location accessible from the front, for the purpose of shutting off the gas supply. The supply line must not interfere with the back of the unit. Make sure the gas supply is turned off at the manual shut-off valve before connecting the appliance.
 - The range is supplied with its own pressure regulator that has been permanently mounted within the range body.
2. Use a 3/4" (19 mm) flex line to connect between the gas supply and the appliance gas inlet. The gas supply line connection is located at the lower right portion of all range models (see *Figure 9*). The appliance gas inlet connection is 1/2" (12.7 mm) NPT.
 - Use caution to avoid crimping the 3/4" (19 mm) flex line when making bends. Suggested length of flex line is 48" (1219 mm); however, please check local codes for your area's requirements before installation.

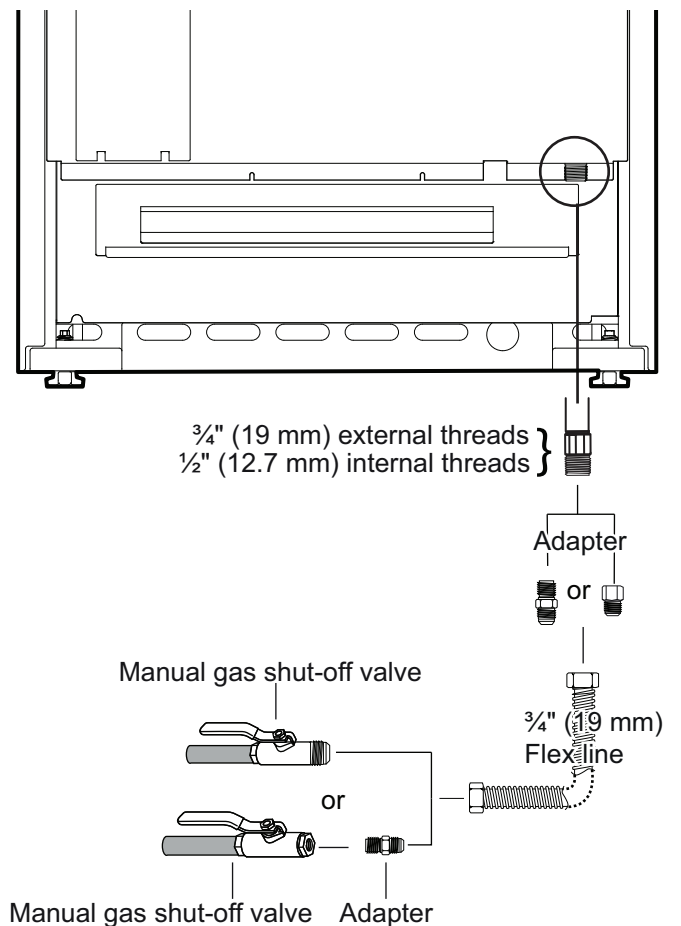


Figure 9: Gas Supply Connection

3. Use pipe sealing compound or Teflon[®] tape on the pipe threads. **DO NOT** apply sealing compound or tape to flare fittings. Take care not to apply excessive pressure when tightening the fittings.
4. Leak testing of the appliance shall be in accordance with the following instructions.
 - Turn on gas and check supply line connections for leaks using a soap and water solution.
 - Bubbles forming indicate a gas leak. Repair all leaks immediately after finding them.

⚠ WARNING

Gas line must not come in contact with any components inside back cover of range.

⚠ WARNING

Do not use a flame of any kind to check for gas leaks.

▲ CAUTION

The appliance must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (3.5kPa).

STEP 6: Electrical Requirements, Connection & Grounding

Model	Volt	Circuit	Frequency	Phase
30"	240/208 VAC	40 Amps	60 Hz.	Single
36"	240/208 VAC	40 Amps	60 Hz.	Single
48"	240/208 VAC	50 Amps	60 Hz.	Single

Table 2: Electrical Supply Circuit Requirements

Before installing, turn power OFF at the service panel. Lock service panel to prevent power from being turned ON accidentally.

Prior to servicing appliance, always disconnect appliance electrical supply cord, if so equipped, from wall receptacle. If appliance is hard-wired to power supply, disconnect power to unit by turning off the proper circuit breaker. Lock service panel to prevent power from being turned ON accidentally.

A neutral supply wire must be provided from the power source (breaker) because critical range components, including the surface burner spark re-ignition module, require 120 VAC to operate safely and properly.

▲ WARNING

An improper 240/208 VAC power supply will cause malfunction, damage to this appliance, and possibly create a condition of shock hazard.

If the correct power supply circuit is not provided, it is the responsibility and obligation of the installer and user to have proper power supply connected. This must be accomplished in accordance with all applicable local codes and ordinances by a qualified electrician. It is the responsibility of the installer to ensure compliance of local codes. In the absence of local codes and ordinances, the power supply connection shall be in accordance with the National Electric Code.

Observe all governing codes and ordinances when grounding. In the absence of these codes or ordinances observe National Electrical Code ANSI/NFPA No. 70 current issue. See the following information in this section for grounding method.

Electrical wiring diagrams and schematics have been placed in the kick panel area of the range for access by a qualified service technician (see *Figure 29 on page 25*).

The ranges are to be connected to a 240/208 VAC power supply.

Dual Fuel models must be connected to the power supply utilizing one of the following methods. For all methods of connection, the length of the cord or conduit/wiring must allow the unit to be slid completely out of the cabinet without having to unplug or disconnect the unit from the power supply.

Recommended minimum free length of cord or conduit is 4ft (1.2 m). Electrical installations and grounding must be in accordance with all local codes and ordinances, and/or the National Electric Code, as applicable.

Permanent Connection (Hard Wiring)

Units may be hard wired to the power supply. The installer must provide approved flexible aluminum conduit, 3/4" (19 mm) trade size, maximum 6ft (1.8 m) long.

Locate the terminal block on the rear of the unit and remove cover (refer to *Figure 10*). The conduit must be installed to the terminal block using an approved conduit connector. The free end of the conduit must be connected to a terminal block provided in the electrical supply zone, as shown in *Figure 5 on page 11*.

Mount a strain relief (not provided) into the 1" (25.4 mm) diameter hole located below the terminal block (see *Figure 10*). Wiring for the unit is to be brought into the terminal block through the conduit and through the strain relief. The ends of the wiring must have 1/4" (6 mm) faston closed-loop lugs attached, preferably soldered in place. Make the connections to the terminal block provided.

If aluminum supply wiring exists in the installation, splice the aluminum house wiring with appropriate-thickness gauge copper wire for adapting to the range, using special connectors designed and certified for joining copper and aluminum wire. Follow the connector manufacturer's recommended installation procedure.

▲ WARNING

Improper connection of aluminum house wiring can result in a fire or shock hazard. Use only connectors designed and certified for connecting to aluminum wire.

4-Wire Connection

A unit must be connected to the power supply with a 3-POLE, 4-CONDUCTOR cord kit rated 125/250 VOLTS, 50 AMPERES DEDICATED CIRCUIT, and marked for use with ranges.

The cord kit must be attached to the range terminal block with a strain relief (not provided) which will fit a 1" (25.4 mm) diameter hole. If not already equipped, the cord must also have 1/4" (6 mm) faston closed-loop lugs attached to the free ends of the individual conductors, preferably soldered in place.

1. Locate the terminal block on the rear of the unit and remove cover (see *Figure 10*).
2. Remove upper nuts only from the terminal block studs. Do not remove lower nuts which secure range internal wiring leads.
3. Mount strain relief (not provided with range) into the 1" (25.4 mm) diameter hole in the back panel located below the terminal block. Route wires up through strain relief.

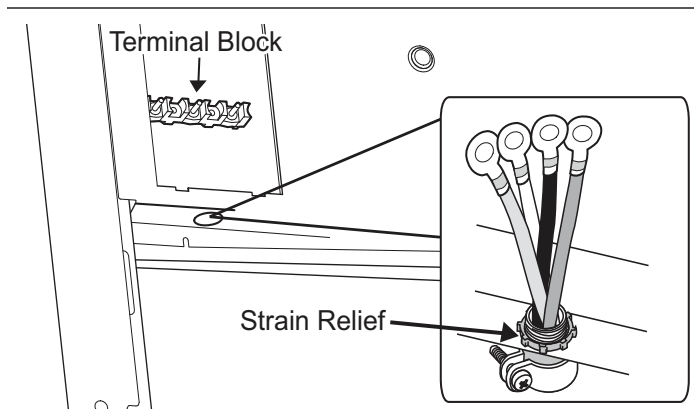


Figure 10: Strain Relief Location

4. Secure the neutral, grounded wire of the supply circuit, to the center stud of the terminal block with nut (see *Figure 11*).
5. Secure the L1 (red) and L2 (black) power leads to the outside terminal studs (brass colored) with nuts.
6. Remove green ground screw located beneath the terminal block. Discard white wire.
7. Secure the bare copper ground lead to the range chassis using the ground screw previously used for the white wire. Be sure that neutral and ground terminals do not touch.

8. Tighten all connections securely.

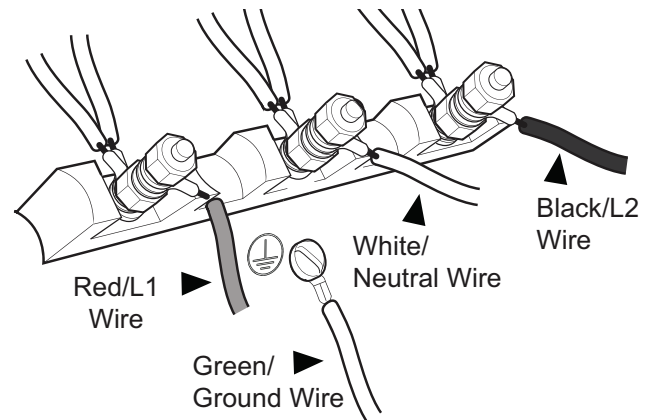


Figure 11: 4-Wire Connection

9. Reinstall the terminal block cover.

INSTALLER — show the owner the location of the circuit breaker. Mark it for easy reference.

3-Wire Lead Connection

Where local codes and ordinances permit grounding through neutral, and conversion of supply to 4 wire is impractical, unit may be connected to the power supply with a 3-POLE, 3-CONDUCTOR cord kit rated 125/250 VOLTS, 50 AMPERES DEDICATED CIRCUIT, and marked for use with ranges.

The cord kit must be attached to the range back panel with a strain relief which will fit a 1" (25.4 mm) diameter hole. If not already equipped, the cord must also have 1/4" (6 mm) faston closed-loop lugs attached to the free ends of the individual conductors, preferably soldered in place.

1. Locate the terminal block on the rear of the unit and remove cover.
2. Remove upper nuts only from the terminal block studs. Do not remove nuts which secure range internal wiring leads.

3. Mount strain relief (not provided with range) into the 1" (25.4 mm) diameter hole in the back panel located below the terminal block (see *Figure 12*). Route wires up through strain relief.

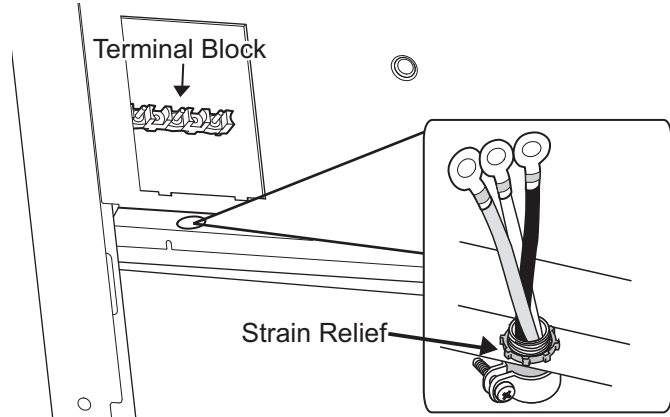


Figure 12: Strain Relief Location

4. Secure the neutral, grounded wire of the supply circuit, to the center stud (silver colored) of the terminal block (see *Figure 13*).
5. Secure the L1 (red) and L2 (black) power leads to the outside corresponding terminal block studs (brass colored).
6. Secure one end of the mounted looped neutral wire, located beneath terminal block, to the center stud of the terminal block with nut and keep the other end of the wire screwed into the back of the range.
7. Tighten nuts securely.

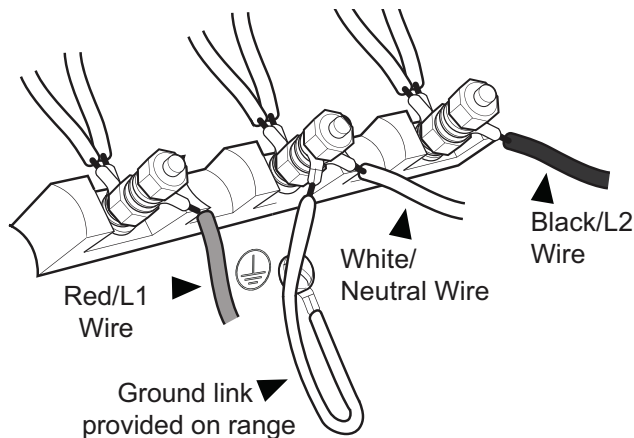


Figure 13: 3-Wire Connection

8. Reinstall the Terminal Block Cover.

INSTALLER — show the owner the location of the circuit breaker. Mark it for easy reference.



STEP 7: Backguard Installation (optional)

Model	30"	36"	48"
Flush Island Trim	Included	Included	Included
9" Low Back	PA30GLBH	PA36GLBH	PA48GLBH

Table 3: Backguard Kit Model Numbers

Installation methods will vary upon need. Before you begin read these instructions carefully. Observe all local codes and ordinances.

Backsplash Installation (PA[30, 36, 48]JBS)

PARTS INCLUDED	TOOLS NEEDED
 10 – 1" (25.4 mm) screws	Phillips screwdriver or drill
 1 – Backsplash	Tape measure

The Backsplash must be installed prior to installing an overhead hood given that the hood shell covers the top mounting screws of the Backsplash.

To protect against scratches, leave protective film on Backsplash until after installation is complete.

If range is already installed, refer to the manufacturer's instructions to disconnect gas and power supplies. Move range forward to gain access to rear of unit.

⚠ WARNING

To reduce the risk of fire or injury to persons, check to make sure all packaging has been removed from accessory devices before use.

1. Locate and lightly mark wall studs. Wall studs are usually installed with a 16" or 24" (406 or 610 mm) space on center.
2. The height of the hood will determine the height of the top edge of the Backsplash. The Backsplash should be mounted so that the bottom rear edge of the hood overlaps the Backsplash 1/2" (38 mm).

3. Per each wall stud, use (2) 1" (25.4 mm) Phillips head screws to secure both the top and bottom of the Backsplash (see *Figure 14*). Space screws evenly across top and bottom of Backsplash.
 - Due to variable wall stud widths and varying Backsplash widths, in some cases only one wall stud may be found at the mounting location.
4. Remove protective plastic.

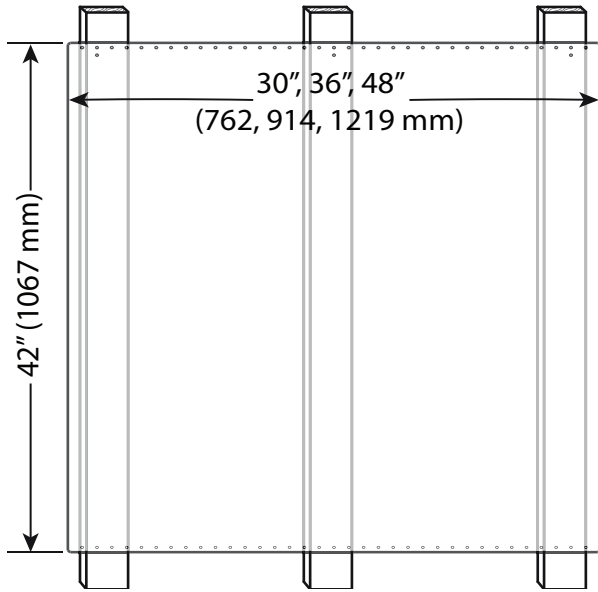


Figure 14: Backsplash Installation

Backsplash with a Keep Hot Shelf Installation

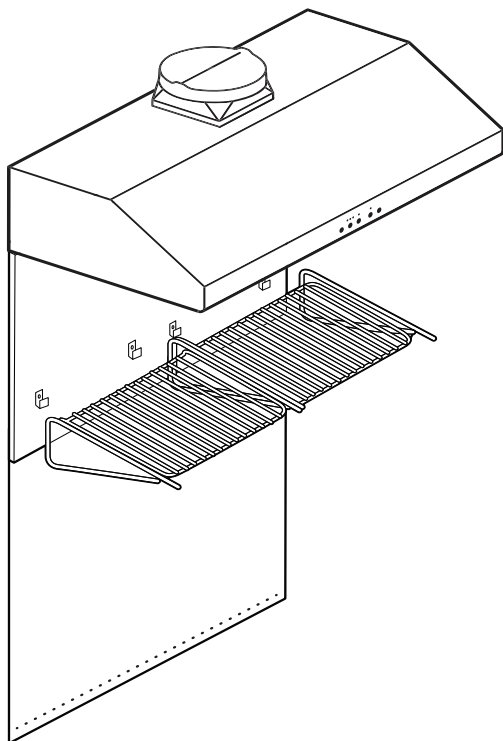


Figure 15: Backsplash with a Keep Hot Shelf

A hood can be installed first if the Backsplash is to be installed with a Keep Hot Shelf given that the Keep Hot Shelf covers the top mounting screws of the Backsplash.

To protect against scratches, leave protective film on the Backsplash until after installation is complete.

If range is already installed, refer to the manufacturer's instructions to disconnect gas and power supplies. Move range forward to gain access to rear of unit.

1. Locate wall studs. Wall studs are usually installed with a 16" (406 mm) or 24" (610 mm) space on center.
2. The height of the hood will determine the height of the top edge of the Backsplash. The Backsplash should be mounted so that the bottom rear edge of the Keep Hot Shelf overlaps the Backsplash 1½" (38 mm).
3. At the locations indicated in *Figure 16*, mount the lower shelf brackets included with the Keep Hot Shelf through the Backsplash and into the wall studs.
 - Due to variable wall stud widths and varying Backsplash widths, in some cases, only one wall stud may be found at the mounting location.
4. Remove Backsplash protective covering.
5. Start with the Keep Hot Shelf Installation.

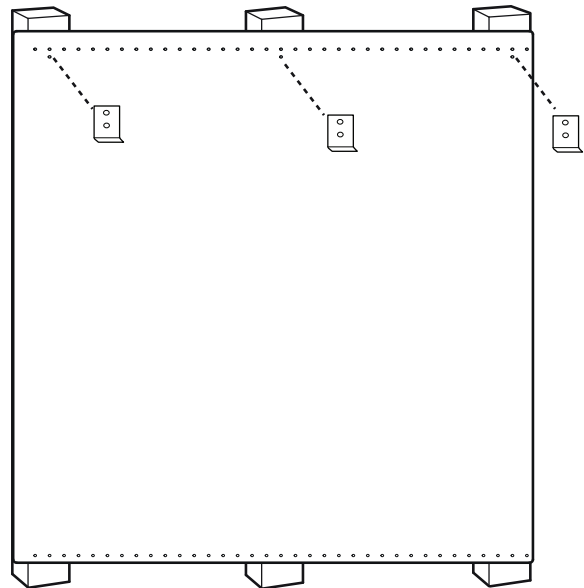


Figure 16: Backsplash with a Keep Hot Shelf

Keep Hot Shelf (KHS[30, 36, 42, 48]QS)

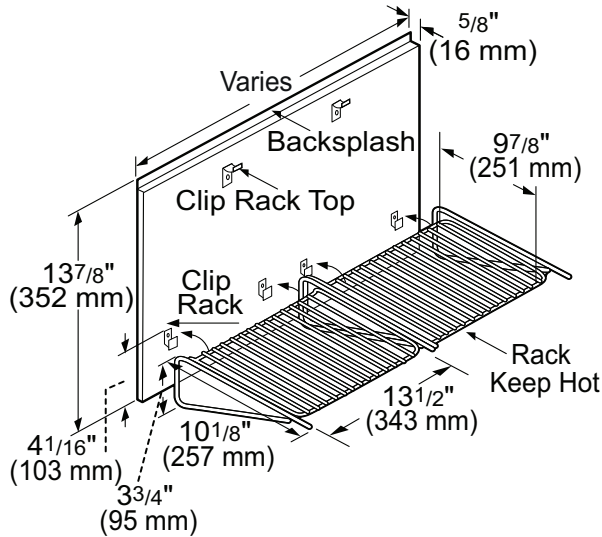
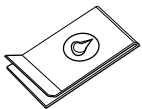


Figure 17: Keep Hot Shelf

ITEMS INCLUDED



10 – 1" (25.4 mm) screws
4 – ½" (12.7 mm) screws



4 – U-Nuts



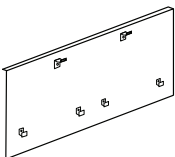
2 – Upper shelf brackets



4 – Lower shelf brackets



2 – Racks



1 – Wall Plate

1 – Installation guide & templates

TOOLS NEEDED

Tape measure	Phillips screwdriver or drill
Painter's Tape	Sharp knife or scissors

1. Tape the templates included with the Keep Hot Shelf to the wall accordingly:
 - Tape the sheet titled Left Hand Template to bottom and left end of hood. Align the bottom line of hood with the top line of the template.
 - Tape the sheet titled Right Hand Template to bottom and right end of hood. Align the bottom line of hood with the top line of the template.
 - Tape the sheet titled Installation Instruction so that the arrow at the top of the template aligns with hood centerline. Align the bottom line of the hood with the top line of the template.
 - Left to right sides of the template must be equal to length of shelf.
2. Mount the (2) upper shelf brackets and the (3) lower shelf brackets on the 30" & 36" models or (4) lower shelf brackets for the 48" model at the locations outlined on the templates. Secure with (10) 1" (25.4 mm) screws provided.
3. Cut template out from around the brackets and remove from the wall. Do not discard template before the Keep Hot Shelf is completely installed.
4. Insert U-Nuts onto each of the lower shelf brackets.
5. Install the wall plate by setting the corner notches (back of wall plate) atop the (2) upper shelf brackets.
6. Slide the shelf upwards until the bottom engages with the (3) lower brackets on the 30" & 36" models or (4) brackets for the 48" models (*Figure 18*).

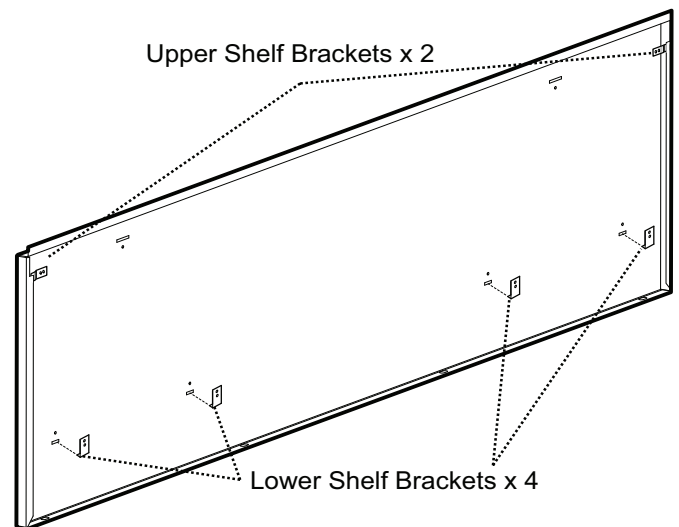


Figure 18: 48" Back of Wall Plate

7. Check if the top is properly secured by pulling the top section of the shelf from the wall.
8. Secure to bottom of shelf with the (4) ½" (12.7 mm) screws provided.

Backguard Installation

▲ WARNING

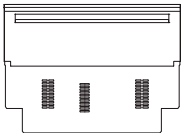
Fingers or hands could get pinched when installing the backguard. Severe injury could result. Use extreme caution and wear thick protective gloves to avoid potential laceration to finger or hand while sliding the backguard down onto the range.

When installing against a combustible surface, a Low Backguard is required. A THERMADOR™ Low Backguard must be purchased separately. See “Installation Clearances with Lowback” beginning on page 7.

When using the Flush Island Trim, THERMADOR recommends a minimum 12" (305 mm) rear clearance to a combustible surface (see “Installation Clearances”). Clearances from non-combustible materials are not part of the ANSI Z21.1 scope and are not certified by CSA. Clearances of less than 12" (305 mm) must be approved by the local codes and/or by the local authority having jurisdiction.

NOTE: If a Backsplash is to be used in addition to a backguard, install the Backsplash first and the backguard second before sliding range into place.

LOW BACK PARTS INCLUDED



1 – Low Back panel



8 or 9 – T-20 Torx stainless screws
8 or 6 – T-20 Torx drill point screws

TOOLS NEEDED

T-20 Torx head screwdriver or drill

Protective Work Gloves

Backguard Installation

1. Depending on model, remove the (3) or (4) T-20 Torx stainless screws in the front face of the included Flush Island Trim.

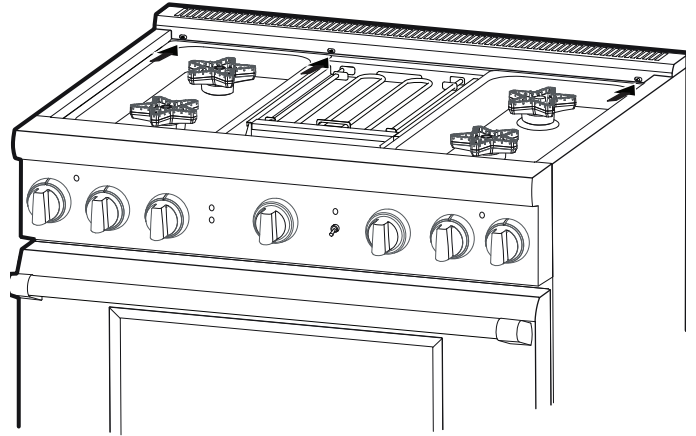


Figure 19: Flush Island Trim Front Face Screw Removal

2. Remove the (4) drill point screws securing the trim to the side panels, and the (2) to (4) drill point screws securing the piece to the back panel. Lift up to fully remove.

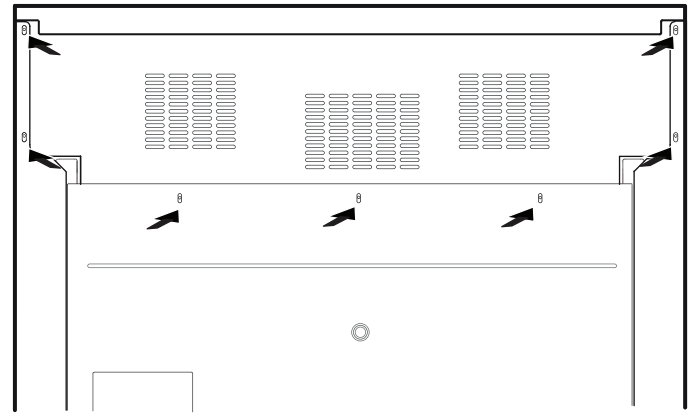


Figure 20: Flush Island Trim Rear Screw Removal

- Align the back panel of the new accessory with the flanges on the range side panels right and left rear corners. The backguard is inserted inside the guide channels on the back of the range (*Figure 21*).

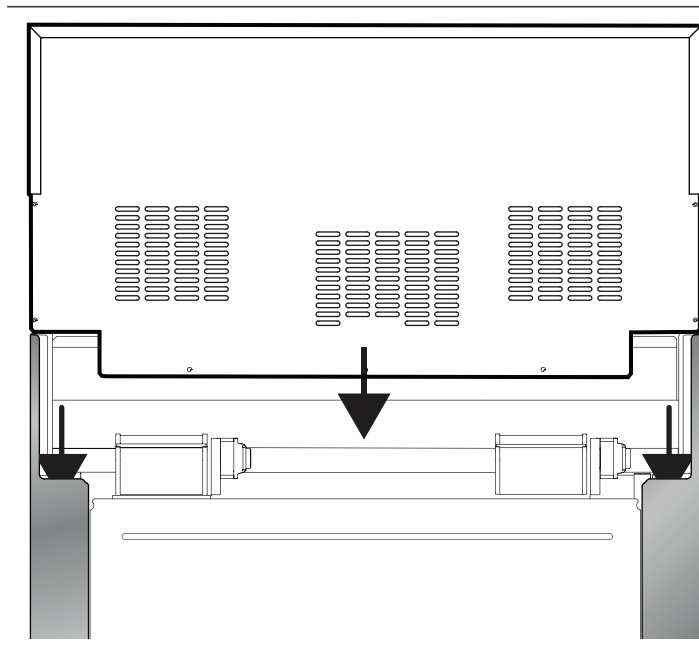


Figure 21: Backguard Installation

- Make sure the backguard's front face is outside the flange on the front side of the range.

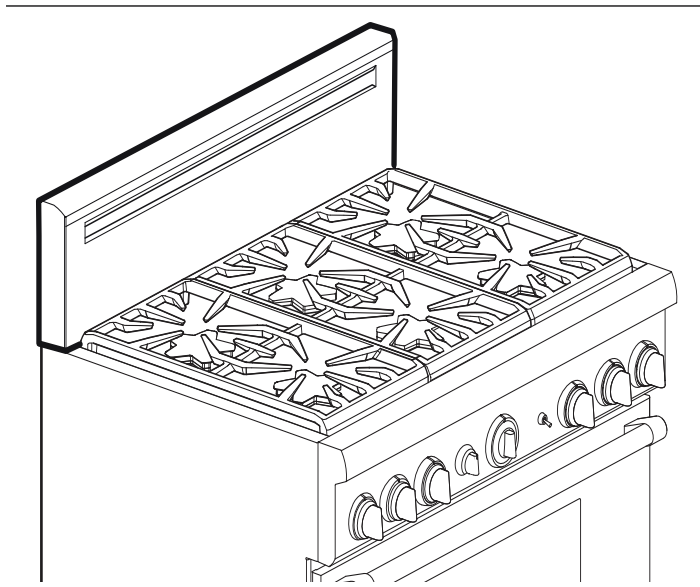


Figure 22: Low Back Front View

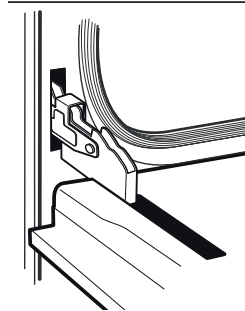
- Re-install screws removed in Steps 1 and 2.

STEP 8: Door Removal and Adjustment

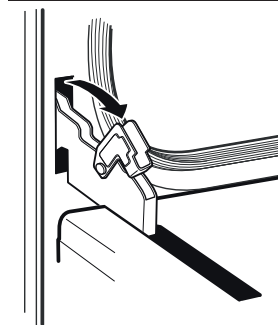
⚠ CAUTION

- USE CAUTION WHEN REMOVING THE DOOR. THE DOOR IS VERY HEAVY.
- Make sure oven is cool and power to the oven has been turned off before removing the door. Failure to do so could result in electrical shock or burns.
- The oven door is heavy and fragile. Use both hands to remove or replace the door.
- Failure to grasp the oven door firmly and properly could result in personal injury and product damage.
- With the door off, never release the levers and try to close the hinges. Without the weight of the door, the powerful springs will snap the hinges closed with great force.

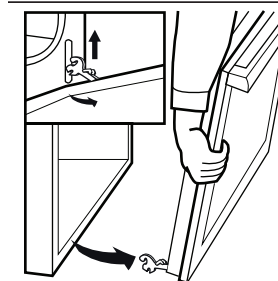
To Remove the Oven Door



- Be sure to read the above **CAUTION** before attempting to remove the door.
- Open the door fully.



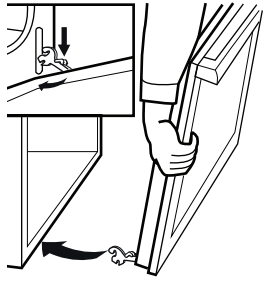
- Flip hinge clip down. A screwdriver may be required to carefully pry the clip back.
- Close the door gently until it stops against the hinge clips. The open hinge clips will hold the door open at a slight angle, about 30°, from the closed position.



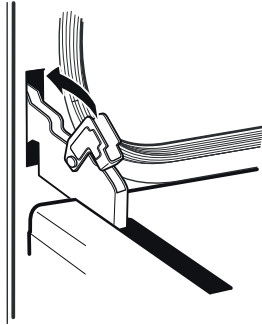
- Grasp the door firmly on the ends of the door. Lift the door up and out. There will be some spring resistance to overcome.
- Place the door in a safe and stable location.

Figure 23: Door Removal

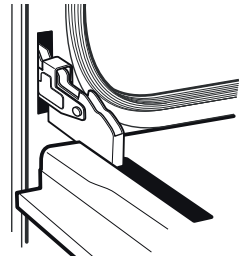
To Reinstall the Oven Door



1. Hold the door firmly in both hands.
2. Hold the door at a 30° angle from the closed position. Insert hinges centered evenly into the hinge slots. The hinges will securely hook into the slots when properly installed. **DO NOT** force, bend or twist the door.



3. Open door fully to expose hinges, levers, and slots.
4. Flip the hinge forward and down until seated on the bracket. A screwdriver may be required to carefully push the clip back.



5. Close and open the door slowly to ensure it is correctly and securely in place.

Figure 24: Door Install

To Check Door Fit and Operation

1. Open and close the door slowly to test the movement and the fit of the door to the oven cavity. Do not force the door to open or close. If the door is properly installed, it should move smoothly and rest straight on the front of the range when closed.
2. The range must be level for proper alignment of the oven doors, see “STEP 9: Placing and Leveling the Range”.

3. If the door does not operate correctly, verify that the hinges are properly seated into the hinge slots, and that the hinge clips are fully engaged into the slots.
4. If door or handle appears slightly tilted, you may adjust the hinge receiver by rotating the large Torx-head screw located directly below the hinge receiver with a T-20 Torx driver. Rotate each screw respective to its side and direction the door needs to be adjusted (Figure 25).

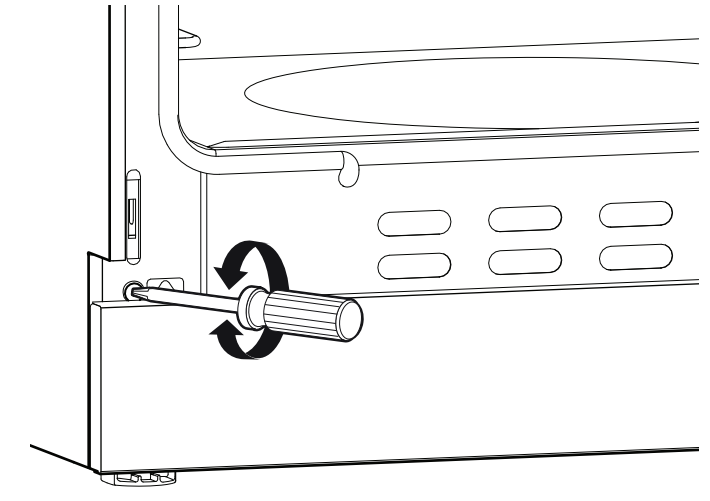


Figure 25: Hinge Receiver Adjustment Screw

STEP 9: Placing and Leveling the Range

Leveling Leg Adjustment

▲ CAUTION

The top edges of the range's side panels must be on the same or higher level as the adjacent countertop. **DO NOT** operate range if sides are lower than the adjacent cabinet. If the range is operated while at a lower height relative to the adjacent cabinet, the cabinet could be exposed to excessive temperatures, causing damage to the cabinet and countertop (see *Figure 26*).

For proper performance, the range must be level. This is especially important for all products that have the griddle feature. Priority should be placed on ensuring that the oven cavities are also level for optimum cooking performance.

1. Measure the countertop heights first with a tape measure and add an additional 1/16" - 1/8" (2-3 mm). Leveling legs should be adjusted so that the range sides are at the same or higher level as the adjacent cabinet. Adjust the legs accordingly prior to pushing the range back to its final location (see *Figure 26*).

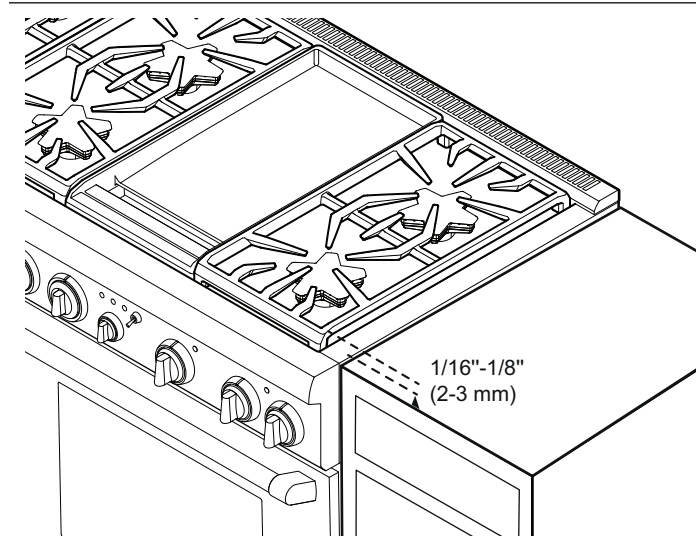


Figure 26: Adjusting the Height of the Range

2. Rotate the legs using a 12" (305 mm) adjustable wrench on the flat sides of each foot. Progression of the height adjustments should be alternated proportionally between the four corner legs, until the top edges of the range's side panels are close to matching the counter top height (*Figure 27*).

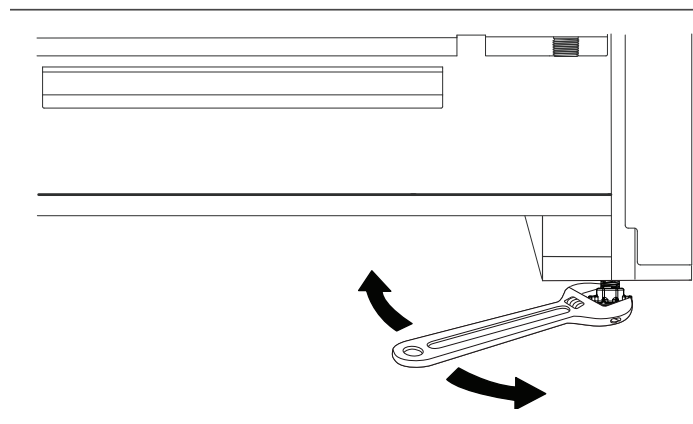


Figure 27: Leveling Legs

3. Final height adjustments of the two rear legs take place before moving the range into its installed position in the cabinet.
4. As the range is moved into its final, installed position, verify that the Anti-Tip Bracket is in a position to engage the leg (see "*STEP 4: Installing the Anti-Tip Device*" on page 13). This can be verified by viewing through the opening near the floor.
5. With the range in the installed position, the final height adjustments are made to the two front legs to ensure proper alignment to the counter top.

Griddle Tilt Adjustment (not all models)

Refer to "*Using the Electric Griddle*" in the Use and Care Guide.

Assembling the Grill (not all models)

Refer to "*Using the Electric Grill*" in the Use and Care Guide.

Adjusting the Kick Panel

To adjust the kick panel do the following:

1. Remove the kick panel screws using a T-20 Torx screwdriver.
2. Relocate kick panel at one of the five screw hole positions, as noted below. Reinstall Torx screw.

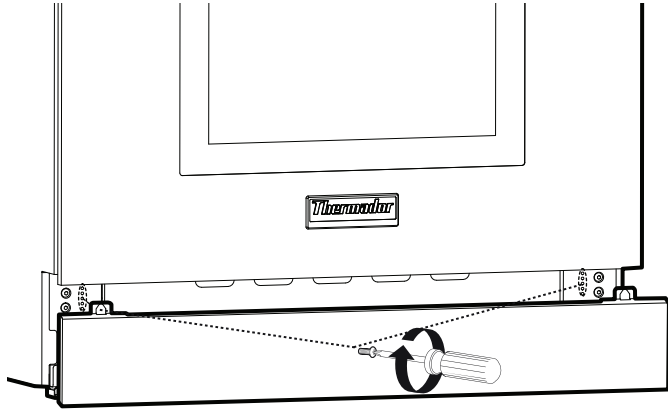


Figure 28: Kick Panel Adjustment

3. Repeat with the remaining kick panel screws, assuring kick panel is level. The range kick panel should maintain a minimum $\frac{1}{2}$ " (12.7 mm) clearance above the floor.

Data Rating Label and Wiring Diagram

Data rating labels contain the model and serial numbers. They can be found under the front edge of the rangetop, with oven door open or removed.

The electric wire diagrams and schematics are attached behind the kick panel, and should not be removed except by a service technician, then replaced after use.

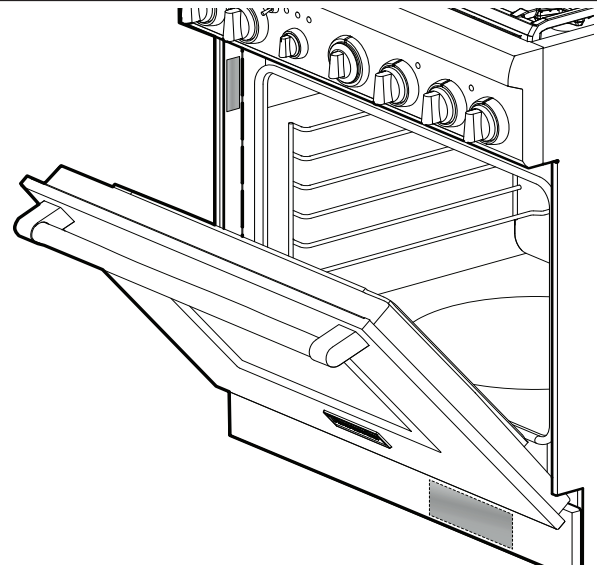


Figure 29: Data Rating Label Location

STEP 10: Burner Test

Install any loose components, such as burner caps and grates, that may have been removed earlier. Be certain that burner caps seat properly into the burner bases. Before testing operation of the appliance, verify that the unit and the gas supply have been carefully checked for leaks and that the unit has been connected to the electrical power supply. Turn the manual gas shut-off valve to the open position.

NOTICE: All oven knobs and selectors must be set to OFF before powering up the range. To prevent unintended operation at power up, please set all oven knobs to OFF. To ensure customer safety in the event of power failure, the unit will display an error message upon reinstatement of power unless all oven knobs are set to OFF. Set all oven knobs to OFF and reset the breaker to clear the message.

Test Rangetop Burners

Test Burner Ignition

Select a rangetop burner knob. Push in and turn counterclockwise to HI. The ignitor/spark module will produce a clicking sound. Once the air has been purged from the supply lines, the burner should light within four (4) seconds.

Test Flame: High Setting

Turn burner on to HI. See *Figure 30* for appropriate flame characteristics.

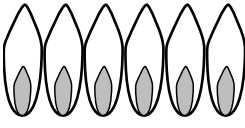
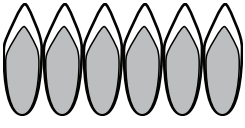
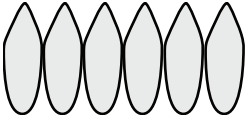
If any of the rangetop burners continue to burn mostly or completely yellow, verify that the burner cap is positioned properly on the burner base, then retest. If flame characteristics do not improve, call THERMADOR® service.

Test Flame: Simmer Setting

Turn burner on to SIM. Verify that the flame completely surrounds the burner. There should be a flame at each burner port and there should be no air gap between the flame and the burner. Fan each of the flames out and allow to reignite to verify burner reignition. If any burners do not carry over, call THERMADOR service.

The XLO® feature of some of the rangetop burners will make the flame to cycle on and off when the knob is set to the XLO range. This is normal operation.

Repeat the Ignition and Flame Test procedures, described for each rangetop burner.

Yellow Flames: Further Adjustment is required.	
Yellow Tips on Outer Cones: Normal for LP Gas	
Soft Blue Flames: Normal for Natural Gas	

If the flame is completely or mostly yellow, verify that the regulator is set for the correct fuel. After adjustment, retest.

Some orange-colored streaking is normal during the initial start-up. Allow unit to operate 4-5 minutes and re-evaluate before making adjustments.

Figure 30: Flame Characteristics

When Flame is Properly Adjusted:

There should be a flame at each burner port. There should be no air gap between the flame and burner port.

Call THERMADOR® service if:

1. Any of the burners do not light.
2. Any of the burners continue to burn yellow.

Installer Checklist

- _____ Specified clearances maintained to cabinet surfaces.
- _____ Unit level and leg covers have been installed.
- _____ Burner caps positioned properly on burner bases.
- _____ All packaging material removed.
- _____ Flush Island Trim or backguard attached according to instructions.
- _____ Kick panel in place and screws secure.
- _____ Verify flame at each burner. The flame should appear as described in Step 10. Flame may need to burn for several minutes to remove impurities from the gas lines.
- _____ Verify that the ExtraLow[®] feature works and relights around the entire burner.

Gas Supply

- _____ Gas Connection: 3/4" (19 mm) N.P.T. with a min. 3/4" (19 mm) diameter flex line.
- _____ The appliance is connected only to the type of gas for which it is certified for use.
- _____ **Manual gas shut off valve installed in an accessible location (without requiring removal of range).** Owner is aware of location of the gas shut-off valve.
- _____ Unit tested and free of gas leaks.
- _____ If used on propane gas, verify that the propane gas supply is equipped with its own high pressure regulator in addition to the pressure regulator supplied with the appliance.

Electrical

- _____ Receptacle with correct over-current protection is provided for service cord connection.
- _____ Proper ground connection.
- _____ Owner is aware of location of the main circuit breaker.

Operation

- _____ Bezels centered on burner knobs, and knobs turn freely.
- _____ Each burner lights satisfactorily, both individually and with other burners operating.
- _____ Oven door hinges seated and hinge locks in proper position. Oven handle and door is level and centered. Door opens and closes properly.
- _____ Burner grates correctly positioned, level, and do not rock.
- _____ **INSTALLER:** Write the model number and serial number (see *page 25* for location) in the Use and Care Guide. Leave the Use and Care Guide and Installation Manual with the owner of the appliance.

Clean and Protect Exterior Surfaces

- The stainless steel surfaces may be cleaned by wiping with a damp, soapy cloth, rinsing with clear water and drying with a soft cloth to avoid water marks. Always wipe in the direction of the stainless steel grain.
- To condition and protect stainless steel, use the Thermador Stainless Steel Conditioner, which can be purchased in the Thermador eShop (www.thermador-eshop.us)
- For discolorations or deposits that persist, refer to the Use and Care Guide.
- **DO NOT** allow deposits to remain for long periods of time.
- **DO NOT** use ordinary steel wool or steel brushes. Small bits of steel may adhere to the surface causing rust.
- **DO NOT** allow salt solutions, disinfectants, bleaches or cleaning compounds to remain in contact with stainless steel for extended periods. Many of these compounds contain chemicals which could prove harmful. Rinse with water after exposure and wipe dry with a clean cloth.

Troubleshooting

See the Use and Care Guide for troubleshooting information.

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Définitions concernant la sécurité

⚠ AVERTISSEMENT

Ceci indique que le non respect de cet avertissement peut entraîner des blessures graves, voire la mort.

⚠ ATTENTION

Ceci indique que le non respect de cet avertissement peut entraîner des blessures légères ou modérées.

NOTICE : Ceci indique que la non-conformité à cet avis de sécurité peut entraîner des dégâts à l'appareil ou à la propriété.

Note : Ceci vous avertit que d'importantes informations et/ou conseils sont fournis.

Cet appareil électroménager de THERMADOR^{mc}
est fait par BSH Home Appliances Ltd
6696 Financial Drive, Unit 3
Mississauga, ON L5N 7J6

Des questions?

1-800-735-4328
www.thermador.ca

Nous attendons de vos nouvelles!

Consignes de Sécurité



CONSIGNES DE SÉCURITÉ IMPORTANTES LISEZ ET CONSERVEZ CES INSTRUCTIONS

Avant de commencer

IMPORTANT : Conservez ces instructions pour l'inspecteur de la société gazière de votre localité.

INSTALLATEUR : Veuillez laisser ces instructions d'installation avec l'appareil pour le propriétaire.

PROPRIÉTAIRE : Veuillez conserver ces instructions pour consultation ultérieure.

AVERTISSEMENT



Coupez l'électricité avant d'installer l'appareil. Avant de rétablir l'électricité, assurez-vous que toutes les commandes sont à la position OFF.

AVERTISSEMENT

Si les directives du présent manuel ne sont pas respectées scrupuleusement, des incendies ou des décharges électriques pourraient être à l'origine de dommages matériels ou de blessures corporelles, ou même entraîner la mort.

- N'entreposez pas et n'utilisez pas d'essence ou d'autres produits inflammables à proximité de la cuisinière ou de tout autre appareil.
- **SI VOUS DÉTECTEZ UNE ODEUR DE GAZ**
 - N'allumez aucun appareil.
 - Ne touchez pas aux interrupteurs électriques.
 - N'utilisez pas les téléphones du bâtiment où vous trouvez.
 - Appelez immédiatement votre société gazière chez un voisin et suivez les instructions qu'elle vous donne.
 - Si vous n'arrivez pas à contacter votre société gazière, appelez le service d'incendie.
- L'installation et les travaux d'entretien doivent être réalisés par un installateur qualifié, un centre de réparation agréé ou une société gazière.

ATTENTION

Cet appareil est conçu pour une utilisation culinaire. Pour des raisons de sécurité, ne l'utilisez jamais pour chauffer une pièce.

IMPORTANT:

Les réglementations locales varient. L'installation, le branchement au gaz et la mise à la terre doivent être conformes à toutes les réglementations en vigueur.

AVERTISSEMENT



Un enfant ou un adulte pourrait faire basculer l'appareil et perdre la vie. Assurez-vous que le dispositif anti-bascule a été convenablement installé et que la patte de l'appareil est retenue par le support lorsque vous remettez la

cuisinière en place.

Ne faites pas fonctionner l'appareil si le support anti-bascule n'est pas en place. La non-observation des instructions du présent manuel peut entraîner la mort ou causer de graves brûlures à des enfants ou des adultes.

Assurez-vous que le support anti-bascule est bien installé et dûment utilisé. Faites doucement basculer la cuisinière vers l'avant en la tirant par l'arrière pour vous assurer que la patte de l'appareil est bel et bien entrée dans le support anti-bascule et que l'appareil ne peut se renverser. La cuisinière ne devrait pas pouvoir bouger de plus d'un pouce (2,5 cm).

Pour les installations au Massachusetts :

1. L'installation doit être réalisée par un entrepreneur qualifié ou accrédité, un plombier ou un installateur de gaz qualifié ou autorisée par l'État, la province ou la région dans laquelle cet appareil est installé.
2. La vanne d'arrêt de gaz doit être pourvue poignée en « T ».
3. La longueur du tuyau de gaz ne doit pas excéder 36 po (914 mm).

INSTRUCTIONS DE MISE À LA TERRE

Cet appareil doit être mis à la terre. La mise à la terre réduit les risques de décharge électrique en fournissant au courant électrique un fil d'échappement lors d'un court-circuit.

NOTE : Cette cuisinière N'EST PAS conçue pour les maisons mobiles préfabriquées ni pour les véhicules récréatifs. N'installez PAS cet appareil à l'extérieur.

Examinez l'appareil après l'avoir déballé. S'il a été endommagé durant le transport, ne le branchez pas.



CONSIGNES DE SÉCURITÉ IMPORTANTES

LISEZ ET CONSERVEZ CES INSTRUCTIONS

Vérification du type de gaz

Vérifiez le type d'alimentation en gaz fourni sur le lieu d'installation. L'appareil doit être raccordé au type de gaz pour lequel il est certifié. Tous les modèles sont certifiés pour une utilisation avec gaz naturel. Conversion sur place pour utilisation au gaz propane exigeant le nécessaire de conversion.

AVERTISSEMENT

Avertissements de la Proposition 65 de l'État de la Californie :

Ce produit contient des produits chimiques connus de l'État de la Californie pour causer le cancer, des anomalies congénitales ou d'autres problèmes de reproduction.

Approvisionnement en gaz

Gaz naturel — 6 po (14,9 mb) min. à 14 po (34,9 mb) max. de colonne d'eau

Gaz propane — 11 po (27,4 mb) min. à 14 po (34,9 mb) max. de colonne d'eau

ATTENTION

Lorsque vous branchez l'appareil au gaz propane, assurez-vous que le réservoir de gaz propane est muni de son propre mécanisme régulateur à haute pression en plus du régulateur à haute pression fourni avec l'appareil. La pression de gaz maximale de cet appareil ne devrait pas excéder 14,0 pouces (34,9 mb) de colonne d'eau entre le réservoir de propane et le régulateur à haute pression.

Alimentation électrique

Consultez la section "ÉTAPE 7 : Installation du dossieret (optionnel)" pour obtenir des spécifications.

Vérifiez code de la construction locale en vigueur pour connaître la bonne méthode d'installation de l'appareil. L'installation, le branchement électrique et la mise à la terre doivent respecter toutes les réglementations en vigueur. Les réglementations locales varient et il est de la responsabilité de l'installateur de s'assurer de la conformité de l'installation avec ces réglementations. S'il n'y a pas de réglementations locales, l'appareil doit être installé conformément au code national américain actuel sur les gaz combustibles ANSI Z223.1/ NFPA 54 et au code national américain actuel de l'électricité ANSI/NFPA No 70.

Au Canada, l'installation doit être conforme aux normes canadiennes CAN 1-B149.1 et CAN 1-B149.2 pour l'installation d'appareils fonctionnant au gaz, et/ou aux réglementations locales en vigueur. système de ventilation au-dessus de la surface de cuisson n'est pas recommandée.

Cet appareil est conforme à une ou à plusieurs des normes suivantes :

- UL 858 – norme visant la sécurité en matière de cuisinières électriques domestiques
- ANSI Z21.1 – norme américaine régissant les appareils électroménagers de cuisson au gaz
- CAN/CSA-C22.2 No 61-08 – cuisinières domestiques
- CAN/CGA1.1-M81 régissant les cuisinières à gaz domestiques

Il est de la responsabilité du propriétaire et de l'installateur de déterminer les exigences ou les normes supplémentaires pouvant s'appliquer à des installations particulières.

IMPORTANT:

Lors d'une installation contre une surface combustible, vous devez utiliser un dossieret bas. Vous pouvez vous acheter séparément ces articles THERMADOR.

Lors de l'utilisation de la garniture d'îlot THERMADOR, il faut un espace minimal de 12 po (305 mm) entre la partie arrière de l'appareil et la surface combustible (voir *Figure 1 à la page 33*). Les espaces libres jusqu'aux surfaces non combustibles ne sont pas précisés dans la norme ANSI Z21.1 et ne sont pas certifiés par la CSA. Tout espace libre de moins de 12 po (305 mm) doit être approuvé par les normes locales ou l'autorité locale ayant compétence.

Voir la tablette du dossieret à la *page 45* pour les modèles de dossieret appropriés pour cet appareil. Une fois le dossieret choisi, l'appareil doit être installé adéquatement en utilisant les espaces libres minimaux pour surfaces combustibles spécifiées dans les instructions "ÉTAPE 2 : Préparation des armoires" à la *page 32*.

AVERTISSEMENT

Pour éviter tout risque de brûlure ou d'incendie, un dossieret de protection conçu spécialement pour cette cuisinière doit être installé avant son utilisation.

Enlevez tout le matériel d'emballage et le ruban adhésif avant d'utiliser l'appareil. Débarrassez-vous du matériel d'emballage après l'installation. Ne laissez jamais des enfants jouer avec le matériel d'emballage.

Consignes d'Installation

Renseignements de planification

Avant d'utiliser votre appareil, assurez-vous de lire le présent manuel. Portez une attention particulière aux **Consignes de sécurité importantes** apparaissant au début du manuel.

OUTILS REQUIS	
Clé polygonale ou à cliquet de 7/16" po	Mèche de 3,17 mm
Mèche de 4,76 mm	Clé ajustable de 305 mm
Perceuse à main ou électrique	Ruban à mesurer
Tournevis plat et Phillips	Instrument de marquage
Niveau	Plate-forme à roulettes
Tournevis Torx T-20	Gants de protection
ARTICLES NON INCLUS	
Vis d'ancrage pour cloison sèche et béton	Composé/ruban pour tuyau
Corde/ficelle	Tuyau souple de 19 mm
Bride de cordon	2 – adaptateurs pour bride
Trousse de câbles ou conduit	

ÉTAPE 1 : Exigences en matière de ventilation

Consultez le *Guide de planification de ventilation* pour connaître les combinaisons de ventilation approuvées.

Il est **fortement recommandé** d'installer une hotte de ventilation THERMADOR au-dessus de la cuisinière. Une ventilation par aspiration descendante ne devrait pas être utilisée.

Vous ne devriez pas utiliser un système de ventilation par aspiration descendante. Le *Guide de planification de ventilation*, indique les différentes hottes en option ainsi que des directives relatives à la capacité recommandée des ventilateurs à utiliser avec l'une ou l'autre des cuisinières THERMADOR.

N'installez pas un combiné hotte/four à micro-ondes au-dessus de la cuisinière. Ces appareils ne fournissent pas une ventilation appropriée et ne sont pas conçus pour être utilisés avec une cuisinière.

IMPORTANT :

Les hottes et les ventilateurs sont conçus pour être utilisés avec un seul conduit mural. Cependant, certains inspecteurs ou codes du bâtiment exigent l'utilisation d'un conduit double. Consultez le code de la construction en vigueur ou des organismes locaux avant d'entreprendre les travaux pour vous assurer que l'installation de la hotte et des conduits répond aux exigences locales.

AVIS : La plupart des hottes contiennent des matériaux combustibles qui doivent être pris en considération lors de la planification de l'installation.

AVERTISSEMENT

Vous ne devriez pas installer cet appareil avec un système de ventilation à aspiration descendante. Ce type de système de ventilation peut présenter des risques d'incendie et des problèmes de combustion et ainsi entraîner des blessures corporelles, des dommages matériels ou un fonctionnement involontaire. Aucune restriction ne s'applique aux systèmes de ventilation à aspiration ascendante.

Préparation de la ventilation

1. Choix des modèles de hotte et de ventilateur :

- Pour les installations murales, la largeur de la hotte doit être au moins égale à celle de la cuisinière. Si l'espace le permet, il est souhaitable d'installer une hotte plus large que la table de cuisson pour assurer une meilleure ventilation.
- Pour les installations en îlot, la largeur de la hotte devrait excéder celle de la cuisinière d'au moins 3 po (76 mm) de chaque côté.

2. Emplacement de la hotte :

- Pour une évacuation accrue de la fumée, la bordure inférieure de la hotte doit se trouver à 30 po (762 mm) au-dessus de la table de cuisson.
- Utilisez un espace libre d'au moins 36 po (914 mm) si des éléments combustibles, comme des panneaux en bois, se trouvent dans la hotte ("*Espaces libres pour l'installation*").

3. Air d'appoint :

- Compte tenu de l'important volume d'air requis, il est recommandé de prévoir un apport d'air de l'extérieur. Cet aspect revêt une importance particulière pour les maisons bien isolées et très étanches.

ÉTAPE 2 : Préparation des armoires

- La cuisinière est un appareil monobloc. Si l'appareil est installé entre deux armoires, les espaces libres indiqués à la, "*Espaces libres pour l'installation*". Les mêmes espaces libres s'appliquent aux installations en îlot, sauf pour les armoires suspendues, où il doit y avoir suffisamment d'espace pour une hotte de style îlot avec un rebord.
- Les entrées d'électricité et de gaz doivent se trouver dans les zones indiquées à la *Figure 5*.
- Toute ouverture dans le mur derrière l'appareil ou dans le plancher sous l'appareil doit être scellée.
- Lors d'une installation contre une surface combustible, vous devez utiliser une un dossier bas. Vous pouvez vous acheter séparément ces articles THERMADOR™.
- Lors de l'utilisation de la garniture d'îlot THERMADOR, il faut un espace minimal de 12 po (305 mm) entre la partie arrière de l'appareil et la surface combustible. Les espaces libres jusqu'aux surfaces non combustibles ne sont pas précisés dans la norme ANSI Z21.1 et ne sont pas certifiés par la CSA. Tout espace libre de moins de 12 po (305 mm) doit être approuvé par les normes locales ou l'autorité locale ayant compétence.

- Lorsque la cuisinière est installée contre un mur combustible, un espace libre d'au moins 5 po (127 mm) est requis entre le côté de la cuisinière et le mur.
- L'appareil ne doit jamais se trouver à proximité de matériaux combustibles, d'essence et d'autres produits inflammables sous forme de gaz ou de liquide.
- N'obstruez pas le débit d'air de combustion et de ventilation de l'appareil.
- La profondeur maximale des armoires, installées d'un côté ou de l'autre au-dessus de la hotte, devrait être de 13 po (330 mm).
- Un espace libre minimal de 36 po (914 mm) est nécessaire entre la surface de cuisson et le dessous de toute armoire non protégée. Un espace libre de 30 po (762 mm) peut être utilisé lorsque la partie inférieure d'une armoire en bois ou en métal est protégée par un matériau ignifuge d'une épaisseur minimale de ¼ po (6,35 mm) revêtu d'une feuille d'acier no 28 MSG, d'acier inoxydable de 0,015 po (0,38 mm), d'aluminium de 0,024 po (0,61 mm) ou de cuivre de 0,020 po (0,51 mm).

Les matériaux ignifuges portent la marque suivante :

UNDERWRITERS LABORATORIES INC. CLASSIFIED MINERAL AND FIBER BOARDS SURFACE BURNING CHARACTERISTICS (caractéristiques relatives à l'inflammabilité de panneaux de fibres et de minéraux classés).

Cette indication est suivie par des indices de propagation de flamme et de fumée. Ces désignations sont indiquées par le sigle « FHC » (Flame Spread/Smoke Developed – Propagation de la flamme/Production de fumée). Les matériaux ayant un indice de propagation de flamme de 0 sont ignifuges. La réglementation locale peut autoriser un indice de propagation de flamme différent. Il est de la responsabilité de l'installateur de veiller à ce que l'installation se fasse conformément à ces indices.

Espaces libres pour l'installation

Installation avec dossier bas

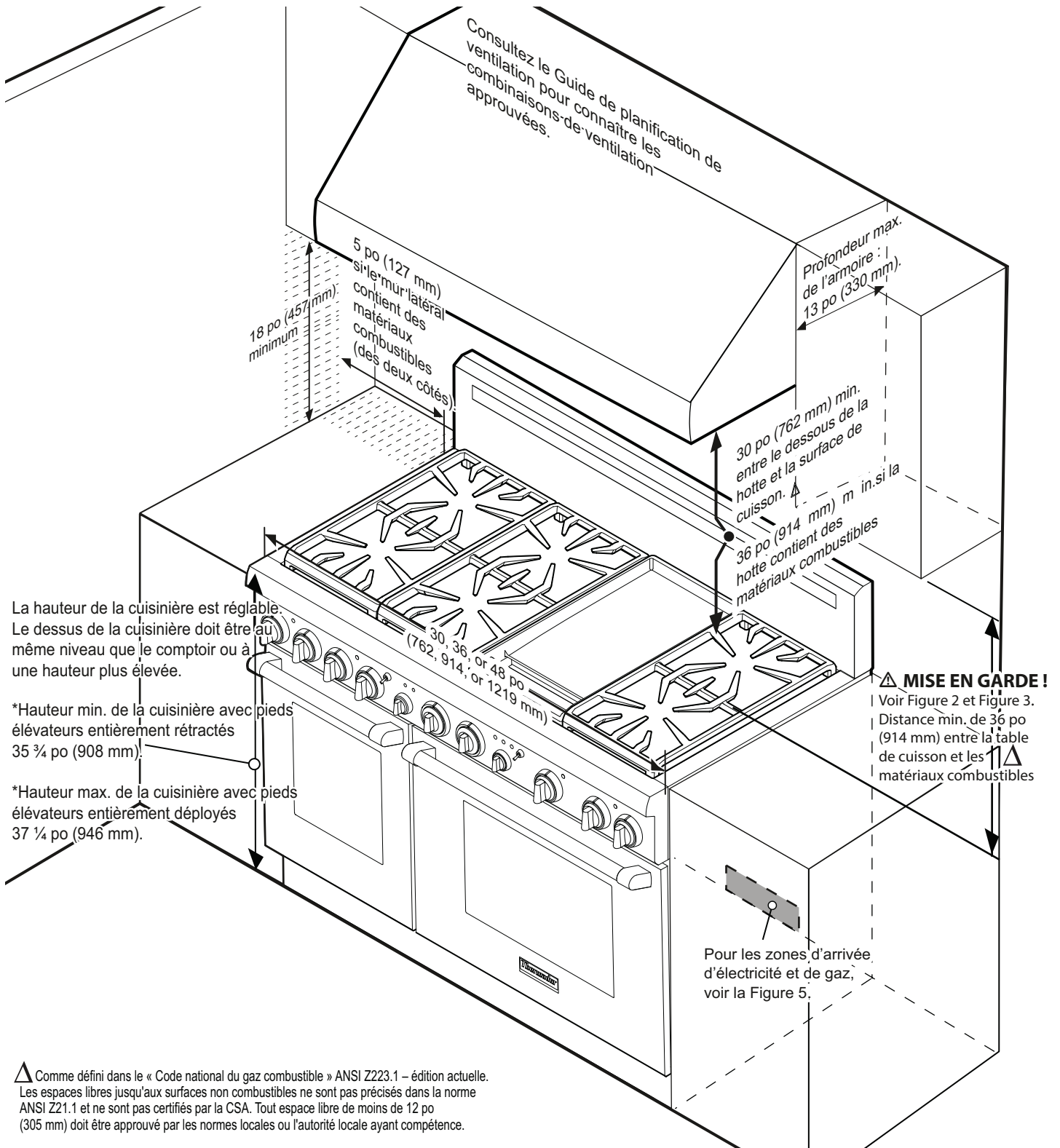
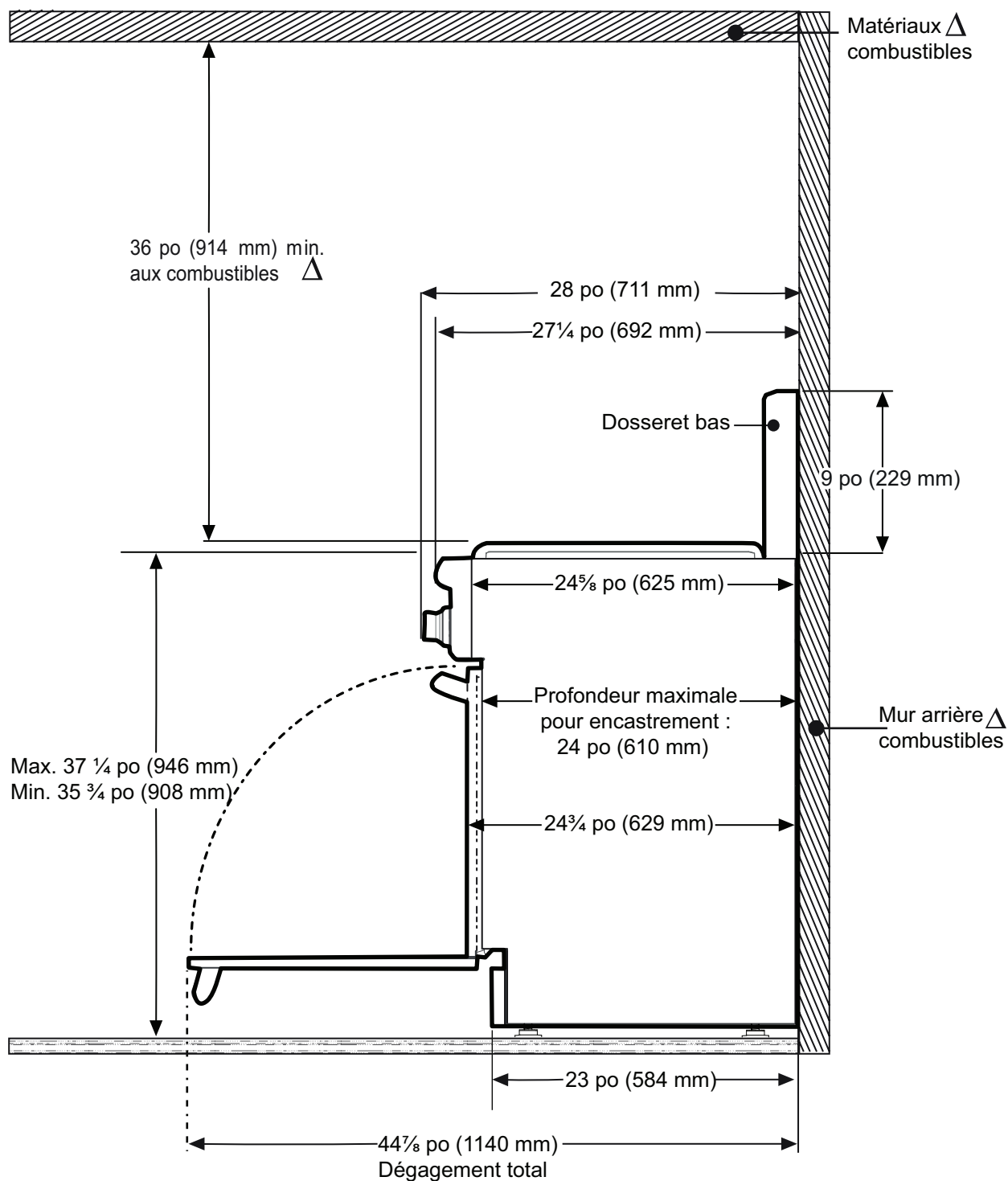


Figure 1 : Espace libre – Armoires avec dossier bas

Installation avec dossieret bas



Δ Comme défini dans le « Code national du gaz combustible » ANSI Z223.1 – édition actuelle. Les espaces libres jusqu'aux surfaces non combustibles ne sont pas précisés dans la norme ANSI Z21.1 et ne sont pas certifiés par la CSA. Tout espace libre de moins de 12 po (305 mm) doit être approuvé par les normes locales ou l'autorité locale ayant compétence.

Figure 2 : Installation avec dossieret bas

Installation avec garniture d'îlot incluse

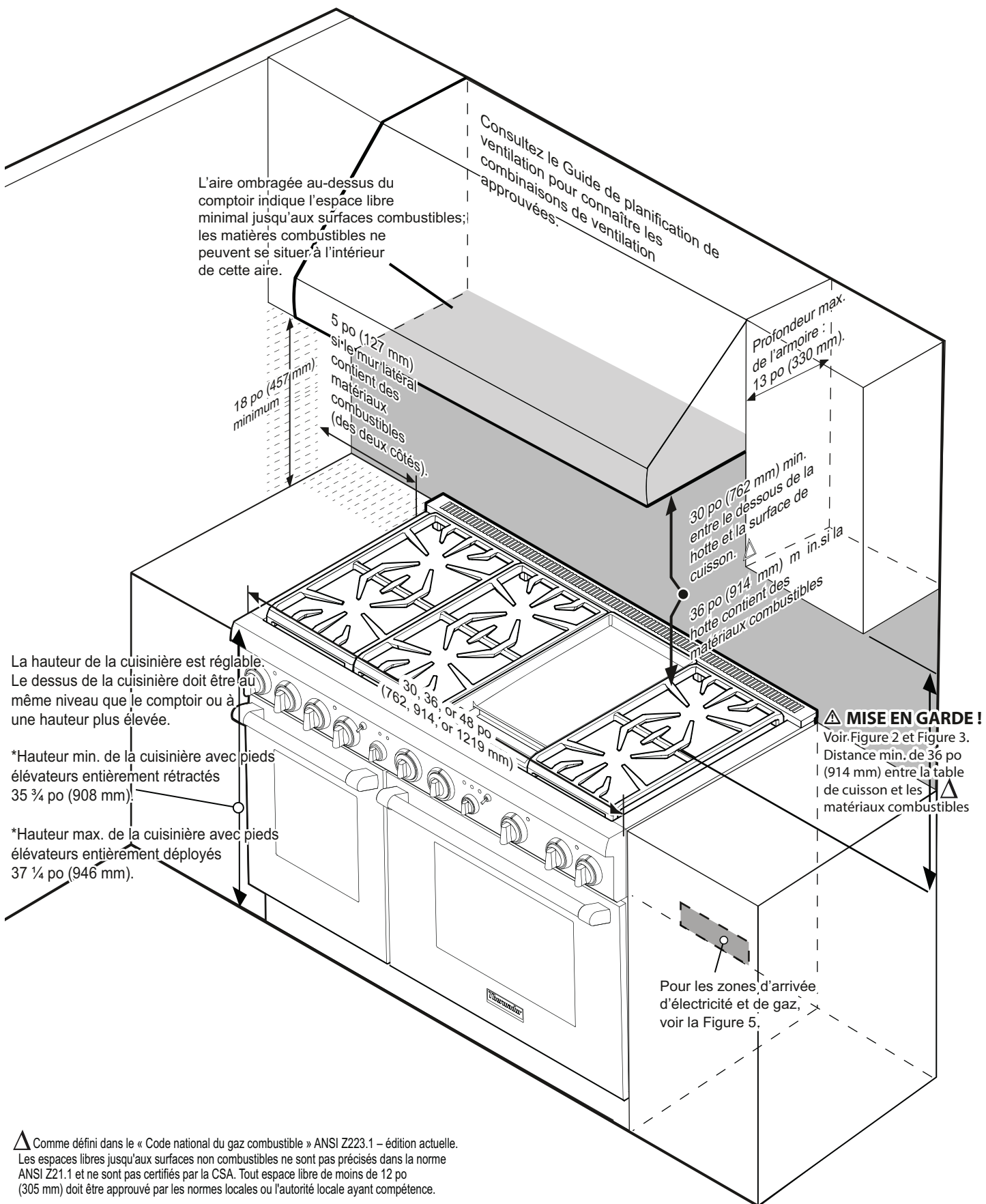
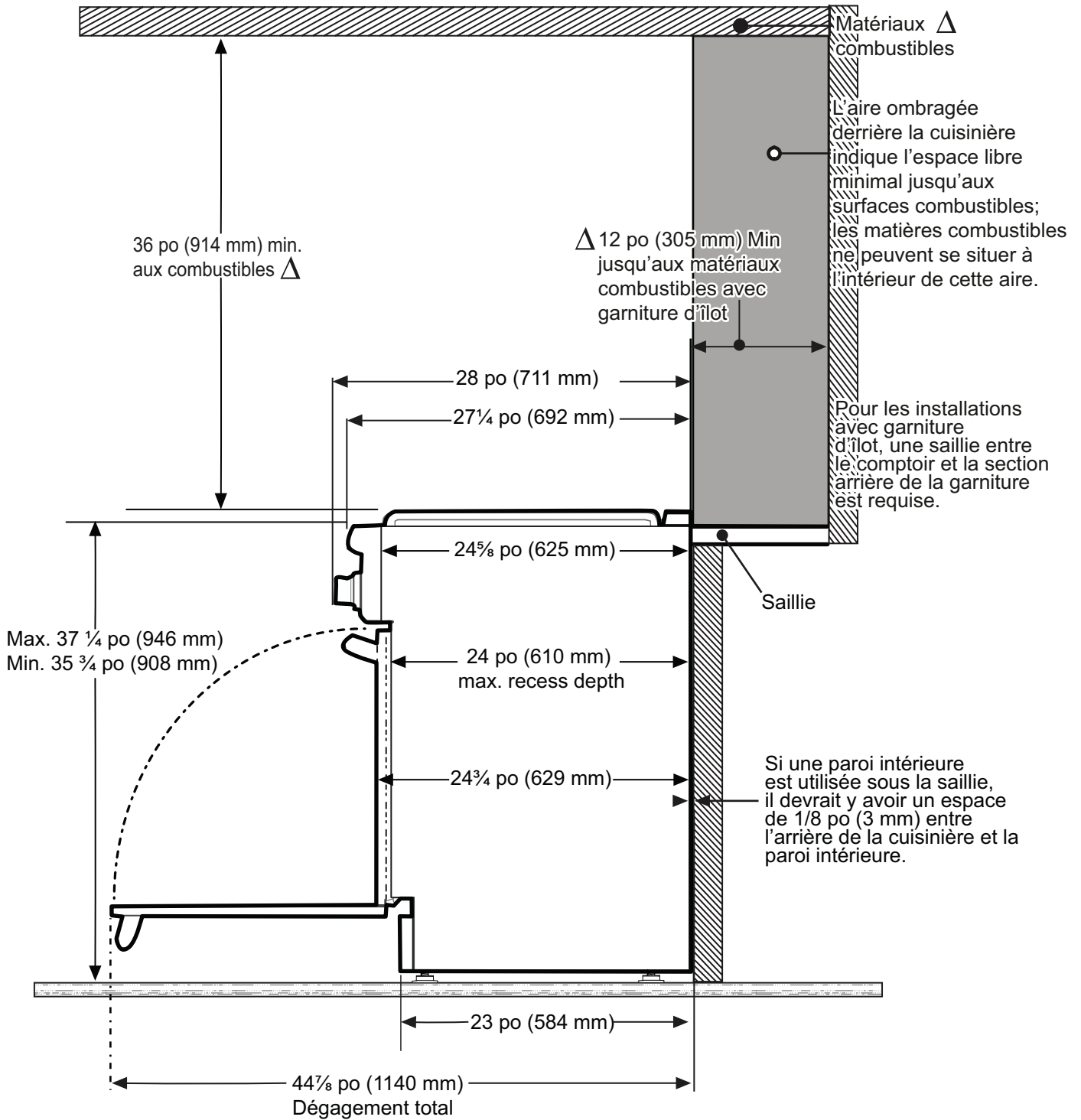


Figure 3 : Espace libre – Armoires avec garniture d'îlot incluse

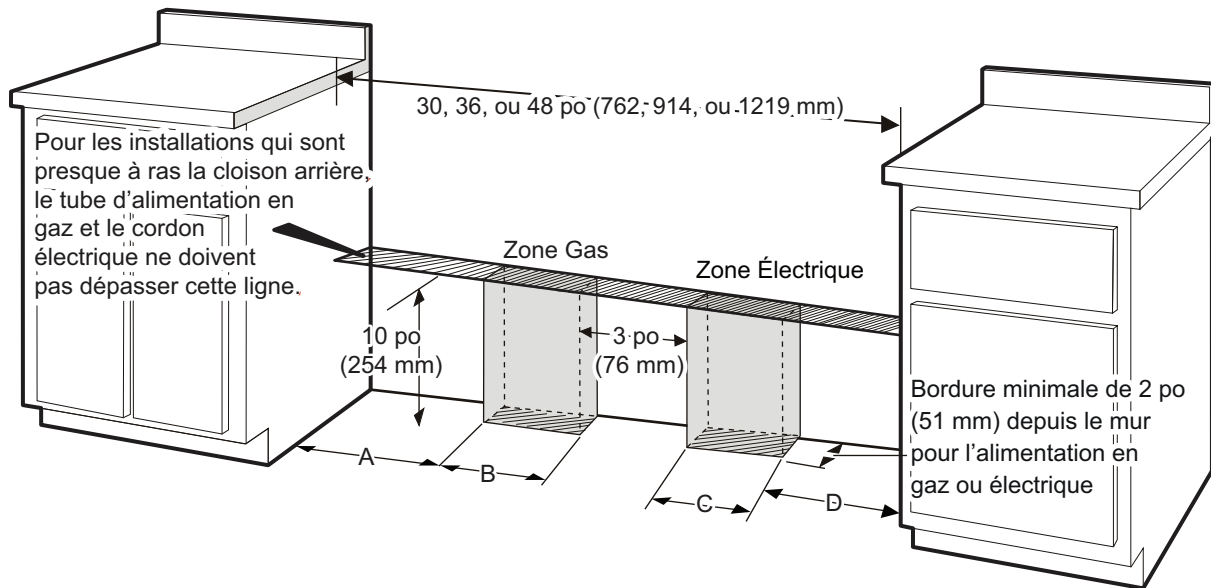
Installation avec Garniture d'îlot encastrée



Δ Comme défini dans le « Code national du gaz combustible » ANSI Z223.1 – édition actuelle. Les espaces libres jusqu'aux surfaces non combustibles ne sont pas précisés dans la norme ANSI Z21.1 et ne sont pas certifiés par la CSA. Tout espace libre de moins de 12 po (305 mm) doit être approuvé par les normes locales ou l'autorité locale ayant compétence.

Figure 4 : Installation avec Garniture d'îlot encastrée

Alimentation de gaz et électrique



Modèle	A	B	C	D
30 po (762 mm)	5 $\frac{3}{4}$ po (146 mm)	15 $\frac{7}{16}$ po (392 mm)	5 $\frac{13}{16}$ po (148 mm)	4 $\frac{3}{8}$ po (111 mm)
36 po (913 mm)	8 $\frac{1}{16}$ po (205 mm)	16 $\frac{13}{16}$ po (503 mm)	8 $\frac{1}{8}$ po (206 mm)	4 $\frac{3}{8}$ po (111 mm)
48 po (1219 mm)	4 $\frac{3}{8}$ po (111 mm)	10 $\frac{3}{4}$ po (273 mm)	18 $\frac{11}{16}$ po (475 mm)	5 $\frac{15}{16}$ po (151 mm)

Figure 5 : Emplacement de l'alimentation électrique et en gaz pour les cuisinières à combustion jumelée

NOTE :

- S'il n'y en a pas déjà une en place, installez une vanne manuelle d'arrêt de gaz à un endroit facile d'accès.
- Assurez-vous d'indiquer à tous les utilisateurs où se trouve l'approvisionnement en gaz de la cuisinière et de leur montrer comment la fermer.
- Toute ouverture dans le mur derrière l'appareil ou dans le plancher sous l'appareil doit être scellée.

La cuisinière à gaz peut être branchée à l'alimentation électrique avec le cordon d'alimentation (fourni avec la cuisinière) ou par un câblage fixe. Il est de la responsabilité de l'installateur de fournir les éléments de câblage électrique appropriés (cordon ou conduit et fils) et de procéder au raccordement au gaz conformément aux règlements et codes locaux ou au code national de l'électricité. L'appareil doit être mis à la terre adéquatement. Voir "ÉTAPE 7 : Installation du dossier (optionnel)".

La cuisinière doit être raccordée uniquement au type de gaz pour lequel elle est certifiée. Si la cuisinière doit être approvisionnée en gaz propane, assurez-vous que le réservoir de propane est muni de son propre mécanisme régulateur à haute pression en plus du régulateur à haute pression de l'appareil (voir "ÉTAPE 6 : Exigences électriques, connexions et mise à la terre").

NOTE : La cuisinière est conçue pour être presque parfaitement alignée avec le mur arrière. Pour une installation réussie, il peut être nécessaire de repositionner le tuyau d'approvisionnement en gaz et le cordon électrique lorsque la cuisinière est poussée à son emplacement définitif.

- **SUGGESTION :** Pour y arriver, nous vous suggérons de passer une corde ou une ficelle autour du tuyau ou du cordon électrique et de tirer au moment de pousser la cuisinière à son emplacement définitif.

Alimentation électrique

L'installation de la cuisinière doit être planifiée de manière à ce que la boîte de jonction pour la prise ou la connexion de conduit permette un espace libre optimal à l'arrière de l'appareil.

Lorsque le cordon d'alimentation (non fourni) ou le conduit est branché sur une prise correspondante ou au couvercle de la boîte de jonction, la prise/fiche combinée ou la boîte de jonction/connecteur de conduit ne doivent pas dépasser de plus de 2 po (51 mm) du mur arrière.

Cordon d'alimentation et prise
Maximum de 2 po (51 mm)
une fois le branchement effectué

Boîte de connexion et conduit de câbles
Maximum de 2 po (51 mm)

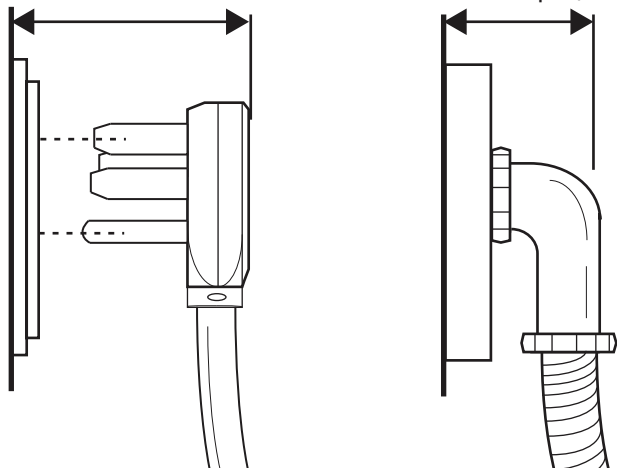


Figure 6 : Connexion murale

Voir Figure 10 à la page 43 pour l'emplacement de la boîte de jonction sur l'appareil. Pour minimiser le pliage lorsque l'appareil est branché sur la prise ou la boîte de jonction, orientez la prise ou le connecteur de conduit et faites glisser en position.

Remarque : Les modèles canadiens sont dotés d'un cordon d'alimentation.

Lors de l'utilisation d'une prise de courant, il est possible que vous ayez à encaster le boîtier de la prise dans le mur arrière. Consultez le code de l'électricité local pour établir le volume minimal de tous les coffrets électriques ou boîtes de connexion que vous utilisez. Respectez tous les codes de l'électricité locaux.

ÉTAPE 3 : Déballage et manutention de la cuisinière

⚠ ATTENTION



La cuisinière est lourde et devrait être manipulée en conséquence.

Ne pas lever l'appareil par le panneau de commande.



Pour éviter tout risque de blessure ou de dommages à l'appareil ou au plancher, la cuisinière devrait être déplacée par au moins deux personnes utilisant de l'équipement adéquat, comme des gants de protection, et ne portant pas des bagues, des montres ou tout autre objet semblable pouvant endommager l'appareil ou s'y accrocher.

Les surfaces cachées de l'appareil peuvent comporter des saillies coupantes. Faites attention lorsque vous prenez l'appareil par le dessous ou que vous le tirez.

N'utilisez pas un charriot manuel ou à électroménager à l'avant ou à l'arrière de l'appareil. Manipulez-le seulement sur les côtés.

	30 po	36 po	48 po
Poids à l'expédition	377 lbs (171 kg)	395 lbs (179 kg)	560 lbs (254 kg)
Poids sans matériaux d'emballage	293 lbs (133 kg)	337 lbs (153 kg)	470 lbs (213 kg)

Tableau 1 : Poids de la cuisinière

Déballage de la cuisinière

1. Retirez le carton et le matériel d'emballage de l'appareil sur la palette, mais laissez la mousse adhésive qui recouvre les surfaces de métal brossé afin de protéger le fini contre les égratignures jusqu'à ce que la cuisinière soit installée à son emplacement définitif. Laissez la mousse avec adhésif sur les surfaces en métal brossé pour protéger le fini contre les égratignures jusqu'à ce que l'appareil soit installé à sa position finale.
2. Pour faciliter la manutention, il est recommandé de retirer les grilles de surface, la plaque chauffante, les chapeaux des brûleurs et les grilles du four. Si désiré, vous pouvez également enlever les portes du four (consultez "ÉTAPE 8 : Retrait et installation de la porte" à la page 49). N'enlevez pas l'élément de la plaque chauffante ni l'assemblage du plateau.

Déplacement de la cuisinière

En raison du poids de la cuisinière, il convient d'utiliser une plate-forme à roulettes souples pour la déplacer. Le poids doit être uniformément réparti sur la plate-forme.

NOTE : Le schéma du câblage électrique se trouve derrière le panneau de seuil (plinthe). Il ne devrait pas être enlevé par quelqu'un d'autre qu'un technicien, qui devra le remettre en place après utilisation.

Retrait des boulons de la palette

1. Pour retirer les quatre (4) boulons de la palette situés dans la partie inférieure à l'avant et à l'arrière, utilisez une clé anglaise ou à cliquet d'un 7/16 po. Jetez les morceaux de bois de l'emballage.

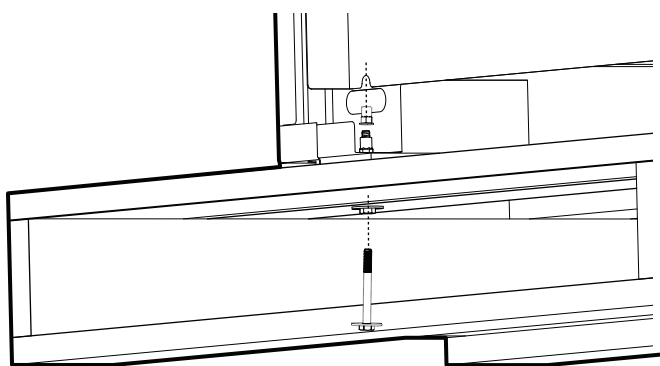


Figure 7 : Retrait des boulons d'expédition

2. Soulevez la cuisinière et retirez-la de la palette. Demandez de l'aide au besoin pour la retirer de la palette.
3. Avec un chariot (diable), déplacez la cuisinière près de l'endroit où vous comptez l'installer. Ne transportez pas la cuisinière en appuyant la partie avant sur le diable.
4. Vous pouvez appuyer la cuisinière sur les pattes arrière au moment de retirer le diable en toute sécurité. **VOUS DEVRIEZ PROTÉGER LE PLANCHER SOUS LES PATTES ARRIÈRE AVANT DE POUSSER L'APPAREIL À SON LIEU D'INSTALLATION.**
 - Vous devez procéder aux étapes 4 à 8 avant de placer la cuisinière à son emplacement final. Pour fonctionner adéquatement, la cuisinière doit être de niveau. Consultez "ÉTAPE 9 : Mise en place et nivelage de la cuisinière" à la page 50 pour obtenir des instructions de nivelage.

ÉTAPE 4 : Installation du dispositif anti-bascule

⚠ ATTENTION

DANGER DE BASCULEMENT:



- Toutes les cuisinières peuvent basculer et causer une blessure. Pour éviter le basculement accidentel de la cuisinière, fixez-la au sol au moyen du dispositif anti-bascule fourni.



- L'appareil risque de basculer si le dispositif n'est pas installé conformément aux présentes instructions. Pour toutes les cuisinières, un dispositif anti-bascule doit être installé conformément aux présentes instructions.
- Un enfant ou un adulte pourrait faire basculer l'appareil et perdre la vie.
- Ne faites pas fonctionner l'appareil si le support anti-bascule n'est pas installé et qu'il ne retient pas l'appareil. La non-observation de ces instructions peut entraîner la mort ou causer de graves brûlures à des enfants ou des adultes.

En déplaçant la cuisinière pour la nettoyer, la réparer ou pour toute autre raison, assurez-vous qu'elle s'est bien enclenchée dans le dispositif anti-bascule lorsque vous la remettez en place. Autrement, si l'appareil est utilisé de façon anormale (par exemple, si quelqu'un monte, s'assoie ou s'appuie sur une porte ouverte), la cuisinière risque de basculer. Le basculement de la cuisinière ou d'un liquide chaud se trouvant sur la surface de cuisson pourrait causer des blessures corporelles.

⚠ AVERTISSEMENT

RISQUE DE DÉCHARGE ÉLECTRIQUE:

- Soyez très prudent lorsque vous percez des trous dans le mur ou le plancher, car des fils électriques peuvent s'y trouver.
- Identifiez les circuits électriques pouvant se trouver à l'endroit où le dispositif anti-bascule sera installé et coupez l'alimentation électrique de ces circuits.
- Si vous ne respectez pas ces instructions, vous pourriez recevoir une décharge électrique ou vous blesser.

ATTENTION - DOMMAGES À LA PROPRIÉTÉ:

- Communiquez avec un installateur ou un entrepreneur qualifié pour déterminer la méthode convenable à adopter pour percer des trous dans le revêtement des murs ou du plancher (comme des tuiles de céramique, du bois dur, etc.)
- Ne faites pas glisser la cuisinière sur un plancher non protégé.
- Si vous ne respectez pas ces instructions, vous risquez d'endommager les murs ou le plancher.

No Pièce	Qtée	Description
00415078	4	Vis Phillips no 10 x 1½ po (38,1 mm)
0064736	1	Support anti-basculé, installation au plancher

La quincaillerie fournie sert à l'installation avec des montants de bois d'épaisseur standard. Les installateurs sont responsables de fournir la quincaillerie pour les autres types d'installation.

Informations importantes concernant l'installation

- Le support antibasculé peut être fixé à une surface de bois dur pourvu que l'épaisseur minimale du mur soit de 3/4 po (19 mm).
- Selon l'épaisseur du mur ou du plancher, il peut être nécessaire d'utiliser des vis plus longues, disponibles chez votre quincaillier.
- Dans tous les cas, au moins deux des vis de montage du support doivent être fixées à la surface de bois dur.
- Utilisez des ancrages appropriés pour monter la patte antibasculé sur un matériau autre que le bois dur ou le métal.

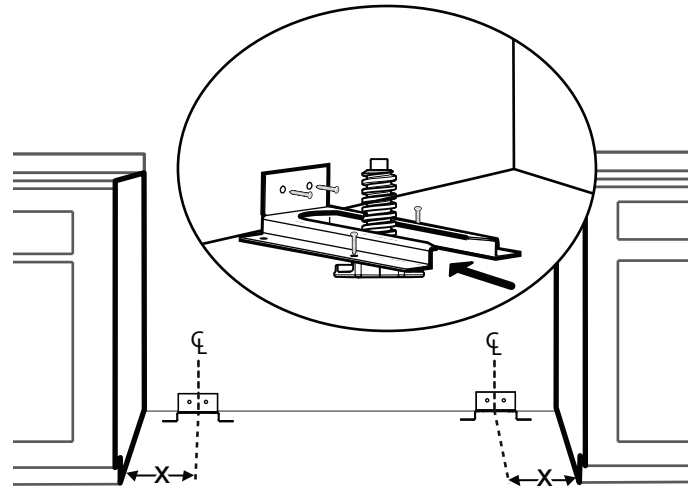
Préparation de l'ouverture pour l'installation

- Pour les murs, montants de mur ou planchers en bois massif ou en métal, percez des trous de guidage de 3,2 mm (1/8 po).
- Pour les murs ou les sols de type préfabriqué, carton-plâtre ou autres matériaux mous, percez des trous de 4,8 mm (3/16 po) à une profondeur minimum de 4,45 cm (1¾ po) puis enfoncez les ancrages en plastique dans tous les trous à l'aide d'un marteau.

- Pour les murs ou les sols en béton ou en blocs en béton, percez des trous de 4,8 mm (3/16 po) à une profondeur minimum de 4,45 cm (1¾ po), puis enfoncez les ancrages à béton dans les trous à l'aide d'un marteau.
- Pour les murs ou les sols revêtus de carrelage, percez des trous de 4,8 mm (3/16 po) de la profondeur du carrelage puis percez derrière le carrelage comme indiqué ci-dessus.
- Si la cuisinière doit être ultérieurement placée à un nouvel endroit, le dispositif antibasculé sera enlevé et réinstallé

Montage de la patte antibasculé

1. Placez la patte sur l'emplacement comme indiqué à la *Figure 8*.
 - La patte peut être utilisée dans un des coins de l'installation).
2. Fixez-la au sol et au montant du mur à l'aide des quatre (4) vis cruciformes de 1,5 po (38 mm) fournies.
3. Lorsque la cuisinière est installée, le pied réglable se glissera sous la patte.
4. Si l'appareil est installé à un nouvel endroit, le dispositif anti-basculé doit y être réinstallé.



Modèle	Côté	X
30 po	droit ou gauche	2¼ po (57 mm)
36 po	droit ou gauche	2⅝ po (67 mm)
48 po	droit ou gauche	2½ po (64 mm)

Figure 8 : Mise en place de la patte antibasculé

ÉTAPE 5 : Exigences de l'alimentation du gaz et raccordement

Vérifiez le type de gaz utilisé à l'endroit où la cuisinière est installée. **Celle-ci sont préparée à l'usine avant expédition pour être alimentée en gaz naturel. Un technicien ou l'installateur qualifié doit faire la conversion.** Assurez-vous que la cuisinière correspond au type de gaz disponible dans la région.

Cet appareil est homologué CSA pour un fonctionnement sécuritaire à des altitudes de 2000 pi (610 m) au-dessus du niveau de la mer.

Haute Altitude – Pour les altitudes de plus de 2000 pi (610 m) au-dessus du niveau de la mer, des ajustements peuvent être apportés à la trousse pour hautes altitudes fournie avec l'appareil. Si le rendement des flammes est satisfaisant, vous n'aurez pas besoin du contenu de la trousse. Un professionnel agréé doit procéder aux ajustements pour hautes altitudes lors de l'installation.

Appareils au gaz propane (GPL) - L'appareil doit d'abord être converti au gaz propane (GPL) avant d'être converti pour une utilisation à haute altitude. Une trousse de conversion au gaz propane (PALPKITHN) est requise et disponible par le biais du service à la clientèle de THERMADOR.

⚠ AVERTISSEMENT

Le tuyau de gaz ne doit pas entrer en contact avec des composantes situées à l'intérieur du couvercle arrière de la cuisinière.

Exigences Pour Le Gaz Naturel

Raccord d'entrée	1/2" NPT interne (tuyau flexible 19,1 mm (3/4") diamètre min.)
Pression d'alimentation	14,9 mb (6") min. à 34,9 mb (14") max. C.E.
Pression du collecteur	12,5 mb (5") C.E.

Exigences Pour Le Gaz Propane

Raccord d'entrée	1/2" NPT interne (tuyau flexible 19,1 mm (3/4") diamètre min.)
Pression d'alimentation	27,4 mb (11") min. à 34,9 mb (14") max. C.E.
Pression du collecteur	24,9 mb (10") C.E.

⚠ ATTENTION

L'appareil doit être isolé du système de tuyauterie d'alimentation à gaz. Pour ce faire, fermez la soupape d'arrêt manuelle individuelle pendant le test de pression du système de canalisation d'alimentation en gaz (tests de pression égale ou inférieure à 1/2 psig, 3,5 kPa).

L'appareil et sa soupape d'arrêt individuelle doivent être débranchés du système de canalisation d'alimentation en gaz pendant toute la durée du test de pression du système (tests de pression excédant 1/2 psig 3,5 kPa). Au moment de vérifier la pression de gaz du collecteur, la pression d'entrée au régulateur doit être d'au moins 6 po, C.E. (14,9 mb) pour le gaz naturel ou 11 po, C.E. (27,4 mb) pour le propane.

N'essayez pas d'ajuster du régulateur le pression.

⚠ AVERTISSEMENT

N'utilisez pas de flamme pour vérifier les fuites de gaz.

Raccordement

Le branchement à l'arrivée de gaz doit être effectué par un technicien compétent conformément à la réglementation locale. S'il n'y a pas de codes locaux, l'installation doit être conforme à la norme en vigueur américaine du gaz combustible ANSI Z223.1/NFPA54, dernière édition, ou à la norme canadienne.

1. Un robinet manuel d'arrêt de gaz doit être installé à l'extérieur de l'appareil, à un endroit accessible par le devant, pour pouvoir couper l'alimentation en gaz. Le tuyau d'arrivée de gaz ne doit pas dépasser à l'arrière de l'appareil. Assurez-vous que le robinet d'arrêt est fermé avant de raccorder l'appareil.
 - La cuisinière est fournie avec un régulateur de pression non amovible qui a été monté à l'intérieur de manière permanente.

2. Utilisez un raccord à gaz souple de 3/4" entre l'alimentation en gaz et le tuyau d'arrivée de gaz de l'appareil. Le tuyau d'arrivée de gaz de toutes les cuisinières est situé en bas à droite (voir *Figure 9*). Le tuyau d'arrivée de gaz de l'appareil est de type NPT 1/2".
 - Prenez garde aux pincements du tuyau flexible de 19,1 mm (3/4 po) dans les coudes. La longueur suggérée est de 48 po. Vérifiez les codes locaux concernant ces exigences.
3. Utilisez du mastic de jointement pour tuyaux ou du ruban Teflon sur le filetage des tuyaux. N'appliquez pas du mastic de jointement ou du ruban pour élargir les raccords. Prenez garde de ne pas appliquer trop de pression lorsque vous serrez les raccords.
4. Les tests de fuite de l'appareil doivent toujours être réalisés conformément aux instructions du fabricant.
 - Ouvrez le gaz et assurez-vous qu'il n'y a pas de fuites à l'aide d'une solution savonneuse. N'utilisez pas de flamme pour faire cette vérification.
 - Des bulles indiquent la présence d'une fuite. Réparer toute fuite immédiatement après l'avoir repérée.

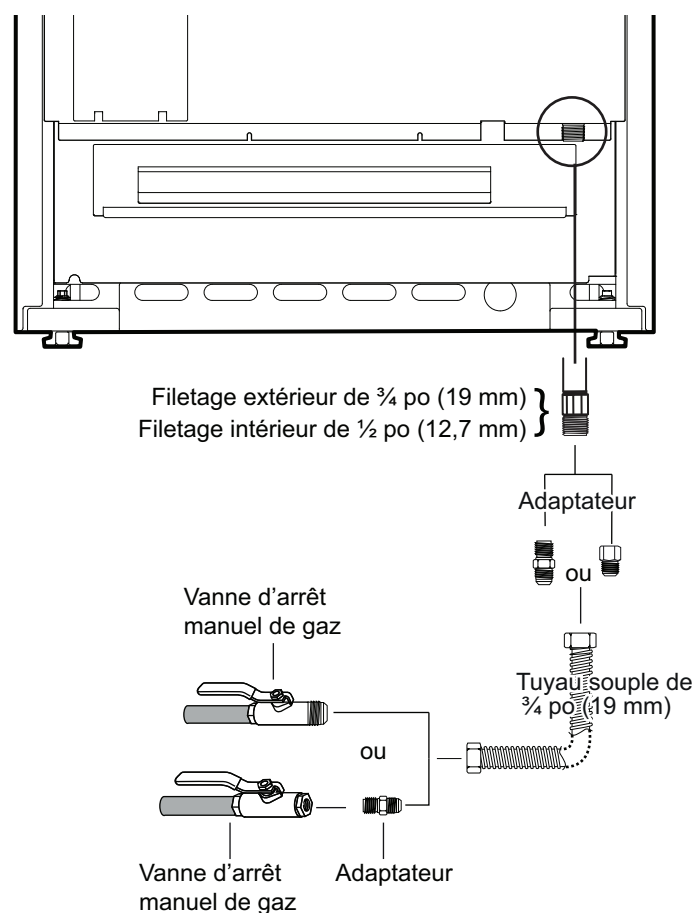


Figure 9 : Raccordement à l'approvisionnement de gaz

ÉTAPE 6 : Exigences électriques, connexions et mise à la terre

Tension	Cote de circuit	Fréquence	Phase
240/208 VAC	40 Amps	60 Hz.	Single

Avant d'effectuer l'entretien de l'appareil, débranchez toujours le cordon électrique de la prise, s'il y a lieu. Si l'appareil est branché de façon fixe, débranchez l'alimentation de l'appareil en fermant le coupe-circuit ou en enlevant le fusible approprié.

Un fil d'alimentation neutre doit être installé à partir de la source d'électricité (disjoncteur/panneau de fusibles), car certains éléments de la cuisinière, dont le module de production d'étincelle des brûleurs de la table de cuisson, doivent être branchés sur du 120 VAC pour fonctionner de façon sécuritaire.

⚠ AVERTISSEMENT

Une mauvaise alimentation électrique de 240/208 VAC entraînera des dysfonctionnements, endommagera la cuisinière et pourrait présenter des risques d'électrocution.

Si le circuit électrique n'est pas adéquat, il est de la responsabilité et de l'obligation de l'installateur et de l'utilisateur de s'assurer qu'une installation correcte et conforme à la réglementation locale en vigueur est réalisée par un électricien qualifié. Il est également de la responsabilité de l'installateur de s'assurer que les codes locaux sont respectés. S'il n'y a pas de réglementation locale, le branchement électrique doit être conforme au code national de l'électricité.

La mise à la terre doit être conforme à tous les règlements en vigueur. Sinon, la norme américaine d'électricité ANSI/NFPA No 70 actuelle doit être appliquée. Consultez les renseignements apparaissant dans la présente section pour connaître la méthode de mise à la terre à utiliser.

Les schémas de câblage électrique à l'intention d'un technicien qualifié se trouvent derrière la garniture de porte de l'appareil (voir *Figure 29 à la page 51*).

Les cuisinières doivent être branchées à une alimentation électrique de 240/208 VAC.

Les cuisinières mixtes doivent être branchées à l'alimentation électrique en ayant recours à l'une des méthodes suivantes. Pour toutes les méthodes de connexion, la longueur du cordon ou du câblage et du conduit de câbles doit permettre le retrait total de l'appareil hors de l'armoire sans qu'il soit nécessaire de le débrancher.

La longueur minimale recommandée pour le cordon ou le conduit est de quatre pieds. Les installations électriques et la mise à la terre doivent être conformes à tous les règlements et codes locaux, ou au code national d'électricité, s'il y a lieu.

Connexion Permanente

Les appareils peuvent être branchés directement à l'alimentation. L'installateur doit fournir un conduit en aluminium flexible approuvé, format ¾ po (19 mm), d'une longueur minimale de 6 pieds (1,8 mètre).

Localisez le bloc de jonction à l'arrière de l'appareil et enlevez le couvercle (consultez la *Figure 10*). Le conduit doit être fixé à la boîte de connexion à l'aide d'un connecteur de conduit approuvé. L'extrémité libre du conduit de câbles doit être branchée à un bloc de jonction installé dans la zone d'alimentation électrique, comme illustré sur la *Figure 5* à la page 37.

Installez une bride de cordon (non fourni) dans le trou de 1 po (25,4 mm) de diamètre situé sous le bloc de jonction (voir *Figure 10*). Le câblage de l'appareil doit être acheminé au bloc de jonction par le conduit et à travers la bride de cordon. Les extrémités des fils doivent être munies de cosses en boucle de ¼ po, préférablement soudées sur place. Faites les connexions au bloc de jonction fourni.

⚠ AVERTISSEMENT

Une connexion inadéquate du câble électrique en aluminium peut présenter un risque de décharge électrique. N'utilisez que des connecteurs conçus et certifiés pour la connexion d'un câble en aluminium.

Si un câble d'alimentation en aluminium est utilisé dans l'installation, épissez le câble d'aluminium et le fil de cuivre pour qu'ils s'adaptent à la cuisinière en utilisant des connecteurs spécialement conçus et certifiés pour joindre des fils de cuivre et d'aluminium. Suivez la procédure d'installation recommandée par le fabricant du connecteur.

Connexion à quatre fils

Normalement, un appareil doit être branché à l'alimentation avec un cordon à 4 conducteurs, tripolaire, coté 125/250 volts, 50 ampères et conçu pour être utilisé avec une cuisinière.

Le cordon doit être fixé au bloc de jonction de la cuisinière avec un réducteur de tension s'adaptant à un trou de 1 po (25,4 mm) de diamètre. Si ce n'est pas le cas, le cordon doit être muni de cosses en boucle fermée de ¼ po (6 mm) fixées aux extrémités libres des conducteurs individuels, préférablement soudés sur place.

1. Repérez le bloc de jonction à l'arrière de l'appareil et enlevez le couvercle (voir la *Figure 10*).
2. Enlevez seulement les écrous supérieurs des plots du bloc de jonction. N'enlevez pas les écrous qui maintiennent les fils de câblage internes de la cuisinière.
3. Installez une bride de cordon (non fournie avec la cuisinière) dans le trou de 1 po (25,4 mm) de diamètre situé sous le bloc de jonction, dans le panneau arrière (voir *Figure 10*). Faites passer les fils par la bride de cordon.

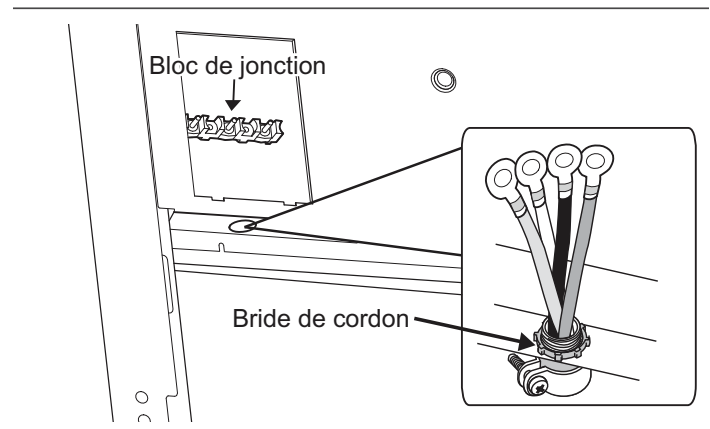


Figure 10 : Emplacement de la bride de cordon

4. Fixez le fil neutre mis à la terre du circuit d'alimentation au plot central du bloc de jonction avec un écrou (voir la *Figure 11*).
5. Fixez les fils de sortie L1 (rouge) et L2 (noir) aux plots du bloc de jonction extérieur (couleur laiton) avec des écrous.
6. Enlevez la vis verte du connecteur de terre située sous le bloc de jonction. Jetez le fil blanc.
7. Fixez le connecteur de terre en cuivre au châssis de la cuisinière à l'aide de la vis de mise à la terre précédemment utilisée avec le fil blanc. Assurez-vous que les bornes neutre et de terre ne se touchent pas.

8. Serrez bien toutes les connexions.

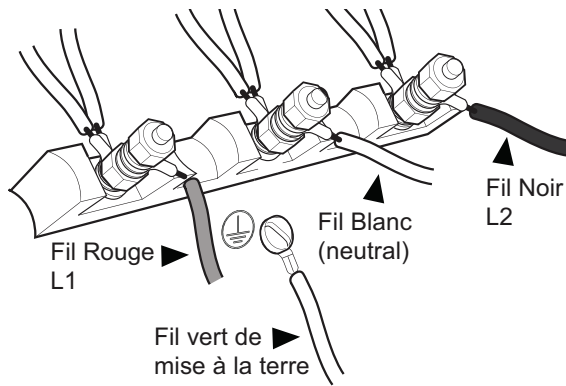


Figure 11 : Connexion à quatre fils

9. Réinstallez le couvercle du bloc de jonction.

INSTALLATEUR :

Montrez au propriétaire l'emplacement du coupe-circuit ou du fusible. Notez l'emplacement à des fins de référence.

Connexion à trois fils

Lorsque les codes et règlements locaux permettent la mise à la terre par le fil neutre et que la conversion de l'alimentation à 4 fils est irréalisable, l'appareil peut être branché à l'alimentation électrique avec un cordon à 3 conducteurs, tripolaire, coté 125/250 volts, 50 ampères et conçu pour être utilisé avec une cuisinière.

Le cordon doit être fixé au bloc de jonction de la cuisinière avec un réducteur de tension s'adaptant à un trou de 1 po (25,4 mm) de diamètre. Si ce n'est pas le cas, le cordon doit être muni de cosses en boucle fermée de ¼ po (6 mm) fixées aux extrémités libres des conducteurs individuels, préférablement soudés sur place.

1. Repérez le bloc de jonction à l'arrière de l'appareil et enlevez le couvercle (voir la Figure 12).
2. Enlevez seulement les écrous supérieurs des plots du bloc de jonction. N'enlevez pas les écrous qui maintiennent les fils de câblage internes de la cuisinière.
3. Installez une bride de cordon (non fournie avec la cuisinière) dans le trou de 1 po (25,4 mm) de diamètre situé sous le bloc de jonction, dans le panneau arrière (voir Figure 12). Faites passer les fils par la bride de cordon.

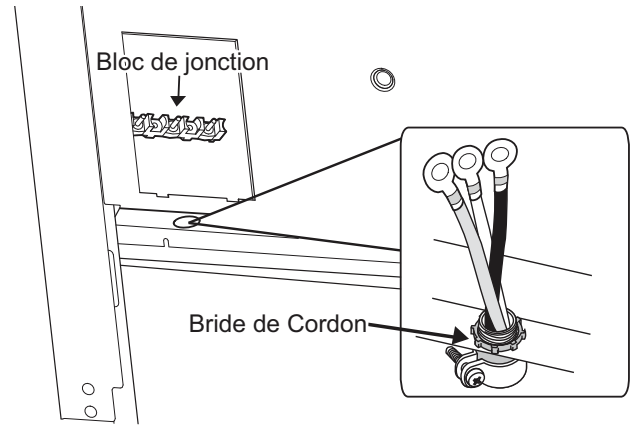


Figure 12 : Emplacement de la bride de cordon

4. Fixez le fil neutre mis à la terre du circuit d'alimentation au plot central (de couleur argent) du bloc de jonction (consultez la Figure 13).

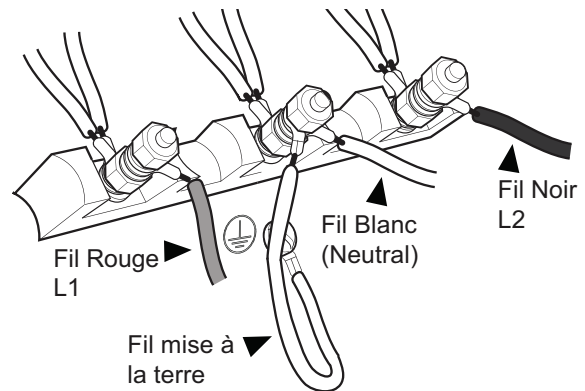


Figure 13 : Connexion à trois fils

5. Fixez les fils de sortie L1 (rouge) et L2 (noir) aux plots correspondants du bloc de jonction extérieur (couleur laiton).
6. Fixez l'une des extrémités du fil neutre monté en boucle, situé sous le bloc de jonction, au plot central du bloc de jonction avec un écrou et vissez l'autre extrémité du fil au dos de la cuisinière.
7. Serrez bien les écrous.
8. Réinstallez le couvercle du bloc de jonction.

INSTALLATEUR :

Montrez au propriétaire l'emplacement du coupe-circuit ou du fusible. Notez l'emplacement à des fins de référence.



ÉTAPE 7 : Installation du dossieret (optionnel)

Modèle	9 Po Dossieret Bas	Garniture D'îlot Encastrée
30 po	PA30GLBH	Inclus avec la cuisinière
36 po	PA36GLBH	Inclus avec la cuisinière
48 po	PA48GLBH	Inclus avec la cuisinière

Tableau 2 : Numéro de modèle de dossieret

Les méthodes d'installation varient selon les besoins. Avant de commencer, lisez attentivement ces instructions. Respectez tous les codes et règlements locaux.

Installation du dossieret de protection (PA [30, 36, 48] JBS)

PIÈCES INCLUSES	OUTILS REQUIS
 10 – vis de 1 po (25,4 mm)	Tournevis ou pointe Phillips
 1 – dossieret de protection	Ruban à mesurer

Le dossieret de protection doit être installé avant le montage d'une hotte, car le pavillon de la hotte couvrira les vis de montage supérieures du dossieret de protection.

Pour protéger le dossieret de protection contre les égratignures, laissez la pellicule de protection qui le recouvre jusqu'à ce que vous ayez terminé l'installation.

Si la cuisinière est déjà installée, consultez les instructions du fabricant pour le débranchement de l'approvisionnement en gaz et de l'alimentation électrique. Déplacez la cuisinière pour avoir accès au mur arrière.

AVERTISSEMENT

Pour réduire les risques d'incendie ou de blessures corporelles, assurez-vous que tout le matériel d'emballage a été retiré des accessoires avant de les utiliser.

- Localisez et marquez les endroits où passent les montants de cloison. Les montants de cloison sont normalement installés à des intervalles de 16 po ou 24 po (406 mm ou 610 mm).
- La hauteur de la hotte déterminera la hauteur de montage du côté supérieur du dossieret de protection. Le dossieret de protection devrait être installé de façon à ce que la partie inférieure de la hotte chevauche le dossieret de protection de 1-½ po (38 mm).
- Utilisez deux vis fournies pour fixer le haut et le bas du dossieret de protection dans chaque montant de cloison (voir *Figure 14*).
 - Dans certains cas, et compte tenu de la largeur variable des montants de cloison et des dossierets muraux, un seul montant de cloison peut se trouver à l'emplacement de l'installation.
- Enlevez la pellicule de protection en plastique.

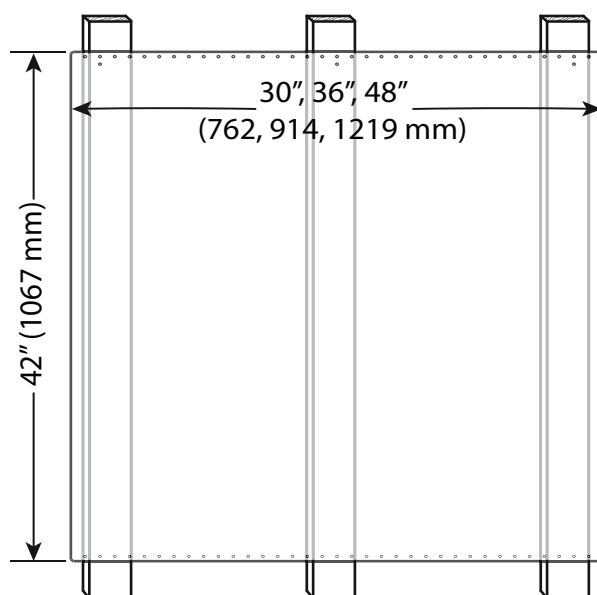


Figure 14 : Installation du dossieret de protection

Installation d'un dossieret de protection avec une étagère garde-chaud

La hotte peut être montée en premier si le dossieret de protection est installé avec une étagère garde-chaud puisque cette étagère couvrira les vis de montage supérieures du dossieret de protection.

Pour protéger le dossieret de protection contre les égratignures, laissez la pellicule de protection sur le dossieret de protection jusqu'à ce que vous en ayez terminé l'installation.

Si la cuisinière est déjà installée, consultez les instructions du fabricant pour le débranchement de l’approvisionnement en gaz et de l’alimentation électrique. Déplacez la cuisinière pour avoir accès au mur arrière.

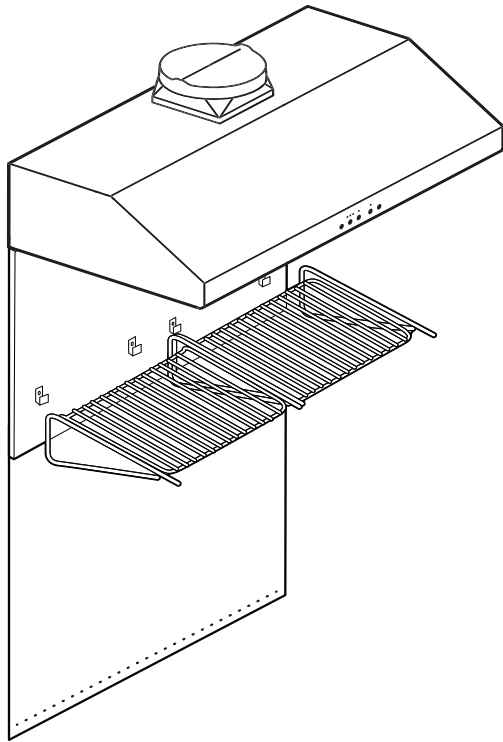


Figure 15 : Dossieret de protection avec étagère garde-chaud

1. Les montants de cloison sont normalement installés à des intervalles de 16 po ou 24 po (406 mm ou 610 mm).
2. La hauteur de la hotte déterminera la hauteur de montage du côté supérieur du dossieret de protection. Le dossieret de protection devrait être installé de façon à ce que la partie arrière inférieure de l’étagère garde-chaud chevauche le dossieret de protection de 1-½ po (38 mm).
3. À l’endroit indiqué sur la *Figure 16* fixez les supports inférieurs fournis avec l’étagère garde-chaud à travers le dossieret de protection, dans les montants de cloison.
 - Dans certains cas, et compte tenu de la largeur variable des montants de cloison et des dossierets muraux, un seul montant de cloison peut se trouver à l’emplacement de l’installation.

4. Enlevez la pellicule de protection en plastique.
5. Commencez l’installation de l’étagère garde-chaud.

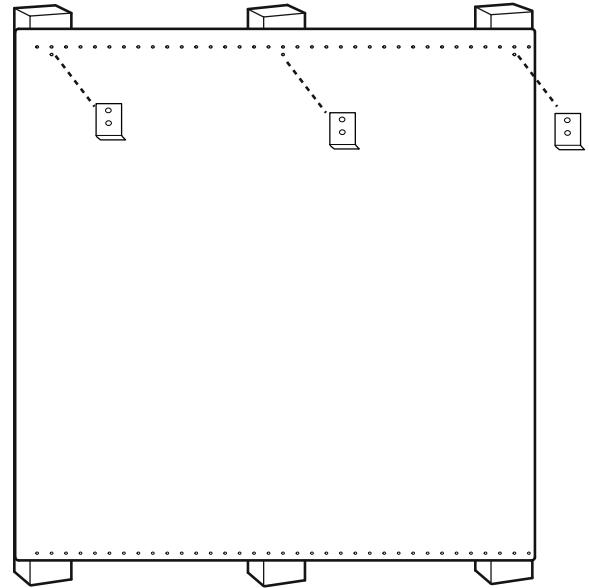


Figure 16 : Dossieret de protection avec étagère garde-chaud

Étagère garde-chaud (KHS[30,36,42,48]QS)

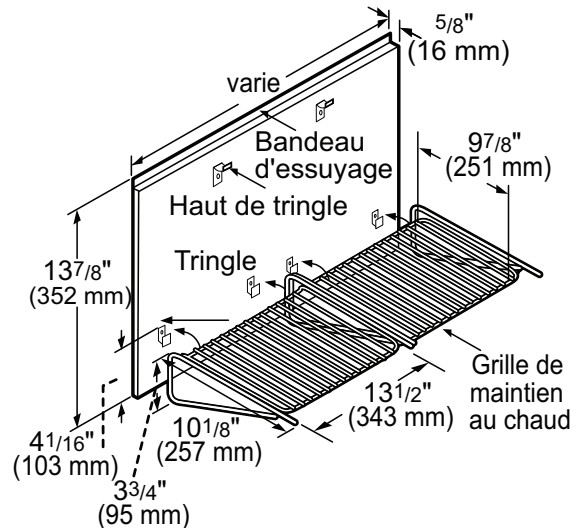


Figure 17 : Étagère garde-chaud

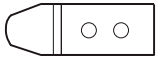
ARTICLES INCLUS



10 – vis de 1 po (25,4 mm)
4 – vis de ½ po (12,7 mm)



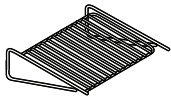
4 – écrous en U



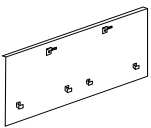
2 – supports supérieurs pour étagère



4 – supports inférieurs pour étagère



2 – grille garde-chaud



1 – dossier de protection pour étagère garde-chaud

1 – guide d'installation et gabarit

OUTILS REQUIS

Ruban à mesurer	Tournevis ou mèche Phillips
Ruban à peinture	Couteau ou ciseaux

- Collez sur le mur, avec du ruban, les gabarits fournis avec l'étagère garde-chaud comme suit :
 - Collez la feuille intitulée Left Hand Template au coin inférieur gauche de la hotte en alignant la bordure inférieure de la hotte et la ligne supérieure du gabarit.
 - Collez la feuille intitulée Right Hand Template au coin inférieur droit de la hotte en alignant la bordure inférieure de la hotte et la ligne supérieure du gabarit.
 - Collez la feuille intitulée Installation Instruction de façon à ce que la flèche située en haut du gabarit soit alignée avec la ligne centrale de la hotte. Alignez la bordure inférieure de la hotte et la ligne supérieure du gabarit.
 - Les côtés gauche et droit du gabarit doivent correspondre à la longueur de l'étagère.
- Installez les deux supports supérieurs pour étagère et les trois supports inférieurs pour étagère aux endroits indiqués sur les gabarits. Fixez-les en place à l'aide des (10) vis de 1 po (25,4 mm) fournies.
- Découpez le gabarit autour des supports et enlevez-le du mur. Ne le jetez pas avant d'avoir terminé l'installation de l'étagère garde-chaud.

- Insérez les quatre écrous en U dans les quatre supports inférieurs pour étagère.
- Installez la plaque murale en plaçant les encoches des coins (dos de la plaque murale) au sommet des deux supports supérieurs pour étagère.
- Faites glisser l'ensemble de l'étagère vers le haut jusqu'à ce que la partie inférieure s'enclenche dans les quatre supports inférieurs (Figure 18).

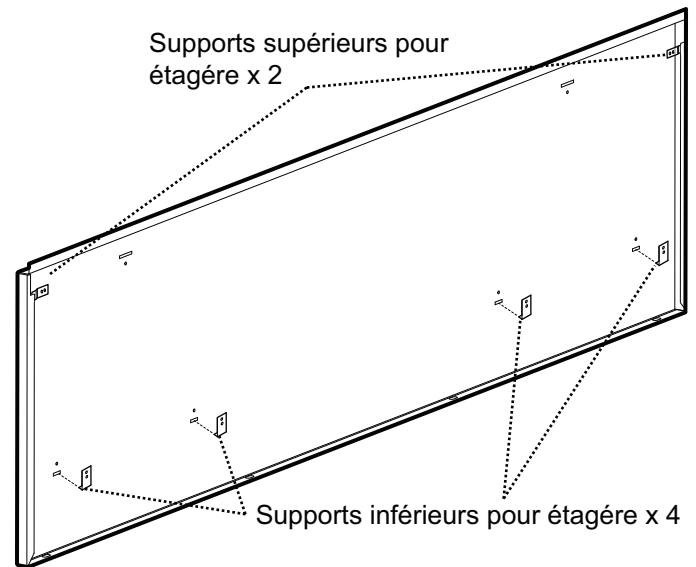


Figure 18 : Dos de la plaque murale

- Assurez-vous que la partie supérieure de l'ensemble de l'étagère est bien fixée en place en tirant vers vous sur la partie supérieure de l'étagère.
- Fixez la partie inférieure de l'ensemble de l'étagère à l'aide des (4) vis de ½ po (12,7 mm) fournies.

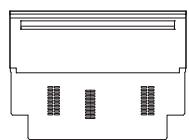
Installation du Dossieret

Lors d'une installation contre une surface combustible, vous devez utiliser un dossieret bas. Vous pouvez vous acheter séparément ces articles THERMADOR^{mc}. Consultez la "Installation avec dossieret bas" à la page 33 pour obtenir plus de renseignements sur les espaces libres.

Lors de l'utilisation de la garniture d'îlot THERMADOR, il faut un espace minimal de 12 po (305 mm) entre la partie arrière de l'appareil et la surface combustible (voir Figure 1 à la page 33). Les espaces libres jusqu'aux surfaces non combustibles ne sont pas précisés dans la norme ANSI Z21.1 et ne sont pas certifiés par la CSA. Tout espace libre de moins de 12 po (305 mm) doit être approuvé par les normes locales ou l'autorité locale ayant compétence.

NOTE : Si un dossieret de protection est utilisé avec le dossieret bas de l'appareil, installez d'abord le dossieret de protection, puis le dossieret bas avant de remettre la cuisinière à sa place.

PIÈCES FOURNIES AVEC LE DOSSERET BAS



1 – panneau



9 ou 8 – vis Torx T-20 en inox
8 ou 6 – vis à pointe Torx T-20

OUTILS REQUIS

Tournevis ou mèche Torx T-20

Gants de protection

⚠ AVERTISSEMENT

Vous pourriez vous pincer les doigts ou les mains et vous blesser gravement lors de l'installation de cet accessoire. Soyez très prudent et portez des gants protecteurs épais pour éviter toute coupure ou lacération des doigts ou des mains lorsque vous faites glisser le dossier en place.

Installation du dossier

1. Selon le modèle, enlevez les (3) ou (4) vis Torx T-20 en acier inoxydable de la partie avant de la garniture d'îlot.

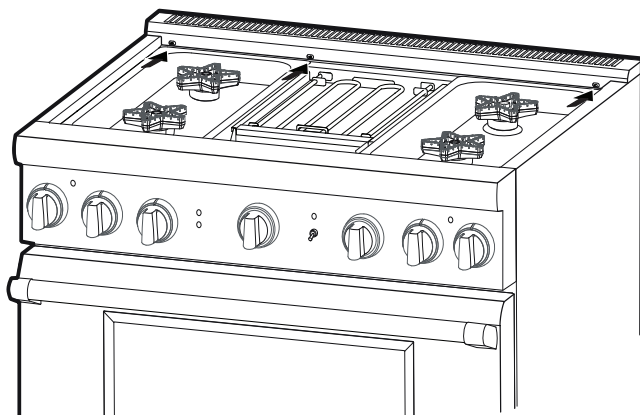


Figure 19 : Retrait des vis de la partie avant de la garniture d'îlot

2. Enlevez les (4) vis taraudeuses retenant la garniture aux panneaux latéraux ainsi que les (2) ou (4) vis taraudeuses du panneau arrière. Tirez vers le haut pour l'enlever complètement (Figure 20).

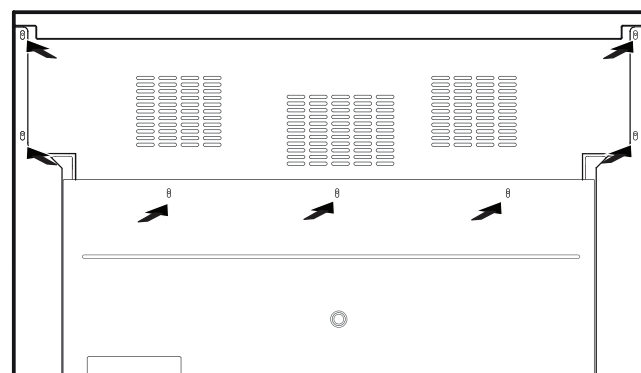


Figure 20 : Retrait des vis arrière de la garniture d'îlot

3. Alignez le panneau arrière du nouvel accessoire avec les brides des coins arrière droit et gauche des panneaux latéraux de la cuisinière. Le dossier s'insère dans les canaux de guidage situés à l'arrière de la cuisinière (Figure 21).

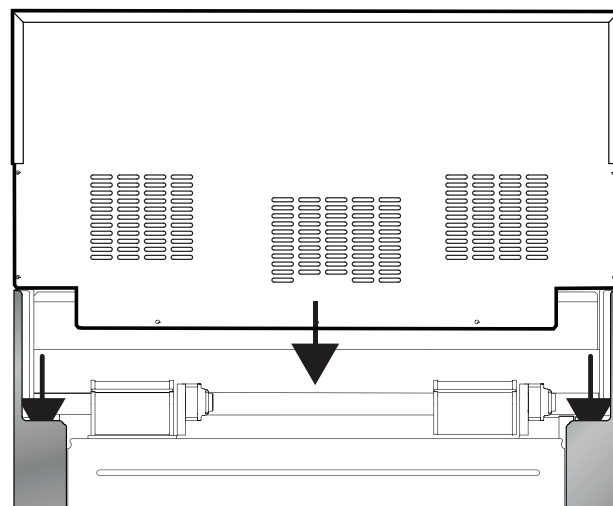


Figure 21 : Installation du dossier

4. Assurez-vous que la face du dossier est à l'extérieur des brides, vers l'avant de la cuisinière.
5. Remettez en place les vis enlevées aux étapes 1 et 2.

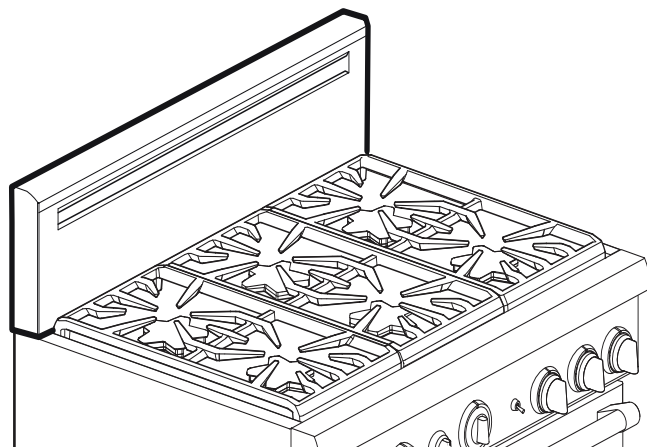


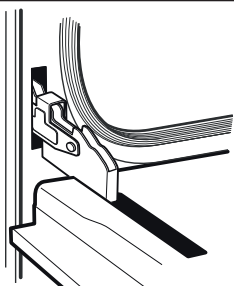
Figure 22 : Vue de face du dossier bas

ÉTAPE 8 : Retrait et installation de la porte

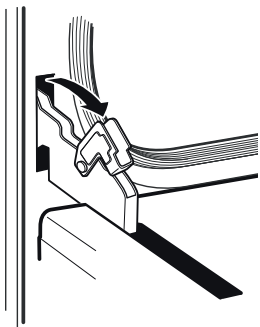
▲ MISE EN GARDE

- FAITES ATTENTION LORSQUE VOUS ENLEVEZ LA PORTE. ELLE EST TRÈS LOURDE.
- Pour éviter tout risque de brûlure ou de décharge électrique, assurez-vous que le four est froid et que l'alimentation électrique est coupée avant d'enlever la porte du four.
- La porte est lourde et fragile. Utilisez vos deux mains pour l'enlever ou la remettre en place.
- Si vous ne saisissez pas la porte fermement et adéquatement, vous pourriez endommager l'appareil ou vous blesser.
- Lorsque la porte est enlevée, ne lâchez jamais la poignée pour essayer de fermer les charnières. Sans le poids de la porte, les puissants ressorts des charnières se refermeront avec beaucoup de force.

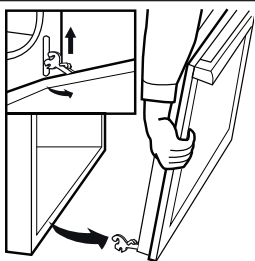
Retrait de la porte



1. Assurez-vous de lire la mise en garde ci-dessus avant d'enlever la porte.
2. Ouvrez complètement la porte.



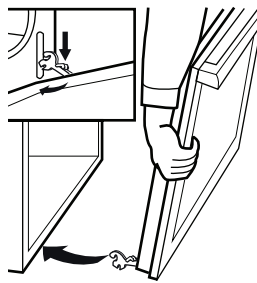
3. Rabattez les griffes à charnières vers le bas. Vous pourriez avoir besoin d'un tournevis pour les faire basculer.
4. Fermez la porte doucement jusqu'à ce qu'elle repose contre les griffes à charnières. Lorsque celles-ci sont en position ouverte, la porte reste ouverte à un angle fermé environ à 30° par rapport à sa position fermée.



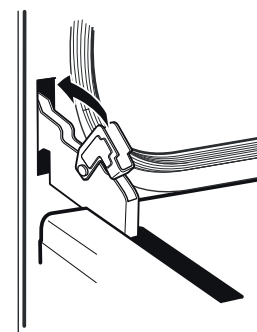
5. Prenez la porte par les extrémités et soulevez-la. Les ressorts offriront une certaine résistance.
6. Soulevez doucement la porte pour la faire sortir des fentes.
7. Placez la porte à un endroit sûr et stable.

Figure 23 : Trait de la porte

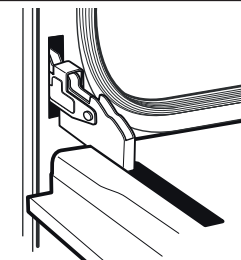
Réinstallation de la porte



1. Prenez la porte fermement avec vos deux mains.
2. Tenez la porte à un angle de 30° par rapport à sa position fermée. Insérez les charnières en les centrant dans les fentes. Lorsque vous les installez convenablement, elles s'enclenchent solidement dans les fentes. Ne forcez pas et ne pliez et ne tordez pas la porte.



3. Ouvrez complètement la porte pour exposer les charnières, les leviers et les fentes.
4. Faites basculer les charnières vers l'avant et vers le bas jusqu'à ce qu'elles reposent dans les fentes. Vous pourriez avoir besoin d'un tournevis pour remettre les griffes à charnière en place.



5. Fermez et ouvrez la porte pour vous assurer qu'elle est installée correctement.

Figure 24 : Réinstallation de la porte

Vérification de l'installation et du fonctionnement de la porte

1. Ouvrez et fermez la porte lentement pour vous assurer qu'elle bouge normalement et qu'elle s'adapte bien à la cavité du four. Ne forcez pas pour l'ouvrir ou la fermer. Si la porte est bien installée, elle devrait être facile à ouvrir et être alignée avec le devant du four lorsqu'elle est en position fermée.
2. La cuisinière doit être bien nivelée pour que les portes du four s'alignent correctement. Voir "ÉTAPE 9 : Mise en place et nivelage de la cuisinière".
3. Si la porte ne fonctionne pas correctement, assurez-vous que les charnières sont bien appuyées dans les fentes et que les griffes à charnières sont bien installées au fond des fentes.

- Vous pouvez ajuster l'inclinaison en vissant ou dévissant à l'aide d'un grand tournevis Torx T-20 la vis Torx de la charnière, située directement au-dessus de la fente de la charnière. Tournez la vis jusqu'à ce que la porte soit correctement alignée (Figure 25).

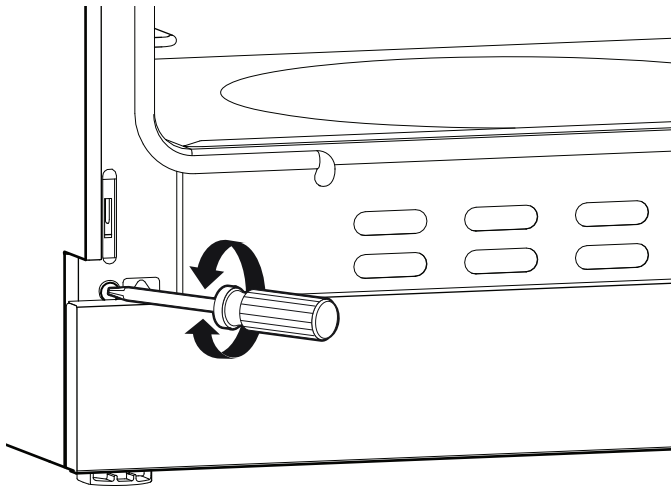


Figure 25 : Vis d'ajustement des charnières

ÉTAPE 9 : Mise en place et nivelage de la cuisinière

Ajustement des pattes de nivelage

▲ MISE EN GARDE

Les côtés supérieurs des panneaux latéraux de la cuisinière doivent être à la même hauteur ou plus haut que le comptoir adjacent. Si la cuisinière se trouve à une hauteur inférieure que l'armoire adjacente lorsqu'elle fonctionne, les températures excessives qui se dégagent de la cuisinière pourraient endommager les armoires et le comptoir (voir Figure 26).

Pour fonctionner adéquatement, la cuisinière doit être nivelée. Cela est particulièrement important pour tous les appareils munis d'une plaque chauffante. Pour un rendement optimal, vous devriez vous assurer que la cavité du four est également nivelée.

- Mesurez d'abord la hauteur du comptoir avec un ruban et ajoutez 1/16 po - 1/8 po (2-3 mm). Ajustez les pattes en conséquence avant de pousser la cuisinière à son emplacement définitif.

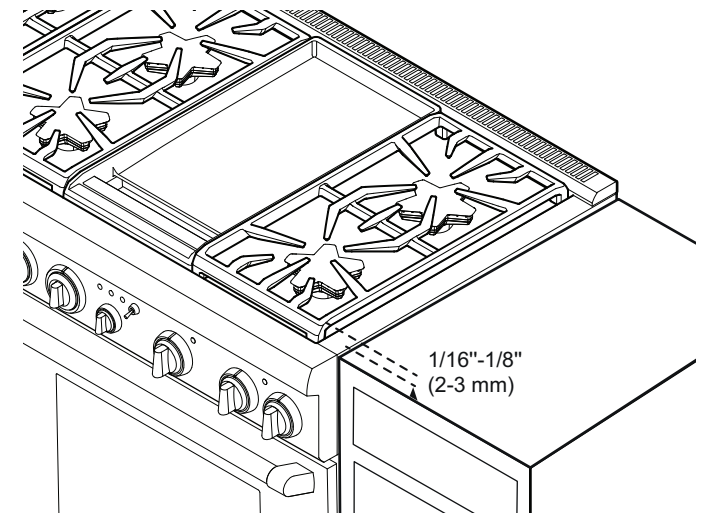


Figure 26 : Réglage de la hauteur de la cuisinière

- Faites tourner les pattes en utilisant une clé ajustable de 12 po sur le côté plat de chacune d'elles.

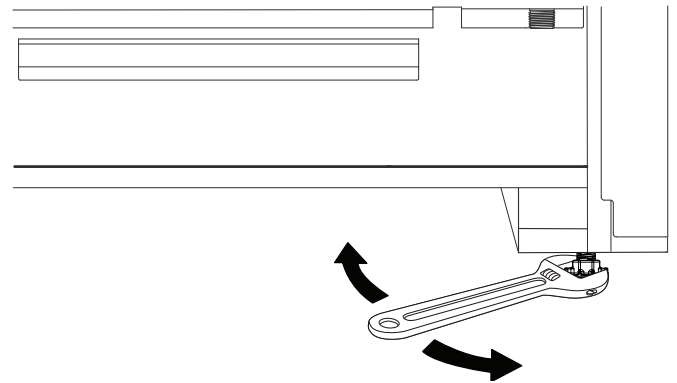


Figure 27 : Ajuster les Pattes

- Vous devriez ajuster la hauteur des quatre pattes des coins en alternant jusqu'à ce que les rebords supérieurs des panneaux latéraux de la cuisinière soient plus ou moins à la hauteur du comptoir.
- Vous devez ajuster totalement les deux pattes arrière avant de pousser la cuisinière à son emplacement définitif.
- Au moment d'installer la cuisinière à son emplacement définitif, assurez-vous que le dispositif anti-bascule s'insère correctement. Pour ce faire, vous pouvez regarder à travers l'ouverture située à l'avant de la cuisinière, près du sol.
- Lorsque la cuisinière se trouve à son emplacement définitif, ajustez les deux pattes avant pour l'aligner avec le comptoir.

Assemblage du grill (pas tous les modèles)

Reportez-vous à la section intitulée « *Utilisation du grill électrique* » dans le manuel d'utilisation et d'entretien.

Ajustement de l'inclinaison de la plaque chauffante (pas tous les modèles)

Reportez-vous à la section intitulée « *Utilisation de la plaque chauffante électrique* » dans le manuel d'utilisation et d'entretien.

Ajustement du panneau de seuil (plinthe)

Pour ajuster le panneau de seuil (plinthe), faites comme suit :

1. Enlevez les vis du panneau de seuil à l'aide d'un tournevis Torx T-20
2. Replacez le panneau à l'une des cinq positions de trou de vis, comme illustré sur la *Figure 28*. Réinstallez les vis Torx.

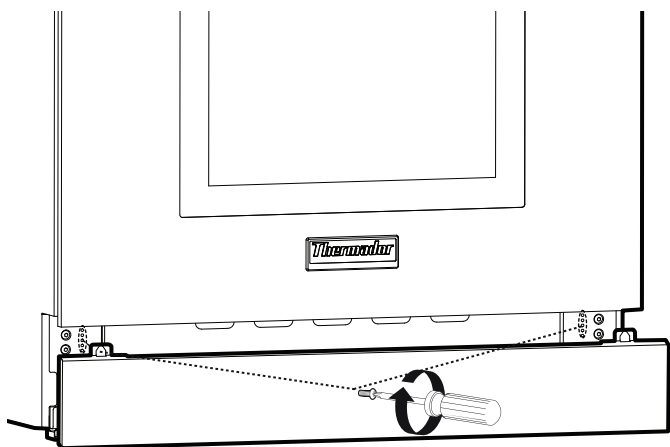


Figure 28 : Ajustement du panneau de seuil (plinthe)

3. Refaites la même chose de l'autre côté en veillant à ce que le panneau soit de niveau.
 - Le panneau de seuil (plinthe) de la cuisinière doit se trouver au moins à 0,5 po (12,7 mm) au-dessus du sol.

Plaque signalétique

La plaque signalétique indique le modèle et le numéro de série de votre cuisinière. Elle est située sur le cadre, derrière la porte du four (voir *Figure 29*).

Les schémas de câblage électrique et les dessins placés dans la zone de la base ne doivent pas être enlevés sauf par un technicien de service. Remettez en place après l'entretien (voir *Figure 29*).

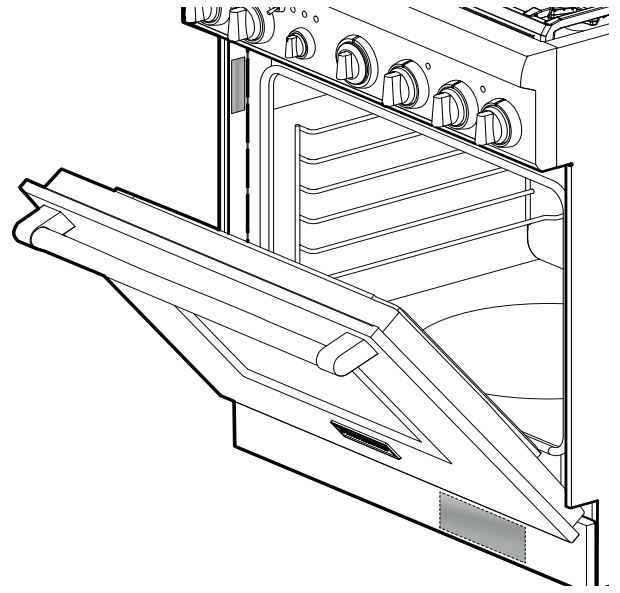


Figure 29 : Emplacement plaque signalétique et diagramme de câblage

ÉTAPE 10 : Test des brûleurs

Installez tous les éléments libres, comme les capuchons et les grilles des brûleurs, ayant été retirés précédemment. Assurez-vous que les capuchons des brûleurs sont adéquatement placés sur les bases des brûleurs. Avant de vérifier le fonctionnement de l'appareil, assurez-vous qu'aucune fuite n'émane de l'appareil et de la soupape de gaz, assurez-vous que l'appareil est branché à l'alimentation électrique. Ouvrez la soupape d'arrêt de gaz manuelle.

NOTE: Avant de mettre le four en marche, tous les boutons du four doivent être à la position OFF. Pour prévenir tout fonctionnement non voulu lors de la mise en marche du four, veuillez placer tous les boutons à la position OFF. Pour assurer la sécurité de l'utilisateur lors d'une panne d'électricité, un message annonçant une erreur apparaît à l'écran de l'appareil lors de la reprise du courant, à moins que tous les boutons soient à la position OFF. Remettez tous les boutons à la position OFF et réinitialisez le disjoncteur pour éliminer ce message.

Vérifiez les brûleurs de surface

Vérifiez la fonction d'allumage des brûleurs

Choisissez un bouton de brûleur. Poussez et tournez dans le sens antihoraire à HI. Le module allumeur/étincelle produit un déclic. Une fois l'air purgé de la canalisation d'alimentation, le brûleur devrait s'allumer en moins de 4 secondes.

Vérifiez la flamme : Réglage haut

Tournez le bouton à HI. Voir *Figure 28* pour les caractéristiques de flamme appropriées.

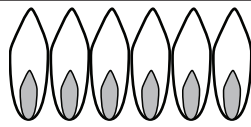
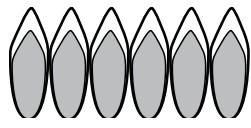
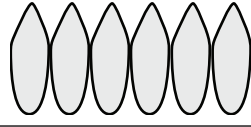
Si un des brûleurs de surface continue de brûler ou qu'il est complètement jaune, vérifiez si le capuchon est positionné adéquatement sur la base du brûleur, puis essayez de nouveau. **Éventez chacune des flammes et laissez les brûleurs se rallumer pour vous assurer que le dispositif fonctionne adéquatement.** Si les caractéristiques de flamme ne s'améliorent pas, communiquez avec THERMADOR^{MC} entretien.

Vérifiez la flamme : Réglage bas

Tournez le bouton à SIM. Vérifiez si la flamme enveloppe complètement le brûleur. Il doit y avoir une flamme à chaque port du brûleur et il ne doit pas y avoir d'intervalle d'air entre la flamme et le brûleur. Si les brûleurs ne sont pas enveloppés, communiquez avec THERMADOR entretien.

Certains brûleurs de surface sont munis de la technologie XLO^{MC}. Lorsque le sélecteur est réglé à la fonction XLO, la flamme s'allume et s'éteint périodiquement. Cela est normal.

Répétez l'allumage et la vérification de la flamme décrits pour chaque brûleur de surface et pour celui du grill (si tel est le cas).

Flamme jaune : Réglage nécessaire.	
Pointe jaune sur cône extérieur : Normal pour gaz LP.	
Flamme bleue : Normal pour gaz naturel.	

Si la flamme est complètement ou presque jaune, assurez-vous que le régulateur est réglé pour le combustible approprié. Après le réglage, vérifiez de nouveau.

Des rayures de couleur orangée sont normales pendant la mise en marche initiale.

Laissez l'appareil fonctionner de 4 à 5 minutes et évaluez de nouveau avant d'effectuer les réglages.

Figure 30 : Caractéristiques des flammes

Lorsque la flamme est adéquatement réglée :

Il doit y avoir une flamme à chaque port du brûleur. Il ne doit pas y avoir d'intervalle d'air entre la flamme et le port du brûleur.

Communiquer avec THERMADOR^{MC} entretien si :

1. Un brûleur ne s'allume pas.
2. Si la flamme d'un brûleur reste jaune.

Liste de vérification pour l'installateur

Les espaces libres spécifiés entre l'appareil et les armoires adjacentes sont respectés.

Appareil nivelé et recouvrements des pattes installés.

Les chapeaux des brûleurs sont bien placés sur leur base.

Tout le matériel d'emballage a été enlevé.

La garniture d'îlot ou le dossier est installé conformément aux instructions.

Vérifiez la flamme de chaque brûleur. La flamme doit correspondre à la description de flamme de l'étape 10. La flamme peut tarder plusieurs minutes à brûler toutes les impuretés se trouvant dans les conduites de gaz.

Vérifiez la fonction ExtraLow afin de vous assurer qu'elle fonctionne et que la flamme se rallume tout autour du brûleur.

Approvisionnement en gaz

Raccord : Filetage NPT de 3/4 po (19 mm) avec tuyau flexible d'un diamètre d'au moins 3/4 po (19 mm).

L'appareil est bien raccordé au type de gaz pour lequel il est conçu.

La vanne d'arrêt de gaz manuel a été installée à un endroit facile d'accès (sans qu'il soit nécessaire de déplacer la cuisinière). Le propriétaire sait où se trouve la vanne d'arrêt de gaz.

L'appareil a été testé et il n'y a aucune fuite de gaz.

Si la cuisinière est branchée au gaz propane, assurez-vous que le réservoir de propane est muni de son propre mécanisme régulateur à haute pression en plus du régulateur à haute pression de l'appareil.

La pression d'approvisionnement en gaz n'est pas supérieure à 14 po (34,9 mb) de C.E.

Électricité

La prise de courant à laquelle le cordon d'alimentation est branché est bel et bien protégée contre les surtensions.

Une mise à la terre adéquate a été effectuée.

Le propriétaire sait où se trouve le disjoncteur principal.

Fonctionnement

Les marques sont bien centrées sur les commandes des brûleurs et les boutons tournent librement.

Chaque brûleur s'allume correctement, seul ou avec d'autres brûleurs allumés.

Les crochets charnières de la porte du four sont bien en place et se verrouillent correctement. La porte s'ouvre et se ferme correctement.

Les grilles des brûleurs sont bien placées, nivelées et ne bougent pas.

INSTALLATEUR : Écrivez le numéro de modèle et le numéro de série se trouvant sur la plaque signalétique dans le MANUEL D'UTILISATION ET D'ENTRETIEN (la plaque se trouve du côté droit de la cuisinière, entre la cavité du four et le panneau latéral). Laissez le MANUEL D'UTILISATION ET D'ENTRETIEN ainsi que le MANUEL D'INSTALLATION au propriétaire de l'appareil.

Nettoyage et protection des surfaces externes

- Frottez toujours l'acier inoxydable dans le sens du grain.
- Pour nettoyer et protéger l'acier inoxydable, utilisez le produit Stainless Steel Conditioner de Thermador, en vente à la boutique électronique Thermador (www.thermador-eshop.us).
- NE laissez PAS les taches s'incruster.
- N'utilisez PAS de tampons ni de brosses métalliques. De petits morceaux de métal risquent d'adhérer à la surface et de la faire rouiller.
- NE laissez PAS les solutions salines, les désinfectants, l'eau de Javel ou les produits de nettoyage en contact avec l'acier inoxydable. Ces produits contiennent en général des produits chimiques susceptibles de l'endommager. Rincez-les à l'eau puis séchez avec un chiffon sec.

Dépannage

Voyez le Guide d'utilisation et d'entretien pour les renseignements de dépannage.

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Definiciones de seguridad

▲ ADVERTENCIA

Esto indica que se pueden producir lesiones graves o la muerte si no se cumple con esta advertencia.

▲ PRECAUCIÓN

Esto indica que pueden producirse lesiones leves o moderadas si no se cumple con esta advertencia.

NOTA: Esto indica que puede producirse un daño al electrodoméstico o a la propiedad como resultado de la falta de cumplimiento de este aviso.

Nota: Esto lo alerta sobre información y/o consejos importantes.

Este electrodoméstico de
THERMADOR® está hecho por
BSH Home Appliances Corporation
1901 Main Street, Suite 600
Irvine, CA 92614

¿Preguntas?

1-800-735-4328
www.thermador.com

¡Esperamos oír de usted!

Instrucciones de Seguridad

INSTRUCCIONES IMPORTANTES DE SEGURIDAD Lea Todas Las Instrucciones Antes De Continuar

Antes de empezar

IMPORTANTE: Guarde estas instrucciones para el inspector de la empresa proveedora de gas de su localidad.

INSTALADOR: Deje esas instrucciones de instalación con el aparato para el propietario.

PROPIETARIO: Guarde estas instrucciones para futuras referencias.

ADVERTENCIA



Desconecte la corriente antes de la instalación. Antes de prender la corriente, asegúrese de que todos los controles estén en la posición OFF.

ADVERTENCIA



Un niño o un adulto podrían volcar el aparato y perder la vida. Asegúrese de que el dispositivo antivuelco esté instalado adecuadamente y que su soporte retenga la pata del aparato al reinstalarlo en su sitio.

No utilice el aparato si el dispositivo antivuelco no está instalado. El hecho de no leer las instrucciones de este manual puede causar la muerte o graves quemaduras a niños y adultos.

Asegúrese de que el soporte antivuelco esté bien instalado y debidamente utilizado. Incline levemente la estufa por delante tirando de la parte posterior para asegurarse de que la pata del aparato esté bien enganchada en el soporte antivuelco y que el aparato no pueda volcar. La estufa no debería poder moverse más de una pulgada (2,5cm).

INSTRUCCIONES DE LA TOMA DE TIERRA

Es necesario hacer la toma de tierra de este aparato. La toma de tierra reduce los riesgos de descarga eléctrica proporcionando a la corriente eléctrica una vía de escape en caso de cortocircuito.

NO instale esta estufa afuera.

Quite toda la cinta y el material de embalaje antes de utilizar el aparato. Tire el material de embalaje después de la instalación. Nunca deje que los niños jueguen con el material de embalaje.

IMPORTANTE:

Los códigos locales pueden variar. La instalación, las conexiones eléctricas y la toma de tierra deben cumplir con todos los códigos aplicables.

PARA INSTALACIONES EN MASSACHUSETTS:

1. La instalación debe realizarse por un contratista, un plomero o un técnico de gas cualificado o autorizado por el estado, la provincia o región donde se está instalando este aparato.
2. La válvula de cierre debe ser un grifo de gas en T.
3. El conducto flexible de gas no debe medir más de 36 pulg. (914 mm).

ADVERTENCIA

No leer la información en este manual podría provocar un incendio o una explosión, y como resultado daños a la propiedad, lesiones o la muerte.

-- No guarde o use materiales combustibles, gasolina u otros gases o líquidos inflamables cerca de este o cualquier otro aparato.

-- QUÉ HACER EN CASO DE OLER A GAS

- No trate de encender ningún aparato.
- No toque ningún interruptor eléctrico.
- No use ningún teléfono en su casa.
- Llame de inmediato a su proveedor de gas desde el teléfono de algún vecino y siga las instrucciones de su proveedor de gas.
- Cuando no pueda localizar a su proveedor de gas, llame a los bomberos.

-- Un instalador cualificado, una agencia de servicio autorizada o el proveedor de gas debe realizar la instalación y el servicio.

NOTA: Esta estufa NO está diseñada para una instalación en casas rodantes prefabricadas o en remolques usados en parques recreativos.



INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Lea Todas Las Instrucciones Antes de Continuar

Verificación del tipo de GAS

Verifique el tipo de gas suministrado en el lugar. Asegúrese que el aparato esté conectado al tipo de gas para el cual está certificado. Todos los modelos están certificados para el uso con gas natural. La conversión del aparato para el uso con gas propano requiere de un kit de conversión (PALPKITHNPALPKITHN).

PRECAUCIÓN

Cuando conecta el aparato a gas propano, asegúrese de que el tanque de gas propano venga con su propio regulador de alta presión además del regulador de presión que se incluye con la estufa. La máxima presión de gas de este aparato no debe exceder 14.0 pulgadas de columna de agua (34.9 mb) del tanque de gas propano al regulador de presión.

Suministro de gas

Gas natural — 6 pulg. columna agua (14.9 mb) mín., 14 pulg. (34.9 mb) máximo

Gas propano — 11 pulg. columna agua (27.4 mb) mín., 14 pulg. (34.9 mb) máximo

Alimentación eléctrica

(Vea *página 68* para las especificaciones.)

Incumbe al dueño y al instalador determinar si requisitos o normas adicionales se aplican a la instalación específica.

Este aparato cumple con una o más de las siguientes normas:

- ANSI Z21.1 – norma americana para aparatos domésticos de gas
- UL 858 – norma de seguridad para estufas eléctricas domésticas
- CAN/CSA-C22.2 No 61 – norma canadiense para estufas domésticas
- CAN/CGA1.1-M81 – estufas domésticas de gas

Consulte los códigos locales de construcción para el método apropiado de instalación del aparato. Los códigos locales pueden variar. La instalación, conexiones eléctricas y conexiones a tierra deben cumplir con los códigos aplicables. En la ausencia de códigos locales el aparato debe ser instalado de acuerdo al National Fuel Gas Code (Código Nacional de Gas Combustible) ANSI Z223.1/NFPA 54 vigente y al National Electrical Code (Código Nacional

de Electricidad) ANSI/NFPA 70 vigente. En Canadá, la instalación debe ser conforme al 1-B149.1 and .2 – Installation Codes for Gas Burning Appliances (Códigos de Instalación para Unidades que Queman Gas) y/o códigos locales.

IMPORTANTE:

Cuando se instala sobre una superficie combustible, se debe usar una consola trasera baja. Se debe comprar por separado una consola trasera baja THERMADOR.

Cuando se utiliza el adorno de isla THERMADOR, hace falta un espacio libre trasero mínimo de 12 pulg. (305 mm) entre el aparato y la superficie combustible (vea la *Figura 1, Espacios libres para los armarios*). Los espacios libres para las materias no combustibles no forman parte de la norma ANSI Z21.1 y no están certificados por la CSA. Los códigos locales o la autoridad local competente deben aprobar los espacios libres de menos de 12 pulg. (305 mm).

Consulte *Tabla 2 en la página 71* para los modelos de consolas correctas que están diseñadas para esta estufa. Después de seleccionar la consola trasera correcta se debe instalar la estufa correctamente, usando los mínimos espacios libres a superficies combustibles especificadas en las instrucciones de instalación de gabinetes en la *página 59*.

ADVERTENCIA

Para evitar un posible riesgo de quemaduras o fuego se debe instalar una consola trasera de protección diseñada específicamente para esta estufa antes de utilizarla.

PRECAUCIÓN

El aparato sirve para cocinar. Basado en consideraciones de seguridad, nunca debe usarlo para calentar una habitación.

ADVERTENCIA

Advertencias en virtud de la Proposición 65 del estado de California

Este producto contiene una o más sustancias químicas que el estado de California sabe que provocan cáncer, defectos congénitos, u otro daño reproductivo.

Examine el aparato después de haberlo desempaquetado. Si fue dañado durante el transporte, no lo enchufe.

Información de instalación

Información de planificación

Antes de usar su aparato, asegúrese de leer este manual. Ponga especial atención a las Instrucciones importantes de seguridad al principio del manual.

HERRAMIENTAS REQUERIDAS	
Llave poligonal o de carraca de 7/16 pulg.	Broca de 1/8 pulg. (3,17 mm)
Broca de 3/16 pulg. (4,76 mm)	Llave de boca ajustable de 12 pulg.
Taladro eléctrico o de mano	Cinta métrica
Destornillador plano o estrella	Lápiz u otro marcador
Nivel	Plataforma de ruedas
Destornillador Torx T-20	Guantes de protección
ELEMENTOS NO INCLUIDOS	
Anclajes para yeso-cartón u hormigón	Compuesto/cinta para conducto
Cuerda/cordel	Conducto flexible de 3/4 pulg. (19 mm)
Prensacables	(2) adaptadores para brida, conformes a la norma NPT

PASO 1: Requisitos de ventilación

Consulte la *Guía de planificación de ventilación* para conocer las combinaciones de ventilación aprobadas.

Es altamente recomendado que este aparato se instalado en conjunto con una campana de extracción THERMADOR. Debido a la alta capacidad de calentamiento de esta unidad, se debe prestar particular atención al trabajo de instalación de la campana y del ducto para asegurar que cumpla con los códigos locales de construcción.

No debería usar este aparato con un sistema de ventilación de corriente descendiente. La *Guía de planificación de ventilación* indica las campanas que se pueden usar y contiene consignas respecto a las capacidades de las campanas que se recomiendan usar con todas las estufas THERMADOR.

No instale una combinación microondas / ventilador encima de la estufa, ya que estos tipos de aparatos no proporcionan la ventilación apropiada y no convienen para un uso con la estufa.

IMPORTANTE:

Las campanas de ventilación y los ventiladores están diseñados para usarse con conductos sencillos de pared. Sin embargo, algunos códigos locales de construcción o inspectores de obras pueden requerir conductos dobles de pared. Consulte los códigos locales de construcción o con las agencias locales antes de comenzar para estar seguro de que la instalación de la campana y de los conductos cumple con los requisitos locales.

AVISO: La mayor parte de las estufas tienen componentes combustibles que se deben tener en cuenta al planificar la instalación.

⚠ ADVERTENCIA

No se debería instalar este aparato con un sistema de ventilación de corriente descendiente. Este tipo de sistema de ventilación puede presentar riesgo de ignición y problemas de combustión, provocando lesiones corporales, daños materiales o un funcionamiento involuntario. No se aplica ninguna restricción a los sistemas de ventilación de corriente ascendiente.

Preparación de la ventilación

1. Seleccionar la campana y el ventilador:

- Para instalaciones en la pared, la anchura de la columna debe ser por lo menos igual a la anchura de la estufa. Donde el espacio lo permite, se puede instalar una campana más ancha que la superficie de la estufa para que la campana funcione mejor.
- Para instalaciones de tipo isla, la campana colgada debe ser por lo menos 3 pulgadas (76 mm) más ancha de cada lado que la superficie de la estufa.

2. Colocar la campana:

- Para eliminar mejor el humo, el borde inferior de la campana debe estar a una distancia mínima de 30 pulg. (762 mm) encima de la superficie de la estufa (vea la "Figura 1: Espacio libre para los armarios").
- Deje un espacio libre de un mínimo de 36 pulg. (914 mm) si la campana está hecha de materiales combustibles, como madera (vea la Figura 1).

3. Considere una fuente de aire de recambio:

- Debido al alto volumen de aire de ventilación requerido, se recomienda tener una fuente externa de aire. Esto es sumamente importante para hogares bien sellados y aislados.
- Debe consultar a un contratista cualificado en calefacción y ventilación.

PASO 2: Preparación de los armarios

- La estufa es un aparato aislado e independiente. Si desea colocar el aparato junto a armarios, debe instalarla dejando los espacios libres que se muestran en la *Figura 1*. Los mismos espacios libres se aplican a instalaciones tipo isla, excepto por los armarios colgados, que deben tener un espacio suficientemente ancho para aceptar la campana de isla acampanada.
- El suministro de gas y la alimentación eléctrica deben estar dentro de la zona indicada en la *Figura 5*.
- Se deben sellar todas las aberturas situadas en la pared detrás de la estufa y en el piso debajo de la estufa.
- Cuando se instala sobre una superficie combustible, se debe usar una consola trasera baja. Se debe comprar por separado una consola trasera baja THERMADOR®. Vea el paso 8 para obtener información sobre la consola trasera, los kits y la instalación.
- Cuando se utiliza el adorno de isla THERMADOR, hace falta un espacio libre trasero mínimo de 12 pulg. (305 mm) entre el aparato y la superficie combustible (vea la *Figura 1*). Los espacios libres para las materias no combustibles no forman parte de la norma ANSI Z21.1 y no están certificados por la CSA. Los códigos locales o la autoridad local competente deben aprobar los espacios libres de menos de 12 pulg. (305 mm).

- Cuando la estufa se instala sobre una pared combustible, se requiere un espacio libre de un mínimo de 5 pulg. (127 mm) entre la estufa y la pared.
- Siempre mantenga la zona alrededor del aparato limpia y no deje materiales combustibles, gasolina y otros gases y líquidos inflamables cerca del aparato.
- No obstruya el flujo del aire de combustión y de ventilación del aparato.
- La máxima profundidad de los armarios colgados de cualquier lado de la campana es de 13 pulg. (330 mm).
- Se necesita un espacio libre mínimo de 36 pulgadas (914 mm) entre la superficie de la estufa y la parte inferior de un armario no protegido. Se puede usar un espacio libre de 30 pulg. (762 mm) cuando el fondo de un armario de madera o de metal esté protegido por un material ignífugo de un grosor mínimo de ¼ de pulgada (6,35 mm) cubierto por una lámina de acero 28 MSG, de acero inoxidable con un grosor de 0,015 pulgada (0,4 mm), de aluminio con un grosor de 0,024 pulgad (0,6 mm), o de cobre con un grosor de 0,020 pulgada (0,5 mm).

Los materiales ignífugos llevan la marca siguiente: UNDERWRITERS LABORATORIES INC. CLASSIFIED MINERAL Y FIBER BOARDS SURFACE BURNING CHARACTERISTICS. Esta indicación está seguida por el índice de propagación de las llamas y del humo. Estas designaciones aparecen como "FHC". Los materiales que tienen un índice de propagación de llamas de "0" son ignífugos. Los códigos locales pueden permitir índices de propagación de las llamas diferentes. Incumbe al dueño y al instalador asegurarse de que la instalación se haga conforme a este índice.

Espacios libres para la instalación

Instalación con la consola trasera baja

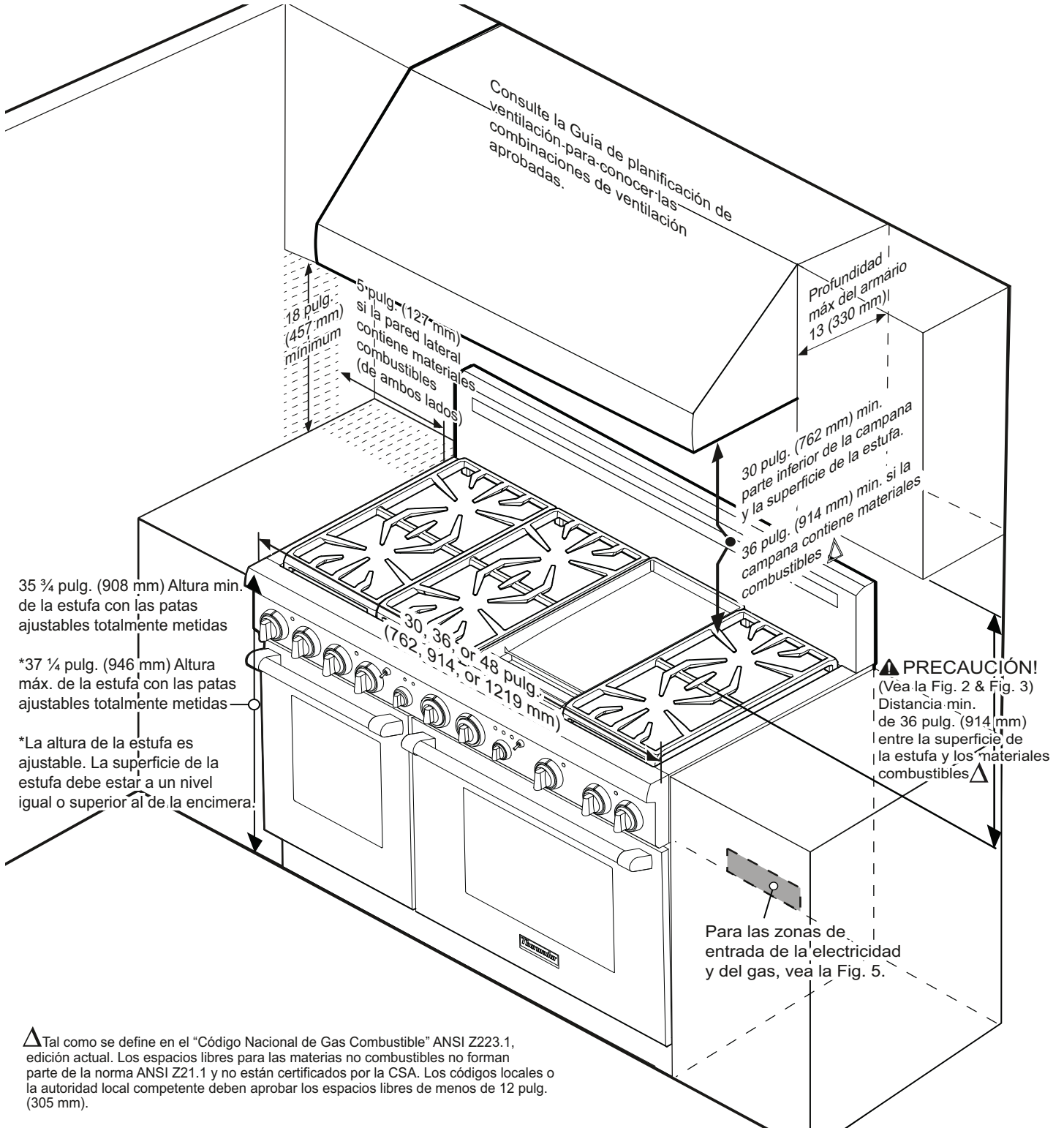
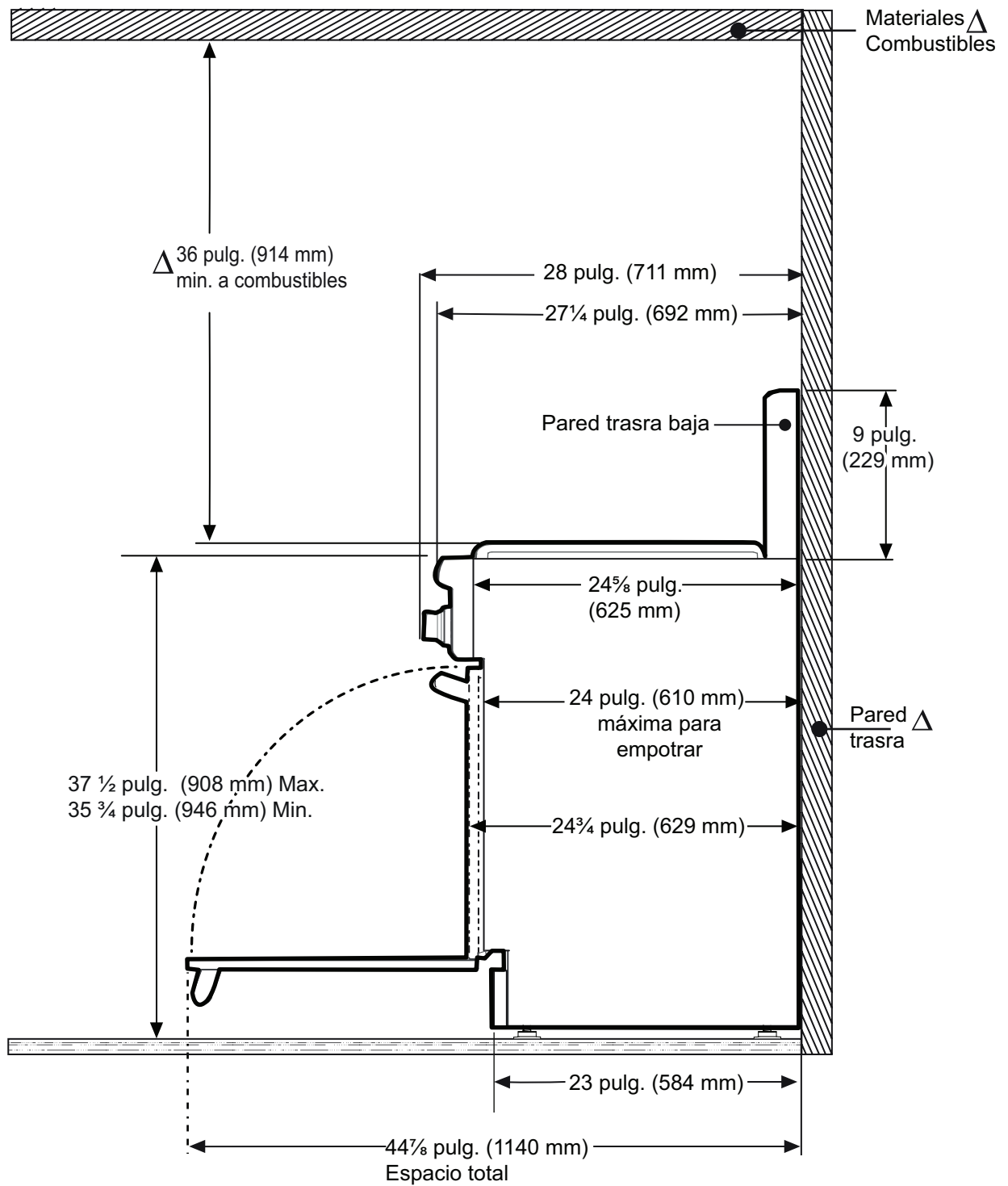


Figura 1: Espacios libres de los gabinetes

Instalación con consola de protección



Δ Tal como se define en el "Código Nacional de Gas Combustible" ANSI Z223.1, edición actual. Los espacios libres para las materias no combustibles no forman parte de la norma ANSI Z21.1 y no están certificados por la CSA. Los códigos locales o la autoridad local competente deben aprobar los espacios libres de menos de 12 pulg. (305 mm).

Figura 2: Instalación con consola de protección

Instalación con el adorno tipo isla incluida

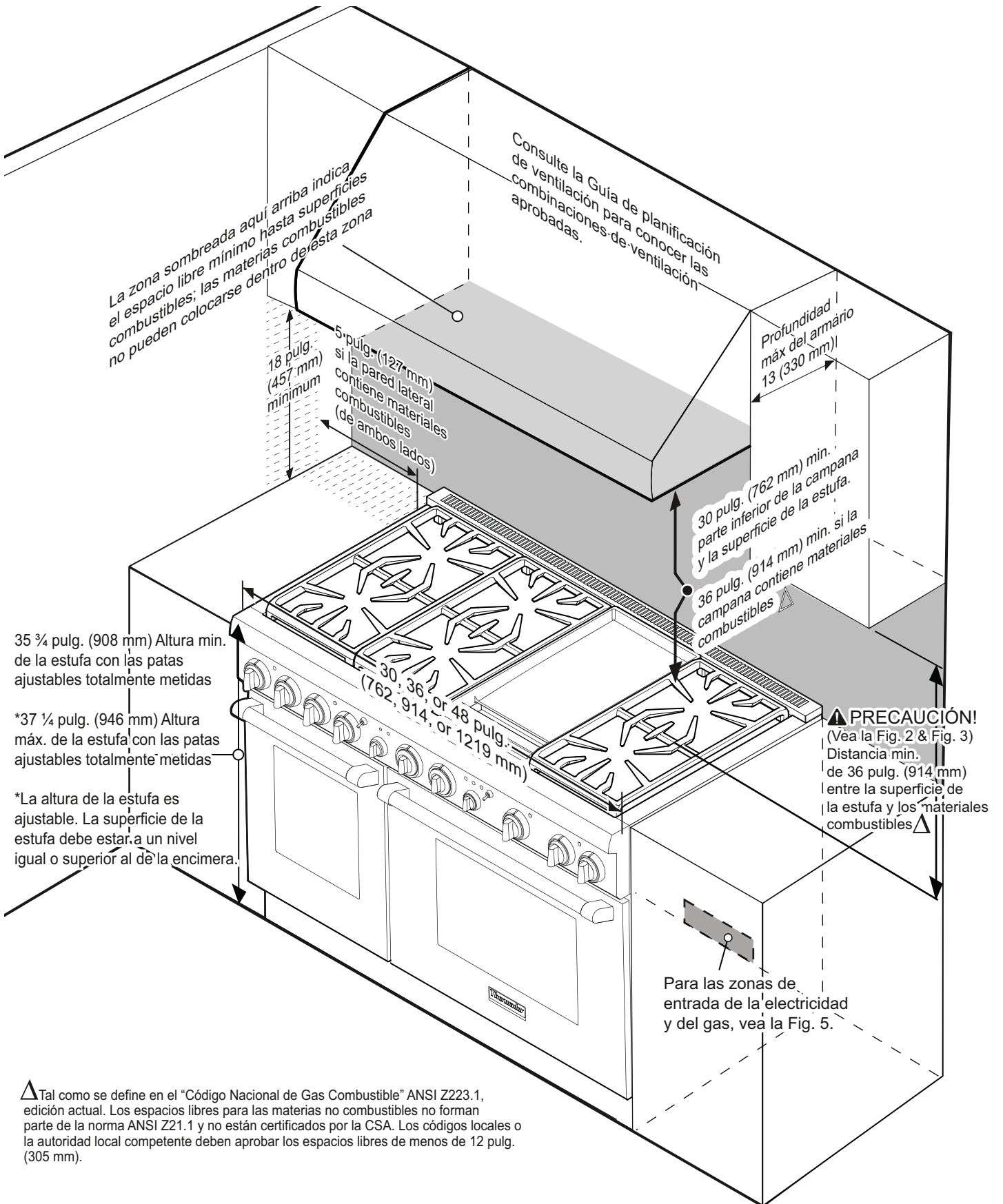
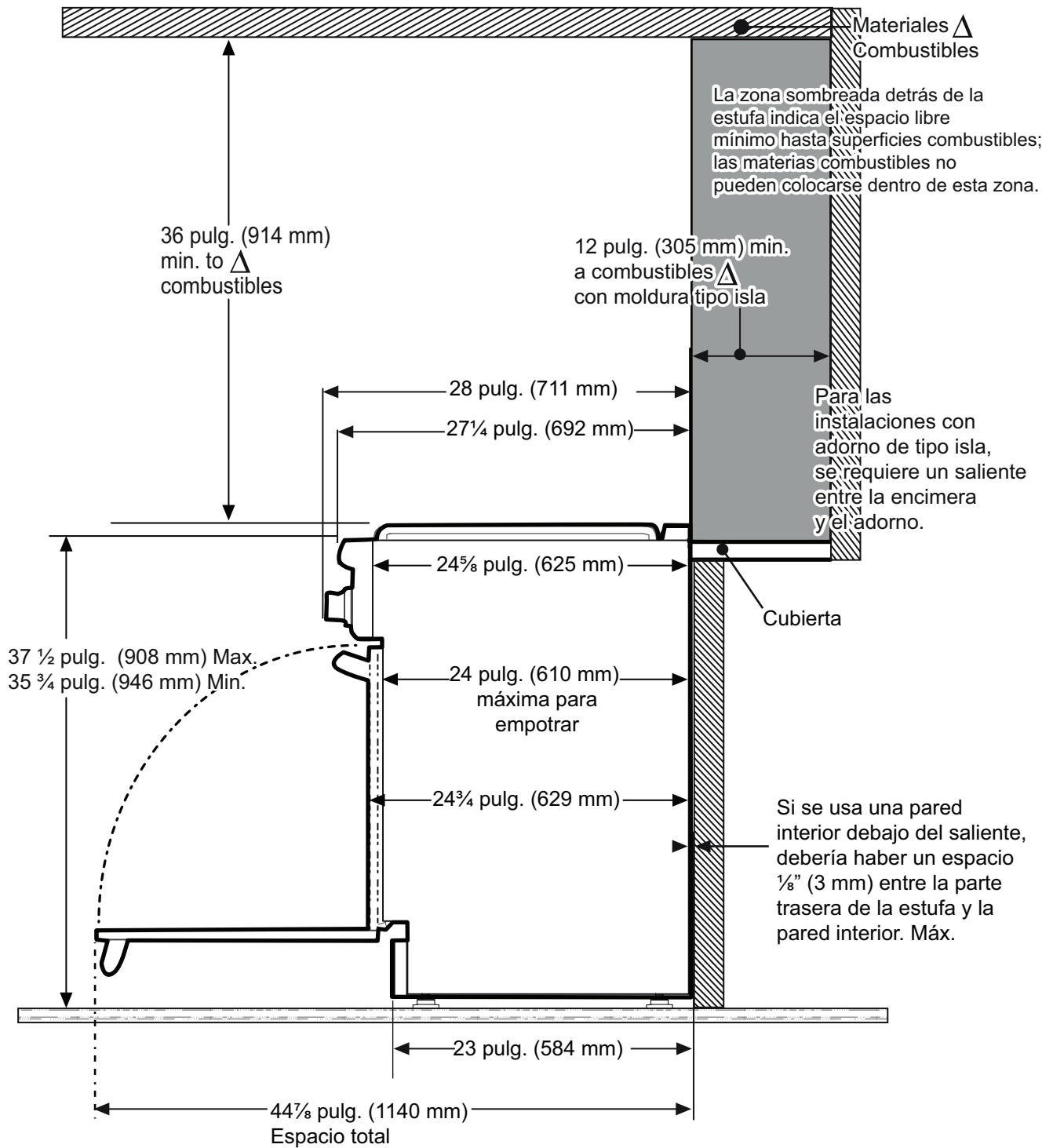


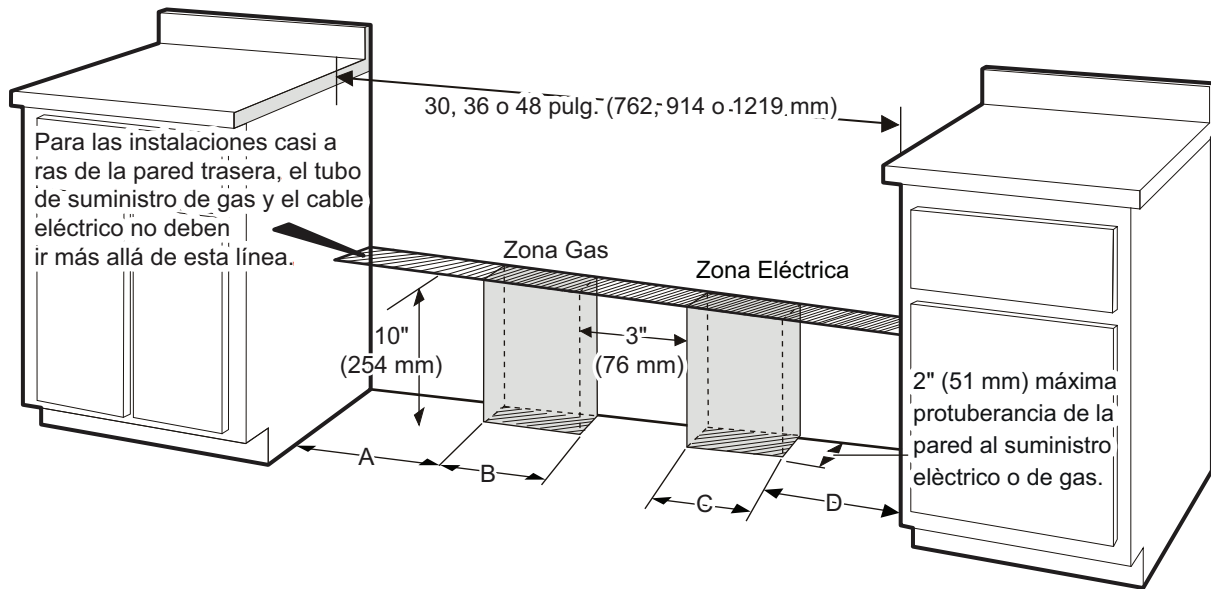
Figura 3: Instalación con el adorno tipo isla incluida

Instalación con el adorno tipo isla incluida



Δ Tal como se define en el "Código Nacional de Gas Combustible" ANSI Z223.1, edición actual. Los espacios libres para las materias no combustibles no forman parte de la norma ANSI Z21.1 y no están certificados por la CSA. Los códigos locales o la autoridad local competente deben aprobar los espacios libres de menos de 12 pulg. (305 mm).

Figura 4: Instalación con el adorno tipo isla incluida



Modelo	A	B	C	D
30 pulg. (762 mm)	5 $\frac{3}{4}$ pulg. (146 mm)	15 $\frac{7}{16}$ pulg. (392 mm)	5 $\frac{13}{16}$ pulg. (148 mm)	4 $\frac{3}{8}$ pulg. (111 mm)
36 pulg. (913 mm)	8 $\frac{1}{16}$ pulg. (205 mm)	16 $\frac{13}{16}$ pulg. (503 mm)	8 $\frac{1}{8}$ pulg. (206 mm)	4 $\frac{3}{8}$ pulg. (111 mm)
48 pulg. (1219 mm)	4 $\frac{3}{8}$ pulg. (111 mm)	10 $\frac{3}{4}$ pulg. (273 mm)	18 $\frac{11}{16}$ pulg. (475 mm)	5 $\frac{15}{16}$ pulg. (151 mm)

Figura 5: Suministro eléctrico y de gas para las estufas de doble combustible

NOTA:

- Si aún no existe, instale una válvula manual de cierre de gas en un lugar de fácil acceso.
- Asegúrese de que todos los usuarios sepan dónde y cómo cerrar el suministro de gas de la estufa.
- Se deben sellar todas las aberturas situadas en la pared detrás de la estufa y en el piso debajo de la estufa.

Se puede conectar la estufa de gas a la fuente de alimentación eléctrica con un cable eléctrico (proporcionado con la estufa) o mediante una conexión directa a la fuente de alimentación. Es responsabilidad del instalador proporcionar los componentes correctos del cableado (cable o conducto y alambres) y conectar el aparato al gas conforme a los códigos y regulaciones locales, o al Código Eléctrico Nacional. La toma de tierra de los aparatos se debe hacer adecuadamente. Consulte el "PASO 7: Instalación de la consola trasera (opcional)".

Se debe conectar la estufa solamente al tipo de gas

para el cual está certificada. Cuando conecte el aparato a gas propano, asegúrese de que el tanque de gas propano venga con su propio regulador de alta presión además del regulador de presión que se incluye con la estufa (vea el "PASO 6: Requerimientos eléctricos, conexión y puesta a tierra").

NOTA: La estufa está diseñada para estar nivelada casi perfectamente con la pared trasera. Para lograr una instalación exitosa, puede ser necesario que tenga que volver a colocar la línea de suministro de gas y los cables eléctricos según va empujando la estufa hacia su posición final.

SUGERENCIAS: Para conseguirlo, le sugerimos jalar cuidadosamente el suministro de gas y el cable eléctrico con una cuerda o un cordel mientras empuja la estufa hacia su posición final.

Alimentación Eléctrica

Se debe planear la instalación de la estufa de tal modo que la placa de la caja de conexiones del enchufe o de la conexión al gas deje el máximo espacio libre detrás del aparato.

Cuando se conecta el cable de alimentación o el conducto al receptáculo de acoplamiento o a la cubierta de la caja de conexiones, el conector enchufe / receptáculo o la cubierta de la caja de conexiones / conducto no debe salir más de 2 pulg. (51 mm) de la pared trasera (vea la *Figura 6*).

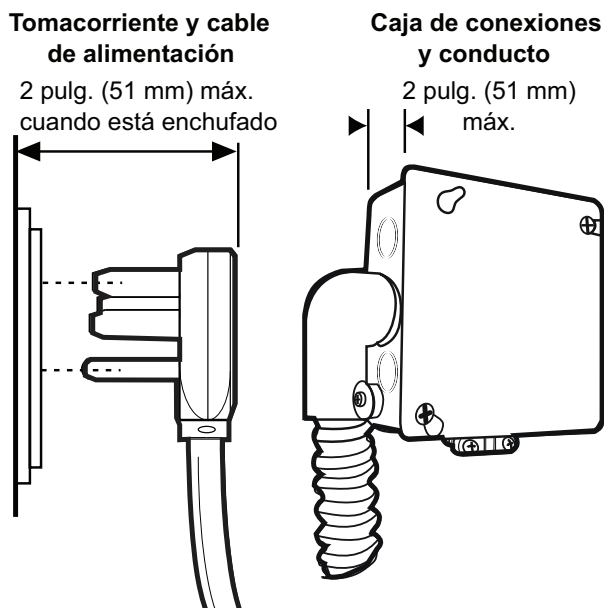


Figura 6: Conexión en la pared

NOTA: Los modelos de estufas destinados al mercado canadiense están equipados con un cable de alimentación.

Vea la *Figura 10 en la página 69* para conocer la ubicación de la caja de conexiones en el aparato. Para minimizar amarres una vez que el aparato está conectado al enchufe o a la caja de conexiones, oriente el enchufe o el conector de conductor y deslícelo hasta su posición original.

Al utilizar un tomacorriente, es posible que tenga que empotrar la caja en la pared trasera. Consulte el código de electricidad para establecer el volumen mínimo de todas las cajas eléctricas o de conexión que se usan. Respete todos los códigos de electricidad locales.

PASO 3: Desempacar y mover la estufa

⚠ PRECAUCIÓN



NO levante la estufa por la agarradera de la puerta, ya que esto puede dañar las bisagras de la puerta y causar que la puerta ya no quepa bien en la cavidad de la hornilla.



NO levante el aparato por el panel de control.

La estufa es pesada y se debe manejar en consecuencia. Para evitar lesiones y no dañar el aparato o el piso, se debe utilizar el equipo apropiado y por lo menos dos personas equipadas adecuadamente para mover la estufa.

Dichas personas deben llevar guantes de protección y evitar llevar anillos, relojes u otros objetos parecidos que pueden dañar o engancharse en el aparato.

Las superficies ocultas del aparato pueden tener salientes cortantes. Tenga cuidado al sujetar el aparato por debajo o por atrás.

No use una carretilla de mantenimiento manual o un carro para electrodoméstico en las partes frontal o trasera del aparato. Úselos únicamente en los lados.

	ESTUFA 30"	ESTUFA 36"	ESTUFA 48"
Peso embarque	377 lbs (171 kg)	395 lbs (179 kg)	560 lbs (254 kg)
Peso sin materiales de empaque	293 lbs (133 kg)	337 lbs (153 kg)	470 lbs (213 kg)

Tabla 1: Peso de Modelo

Desempacar la estufa

- Quite la caja exterior de cartón y el material de empaque de la plataforma de expedición, pero deje las láminas de espuma adhesivas encima de las superficies de metal cepillado para proteger el acabado contra los rasguños hasta colocar la estufa en su posición final.
- Se deben quitar las rejillas, la plancha, las tapas de los quemadores y las rejillas de la hornilla para facilitar el manejo. Se deben quitar las rejillas, la plancha, las tapas de los quemadores y las rejillas de la hornilla para facilitar el manejo. Si lo desea, puede también quitar las puertas de la hornilla (consulte el "PASO 2: Preparación de los armarios" en la página 58). No quite el ensamblaje de la plancha.

Mover la Estufa

Debido al peso se debe usar una carretilla con ruedas suaves para transportar esta unidad. El peso debe quedar soportado uniformemente sobre la parte inferior.

NOTA: El diagrama del cableado eléctrico se encuentra detrás del rodapié. No se debe quitar, excepto por un técnico de mantenimiento, que lo tiene que colocar en su sitio después de utilizarlo.

Quitar los pernos de la tarima

1. Para quitar los cuatro (4) pernos de la tarima que se ubican en la parte inferior, delante y detrás, utilice una llave inglesa o de carraca de 7/16 pulg. Tire los trozos de madera del embalaje.

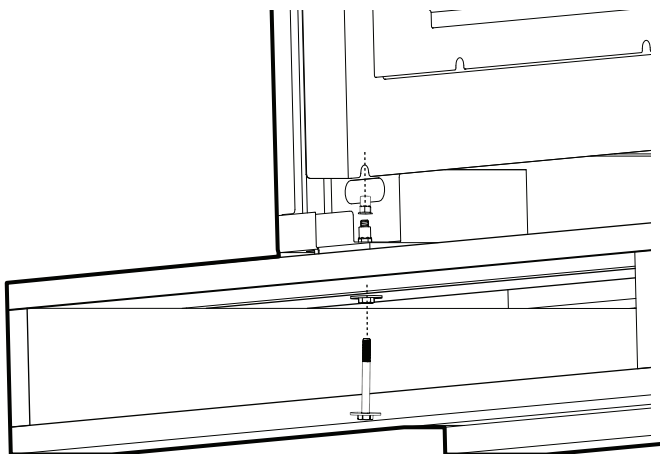


Figura 7: Quitar los pernos de expedición

2. Levante la estufa y retírela de la tarima. Pida ayuda si hace falta.
3. Con un carro, desplace la estufa hasta el lugar donde la quiere instalar. No transporte la estufa apoyando la parte frontal sobre el carro.
4. Puede apoyar la estufa sobre sus patas traseras para retirar el carro con toda seguridad. **PROTEJA EL SUELO BAJO LAS PATAS TRASERAS ANTES DE EMPUJAR EL APARATO EN EL LUGAR DE INSTALACIÓN.**
 - Deberá seguir los pasos 4 a 8 antes de colocar la estufa en su emplazamiento definitivo. Para el adecuado funcionamiento de la estufa, ésta debe estar nivelada. Consulte el "PASO 9: Colocar y nivelar la estufa" en la página 76 para obtener instrucciones al respecto.

PASO 4: Instalación del dispositivo antivuelco

Para todas las estufas, se debe instalar un dispositivo antivuelco siguiendo las instrucciones.

⚠ ADVERTENCIA



RIESGO DE VUELCO DE LA ESTUFA:

- Un niño o un adulto podrían volcar el aparato y perder la vida.
- Asegúrese de que el dispositivo antivuelco esté instalado adecuadamente y que su soporte retenga la pata del aparato, conforme a las instrucciones de instalación.
- Asegúrese de que el dispositivo antivuelco retenga la pata del aparato al reinstalarlo en su sitio.
- No utilice el aparato si el dispositivo antivuelco no está instalado y no retiene el aparato.
- El hecho de no leer las instrucciones de este manual puede causar la muerte o graves quemaduras a niños y adultos.

Cuando jale la estufa de la pared por motivos de limpieza, servicio u otra razón, asegúrese de volver a insertar correctamente el dispositivo antivuelco cuando empuje la estufa contra la pared. Sino, en el caso de un uso poco normal de la estufa (por ejemplo si alguien trepa, se sienta o se apoya sobre una puerta abierta), ésta podría volcarse. El hecho de ignorar esta precaución puede causar el vuelco de la estufa, lo que podría causar lesiones debido a líquidos calientes derramados o al peso mismo de la estufa.

⚠ ADVERTENCIA

RIESGO DE DESCARGA ELÉCTRICA

- Tenga mucho cuidado cuando perforo orificios en una pared o en el piso ya que puede haber cables eléctricos ocultos.
- Identifique los circuitos eléctricos que podrían encontrarse en el sitio donde se instalará el dispositivo antivuelco y apague la corriente de estos circuitos.
- La falta de observar estas instrucciones puede causar una descarga eléctrica o lesiones graves.

PRECAUCIÓN — DAÑOS A LA PROPIEDAD:

- Contacte a un instalador o contratista cualificado para determinar el mejor método para perforar los orificios a través de la pared o del piso teniendo en cuenta el material (cerámica, madera dura, etc.).
- No deslice la estufa sobre un piso desprotegido.
- Si no lee estas instrucciones podría dañar la pared o la superficie del piso.

No de pieza	Cantidad	Descripción
00415078	4	Tornillos Phillips, #10 x 1½"
00647936	1	Soporte antivuelco

Los elementos de fijación proporcionados sirven para instalar el aparato fijándolo a travesaños de madera de un tamaño estándar. Para los otros tipos de instalación, el instalador debe proporcionar los elementos de fijación.

Información de instalación importante:

- Se puede fijar el soporte antivuelco a una superficie de madera dura siempre que el tamaño mínimo de la pared sea de ¾ pulg. (19 mm).
- El grosor de la pared o del piso puede requerir tornillos más largos, disponibles en su ferretería local.
- En todo caso, se deben fijar por lo menos dos tornillos de montaje a la superficie de madera dura.
- Use taquetes apropiados cuando fija el soporte antivuelco a cualquier material diferente que madera o metal.

Preparación de la abertura en el lugar de instalación

Prepare orificios según indicados abajo:

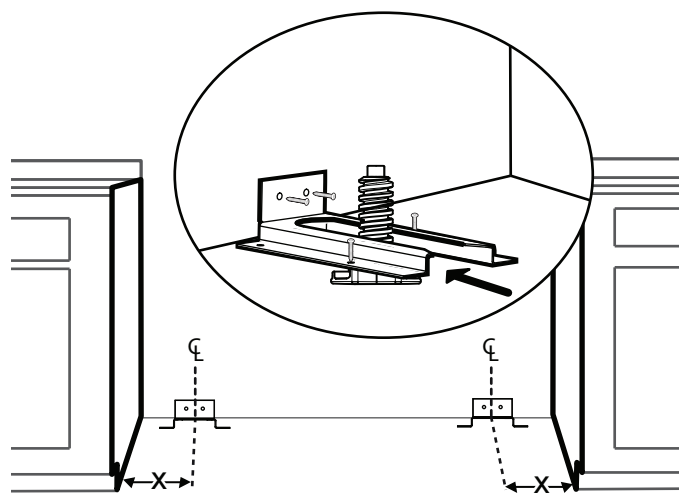
- Para paredes, pernos de pared o pisos hechos de madera sólida o metal, perforo orificios de 1/8 pulg (3 mm).
- Para paredes o pisos hechos de muro seco, tablaroca u otros materiales suaves, perforo orificios de 3/16 pulg (5 mm) a una profundidad mínima de 1¾ pulg (45 mm), luego inserte taquetes de plástico en cada orificio usando un martillo.

- Para paredes o pisos hechos de cemento o bloques de concreto, perforo orificios de 3/16 pulg (5 mm) a una profundidad mínima de 1¾ pulg (45 mm), luego inserte de taquetes para concreto en cada orificio usando montaje un martillo.
- Para paredes o pisos que están cubiertos con azulejos de cerámica, perforo orificios de 3/16 pulg (5 mm) solamente a través del azulejo, luego perforo el material detrás del azulejo como se indica arriba.

Instalar el soporte de montaje antivuelco

El soporte de montaje alternativo para el piso debe ser instalado del siguiente modo:

1. Coloque el soporte sobre el piso en la posición indicada en la *Figura 8*.
 - Se puede usar un soporte de 30 o 36 pulg. en una de las esquinas del área de instalación.
2. Fíjelo al suelo y a un travesaño con los (4) tornillos estrella de 1,5 pulg. (38 mm) proporcionados.
3. Luego, cuando la unidad está instalada, la pata ajustable se desliza debajo del soporte.
4. Si se mueve la estufa a un lugar nuevo, se debe quitar y reinstalar el dispositivo antivuelco.



Model	Lado	X
30 pulg.	izquierdo o derecho	2¼ pulg. (57 mm)
36 pulg.	izquierdo o derecho	2⅝ pulg. (67 mm)
48 pulg.	izquierdo o derecho	2½ pulg. (64 mm)

Figura 8: Colocación del dispositivo antivuelco

PASO 5: Requerimientos de gas y conexiones

Verifique el tipo de gas que se está usando en el lugar de instalación. **El aparato se envía de la fábrica para el uso con gas natural. Debe ser convertida para el uso con propano. Un técnico o instalador calificado debe realizar la conversión.** Asegúrese que la estufa coincide con el tipo de gas disponible en este lugar.

⚠ PRECAUCIÓN

Cuando conecte el aparato a gas propano, asegúrese de que el tanque de gas propano venga con su propio regulador de alta presión además del regulador de presión que se incluye con la estufa. La máxima presión de gas de este aparato no debe exceder 14.0 pulgadas (34.9 mb) de columna de agua entre el tanque de gas propano y el regulador de presión.

Este aparato tiene la certificación CSA para un funcionamiento seguro a altitudes de hasta 2000 pies (610 m) sobre el nivel del mar.

Aparatos que funcionan con gas natural o propano (GLP) - Para altitudes de más de 2000 pies (610 m) sobre el nivel del mar, se pueden llevar a cabo ajustes en el juego de conversión proporcionado con el aparato. Si el rendimiento de las llamas es satisfactorio, no se necesitará el juego de conversión. Los ajustes durante la instalación del juego de conversión para gran altitud deben realizarse por un profesional acreditado.

Aparatos de gas propano - Este aparato está certificado para funcionar de forma segura a altas altitudes de hasta 2000 pies (610 m) sobre el nivel del mar. Se debe proceder a la conversión del aparato a gas propano antes de convertirlo para un uso a altas altitudes. Se debe usar un juego de conversión a gas propano (PALPKITHN), disponible en atención al cliente de Thermador. Solamente un profesional cualificado debe proceder a la instalación del juego de conversión.

REQUERIMIENTOS PARA GAS NATURAL:

Conexión entrada:	½" NPT interno (Mínimo manguera flexible con diámetro de ¾")
Presión suministro:	6" min. a 14" max. columna de agua. (14.9 a 34.9 mb)
Presión manifold:	5" columna de agua (12.5 mb)

REQUERIMIENTOS PARA GAS PROPANO:

Conexión entrada:	½" NPT interno (Mínimo manguera flexible con diámetro de ¾")
Presión suministro:	11" a 14" máx. columna de agua (27.4 mb a 34.9 mb)
Presión manifold:	10" columna de agua (24.9 mb)

⚠ ADVERTENCIA

No use ningún tipo de llama para verificar si hay fugas de gas.

⚠ PRECAUCIÓN

El aparato debe estar aislado del sistema de tubería de suministro de gas cerrando la válvula manual de cierre durante cualquier prueba de la línea de suministro de gas a presiones de prueba igual a o inferior a ½ psi (3,5kPa.).

Conexión

Un técnico competente debe realizar las conexiones del suministro de gas conforme a los códigos y regulaciones locales. A falta de códigos locales, la instalación debe estar conforme al Código Nacional de Gas Combustible ANSI Z223.1/NFPA54- edición actual.

- Se debe instalar una válvula manual externa de cierre de gas, en un lugar accesible desde el frente para cerrar el suministro de gas. La línea de suministro no debe interferir con la parte trasera de la unidad. Asegúrese de cerrar el suministro de gas en la válvula de cierre manual antes de conectar el aparato.
 - La estufa viene con su propio regulador de presión que fue montado permanentemente dentro del cuerpo de la estufa.
- Utilice una línea flexible de ¾" entre el suministro de gas y la línea de suministro del aparato. La línea de suministro de gas está ubicada en la parte inferior derecha de todas las estufas. (Figura 9). La línea de suministro de gas del aparato es de tipo NPT ½".
 - Tenga cuidado de no torsionar la manguera flexible de ¾" cuando haga dobleces. La longitud sugerida de la manguera es de 48" (1,20 m), sin embargo, por favor revise los códigos locales para los requerimientos en su área antes de la instalación.
 - Burbujas que aparecen indican una fuga de gas. Repare todas las fugas de inmediato.

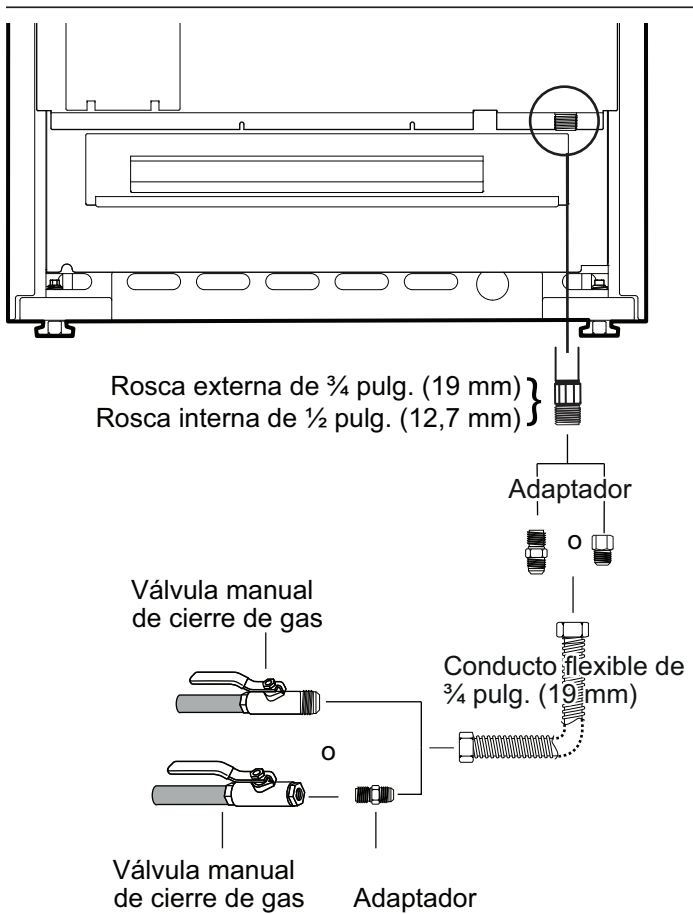


Figura 9: Conexión al suministro de gas

3. Utilice compuesto para juntas de tubería o cinta Teflon en la rosca de los tubos. No aplique dicho compuesto o cinta para agrandar las juntas. Tenga cuidado de no aplicar demasiada presión al apretar las juntas.
4. Las pruebas de fugas del aparato deben estar conforme a las siguientes instrucciones.
 - Prenda el gas y revise las conexiones de la línea desuministro para ver si hay fugas usando una solución con agua y jabón.

PASO 6: Requerimientos eléctricos, conexión y puesta a tierra

Modelo	Voltaje	Circuito	Frecuencia	Fase
30"	240/208 VAC	40 Amps	60 Hz.	Single
36"	240/208 VAC	40 Amps	60 Hz.	Single
48"	240/208 VAC	50 Amps	60 Hz.	Single

Antes de dar servicio al aparato, siempre debe desconectar el cable de alimentación eléctrica de la tomacorriente en la pared. Si el aparato está conectado en forma directa a la fuente de alimentación, desconecte la electricidad a la unidad apagando el cortacircuitos correcto o desconectando el fusible correcto. Bloquee el panel de servicio para prevenir que la corriente se encienda accidentalmente.

Se debe proporcionar un cable neutral de alimentación de la fuente de alimentación (cortacircuitos/panel de fusibles) porque los componentes críticos de la estufa, incluyendo los módulos de reencendido por chispa de los quemadores superficiales, requieren de 120 VAC para funcionar correctamente.

⚠ PRECAUCIÓN

Una fuente de alimentación incorrecta de 240/208 VAC causará el mal funcionamiento de este aparato, dañará la estufa y podría presentar un riesgo de descarga eléctrica.

Cuando el circuito eléctrico correcto no es adecuado, es responsabilidad y obligación del instalador y del usuario hacer conectar una fuente de alimentación apropiada por un técnico cualificado. Incumbe al instalador asegurarse de la observación de los códigos locales. La instalación debe estar hecha conforme a todos los códigos y regulaciones locales aplicables. A falta de códigos locales, la conexión de la fuente de alimentación debe ser conforme al Código Eléctrico Nacional.

La toma de tierra debe estar hecha conforme a todos los códigos vigentes. Sino, se debe aplicar la norma de electricidad ANSI/NFPA No 70 (EEUU) vigente. Consulte la información de la presente sección (Paso 7) para conocer el método de toma de tierra a utilizar.

Los diagramas eléctricos a los que debe recurrir el técnico de servicio cualificado se encuentran detrás del adorno de la puerta de la hornilla (vea *Figura 29 en la página 77*).

Se deben conectar las estufas a la alimentación eléctrica de 240/208 VCA.

Se deben conectar los modelos de estufas mixtas a la fuente de alimentación eléctrica utilizando uno de los siguientes métodos. Para todos los métodos de conexión, la longitud del cable o del conducto / cableado debe permitir que la unidad pueda sacarse completamente de los armarios sin que se tenga que desenchufar o desconectar el aparato de la fuente de alimentación.

La longitud mínima recomendada para el cable o conducto es de cuatro pies. Las instalaciones eléctricas y la toma de tierra deben estar conformes a todos los códigos y regulaciones locales, o al Código Eléctrico Nacional, según el caso.

Conexión Permanente (Cableado Directo)

Se pueden conectar los aparatos directamente a la fuente de alimentación. El instalador debe suministrar un conducto flexible de aluminio aprobado, de un tamaño comercial de 3/4 pulg. (19 mm), de una longitud máxima de 6 pies (1,8 metro).

⚠ ADVERTENCIA

La incorrecta conexión del cable de aluminio puede presentar un riesgo de descarga eléctrica. Únicamente conectores diseñados y certificados para una conexión con un cable de aluminio.

Localice la caja de conexiones en la parte trasera del aparato y quite la cubierta (consulte la *Figura 10*). Se debe fijar el conducto a la caja de conexiones utilizando un conector de conducto aprobado. Se debe conectar la extremidad libre del conector de conducto a una caja de conexiones instalado en la zona de alimentación eléctrica, como se muestra en la *Figura 5 en la página 63*.

Instale un prensacables (no incluido) en el orificio de 1 pulg. (25,4 mm) de diámetro situado debajo de la caja de conexiones (vea la *Figura 10*). El cableado del aparato debe llegar hasta la caja de conexiones mediante el conducto, pasando a través del prensacables. Las extremidades de los cables deben tener fijadas lengüetas cerradas de 1/4 pulg., preferentemente soldadas en su lugar. Realice las conexiones a la caja de conexiones incluida.

Si se usa un cable de aluminio en la instalación, empalme el cable de aluminio con un cable de cobre de un grosor adecuado, para que se adapte a la estufa, utilizando conectores especialmente diseñados y certificados para unir cables de aluminio y de cobre. Siga el proceso de instalación recomendado por el fabricante del conector.

Conexión de 4 cables

Generalmente se debe conectar el aparato a la fuente de alimentación con un cable de 4 conductores, tripolar, para un voltaje nominal de 125/250 voltios, 50 amperios, y marcada para un uso con estufas.

Se debe fijar el cable a la caja de conexiones de la estufa con un prensacables que cabe en un orificio de un diámetro de 1" (25,4 mm). Si no viene ya equipado, el cable debe tener lengüetas cerradas de 1/4", fijadas a los extremos libres de los conductores individuales, de preferencia soldadas en su lugar.

1. Localice la caja de conexiones en la parte trasera del aparato y quite la cubierta (consulte la *Figura 10*).
2. Quite las tuercas superiores solamente de los bornes de la caja de conexiones. No quite las tuercas inferiores que fijan los cables del cableado interno a la estufa.
3. Instale el prensacables (no incluido con la estufa) en el orificio de 1 pulg. (6 mm) de diámetro situado en el panel trasero, debajo de la caja de conexiones (vea la *Figura 10*). Pase los cables por el prensacables.

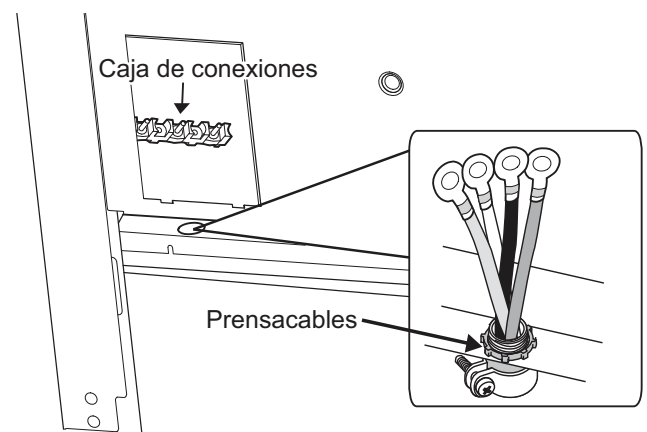


Figura 10: Ubicación del prensacables

4. Fije el cable neutro de toma de tierra del circuito de alimentación al contacto central de la caja de conexiones con una tuerca (vea la *Figura 11*).
5. Fije los conductores de alimentación L1 (rojo) y L2 (negro) a los contactos de la caja de conexiones exterior (color latón) con tuercas.
6. Quite el tornillo verde del cable de toma de tierra situado debajo de la caja de conexiones. Tire del cable blanco.
7. Fije el cable desnudo de cobre de toma de tierra al chasis de la estufa utilizando el tornillo de toma de tierra previamente usado con el cable blanco. Asegúrese de que los bornes de neutro y de toma de tierra no hagan contacto.

8. Apriete bien todas las conexiones.

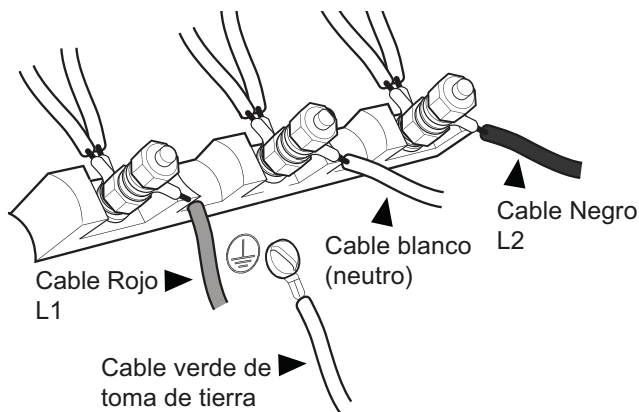


Figura 11: Conexión de cuatro cables

9. Reinstale la cubierta de la caja de conexiones.

INSTALADOR – muestre al propietario la ubicación del disyuntor o del fusible. Márquela para recordarla más fácilmente.

Conexión de 3 cables

Donde los códigos y las regulaciones locales permiten la toma de tierra a través del conductor neutral, y la conversión de alimentación a 4 cables es algo irrealizable, se puede conectar el aparato a la fuente de alimentación con un cable de 3 conductores, tripolar, con un voltaje nominal de 125/250 voltios, 50 amperios, marcada para un uso con estufas.

Fije el cable a la caja de conexiones de la estufa con un prensacables que quepa en un orificio de un diámetro de 1 pulg. (25,4 mm). Si no es el caso, el cable debe tener lengüetas cerradas de ¼ pulg. (6 mm), fijadas a los extremos libres de los conductores individuales, preferentemente soldadas en su lugar.

1. Localice la caja de conexiones en la parte trasera del aparato y quite la cubierta (consulte la Figura 12).
2. Instale el prensacables (no incluido con la estufa) en el orificio de 1 pulg. (6 mm) de diámetro situado en el panel trasero, debajo de la caja de conexiones (vea la Figura 12). Pase los cables por el prensacables.
3. Quite solamente las tuercas superiores de los contactos de la caja de conexiones. No quite las tuercas que fijan los cables del cableado interno de la estufa.

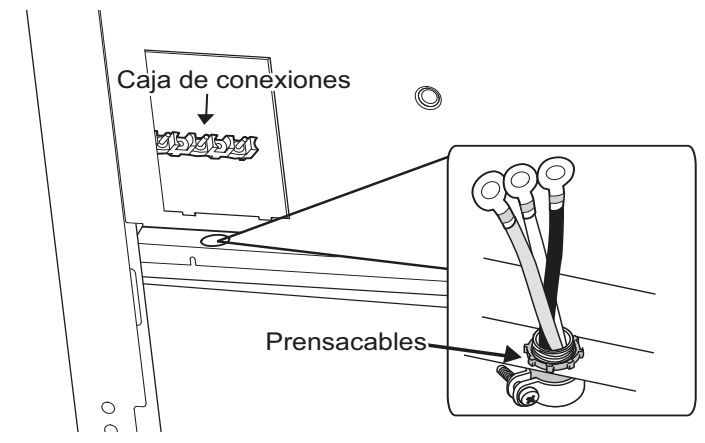


Figura 12: Ubicación del prensacables

4. Fije el cable neutro de tierra del circuito de alimentación al contacto central (color plata) de la caja de conexiones (vea la Figura 13).
5. Fije los conductores de alimentación L1 (rojo) y L2 (negro) a los contactos correspondientes de la caja de conexiones exterior (color latón) con tuercas.
6. Fije una de las extremidades del cable neutro lazado, situado debajo de la caja de conexiones, al contacto central de la caja de conexiones con una tuerca y fije la otra extremidad a la parte trasera de la estufa.
7. Apriete bien las tuercas.

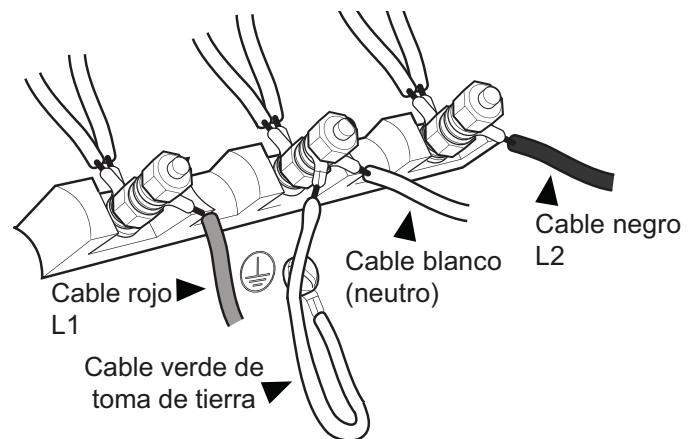


Figura 13: Conexión de 3 cables

8. Reinstale la cubierta de la caja de conexiones.

INSTALADOR – muestre al propietario la ubicación del disyuntor o del fusible. Márquela para recordarla más fácilmente.



PASO 7: Instalación de la consola trasera (opcional)

Modelo	9" Consola Baja	Moldura De Isla Al Ras
30"	PA30GLBH	Incluida con la estufa
36"	PA36GLBH	Incluida con la estufa
48"	PA48GLBH	Incluida con la estufa

Tabla 2: Número de modelo para los kits de las consolas traseras de protección

Los métodos de instalación varían según las necesidades. Antes de empezar, lea atentamente estas instrucciones. Observe todos los códigos locales.

Instalación de la consola trasera de protección (PA [30,36, 48] JBS)

PIEZAS INCLUIDAS	HERRAMIENTAS REQUERIDAS
 10 – tornillos de 1 pulg. (25,4 mm)	Destornillador o punta Phillips
 1 – consola trasera de protección	Cinta métrica

Se debe instalar la consola trasera de protección antes de instalar una campana, ya que la campana cubre los tornillos de fijación superiores de la consola trasera de protección.

Para proteger la consola trasera de protección contra los rasguños, deje la lámina adhesiva de plástico que la cubre hasta terminar la instalación.

Si la estufa ya está instalada, consulte las instrucciones del fabricante para desconectar el suministro de gas y la alimentación eléctrica. Desplace la estufa para tener acceso a la pared trasera.

▲ ADVERTENCIA

Para evitar posibles quemaduras o incendios, se debe quitar todo el material del embalaje del accesorio antes de usarlo.

1. Localice y marque los sitios donde pasan los travesaños de pared. Normalmente, los travesaños de pared se instalan a intervalos de 16 o 24 pulg. (406 o 610 mm).
2. La altura de la campana determinará la altura de instalación del borde superior de la consola trasera de protección. Se debe instalar la consola trasera de protección para que el borde inferior de la campana cubra la parte superior de la consola trasera de protección de 1-½ pulg. (38 mm).
3. Utilice dos de los tornillos proporcionados para fijar las partes inferior y superior de la consola trasera de protección a cada travesaño de pared (*Figura 14*).
 - En algunos casos, y teniendo en cuenta la anchura variable de los travesaños de pared y de las consolas traseras de protección, se puede encontrar únicamente un travesaño de pared en el sitio de instalación.
4. Quite la lámina de protección de plástico.

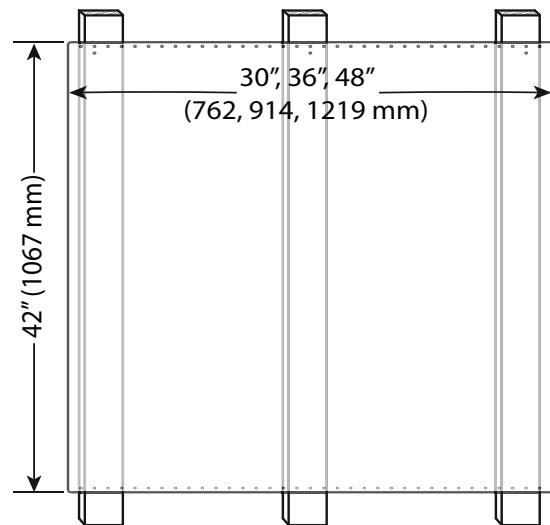


Figura 14: Instalación de la consola trasera

Instalación de la consola trasera de protección con un estante guarda-caliente

Se puede instalar primero la campana si instala la consola trasera de protección con un estante guarda-caliente ya que este estante cubrirá los tornillos de fijación superiores de la consola trasera de protección (*Figura 15*).

Para proteger la consola trasera de protección de rasguños, deje la lámina adhesiva de plástico que la cubre hasta terminar la instalación.

Si la estufa ya está instalada, consulte las instrucciones del fabricante para desconectar el suministro de gas y la alimentación eléctrica. Desplace la estufa para tener acceso a la pared trasera.

1. Localice y marque los sitios donde pasan los travesaños de pared. Normalmente, los travesaños de pared se instalan a intervalos de 16 pulg. o 24 pulg. (406 mm o 610 mm).

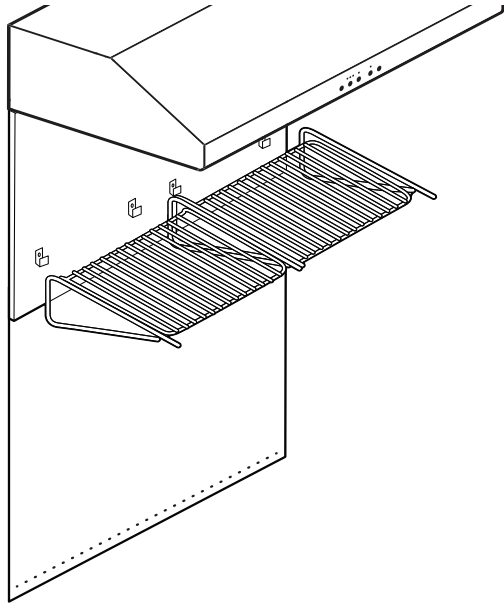


Figura 15: Consola trasera de protección con estante guardacaliente

2. La altura de la campana determinará la altura de instalación del borde superior de la consola trasera de protección. Se debe instalar la consola trasera de protección para que la parte trasera del estante guardacaliente cubra la parte superior de la consola trasera de protección de 1 ½ pulg. (38 mm).
3. En el lugar indicado en la *Figura 16*, fije los soportes inferiores proporcionados con el estante guardacaliente a través de la consola trasera de protección en los travesaños de pared.

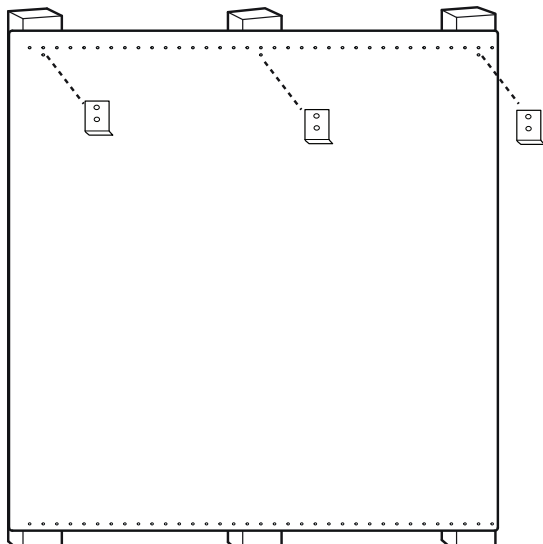


Figura 16: Consola trasera de protección con estante guardacaliente

- En algunos casos, y teniendo en cuenta la anchura variable de los travesaños de pared y de las consolas traseras de protección, se puede encontrar únicamente un travesaño de pared en el sitio de instalación.

4. Quite la lámina de protección de plástico.
5. Comience la instalación del estante guardacaliente.

Estante guardacaliente (KHS [30,36,42,48] QS)

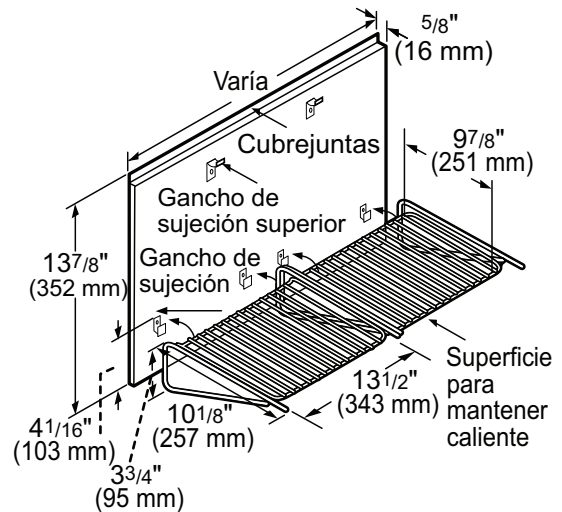


Figura 17: Estante guardacaliente

Piezas Incluidas		Herramientas Requeridas
	10 – tornillos de 1 pulg. (25,4 mm) 4 – tornillos de ½ pulg. (12,7 mm)	Cinta métrica
	4 – tuerca en U	Cinta de pintor
	2 – soportes superiores para el estante	Destornillador o punta Phillips
	4 – soportes inferiores para el estante	Cuchillo o tijeras
	2 – rejillas guardacaliente	
	1 – consola trasera para estante guardacaliente	
1 – manual de instalación y patrón de papel		

- Pegue con cinta los patrones de papel proporcionados con el estante guarda-caliente de la forme siguiente:
 - Pegue la hoja titulada Left Hand Template en la esquina inferior izquierda alineando el borde inferior de la campana y la línea superior del patrón.
 - Pegue la hoja titulada Right Hand Template en la esquina inferior derecha alineando el borde inferior de la campana y la línea superior del patrón.
 - Pegue la hoja titulada Installation Instruction para que la flecha de encima del patrón esté alineada con la línea central de la campana. Alinee el borde inferior de la campana y la línea superior del patrón.
 - Los lados del patrón deben corresponder a la longitud del estante.
- Instale los dos soportes superiores del estante y los tres soportes inferiores del estante en los sitios indicados en los patrones. Fíjelos con los diez tornillos de 1 pulg. (25,4 mm) proporcionados.
- Corte el patrón alrededor de los soportes y quítelo de la pared. No lo tire antes de terminar la instalación del estante guarda-caliente.
- Inserte las cuatro tuercas en los cuatro soportes inferiores del estante.
- Instale la placa mural colocando las muescas de las esquinas (dorso de la placa mural) encima de los dos soportes superiores del estante. Deslice el accesorio del estante hacia arriba hasta que la parte inferior se enganche en los soportes inferiores (*Figura 18*).
- Asegúrese de que la parte superior del accesorio del estante esté bien fijada tirando de la parte superior del accesorio del estante.

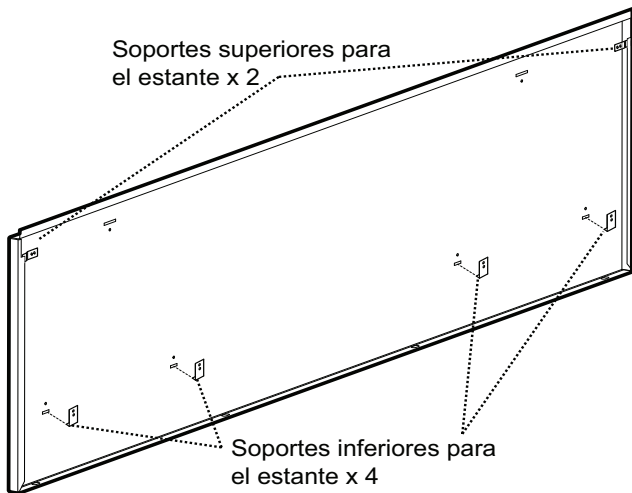


Figura 18: 48 pulg dorso de la placa mural

- Asegúrese de que la parte superior del accesorio del estante esté bien fijada tirando de la parte superior.
- Fije la parte inferior del accesorio del estante con los cuatro tornillos ½ pulg. (12,7 mm) proporcionados.

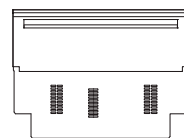
Instalación de la consola trasera baja

Cuando se instala sobre una superficie combustible, se debe usar una consola trasera baja. Se debe comprar por separado una consola trasera baja THERMADOR®. Vea la sección sobre los espacios libres en la *página 59* para obtener más información.

Cuando se utiliza el adorno de isla THERMADOR, hace falta un espacio libre trasero mínimo de 12 pulg. (305 mm) entre el aparato y la superficie combustible (vea la *Figura 1, Espacios libres para los armarios*). Los espacios libres para las materias no combustibles no forman parte de la norma ANSI Z21.1 y no están certificados por la CSA. Los códigos locales o la autoridad local competente deben aprobar los espacios libres de menos de 12 pulg. (305 mm).

NOTA: Si se usa una consola trasera de protección con la consola baja, instale primero la consola trasera de protección, luego la consola baja antes de volver a colocar la estufa en su sitio.

Piezas proporcionadas con la consola baja



1 – panel



9 o 8 – tornillos Torx T-20 de acero inoxidable

8 o 6 – tornillos de punta Torx T-20

Herramientas requeridas

Destornillador o punta Torx T-20

Guantes de protección

⚠ ADVERTENCIA

Tenga cuidado para no pellizcarse los dedos o las manos al instalar la consola trasera. Podría lesionarse gravemente. Lleve guantes de protección gruesos para evitar cortarse o lastimarse los dedos o las manos al deslizar la consola sobre la estufa.

Instalación de la consola trasera baja

1. Según el modelo, quite los tres o cuatro tornillos Torx T-20 de acero inoxidable de la cara frontal del adorno tipo isla proporcionado.

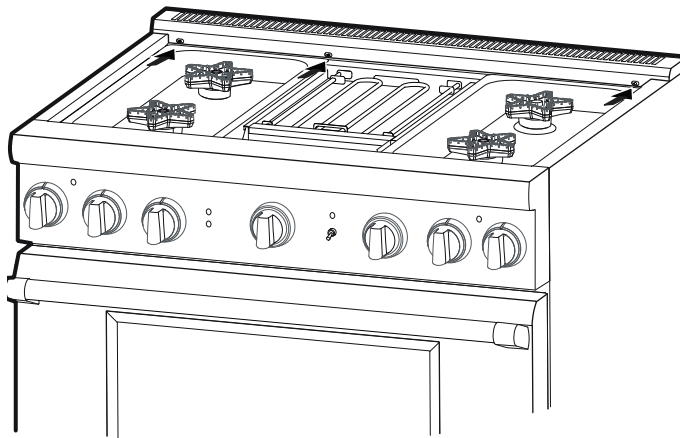


Figura 19: Como quitar los tornillos de la cara frontal del adorno tipo isla

2. Quite los cuatro tornillos de punta que retienen el adorno a los paneles laterales y los dos o cuatro tornillos de punta que retienen la placa trasera en su sitio. Levante el adorno para quitarlo totalmente.

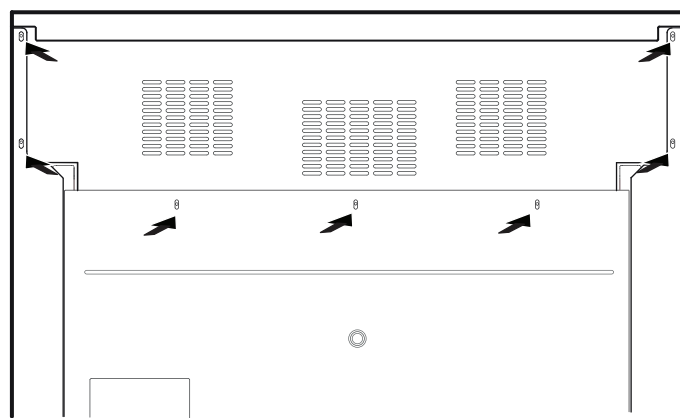


Figura 20: Como quitar los tornillos de la parte trasera del adorno de isla

3. Alinee el panel trasero del nuevo accesorio con las pestañas de los rincones de izquierda y derecha de los paneles laterales. La consola trasera se inserta en los canales guías situados detrás de la estufa.

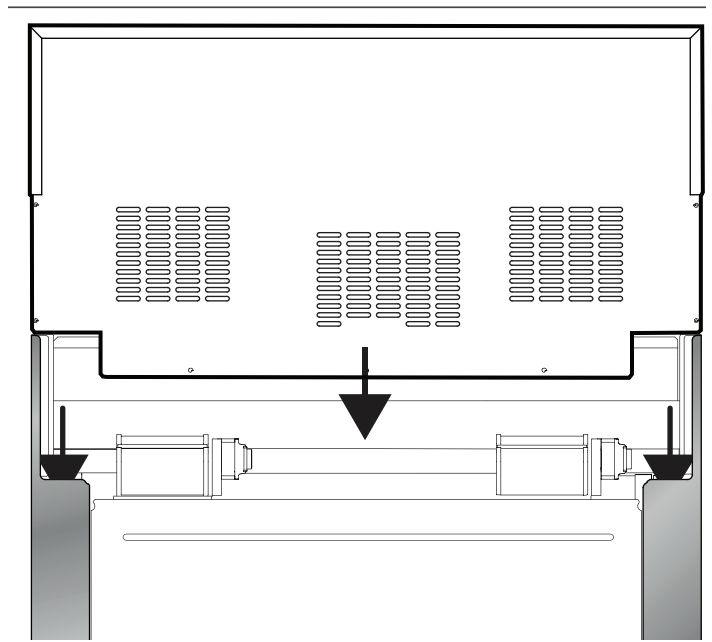


Figura 21: Instalación de la consola trasera baja

4. Asegúrese de que la parte frontal de la consola esté fuera de la pestaña en la parte delantera de la estufa.

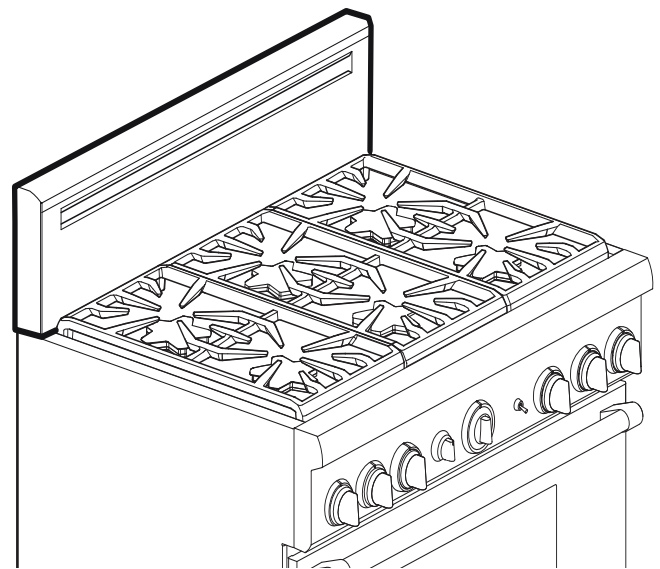


Figura 22: Vista frontal de la consola trasera baja

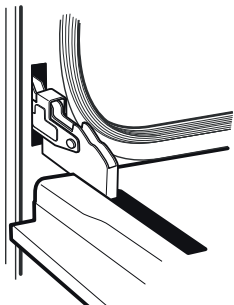
5. Vuelva a instalar los tornillos que quitó en los pasos 1 y 2.

PASO 8: Quitar y reinstalar la puerta

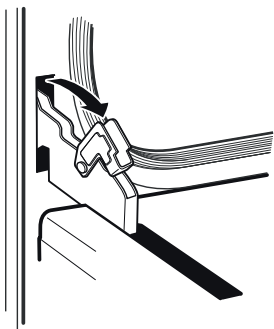
⚠ PRECAUCIÓN

- Asegúrese de que la hornilla esté fría y que la corriente esté desconectada antes de quitar la puerta. De otro modo podría recibir una descarga eléctrica o quemarse.
- La puerta de la hornilla pesa mucho y es frágil. Use ambas manos para quitar o reinstalar la puerta.
- Si no agarra la puerta de la hornilla firme y correctamente, podría lesionarse o dañar el producto.
- Nunca suelte la agarradera de la puerta de la hornilla para intentar cerrar las bisagras cuando ha quitado la puerta. Sin el peso de la puerta, los poderosos resortes cerrarán las bisagras con mucha fuerza.

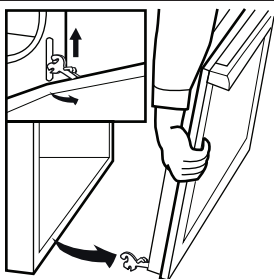
Para quitar la puerta de la hornilla



1. Asegúrese de leer la advertencia aquí arriba antes de quitar la puerta.
2. Abra completamente la puerta.



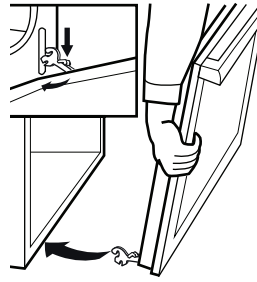
3. Empuje los soportes de las bisagras hacia abajo. Puede ser que necesite un destornillador para hacerlas bascular.
4. Cierre la puerta despacio hasta apoyarla contra los soportes de las bisagras. Cuando éstas están en posición abierta, la puerta se queda abierta a un ángulo de unos 30° respecto a su posición cerrada.



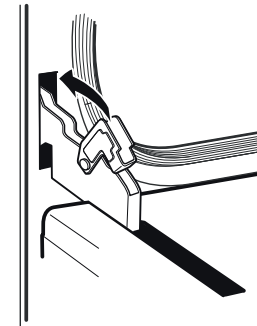
5. Agarre la puerta de los extremos y levántela. Los resortes ofrecerán un poco de resistencia.
6. Levante la puerta despacio para sacarla de los agujeros de las bisagras.
7. Guarde la puerta en un lugar seguro y estable.

Figura 23: Para quitar la puerta de la hornilla

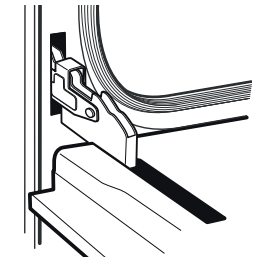
Para reinstalar la puerta de la hornilla



1. Sujete la puerta firmemente con sus dos manos.
2. Coloque la puerta en un ángulo de 30° respecto a su posición cerrada. Inserte las bisagras centrándolas en las ranuras. Cuando se instalan correctamente, los soportes se agarran sólidamente en las ranuras. No fuerce o tuerza la puerta.



3. Abra completamente la puerta para exponer las bisagras, las palancas y las ranuras.
4. Haga bascular las bisagras hacia delante y por abajo hasta apoyarlas en las ranuras. Puede ser que necesite un destornillador para volver a poner los soportes a su sitio.



5. Cierre y abra la puerta para asegurarse que esté adecuadamente instalada.

Figura 24: Para reinstalar la puerta de la hornilla

Verificación de la instalación y del funcionamiento de la puerta

1. Abra y cierre la puerta lentamente para asegurarse de que se mueva normalmente y que esté ajustada a la cavidad de la hornilla. No fuerce para abrir o cerrar la puerta. Si está bien instalada, debería moverse fácilmente y, cuando está cerrada, estar alineada con la parte frontera de la hornilla.
2. La estufa debe estar nivelada para que se alineen adecuadamente las puertas de la hornilla. Vea la "PASO 9: Colocar y nivelar la estufa".
3. Si no funciona adecuadamente, asegúrese de que las bisagras descansen en sus ranuras y que los soportes estén en el fondo de las ranuras.

- Si la puerta o la agarradera parecen levemente desniveladas, puede ajustar su inclinación apretando o aflojando el tornillo se encuentra directamente abajo de la ranura de la bisagra. Apriétela o aflójela según el ajuste que haga falta para alinear correctamente la puerta.

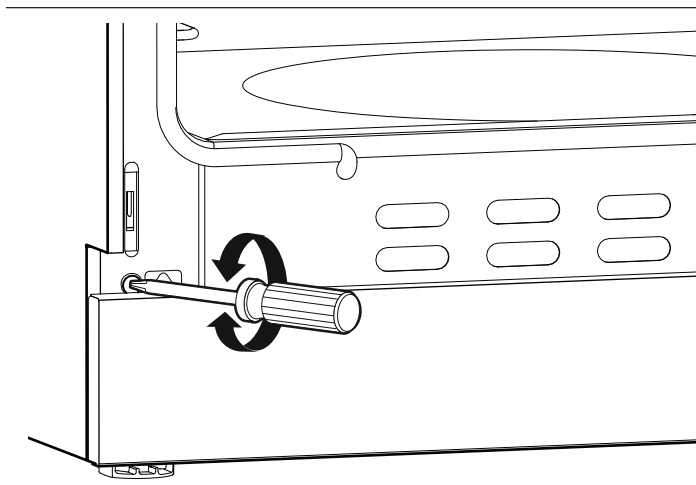


Figura 25: Agujero de los tornillos de ajuste de las bisagras

PASO 9: Colocar y nivelar la estufa

▲ PRECAUCIÓN

Los bordes superiores de los paneles laterales de la estufa deben estar a la misma altura o más altos que la encimera adyacente. Si se usa la estufa a una altura más baja que la encimera adyacente, los armarios podrían estar expuestos a temperaturas excesivas, lo que podría dañar la encimera y los armarios (vea la Figura 26).

Para obtener un rendimiento óptimo, la estufa debe estar nivelada. Esto es muy importante para todos los aparatos que vienen equipados con una plancha). La cavidad de la hornilla también debe estar nivelada para obtener un rendimiento óptimo.

Los modelos de 30 y 36 pulg. tienen cuatro patas de nivelación, una en cada esquina, enroscadas en la estructura base de aluminio fundido. Los modelos de 48 pulg. tienen seis.

- Mida la altura de la encimera con una cinta métrica y añada 1/16-1/8 pulg. (2-3 mm). Ajuste adecuadamente las patas antes de empujar la estufa en su posición final.

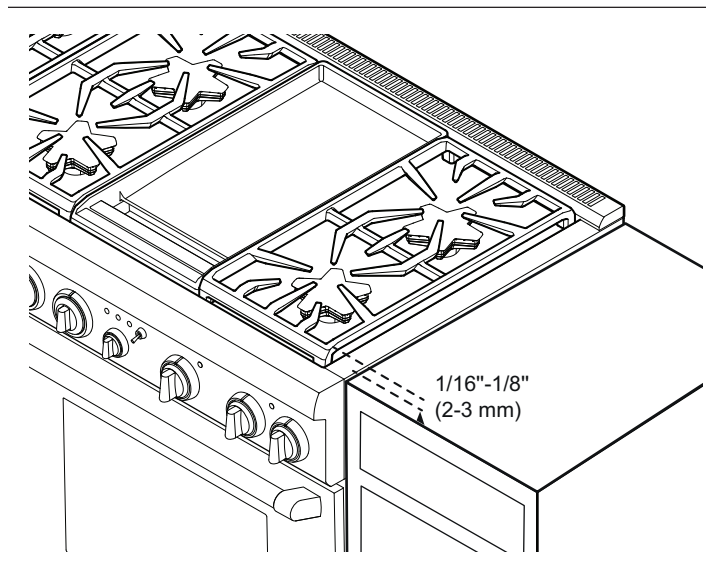


Figura 26: Ajuste de la altura de la estufa

- Gire los lados planos de cada pata con una llave ajustable de 12 pulg. (305 mm).

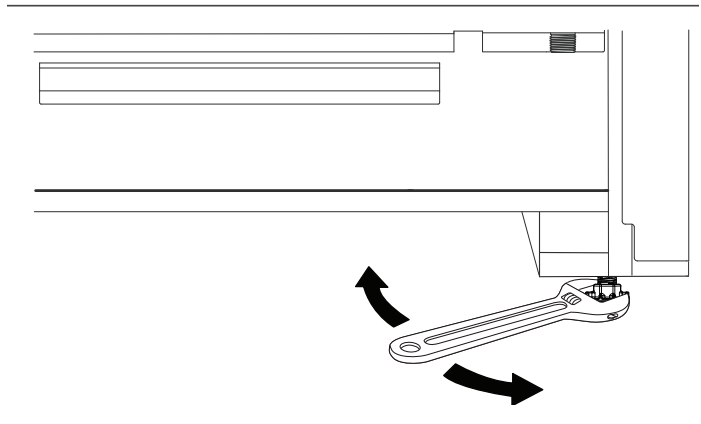


Figura 27: Nivelación de la estufa

- El ajuste de la altura se debe hacer poco a poco, alternando entre cada una de las cuatro patas hasta que los bordes superiores de los paneles laterales de la estufa estén aproximadamente a la misma altura que la encimera.
- Los ajustes finales de la altura de las dos patas traseras se deben hacer antes de mover la estufa hacia su posición final entre los armarios.
- En el momento de instalar la estufa en su posición final, asegúrese de que el soporte antivuelco se inserte correctamente. Para verificar si se engancha, puede mirar a través de la abertura delante del aparato, cerca del piso.
- Cuando la estufa se halle en su posición final, los ajustes de altura finales y el alineamiento con la encimera se hacen con las dos patas delanteras.

Ensamblaje de la parrilla (no todos los modelos)

Consulte la sección "Usar la parrilla eléctrica" en el manual de uso y mantenimiento.

Ensamblaje de la parrilla (no todos los modelos)

Consulte la sección titulada "Uso de la parrilla eléctrica" del manual de uso y cuidado.

Ajuste del rodapié

Para ajustar el rodapié, haga lo siguiente:

1. Quite los tornillos del rodapié con un destornillador Torx T-20.
2. Empuje ligeramente el rodapié hacia arriba para librar las lengüetas de aluminio de la base moldada.
3. Coloque el rodapié en una de las cinco posiciones de los agujeros para los tornillos, como se ve en la *Figura 28*. Reinstale los tornillos Torx.
4. Haga lo mismo en el otro lado asegurándose de que el rodapié esté nivelado.
 - El rodapié de la estufa debe estar por lo menos a 0,5 pulg. (12,7 mm) sobre el suelo.

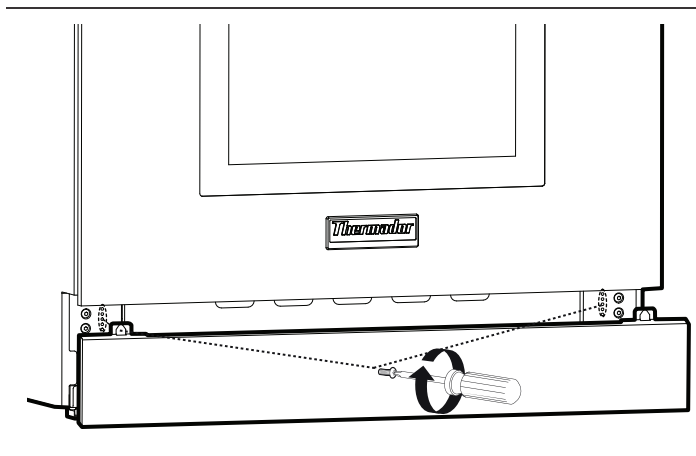


Figura 28: Ajuste del rodapié

Placa con información del aparato

La placa con información del aparato muestra el número de modelo y de serie de su estufa. Se encuentra en el bastidor, detrás de la puerta del horno (vea la ilustración).

No se deben quitar los diagramas del cableado eléctrico en el área para los pies excepto por un técnico de servicio. Vuelva a ponerlos después del servicio.

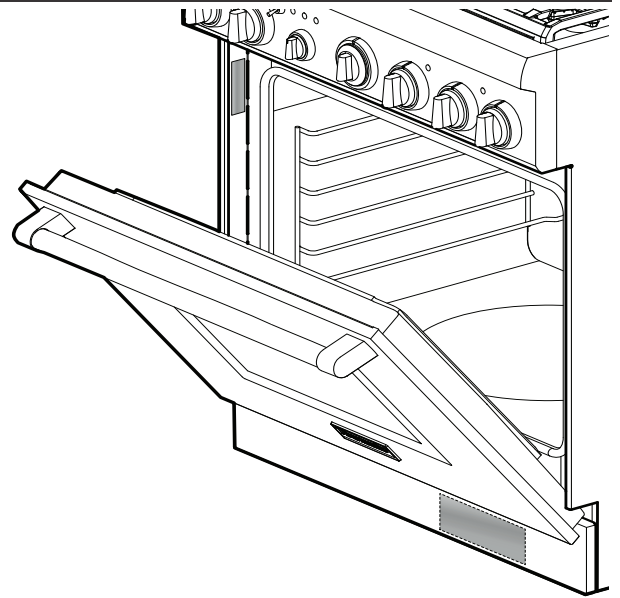


Figura 29: Ubicaciones de la placa de información y del diagrama de cableado

PASO 10: Pruebas de Quemador

Instala cualquier componente flojo, como casquillos de quemador y rejillas, que se pudieron haber quitado con anterioridad. Asegúrese que los casquillos de quemador asienten apropiadamente en sus bases de quemador. Antes de probar la operación de la unidad, verificar que se ha comprobado cuidadosamente la unidad y la fuente de gas para saber si hay fugas y que la unidad haya sido conectada con la fuente de la corriente eléctrica. Dar vuelta a la válvula de cierre manual del gas a la posición abierta.

NOTA: Antes de encender la hornilla, todas las perillas deben estar en la posición OFF. Para prevenir un funcionamiento no querido al encender la hornilla, coloque todas las perillas en la posición OFF. Para garantizar la seguridad del usuario en el caso de un apagón, un mensaje señalando un error aparece en la pantalla del aparato cuando vuelve la electricidad, a menos que todas las perillas estén en la posición OFF. Coloque todas las perillas en la posición OFF y reinicie el automático para eliminar el mensaje.

Pruebe los quemadores superiores de la estufa

Pruebe el Encendido del Quemador

Seleccione una perilla de quemador de la estufa. Presione hacia abajo y gire en contra de las manecillas del reloj hacia **ALTO**. El módulo de chispa/encendido producirá un sonido de chasquido. Una vez que el aire ha sido purgado de las líneas de alimentación, el quemador deberá encender dentro de cuatro (4) segundos.

Prueba de Flama: Opción Alta

Gire el quemador a **ALTO**. Vea *Figura 30* para las características apropiadas de flama.

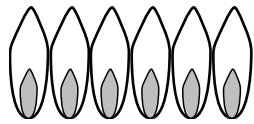
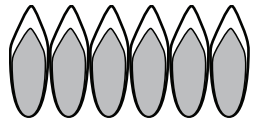
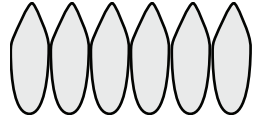
Si alguno de los quemadores superiores de la estufa continúan produciendo una llama casi o completamente amarilla, verifique que el casquillo del quemador está posicionado apropiadamente en la base del quemador, entonces vuelva a probar. Apague cada llama soplando y deje que los quemadores se reencendían para asegurarse de que funciona adecuadamente el dispositivo de reencendido. Si las características de la flama no mejoran, contacte a THERMADOR mantenimiento.

Prueba de Flama: Opción Baja

Gire el quemador a SIM. Verifique que la flama rodea completamente el quemador. Debe haber una flama en cada compuerta del quemador y no debe haber una apertura de aire entre la flama y el quemador. Si cualquiera de los quemadores no continúa, llame a THERMADOR mantenimiento.

Algunos quemadores están equipados con la tecnología XLO[®], que consiste en un ciclo de encendido y apagado de la llama. Este ciclo es normal cuando se selecciona esa función con la perilla de control.

Repita los procedimientos de prueba de Encendido y Flama, descritos para cada quemador superior de la estufa.

Flama amarilla: Se requiere más ajuste.	
Puntas amarillas sobre conos: Normal para Gas LP.	
Flama azul suave: Normal para Gas Natural.	

Si la flama es casi o completamente amarilla, verifique que el regulador está establecido para el combustible correcto. Posterior al ajuste, vuelva a probar.

Se pueden producir algunas rayas anaranjadas en el encendido inicial. Permita que la unidad trabaje durante 4-5 minutos y vuelva a evaluar antes de realizar ajustes.

Figura 30: Características de las llamas

Cuando la flama está ajustada correctamente:

Debe haber una flama en el puerto de cada quemador. No debe haber un espacio de aire entre la flama y el quemador.

Llame a THERMADOR mantenimiento si:

1. Cualquiera de los quemadores no encienden.
2. Cualquiera de los quemadores continúan produciendo flama amarilla.

Lista de chequeo del instalador

- ___ Se respetaron los espacios libres especificados entre la estufa y los armarios adyacentes.
- ___ Aparato nivelado y cubiertas de patas instaladas.
- ___ Tapas de quemadores correctamente colocadas sobre sus bases.
- ___ Se quitó todo el material de embalaje.
- ___ Se fijó el adorno de tipo isla o la consola trasera conforme a las instrucciones.
- ___ Verifique la llama de cada quemador. Debe corresponder a la descripción de llama del Paso 10. La llama puede tardar varios minutos para quemar todas las impurezas que se encuentran en los conductos de gas.
- ___ Verifique la función ExtraLow para asegurarse de que funcione y que la llama se vuelva a encender en todo el quemador.

Suministro de Gas

- ___ Conexión: NPT, 3/4 pulg. (19 mm) con un conducto flexible de un diámetro mínimo de 3/4 pulg. (19 mm).
- ___ El aparato está conectado solamente al tipo de gas para el cual está certificado.
- ___ Se instaló la válvula de cierre manual de gas en un lugar accesible (sin que se tenga que mover la estufa). El propietario sabe dónde está la válvula de cierre manual de gas.
- ___ Se comprobó que no hay fugas de gas.
- ___ Si la estufa usa gas propano, asegúrese de que el tanque de gas propano venga con su propio regulador de alta presión además del regulador de presión que se incluye con la estufa.
- ___ La máxima presión de gas de este aparato no debe exceder 14.0 pulgadas (34.9 mb) de columna de agua entre el tanque de gas propano y el regulador de presión.

Electricidad

- ___ Se usa un enchufe protegido contra las subidas de tensión de corriente en el cable de alimentación.
- ___ Toma de tierra adecuada.
- ___ El propietario sabe dónde está el disyuntor principal.

Funcionamiento

- ___ Las perillas están centradas y giran libremente.
- ___ Cada quemador prende bien, tanto en forma individual como junto con otros quemadores funcionando.
- ___ Las bisagras de la puerta de la hornilla están enganchadas y se cierran correctamente. La agarradera y la puerta de la hornilla están niveladas y centradas. La puerta se abre y cierra correctamente.
- ___ Las rejillas de los quemadores están posicionadas correctamente, están niveladas y no se mueven.
- ___ **INSTALADOR:** escriba el número de modelo y el número de serie de la placa de señalización en la Manual de Cuidado y Uso. Deje el Manual de Cuidado y Uso y el Manual de Instalación al dueño del aparato.

Limpieza y protección de las superficies exteriores

- Frote siempre el acero inoxidable en el sentido del grano.
- Para limpiar y proteger el acero inoxidable, utilice el producto Stainless Steel Conditioner de Thermador, disponible en la tienda en línea de Thermador (www.thermador-eshop.us).
- Se pueden limpiar las superficies de acero inoxidable con un trapo húmedo, jabonoso, enjuagar con agua limpia y secar con un trapo suave para evitar la formación de marcas de agua. Cualquier detergente suave para vidrio quitará huellas digitales y manchas.
- Para decoloraciones o suciedades persistentes, consulte el manual de uso y cuidado.
- NO permita que suciedades permanezcan por períodos largos de tiempo.
- NO use fibra metálica normal o cepillos metálicos. Se pueden pegar pedazos pequeños de metal a la superficie causando que ésta se oxide.
- NO permita que soluciones salinas, desinfectantes, blanqueadores o compuestos de detergentes tengan contacto prolongado con el acero inoxidable. Muchos de estos compuestos contienen químicos dañinos. Enjuague con agua después de cada exposición y seque con un trapo limpio.

Resolución de problemas

Para obtener información sobre resolución de problemas, consulte la Guía de uso y cuidado.

Consult with a qualified heating and ventilation specialist for your specific ventilation requirements. We reserve the right to change specifications or design without notice.

Some models are certified for use in Canada. THERMADOR[®] is not responsible for products which are transported from the U.S. for use in Canada. Check with your local Canadian distributor or dealer.

Consultez un spécialiste qualifié en chauffage et en ventilation pour connaître les exigences de ventilation précises qui s'appliquent à votre cas. Nous nous réservons le droit de changer les spécifications ou la conception de nos appareils sans préavis.

Certains modèles sont certifiés pour une utilisation au Canada. THERMADOR^{mc} n'est pas responsable des produits transportés à partir des États-Unis pour une utilisation au Canada. Informez-vous auprès de votre distributeur ou détaillant local (Canada).

Consulte a un especialista cualificado en calefacción y ventilación para conocer las exigencias particulares de ventilación que se aplican en su caso. Nos reservamos el derecho a cambiar las especificaciones o el diseño de nuestros aparatos sin previo aviso.

Algunos modelos están aprobados para un uso en Canadá. THERMADOR[®] no es responsable de los productos transportados desde Estados Unidos para un uso en Canadá. Infórmese con su distribuidor o minorista local (Canadá).

THERMADOR® Service | Entretien | Mantenimiento

Service

We realize that you have made a considerable investment in your kitchen. We are dedicated to supporting you and your appliance so that you have many years of creative cooking.

Please don't hesitate to contact our excellent STAR™ Customer Support Department if you have any questions or in the unlikely event that your THERMADOR® appliance needs service. Our service team is ready to assist you.

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www.thermador.com/support

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Marcone 800-287-1627
or
Reliable Parts 800-663-6060

Entretien

Nous savons bien que vous avez investi une somme considérable dans votre cuisine. Nous nous faisons un devoir de vous soutenir pour que vous puissiez profiter pleinement d'une cuisine où vous pourrez exprimer toute votre créativité de nombreuses années durant.

N'hésitez pas à communiquer avec l'un des membres chevronnés de notre équipe de soutien au client si vous avez des questions ou dans le cas plutôt improbable où votre appareil THERMADOR^{MC} aurait besoin d'entretien. Notre équipe sera prête à vous aider.

É.-U. :
800-735-4328
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Canada :
Marcone 800-287-1627
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Reliable Parts 800-663-6060

Mantenimiento

Nos damos cuenta que Usted invirtió una suma considerable en su cocina. Nos dedicamos a atenderle para que pueda sacar provecho de una cocina donde podrá expresar toda su creatividad durante muchos años.

Por favor, no dude en ponerse en contacto con uno de nuestros empleados ESTRELLAS™ de atención al cliente si tiene preguntas o en el caso más bien improbable que su aparato THERMADOR® necesite mantenimiento. Nuestro equipo estará listo para ayudarle.

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Addendum

Documents and Photographs Requested by a Board Member

The Verse - Enlarged picture of gas valve serving cooktop.



The Verse - 1650 Silver Hill Drive, McLean, VA



The Verse - Building Entrance Lobby



The Verse - Typical Unit Living and Dining Area



The Verse - Typical Kitchen (adjacent to living/dining area)



The Verse - Cooktop and Oven



The Verse -Cooktop and Oven



The Verse -Dishwasher adjacent to Oven and Cooktop



The Verse - Photo shows one of two screws required to access slide out the oven to access the gas valve



The Verse - Photo shows an access panel with 10 screws (8 visible in photo) required to be removed to access the equipment above.



The Verse - Photo shows the unit electrical panel located adjacent to the unit entry. Fairfax Fire Department requested the instructions for accessing the gas valve be placed inside the panel board door if the valves are to remain as is.



The Verse - Photo shows the inside of the electrical panel and illustrates room for the instructions for access to the gas valve if they remain as is.



VIRGINIA:

BEFORE THE
STATE BUILDING CODE TECHNICAL REVIEW BOARD

IN RE: Appeal of Monica and Michael Davis
Appeal No. 22-02

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VIRGINIA:

BEFORE THE
STATE BUILDING CODE TECHNICAL REVIEW BOARD

IN RE: Appeal of Monica and Michael Davis
Appeal No. 22-02

REVIEW BOARD STAFF DOCUMENT

Suggested Statement of Case History and Pertinent Facts

1. In March of 2020, the County of Augusta Department of Community Development (County Building Official), the agency responsible for the enforcement of Part 1 of the 2012 Virginia Uniform Statewide Building Code (Virginia Construction Code or VCC), issued a final inspection and a subsequent Certificate of Occupancy to Monica and Michael Davis (Davis), for a single-family dwelling located at 1002 Round Hill School Road, in Augusta County.

2. Shortly after moving into their new home, Davis contacted the County Building Official requesting he come to their home to inspect a variety of issues they had found with the home with attached garage and detached garage.

3. In June and July of 2020, the County Building Official visited the property several times investigating the issues brought forth by Davis. During one or more of these inspections, the County Building Official found several violations. On July 16, 2020, the County Building Official issued a letter to Hendricks and Son General Contractor, LLC citing seventeen (17) code violations.

4. Davis filed a timely appeal to the Augusta County Board of Building Code Appeals (local appeals board) for items numbered one (1) and three (3) under the other sections portion of the June 10, 2020 letter from the County Building Official. Davis also asked the local

board to consider the potential code violation related to the bathroom door in the half bath in the garage, which was not sealed to prevent garage odors, such as exhaust fumes, from entering the HVAC system for the home. The local appeals board upheld the decisions of the County Building Official.

5. On October 15, 2020, Davis further appealed to the Review Board. These issues were presented to the Review Board for consideration at the January 22, 2021 Review Board meeting in Appeal No. 20-03. The Review Board considered and approved the final order for Appeal No. 20-03 on March 19, 2021.

6. On September 29, 2020, Schnitzhofer Structural Engineers visited the Davis home to evaluate the residence with detached garage and detached garage related to the cited violations in the July 16, 2020 letter from the County Building Official. Schnitzhofer Structural Engineers drafted a letter dated November 3, 2020, which was received by Augusta County on November 9, 2020. The Schnitzhofer Structural Engineers letter was reviewed and accepted by the County Building Official.

7. Davis filed a timely appeal to the Augusta County Board of Building Code Appeals (local appeals board) for the acceptance and approval of the Schnitzhofer Structural Engineers letter. Davis further appealed to the local appeals board to consider the proposal report from Engineer Solutions and require the builder to approach the cited violations with the suggested analysis process set forth in that report. The local appeals board upheld the decisions of the County Building Official finding that the Schnitzhofer Structural Engineers report was a valid engineering report for the Davis' structure.

8. On February 1, 2021, Davis further appealed to the Review Board. These issues were presented to the Review Board for consideration at the May 21, 2021 Review Board

meeting in Appeal No. 21-02. The Review Board considered and approved the final order for Appeal No. 21-02 on September 17, 2021.

9. Pursuant to the local appeals board decision, as a result of a conversation by the legal counsels for the Davis', builder, and County a letter by the Davis' attorney, dated August 5, 2021, was sent to the parties requesting a way forward to correct the issues with the project. Item #2 of the letter proposed the County visit the site and make a determination for compliance for 14 potential code violations. The inspection was performed on September 2, 2021. The County provided the findings to all legal counsels via a report on September 7, 2021.

10. Davis filed an appeal to the Augusta County Board of Building Code Appeals (local appeals board) for following nine (9) potential violations:

- a) Air barrier behind the tub/shower; owner sited potential code sections VCC N1102.4.1.1 (R402.4.1.1) Installation (Mandatory) and VCC N1101.13 (R303.2) Installation
- c) Sill plate and floor joist cut for plumbing; owner sited potential code sections VCC R502.8 Cutting, drilling, notching and VCC R502.8.1 Sawn lumber
- f) Interior receptacles have locations that exceed code requirements for receptacle placement; owner sited potential code section VCC E3901.2 General purpose receptacle distribution
- g) HVAC return duct too small; owner sited potential code section VCC M1401.1 Installation
- h) HVAC air handler hung from the floor joist; load values not taken into account for additional weight on the joists; owner sited potential code section VCC R502.8 Cutting, drilling, notching and VCC M1401.1 Installation

- i) Refrigerant piping not sleeved; owner sited potential code section VCC N1103.3.1(R403.3.1) Protection of piping insulation
- j) Mini split drain leaking in the attic; owner sited potential code section VCC M1412.3 Insulation of piping
- k) Electrical HVAC disconnect not mounted above the average snow level; owner sited potential code section VCC M1401.1 Installation
- m) HVAC mini split does not meet heating and cooling requirements for the bonus room space; owner sited potential code section VCC N1101.11(R302.1) Interior design conditions

The local appeals board denied the appeal on January 10, 2022.

11. On January 24, 2022, Davis further appealed to the Review Board.

12. This staff document, along with a copy of all documents submitted, will be sent to the parties and opportunity given for the submittal of additions, corrections, or objections to the staff document, and the submittal of additional documents or written arguments to be included in the information distributed to the Review Board members for the appeal hearing before the Review Board.

Suggested Issues for Resolution by the Review Board

1. Whether to uphold the decision of the County Building Official and the local appeals board that a violation of the VCC Sections N1102.4.1.1 (R402.4.1.1) Installation (Mandatory) and VCC N1101.13 (R303.2) Installation does not exist.

2. Whether to uphold the decision of the County Building Official and the local appeals board that a violation of the VCC Sections R502.8 Cutting, drilling, notching and VCC R502.8.1 Sawn lumber does not exist.

3. Whether to uphold the decision of the County Building Official and the local appeals board that a violation of the VCC Section E3901.2 General purpose receptacle distribution does not exist.

4. Whether to uphold the decision of the County Building Official and the local appeals board that a violation of the VCC Section M1401.1 Installation does not exist.

5. Whether to uphold the decision of the County Building Official and the local appeals board that a violation of the VCC Sections R502.8 Cutting, drilling, notching and VCC M1401.1 Installation does not exist.

6. Whether to uphold the decision of the County Building Official and the local appeals board that a violation of the VCC Section N1103.3.1 (R403.3.1) Protection of piping insulation does not exist.

7. Whether to uphold the decision of the County Building Official and the local appeals board that a violation of the VCC Section M1412.3 Insulation of piping does not exist.

8. Whether to uphold the decision of the County Building Official and the local appeals board that a violation of the VCC Section M1401.1 Installation does not exist.

9. Whether to uphold the decision of the County Building Official and the local appeals board that a violation of the VCC Section N1101.11 (R302.1) Interior design conditions does not exist.

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Basic Documents

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My appeals was made based off this response document dated September 7, 2021 that was received September 21, 2021



COUNTY OF AUGUSTA
COMMONWEALTH OF VIRGINIA
DEPARTMENT OF COMMUNITY DEVELOPMENT
P.O. BOX 590
COUNTY GOVERNMENT CENTER
VERONA, VA 24482-0590



September 7, 2021

James Benkahla, Esquire
Attorney for the County of Augusta
18 Government Center Lane
P.O. Box 590
Verona, VA 24482

Bradley Moyers, Esquire Clark & Bradshaw, P.C.
92 North Liberty Street
P.O. Box 71
Harrisonburg, VA 22803

Jacob Penrod, Esquire
Hoover Penrod PLC
342 South Main Street
Harrisonburg, VA 22801

Re: Response to item #2 of letter from Mr. Moyers dated August 5, 2021

Gentlemen,

My office visited the property located at 1002 Round Hill School Road on September 2, 2021 to inspect the items in item #2 that were first reported to us on the August 5, 2021 letter. I will address items a-n of item #2 in this letter.

a) Air Barrier behind the tub/shower combo:

Mrs. Davis sent me an email with her concerns regarding this issue on May 18, 2021.

I responded to her on May 28, 2021 after consulting with the International Code Council that this was not a code violation. Following another email from Mrs. Davis, I sent an email on June 7, 2021 in which I copied my question to the International Code Council and their reply which I used to come to my decision regarding this matter.

Those 2 emails are attached as **Exhibit #1**.

Staunton (540) 245-5700

TOLL FREE NUMBERS
From Deerfield (540) 939-4111
FAX (540) 245-5066

Waynesboro (540) 942-5113

In accordance with section 119 of the Uniform Statewide Building Code, this decision is considered final.

b) Landings at man door at egress for the attached and detached garage:

These landings do not meet minimum code requirements for size and will need to be corrected to code. This was also in the May 28, 2021 email that was sent to Mrs. Davis and was copied to Mr. Hendricks and is in **Exhibit #1**.

c) Sill plate and floor joist cut for plumbing:

Upon inspection, I found the joist in question to be a band joist with full bearing on the foundation wall. The “cut” was actually a gouge which is only in the top portion of the joist and does not even go thru the joist. As the joist have full bearing all across its length, the gouge causes no issue and there is no code violation.

d) Several locations where plumbing penetrates sub-floor is not sealed:

Upon inspection, the 2 tubs have openings around the drain and overflow assembly and will need to be sealed in accordance with the energy code.

e) Outdoor receptacles only considered for wet locations when doors are closed:

Upon inspection, I found the receptacles in question to be located under a roof which constitutes a “damp location” instead of a “wet location”. Therefore, there is no violation.

f) Interior receptacles have locations that exceed code requirements for receptacle placement:

Upon inspection, I found that the receptacles placed well within the code allowance for receptacle spacing and so no code violation exists.

g) HVAC return duct too small (duct should be the same size as the filter grill)

The filter grill is always larger than the duct because the filter grill acts as an obstruction to air flow so it has to be oversized in order for the same amount of air to pass thru it as does the actual duct. No code violation exists.

h) HVAC air handler hung from the floor joist. Load values not taken into account for additional weight on joist:

The floor joist system is designed with 2 loads included. The “Live Load” which include “Those loads produced by the use and occupancy of the building and the “Dead Load” which includes “The weight of all materials of construction incorporated into the building, including but not limited to walls, floors, roofs, ceilings, stairways, built-in partitions, finishes, cladding, and other similarly incorporated architectural and structural items and fixed service equipment.” The plumbing, electrical and HVAC systems are part of the “fixed service equipment”. Therefore, no code violation exists.

i) Refrigerant piping not sleeved:

Mrs. Davis has brought this up once before in a letter to the county administrator. The code section cited had a prefix of P and I believe it was P2603.4. This is a plumbing code section as any section with a prefix of P is plumbing related in the residential code.

Refrigerant lines are not plumbing pipes and are governed by the mechanical section of the residential code.

There are no requirements in the residential code to sleeve the lines, however the contractor did do it anyway. I did notice on the last inspection that the sleeve on the mini split lines was now completely inside of the crawlspace. The

first time I saw it last June it was in the wall but was not fully extended outside. As these lines do not move during operation, I do not know how that sleeve was moved.

I have previously informed the contractor that they need to properly caulk the refrigerant lines and that still needs to be done. No additional violation exists.

j) Mini split drain leaking in attic:

Upon viewing Mrs. Davis video and inspecting the refrigerant lines, the water appears to be condensation on the refrigerant lines. The lines are properly insulated and I saw nothing in the video or on site to show that the drain is involved. Therefore, no violation is evident.

k) Electrical HVAC disconnect not mounted above the average snow level:

I was first notified by Mrs. Davis that she believed this was a code violation on September 30, 2020.

I responded to her that there was nothing in the electrical code regarding this. The electrical code only requires the disconnect be weatherproof, which it is. There still is no violation here.

l) HVAC mini split violates code for accessibility for service:

Upon inspection, the contractor will need to construct a minimum of a 30" by 30" platform for service under the unit.

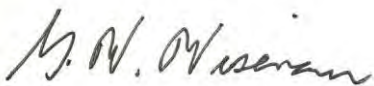
m) HVAC mini spit does not meet heating and cooling requirements for the bonus room space:

I have already provided the manual S and J showing the system does meet requirements. Therefore, no violation exists.

n) Mini split condenser unit doesn't meet minimal height for ground clearance:

Upon inspection, dirt and silt have accumulation around both HVAC condenser unit pads. Contractor will need to clean out the dirt and regrade as previously instructed so that the units meet the minimum height of 3" above grade.

Sincerely,



G.W. Wiseman
Building Official

Appeal No. _____

Application for Appeal

Augusta County

Locality

I (we) Monica and Michael Davis of 1002 Round Hill School Road Crimora VA 24431
(name) (mailing address)

respectfully request that the Local Board of Appeals review the decision made on
October 19, 2021, by the code official.

Description of Decision Being Appealed: Items A – N on letter dated September 7

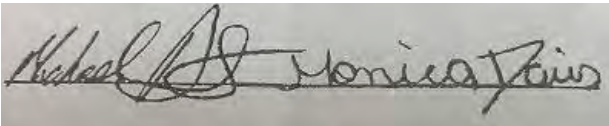
Location of Property Involved: 1002 Round Hill School Rad

What is the applicant's interest in the property?

- Owner
- Contractor
- Owner's agent

Relief Sought: We request the items "A, C,G, H, I, J, K, M"on letter dated September 7 that we received September 21, 2021 be revised and made complete to the code

Attach the Decision of the Code Official and Any Other Pertinent Documents.



Signature Of Applicant

**Dropped Off @The Government
Center Tuesday October 19, 2021 @ 9: AM**

Filed at _____, Virginia, the ___ day of __, 20__



COUNTY OF AUGUSTA
COMMONWEALTH OF VIRGINIA
DEPARTMENT OF COMMUNITY DEVELOPMENT
P.O. BOX 590
COUNTY GOVERNMENT CENTER
VERONA, VA 24482-0590



Before The Augusta County Appeals Board

IN RE: Appeal of Monica and Michael Davis
Appeal No. 21-01

Decision Of The Appeals Board

I. Case History

As a result of a conversation between Bradley Moyers, representing Mr. and Mrs. Davis, Jacob Pentod, representing Mr. Hendricks, and James Benkahla, representing Augusta County, a letter was sent by Mr. Moyers dated August 5, 2021, to all parties requesting a way forward to correct the issues with the project.

Item #2 proposed that the Augusta County Building Official visit the site and make a determination for code compliance on 14 items, notated as A-N, for code compliance.

The Building Official visited the property on September 2, 2021, inspected the items and sent a report to all attorneys on September 7, 2021, with his findings.

Mr. and Mrs. Davis then filed an appeal on October 19, 2021, disputing the decisions made by the Building Official on items A, C, G, H, I, J, K, and M, from the letter dated September 7, 2021.

The local appeals board hearing was held on November 17, 2021

Findings Of The Appeals Board

The appeal having been given due regard, the Appeals Board finds as follows:

A. The Board upholds the Building Official's Decision that the air barrier behind the tub/shower combo is code compliant and as no appeal was made in accordance with the time frame of Section 119.5 of the Uniform Statewide Building Code, that constituted acceptance of the May 28, 2021 decision.

C. The Board upholds the Building Official's Decision that the floor joist cut for the sink drain is not a code violation, as it is a band joist and is fully supported on the sill plate.

G. The Board upholds the Building Official's Decision that the HVAC duct is code compliant and that the duct does not have to be the same size as the filter grill.

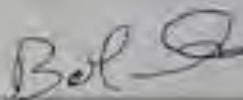
H. The Board upholds the Building Official's Decision that the HVAC air handler is included in the dead load of the floor system and is not a code violation.

I. The Board upholds the Building Official's Decision that the refrigerant lines are properly installed except for the caulking which has already been cited.

J. The Board upholds the Building Official's Decision that the water on the refrigerant lines is condensation and that the lines are insulated to code.

K. The Board upholds the Building Official's Decision that the disconnect has no requirement to be mounted above the snow level and as no appeal was made within the time frame of Section 119.5 of the Uniform Statewide Building Code, that constituted acceptance of the September 30, 2020, decision.

M. The Board upholds the Building Official's Decision that the HVAC mini split does meet the heating and cooling requirements for the bonus room space and as no appeal was made within the time frame of Section 119.5 of the Uniform Statewide Building Code, that constituted acceptance of the July 2, 2021, decision.



Bob Seaman
Chairman of the Augusta County Appeals Board

Date 1/10/22

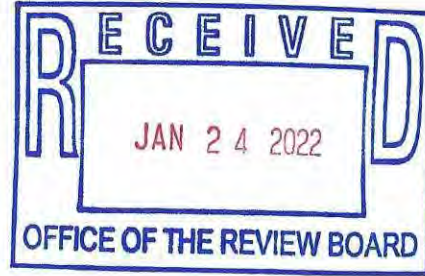
Any person who was party to the appeal may appeal to the State Review Board by submitting an application to such Board with 21 calendar days upon receipt by certified mail of this decision. Application forms are available from the Office of the State Review Board, 600 East Main Street, Richmond, Virginia 23219, (804) 371-7150

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
State Building Codes Office and Office of the State Technical Review Board
Main Street Centre, 600 E. Main Street, Suite 300, Richmond, Virginia 23219
Tel: (804) 371-7150, Fax: (804) 371-7092, Email: sbco@dhcd.virginia.gov

APPLICATION FOR ADMINISTRATIVE APPEAL

Regulation Serving as Basis of Appeal (check one):

- Uniform Statewide Building Code
 - Virginia Construction Code
 - Virginia Existing Building Code
 - Virginia Maintenance Code
- Statewide Fire Prevention Code
- Industrialized Building Safety Regulations
- Amusement Device Regulations



Appealing Party Information (name, address, telephone number and email address):

Monica Davis & Michael Davis
1002 Round Hill School Road Crimora, Virginia 24431
1(540)810-2532
Monica.davis27@comcast.net

Opposing Party Information (name, address, telephone number and email address of all other parties):

Augusta County Building Official PO BOX 590 County Government Center, Verona VA 24482
G.W. Wiseman 1(540)245-5717 or 1(540)245-5700
gwiseman@co.augusta.va.us

Additional Information (to be submitted with this application)

- Copy of enforcement decision being appealed
- Copy of the decision of local government appeals board (if applicable)
- Statement of specific relief sought

All items are attached in the email submitted

Statement of Relief Sought

Statement of specific relief sought

Our request for specific relief sought is to require the 8 items be addressed individually. If code requires the in question item to be installed per the manufacture specifications AND in addition the specifications of the USBC. We request that be upheld and the manufacture installation requirements be upheld first as code requires and then the specifications the USBC sets be second. In addition codes that are referred to are reference to what we the homeowners think is the general direction for the violation BUT if the board views other issue that are in violation we request that the code that has been sighted be changed to address any new direction for violations or add additional items to the appeals. If it is clear a code cannot be reached with current in place material or systems please require that a system or items be removed and replaced so code can be reached.

A)Air Barrier:

N1102.4.1.1(R402.4.1.1) Installation (Mandatory).

The components of the building thermal envelope as listed in Table N1102.4.1.1 shall be installed in accordance with the manufacturer's instructions and the criteria listed in Table N1102.4.1.1, as applicable to the method of construction.

N1101.13(R303.2) Installation.

All materials, systems and equipment shall be installed in accordance with the manufacturer's installation instructions and this code.

EMAILS WITH GW WISEMAN:

From: Monica Davis [<mailto:monica.davis27@comcast.net>]

Sent: Tuesday, May 18, 2021 11:00 AM

To: G.W. Wiseman <gwiseman@co.augusta.va.us>

Cc: monica.davis27@comcast.net

Subject: Re: Code direction

Please confirm you have received the image of the outside man door that is hinged on the side and provide code directions, thank you. Also I would like to revisit our initial conversation yesterday in reference to the code about water resistance gypsum. I was pointed in the direction of code section Table N1102.4.1.1 Air Barrier and Insulation Installation. Under Shower/tub on exterior walls it states in the criteria that an air barrier shall be installed on the interior side of the exterior walls, adjacent to the shower or tub. In addition to that it shall be of a permeable material that does not cause the entrapment of moisture in the stud cavity. Attach you will find an image of the bathroom that the shower/tub combo is on the exterior wall that appears to have no air barrier as code requires. Could you speak on that please and thank you in advance.

On May 24, 2021, at 8:35 AM, G.W. Wiseman <gwiseman@co.augusta.va.us> wrote:

I reviewed the images and the code section you are referring to on the door is correct. I will have to research the other issue and will contact you once I have done that.

On May 28, 2021, at 4:59 PM, G.W. Wiseman <gwiseman@co.augusta.va.us> wrote:

The contractor will need to correct to code, the landings when he is there to do the rest of the repairs.

Regarding the tub, the paper on the insulation is permitted as an air barrier. Based on the limited information available from the picture, I do not see any obvious code violation.

From: Monica Davis [<mailto:monica.davis27@comcast.net>]

Sent: Tuesday, June 01, 2021 7:20 AM

To: G.W. Wiseman <gwiseman@co.augusta.va.us>

Subject: Re: Code direction

Due to the fact that the landings are not on any NOV we request at this time that they be sighted and the builder informed ASAP. Referring to the tubs the code Table N1102.4.1.1 Air Barrier and Insulation Installation. Under Shower/tub on exterior walls it states in the criteria that an air barrier shall be installed on the interior side of the exterior walls, adjacent to the shower or tub. In addition to that it shall be of a permeable material that does not cause the entrapment of moisture in the stud cavity. I am unsure if Your statement about the paper on the insulation being permitted as air barrier is true or not but I will be contacting Rick Davis from Rockingham County to get clarification and code direction if that is true or not and if it is what requirements are in place and how is it installed to be permitted as air barrier. Would you like us to expose the wall cavity so you can verify and sight the violations or how would you like it handled?

On Jun 7, 2021, at 8:11 AM, G.W. Wiseman <gwiseman@co.augusta.va.us> wrote:

The contractor was copied regarding the landings when I sent you my reply and is aware of the issues. Before I responded to you on the air barrier I ask the International Code Council for an interpretation of the code section in question. Below is a copy of my question and their response:

Mr. Wiseman,

Following is the response to your question.

May 26, 2021

RE: 12 IRC R202 and N1102.4.1.1

Q: Does kraft faced insulation that is listed as a vapor retarder with the facing on the inside against the one piece tub shower unit meet the requirements of an air barrier as required by Table N1102.4.1.1?

A1: Since the IRC is silent on what constitutes an air barrier, the determination is subject to the opinion of the Building Official. Although kraft faced batt insulation isn't typically an air barrier, the insulation would satisfy the requirement of

Table N1102.4.1.1, provided the insulation is installed per the manufacturer's instructions and is deemed an air barrier by the Building Official.

After receiving this information I checked the installation instructions from Johns Manville who manufactured the insulation and the insulation does appear to meet their installation instructions based on the photograph. I therefore see no need to remove anything to see the insulation.

On Jun 7, 2021, at 3:35 PM, Monica Davis <monica.davis27@comcast.net> wrote:

Thank you for the response. I am aware the contractor was on the email thread but that does not satisfy the requirement of the code. The violation must be sighted in writing.

The IRC is a private sector members based association. We are referring to the USBC but thank you for reaching out to them. The question is not if it is meets installation instructions. The question is what installation instructions are needed to require it to pass as air barrier? When reviewing below the IRC response clearly tells you that Kraft faced batt insulation is NOT typically an air barrier. I did my own research and reached out via phone and received a follow up email from Sam Yeagley Insulation Technical Service Specialist with John ManVille. The response I received was " the Kraft paper will be a vapor barrier not an air barrier". The installation procedure that was used is correct when installing it as a standard insulation but not as an air barrier application that is required for the INTERIOR SIDE of the building exterior wall, adjacent to the shower or tub. How do you suggest we proceed? Would you like the contact information from Mr. Yeagley?

On Jun 9, 2021, at 7:57 AM, G.W. Wiseman <gwiseman@co.augusta.va.us> wrote:

In addition to being an air barrier, table N1102.4.1.1 as amended by the state requires the air barrier behind the tub to be of a permeable material that does not cause the entrapment of moisture in the stud cavity. Since the kraft paper on the insulation is also permeable, I still see no violation that exists.

From: MonicaDavis<monica.davis27@comcast.net>

Date: June9,2021at8:39:39AMEDT

To: "G.W.Wiseman"<gwiseman@co.augusta.va.us>

Subject: Re: Second Request Code direction

I will gladly provide you with the contact information for Sam Yeagley Insulation Technical Services with John ManVille. That's the company you stated you reviewed the installation instructions and you concluded was proper but when I reached out to them that is not what they tell me. For something to be considered an Air Barrier as stated by N1101.9 it must be assembled and JOINED together to provide a barrier to air leakage through the building envelope. Barrier is stated as anything that prevents movement or access. As the company I contacted stated "the Kraft paper will be a vapor barrier not an air barrier". Air barrier and vapor barrier are two totally different things. N1102.4.1.1 under C at the bottoms is part of the code I am aware.

EMAILS WITH SAM YEAGLEY TECHNICAL SERVICES SPECIALIST INSULATION SEYSTEM

From: Monica Davis <monica.davis27@comcast.net>

Sent: Monday, June 21, 2021 5:44 PM

To: Yeagley, Sam <Sam.Yeagley@jm.com>

Subject: Re: [EXTERNAL] Re: Air Barrier

Any update?

On Jun 22, 2021, at 5:07 PM, Yeagley, Sam <Sam.Yeagley@jm.com> wrote:

Hi Monica,

Sorry for the delay here. Did you receive a response from anyone else?

The kraft paper is not going to act as an air barrier even if taped.

Thanks,

Sam Yeagley

Technical Services Specialist | Insulation Systems

Johns Manville | A Berkshire Hathaway Company

10100 West Ute Ave

Littleton, CO 80127

W: +1-303-978-3166
M: +1-720-491-2018
Email: sam.yeagley@jm.com
Website: www.jm.com
Social: @JohnsManville

From: Monica Davis <monica.davis27@comcast.net>
Sent: Wednesday, June 23, 2021 4:34 AM
To: Yeagley, Sam <Sam.Yeagley@jm.com>
Subject: Re: [EXTERNAL] Re: Air Barrier

Morning Sam, no I didn't receive a response. So your saying that even if the paper is sealed at every seam it WILL NOT act as an air barrier correct?

From: "Yeagley, Sam" <Sam.Yeagley@jm.com>
Date: June23,2021at9:45:02AMEDT
To: MonicaDavis<monica.davis27@comcast.net>
Subject: RE: [EXTERNAL] Re: Air Barrier

That is correct.

Sam Yeagley
Technical Services Specialist | Insulation Systems
Johns Manville | A Berkshire Hathaway Company
10100 West Ute Ave
Littleton, CO 80127
W: +1-303-978-3166
M: +1-720-491-2018
Email: sam.yeagley@jm.com
Website: www.jm.com
Social: @JohnsManville

Table N1102.4.1.1

Shower/tub on exterior wall:	Exterior walls adjacent to showers and tubs shall be insulated, and an air barrier shall be installed on the interiorside of the exterior wall, adjacent to the shower or tub.
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IMAGES TAKEN NOVEMBER 1, 2021 by Monica Davis



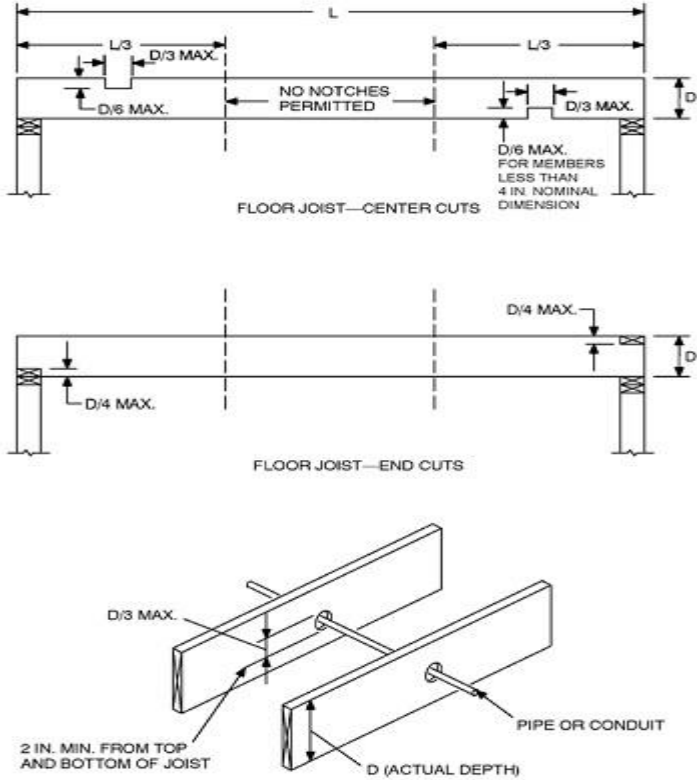
IMAGE TAKEN OCTOBER 22, 2019 by Monica Davis



C) Sill Plate and Floor Joist Cut for plumbing:

R502.8 Cutting, drilling and notching.

Structural floor members shall not be cut, bored or notched in excess of the limitations specified in this section. See Figure R502.8.



R502.8.1 Sawn lumber.

Notches in solid lumber joists, rafters and beams shall not exceed one-sixth of the depth of the member, shall not be longer than one-third of the depth of the member and shall not be located in the middle one-third of the span. Notches at the ends of the member shall not exceed one-fourth the depth of the member. The tension side of members 4 inches (102 mm) or greater in nominal thickness shall not be notched except at the ends of the members. The diameter of holes bored or cut into members shall not exceed one-third the depth of the member. Holes shall not be closer than 2 inches (51 mm) to the top or bottom of the member, or to any other hole located in the member. Where the member is also notched, the hole shall not be closer than 2 inches (51 mm) to the notch.

Mr Wiseman only address one location in his document dated September 7 that was previewed on his visit. Below is images of the plumbing that shows floor joist are notched and exceeds the 2 inch to the top of the floor joist clearly violating the above code. **IMAGES TAKEN NOVEMBER 1, 2021 by Monica Davis**



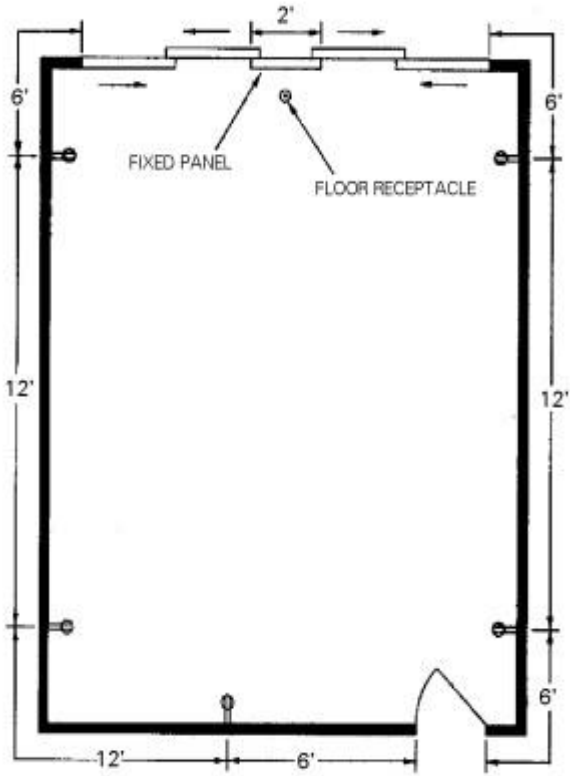
Moving on to the other locations that was previewed but not addressed are the floor joist that have water lines in the floor joist that are closer than the 2" to another hole also violating the code above. In addition the holes being too close to each other and to the edge of the frame member they fall within in the middle section of the member that has no notching permitted. This water line is in the same floor joist location that was previewed for the tub drain. Yet Mr Wiseman makes no mention of these issues in his report. **IMAGES TAKEN NOVEMBER 1, 2021 by Monica Davis**



F) Receptacles have locations that exceed Code

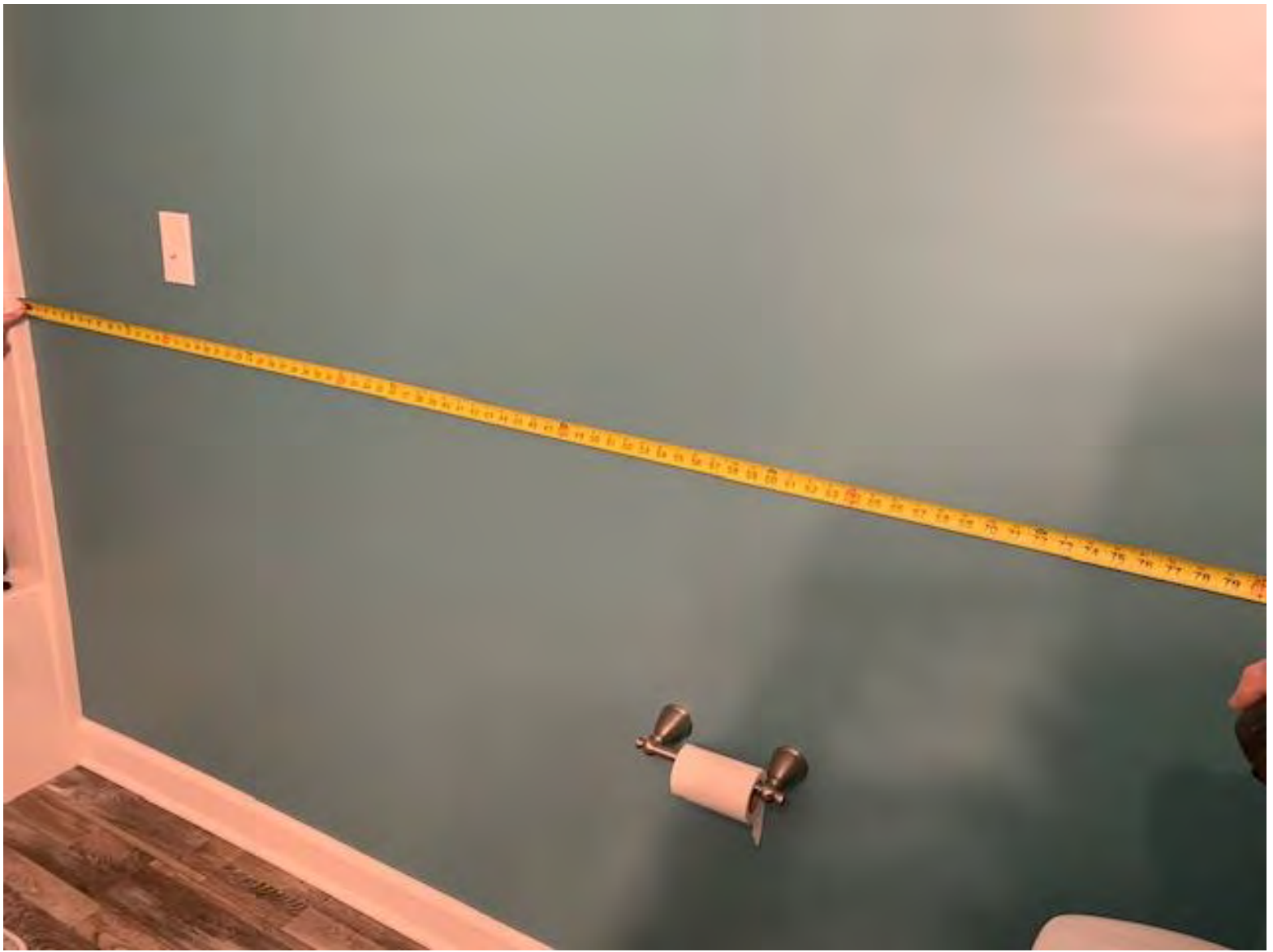
E3901.2 General purpose receptacle distribution.

In every kitchen, family room, dining room, living room, parlor, library, den, sun room, bedroom, recreation room, or similar room or area of dwelling units, receptacle outlets shall be installed in accordance with the general provisions specified in Sections E3901.2.1 through E3901.2.3 (see Figure E3901.2).



A brief conversation took place about this code. Mr Wiseman said I could have locations up to 12 feet apart. If I could get clarification on this code that would be great. My understanding is from any fixed panel around any corner it must be 6 feet minimal and code allows 12 feet max on walls with no fixed panel. I would just like clarification on the code. The images provided are from fixed panels the top picture door and the bottom picture a tub. The top image shows over 7 feet to the nearest receptacles measuring from a fixed door panel and the bottom images show 7 feet to the corner from a fixed panel which is a tub the receptacles is actually another 4 foot down the other wall. **IMAGES TAKEN NOVEMBER 1, 2021 by Monica Davis**





G)HVAC return duct to small

M1401.1Installation. Heating and cooling equipment and appliances shall be installed in accordance with the manufacturer's installation instructions and the requirements of this code.

Mr Wiseman states the filter grill must be over sizes to act as an obstruction to air flow. Below I am providing two expert opinions of Licensed HVAC professions. Both reporting the findings that the HVAC return is choked behind filter grill due to poor design and it is restricting air. Both experts found numerous code violations as well as manufacture installation errors.

Landes Heating and Cooling License Number 2701012171 **Dwelling Site Visit Expert Analysis**

Monica,

I have based the attached proposal on our thorough overview of the HVAC systems in your home and appreciate your attention to detail. I concur that many parts of the HVAC installation were not up to normally expected standards, and not even up to code.

Due to the nature of the shortcomings of your systems and the expected cost in bringing up to standard and code, I concluded that the only feasible solution is to replace all systems.

Here are the noted problems and remedies short of replacing the systems entirely:

- The main trunk duct is only wrapped with R6 insulation value. Remedy; Try to lower duct and wrap it to R8 standard.
- Holes for round collars are leaky because they were cut too large for collars. Remedy; patch and seal enlarged holes and cut new holes, reinstall collars.
- Flexible duct is only R6 value. Remedy; replace all flexible duct.
- Floor boots leak due to poor fastening. Remedy; properly nail boots in place.
- **Return duct is choked behind filter grill due to poor duct design. Remedy; rework main return duct at that point.**
- Air handler is hung from joists which can allow vibration to transfer to structure. Remedy; set unit on block.
- Electrical disconnects are not mounted above average snow level. Remedy; Raise disconnects and replace flexible conduits.
- Refrigerant piping is not properly sleeved. Remedy; Pump heat pump down, disconnect, reroute, and reconnect piping.
- Minisplit unit is not mounted in an easily serviceable location. Remedy; Remount and run all piping, circuitry, and drain again.
- Minisplit unit drain not properly connected in the attic and leaks. Remedy; repair joint
- Minisplit heat pump system low temperature heating capacity does not meet Manual J requirements for the space. Remedy; Replace with proper model or electric baseboard heaters would have to be installed to make up the needed heat with efficiency disadvantages.
- There is an odor from the duct system that seems to be mold related. ***We are not mold specialists and cannot positively identify mold, test for types of mold, or determine severity or health related concerns associated with suspected mold.*** If there is mold in the system, the most likely place that it would be prevalent is on the indoor coil where condensation takes place. The only remedy for this that would ensure a positive outcome if this is the case, would be to replace the indoor coil. A mold specialist would be able to give a more reliable diagnosis of potential mold issues.

I am sure that I have missed some of the issues discussed, but to try to provide the remedies for these issues would cost more than a complete redo of the installation including equipment and ductwork.

Thanks,
Craig Landes
Landes Heating and A/C

After further review and the hired experts came in it was quickly determined that the return duct as stated in the report is wrong. Looking at the provided document from Lambert it has the return being 16 inches and the below image clearly show you the in place duct is only 14 inches in diameter in addition my installed system has 2 returns and the report provided by the install company are false and the 2nd return is removed from the report. This was brought to Mr Wisemans attention but he shrugged it off and said they gave you a report what more do you want? Here is a picture of what the return grate looks like behind the grate.

Image taken October 21, 2019 by Monica Davis



IMAGES TAKEN NOVEMBER 1, 2021 by Monica Davis



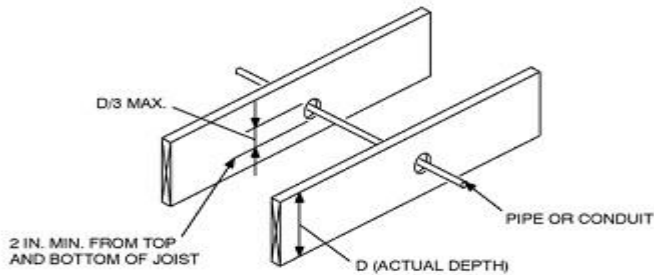
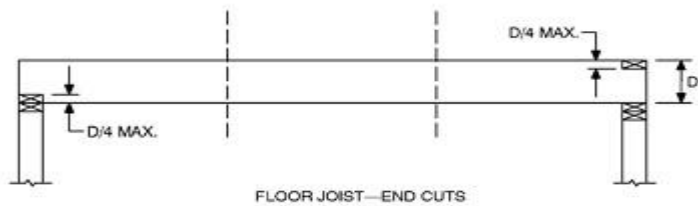
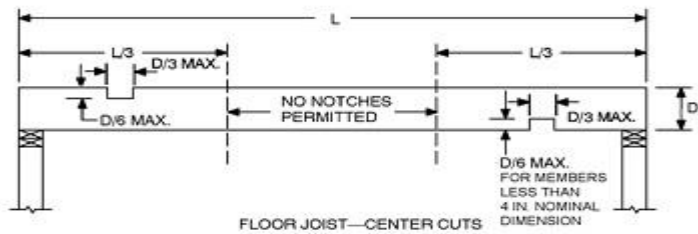
Return Branch Detail Table											
Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Mat	Trunk
rb2	0x 0	927	927	94.0	0.145	664	16.0	0x 0		ShMt	

H) HVAC handler hanging from floor joist

Mr Wiseman speaks to the fact that code allows service equipment to be calculated as part of the dead load calculation fails to comment on the fact that the hangers from which the unit is resting on violates the code for being within the 2" of the bottom of the framing member but that's not all my experts opinion is to remove it and set it on blocks, also the unit itself is not installed per the manufacture instructions look below at the requirements for suspending in crawlspace.

R502.8 Cutting, drilling and notching.

Structural floor members shall not be cut, bored or notched in excess of the limitations specified in this section. See Figure R502.8.



IMAGES TAKEN NOVEMBER 1, 2021 by Monica Davis



M1401.1 Installation. Heating and cooling *equipment* and *appliances* shall be installed in accordance with the manufacturer's installation instructions and the requirements of this code.

SUSPENDED FURNACE / CRAWL SPACE INSTALLATION

The furnace can be hung from floor joists or installed on suitable blocks or pads. Blocks or pad installations shall provide adequate height to ensure that the unit will not be subject to water damage.

Units may also be suspended from rafters or floor joists using rods, pipe angle supports or straps. In all cases, the furnace should be supported with rods, straps, or angle supports at three locations to properly support the furnace. Place one support at the supply end of the furnace, one support located approximately in the center of the furnace near the blower shelf, and the third support should be at the return end of the furnace. Maintain a 6" minimum clearance between the front of the furnace and the support rods or straps.

All six suspension points must be level to ensure proper and quiet furnace operation. When suspending the furnace, use a secure platform constructed of plywood or other building materials secured to the floor or ceiling joists. Refer to Figure 5 for details and additional information.

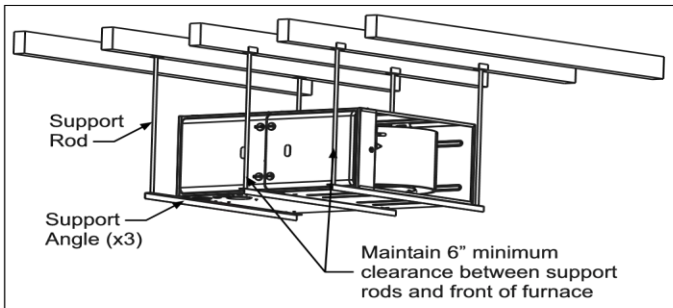


FIGURE 5: Typical Suspended Furnace / Crawl Space Installation

IMPORTANT

During installation, doors must remain on the furnace when moving or lifting.

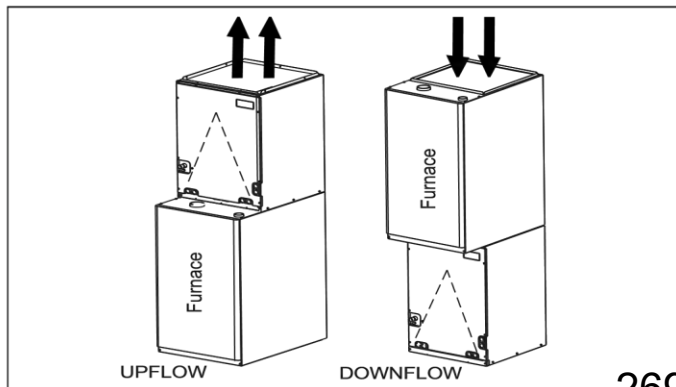
FIGURE 6: Downflow Venting

COIL INSTALLATION

IMPORTANT

On all installations without a coil, a removable access panel is recommended in the outlet duct such that smoke or reflected light would be observable inside the casing to indicate the presence of leaks in the heat exchanger. This access cover shall be attached in such a manner as to prevent leaks.

COIL/FURNACE ASSEMBLY - MC/FC/PC SERIES COILS

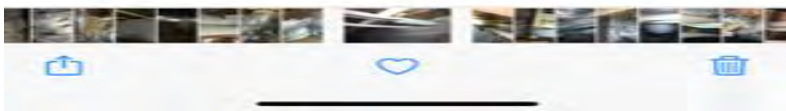


The image below will show that my system is not installed per the manufacture instructions. As my system only has 2 support and those two are in violation of the specified code above. **IMAGES TAKEN NOVEMBER 1, 2021 by Monica Davis**



I) pipe not sleeved

Mr Wiseman states that the sleeve had been moved from the prior year visit which is not true, look below at the date stamp from last year on the image provided. The unsleeved lines have always been in the same state they were that Mr Wiseman has always viewed, The mini split manufacture instructions clearly tells you that it must be sleeved and actually sends a sleeve as part of the insulation supplied parts. **Image Taken September 2, 2022 by Monica Davis**



In addition to the pipe not being sleeved as the manufacture installation instruction tells you, the energy code tells you it must be protected in code section N1103.3.1(R403.3.1) Protection of piping insulation.

Piping insulation exposed to weather shall be protected from damage, including that caused by sunlight, moisture, equipment maintenance, and wind, and shall provide shielding from solar radiation that can cause degradation of the material. Adhesive tape shall not be permitted.

J) mini spit leaking in attic

Mr Wiseman tells you he inspected the refrigerant line but the location in question was in the attic which he did not have a ladder to access and did not review. He tells you it appears to be condensation but code section M1412.3 Insulation of piping. Tells you Refrigerant piping, brine piping and fittings within a building shall be insulated to prevent condensation from forming on piping. There for the condensation is in violation of this code.

K)HVAC Electrical disconnect

Mr Wiseman states there is nothing in the electrical code regarding locations of the waterproof disconnect switch which might very well be true but code section M1401.1 Installation. Heating and cooling equipment and appliances shall be installed in accordance with the manufacturer's installation instructions and the requirements of this code.

I have provided below an image straight out of the installation manual for our unit provided by York Customer Service installation specialist Craig Raffer. Not only does it show the disconnect switch mounting requirements above 16" but many other clearance requirements. Not only does our install for the disconnect not meet the installation requirements

1-4. INSTALLATION DIAGRAM

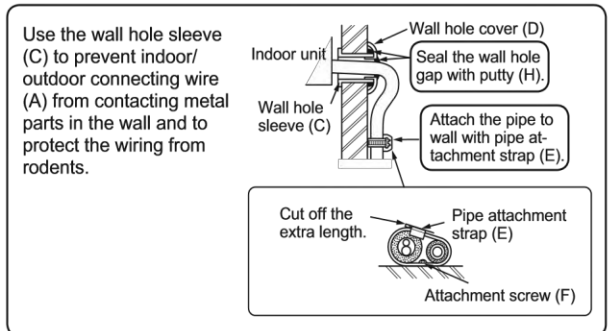
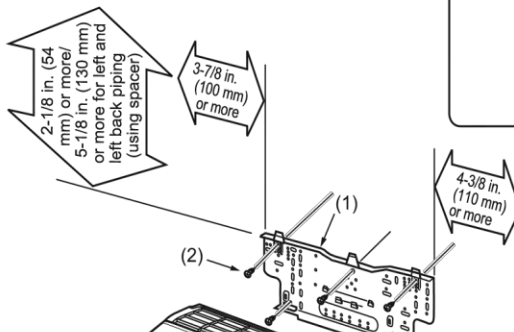
ACCESSORIES

Check the following parts before installation.
<Indoor unit>

(1)	Installation plate	1
(2)	Attachment screws for the installation plate 4 x 25 mm	5
(3)	Wireless remote controller	1
(4)	Felt tape (For left or left-rear piping)	1
(5)	Battery (AAA) for (3)	2

FIELD-SUPPLIED PARTS

(A)	Indoor/outdoor unit connecting wire *1	1
(B)	Extension pipe	1
(C)	Wall hole sleeve	1
(D)	Wall hole cover	1
(E)	Pipe attachment strap	2 to 5
(F)	Screw for (E) 4 x 20 mm	2 to 5
(G)	Piping tape	1



Use the wall hole sleeve (C) to prevent indoor/outdoor connecting wire (A) from contacting metal parts in the wall and to protect the wiring from rodents.

After the leak test, apply insulating mate

from the manufacture but it does not comply with the clearance between two units as well or the 24' requirements of the units closer than 24" **Left Image taken November 1, 2021 by Monica Davis, Right Image taken January 18, 2022**



▲ CAUTION: Special care must be taken to avoid recirculation of discharge air through outdoor coil.

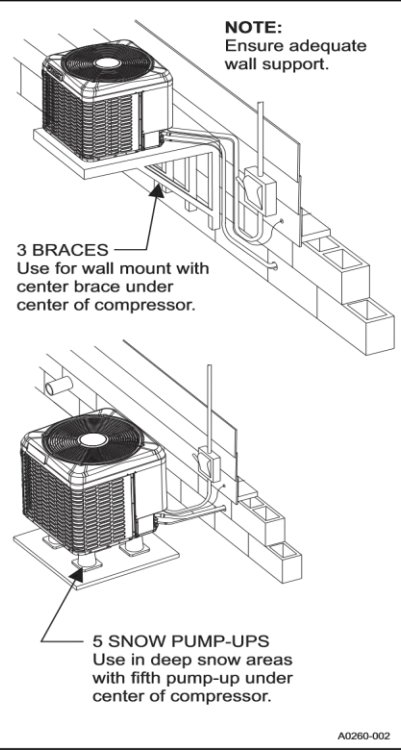
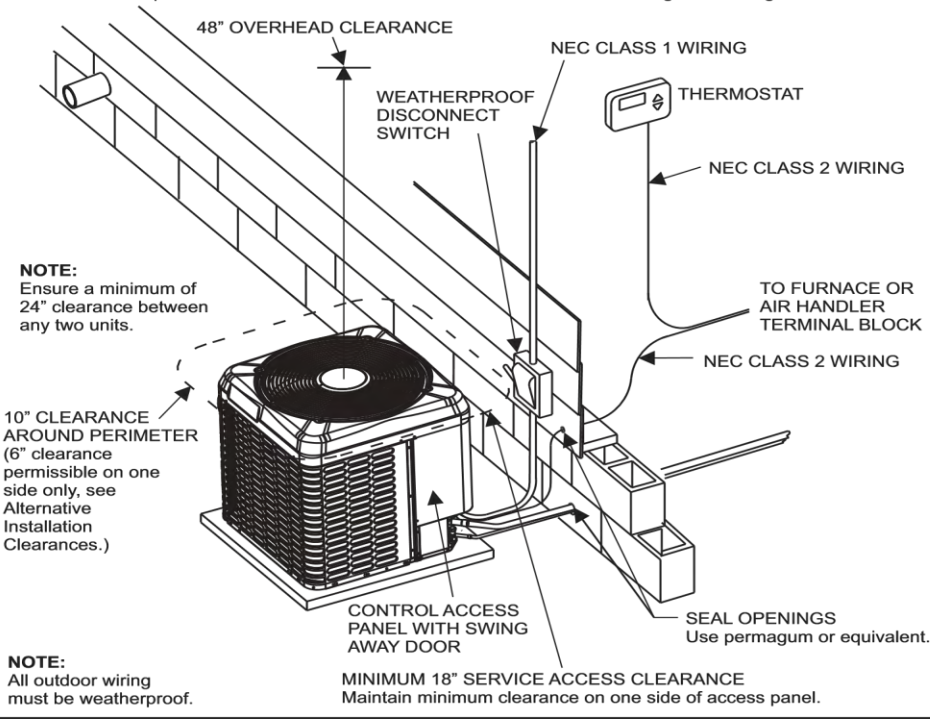
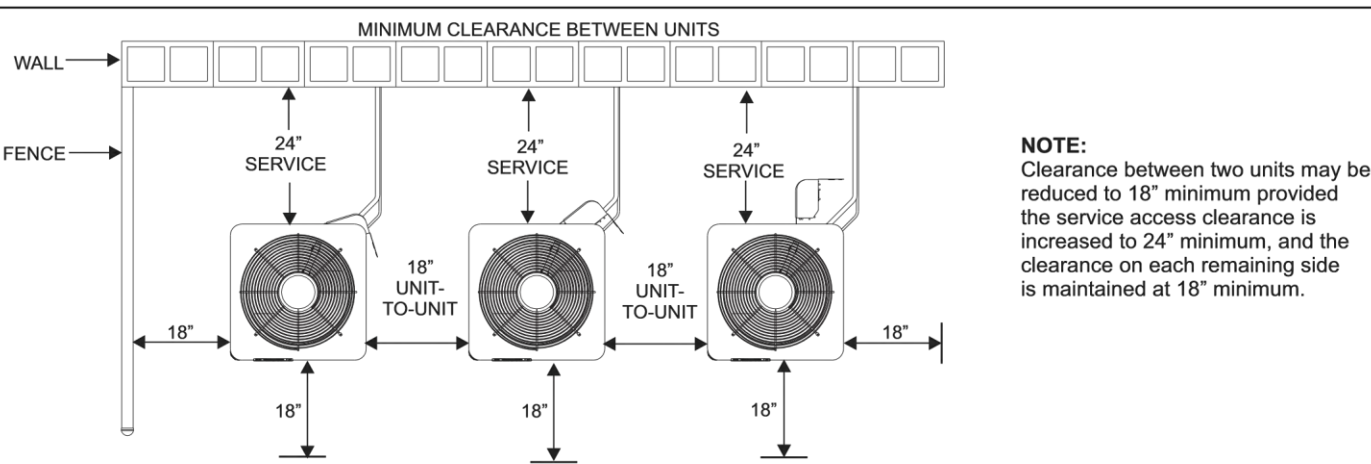
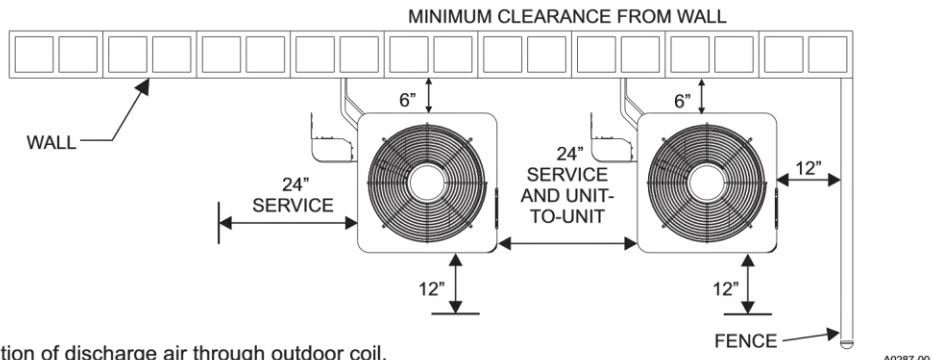


FIGURE 1: Typical Installation Clearances



NOTE:
Clearance to one side of the unit may be reduced to 6" provided the clearance to each remaining side is increased to 12" minimum, the service access is increased to 24" minimum, and the clearances between any two units is maintained at 24" minimum.



CAUTION:
Special care must be taken to avoid recirculation of discharge air through outdoor coil.

A0287-001

FIGURE 2: Alternative Installation Clearances

M) Mini split does not meet heating and cooling requirements for bonus room

Mr Wiseman stated he has already provided the manual S and J for the unit. When he was onsite September 2 , 2021 I ask him if he knew how to read the documents he provided and he informed me he did. I went on to inform him that a large amount of the information on both the Manual J and S for the entire house and mini split was incorrect. He said he would look into it. Which to this day has not happened. Attached is the actual report from Lambert Heating and cooling. Let's just look at the provided information on the project information alone if you look at the design information for the inside temp for heating it has a plugged in number of 70 degrees but code energy code [N1101.11\(R302.1\) Interior design conditions. The interior design temperatures used for heating and cooling load calculations shall be a maximum of 72°F \(22°C\) for heating and minimum of 75°F \(24°C\) for cooling.](#) Moving on to the Right J Worksheet look at the internal gain it has zero that number should be 4 because in the ACCA it is a requirement that that number should reflect the number of bedrooms Plus 1. Lets look on the load short form at the bottom under Area it has the square feet of that room being at what 576 correct? The general information for my unit. Under performance it has that this unit will only heat or cool a capacity up 550 square feet clearly telling you that the area I have exceed that per the documentation from the installer. A little more in depth research will show that the system that was installed has a maximum heating capacity of 9000 BTU/H when heating at 17 degrees and goes all the way down to 7440 when heating at 5 degrees clearly telling you that the system cannot sustain the 70 degrees that is indicated in the winter design conditions

Let's not forget in the energy code it tells you under code section

[N1101.13\(R303.2\) Installation.](#)

All materials, systems and equipment shall be installed in accordance with the manufacturer's installation instructions and this code.

TWO SEPRATE HIRED EXPERTS OPINIONS ON THE MINISPLIT

Landes Heating and Cooling License Number 2701012171 Dwelling Site Visit Expert Analysis

Monica,

I have based the attached proposal on our thorough overview of the HVAC systems in your home and appreciate your attention to detail. I concur that many parts of the HVAC installation were not up to normally expected standards, and not even up to code.

Due to the nature of the shortcomings of your systems and the expected cost in bringing up to standard and code, I concluded that the only feasible solution is to replace all systems.

Here are the noted problems and remedies short of replacing the systems entirely:

- The main trunk duct is only wrapped with R6 insulation value. Remedy; Try to lower duct and wrap it to R8 standard.
- Holes for round collars are leaky because they were cut too large for collars. Remedy; patch and seal enlarged holes and cut new holes, reinstall collars.
- Flexible duct is only R6 value. Remedy; replace all flexible duct.
- Floor boots leak due to poor fastening. Remedy; properly nail boots in place.
- Return duct is choked behind filter grill due to poor duct design. Remedy; rework main return duct at that point.
- Air handler is hung from joists which can allow vibration to transfer to structure. Remedy; set unit on block.
- Electrical disconnects are not mounted above average snow level. Remedy; Raise disconnects and replace flexible conduits.
- Refrigerant piping is not properly sleeved. Remedy; Pump heat pump down, disconnect, reroute, and reconnect piping.
- Minisplit unit is not mounted in an easily serviceable location. Remedy; Remount and run all piping, circuitry, and drain again.
- Minisplit unit drain not properly connected in the attic and leaks. Remedy; repair joint
- **Minisplit heat pump system low temperature heating capacity does not meet Manual J requirements for the space. Remedy; Replace with proper model or electric baseboard heaters would have to be installed to make up the needed heat with efficiency disadvantages.**

- There is an odor from the duct system that seems to be mold related. ***We are not mold specialists and cannot positively identify mold, test for types of mold, or determine severity or health related concerns associated with suspected mold.*** If there is mold in the system, the most likely place that it would be prevalent is on the indoor coil where condensation takes place. The only remedy for this that would ensure a positive outcome if this is the case, would be to replace the indoor coil. A mold specialist would be able to give a more reliable diagnosis of potential mold issues.

I am sure that I have missed some of the issues discussed, but to try to provide the remedies for these issues would cost more than a complete redo of the installation including equipment and ductwork.

Thanks,
Craig Landes
Landes Heating and A/C

SECOND OPINION

From: allan mayz <allan@leesheating.net>

Date: November 11, 2021 at 10:56:36 AM EST

To: monica.davis27@comcast.net

Subject: mini split

Hello Mrs Davis

In the attachments you see information on the mini splits

davis 12k existing system gives you the performance of your existing unit

davis 12k mini split hi heat, gives you the performance for a comparison between hi heat and standard system

The other submittals are the full submittals for the units

This is a lot of material for you. If you need assistance deciphering the material, give me a call

Thank you and enjoy the day

Allan Mayz

540-885-3139

leesheating@comcast.net

On Mon, Nov 15, 2021 at 1:15 PM Monica Davis <monica.davis27@comcast.net> wrote:

Thank you for the additional information. I see you highlighted the btu 9000 and 7400 on the unit I currently have. I remember you commenting on it over the phone but could you explain that again to me here in the email so I can explain it to my husband.

On Nov 15, 2021, at 6:37 PM, allan mayz <allan@leesheating.net> wrote:

Hello Monica

Sure I will explain this for you.

The current system (MUZ-WR12NA) you have is a standard heat pump system. It is used primarily in more temperate climates of Florida, Georgia, Louisiana, etc. This particular unit has a very low heat output at temperatures of 17degrees or 5 degrees. The design parameters for our area are 17 degrees or lower. So we must look at how much heat will be produced at 17 degrees to sufficiently heat the living space.

So when we look at the submittal data of your existing unit, we see:

47 deg = 14,500 btu max

17 deg = 9,000 btu max

5 deg = 7,440 btu max

So now we need to look at the btu's needed to heat the living space. My quick calculation shows a requirement of 11,500 Btu at 17 degrees.

If you look at the required btu load in "your" load calculation report (this is listed as "bonus room project summary") you will see the report states the requirement is 10,819 btu.

So now we look at the submittal data, and we look at 17 degrees and we see the max btu is 9,000. So if we subtract the need vs the output, this equals a 1,819 btu deficit. Now, 1,800 doesn't sound like much, but it affects the comfort of the space. This space would not meet the 70 degree threshold in the report.

Now let's look at the "high heat" system.

The submittal data shows:

47 deg = 21,000

17 deg = 17,410

5 deg = 14,960

So as you will note, at 17 degrees, in the high heat version, we achieve 17,410 btu's of heat. The performance is quite dramatic at the lower temperatures. It actually produces more heat than the 12,000 btu the model number states. The high heat version will give you an extra 8,410 btu of heating capacity in comparison to the existing model.

When you compare the 10,819 btu in the load report, the high heat version gives you an extra 6,591 btu of heat. This far outways the deficit of 1,819 btu with your existing system.

I hope this helps in understanding the differences in the units and which system is needed to supply enough heat for the bonus room. Give me a call if you need to.

Thank you

Allan

Allan Mayz

540-885-3139

leesheating@comcast.net

REPORT FROM INSTALLER COMPANY LAMBERT. Please notice the date of the report it was created 15 months AFTER the CO was issued
The report has no doors and the room actually has 2 doors



Documents Submitted
By Monica and
Michael Davis

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If you notice under several of the items it has that the board agree that no appeals was made in accordance to Section 119.5 of the USBC which is not accurate. Below you will see that Mr Wiseman made the board aware of Section 119.5 and they agreed to ear all of the items in question and voted at the end that they all items were in compliance not that I was out of the windows for appeal.

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Building Board of Appeals
Appeals Hearing, Michael & Monica Davis
November 17, 2021, 8:30 a.m.
Clean Transcript

Members Present:
Bob Seaman, Chairman
Bill Dudley
John Earhart
Pat Katz
David Kirby

Appellants:
Michael & Monica Davis

Attendees:
Jay Hendricks

Staff Present
G.W. Wiseman, Secretary & Building Official
Renee Southers

Bob Seaman:
Meeting is called to order and quorum has been determined.

G.W. Wiseman:
As Secretary to the Board, I do have an issue I need to bring up to the Board. Go to the last packet in the handout. I've got it divided in three sections so it's easier to find. Section 119.5 is out of the *Uniform Statewide Building Code*. It says "Right of appeal, filing of appeal application. Any person aggrieved by the local building department's application of the USBC or the refusal to grant a modification to the provisions of the USBC may appeal to the Local Building Board Code of Appeals. The applicant shall submit a written request for appeal to the Local Building Board Code of Appeals within 30 days of the receipt of the decision being appealed. The application shall contain the name and address of the owner of the building or structure and in addition, the name and address of the person appealing, when the applicant is not the owner. A copy of the building official's decision shall be submitted along with application for appeal and maintained as part of the record. The application shall be marked by the Local Building Board Code of Appeals to indicate the date received. Failure to submit an application for appeal within the time limit established by this section shall constitute acceptance of the building official's decision."

Next is a paragraph that comes from the handbook. "Raising Issues. The chairman, or any board member, has the right to raise issues in the course of a hearing, and to determine the issues which are, or are not, properly before the board in an appeal. Issues which, if decided upon, may have the effect of dismissing an appeal without a hearing upon the substantive issues in an appeal, such as whether a party is a proper party to bring an appeal, whether the timeframes have been met for a proper appeal to exist, or whether the nature of the appeal is improper for other reasons..."

I bring this up because this appeal has eight parts to it, referencing eight sections which is in the application for appeal, items A, C, G, H, I, J, K and M. If you look at item A on the next page, I'm not going over the testimony at this time, I can go over that later. I need to bring to your attention the two emails for item A, one was dated

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May 28, 2021, which was the building official's original decision and June 7, 2021, was the explanation of that decision.

If you go back in the packet to item K, there is another email that has the entire email chain from Mrs. Davis plus my responses that is dated September 30, 2020.

And if you go to the last page to item M, that email is dated July 2, 2021.

I need to bring those matters to the attention of the Board, for the Board to determine if those items in accordance with *Raising Issues* meet Section 119.5. That is the Board's decision.

Bill Dudley:
Thank you for explaining that to us.

Bob Seaman:
It says there is 30 days to bring an appeal.

Monica Davis:
May I bring something to your attention? The emails that are you're looking at was only part of conversations that took place. Emails went back and forth. There were emails that weren't answered. Three and four that were sent, just asking for a response that goes all the way in to September. What took place is, G.W. wouldn't respond so I would just say, hey, can I get a follow up? Mr. Wiseman is considering the issues closed or that he had reviewed them and he was content with what he determined. But there were emails that still went back and forth. He just chose not to answer them. Mr. Wiseman come on site and provided the, it's in your packet, the September the 7th document, we didn't receive until the 22nd, which was the document that I was appealing off of because it was from Mr. Wiseman. It said that these are his decisions and they are final in reference to Chapter 119 of the Code. So that's what I appealed off of. But the emails that you're seeing here were not the only email sent, I had emails about the air barrier.

Bob Seaman:
But the appeal wasn't filed?

Monica Davis:
Right, because the appeal wasn't filed until I got the document that he...

G.W. Wiseman:
There is nothing in 119.5 that says I have to state a decision is final. It says my decision.

Monica Davis:
But how do I know that the decision is final? Just because he didn't answer emails doesn't mean I know where we were at.

G.W. Wiseman:
I had made the decision, there was nothing to answer.

2

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Bill Dudley:
I did ask about how that other turned out.

G.W. Wiseman:
You all have to decide.

Bob Seaman:
We have to decide what we are going to hear today.

G.W. Wiseman:
You all have to decide. Basically, there are eight items on the appeal that was listed. You can decide that they meet the definition, in which case that is your decision. You can decide that they don't, in which case you can dismiss them. You can dismiss the entire appeal. Or you can treat it as eight separate items and dismiss three items or one item or two items or whatever you decide or no items. It is your decision.

Monica Davis:
But I did appeal off the document that Mr. Wiseman provided.

G.W. Wiseman:
The document she is referring to is a letter from her attorney that was sent to all three attorneys. It has nothing to do with when my decision was made.

Bob Seaman:
Ok, what are the feelings of the Board?

David Kirby:
I'm of the opinion since we're here we could just respond to these eight individual items. I don't know about timeframe and all that sort of thing.

Bill Dudley:
I think the people have some gripes that should be attentioned, I really do.

Pat Katz:
I'm open to do what everyone else thinks.

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Bill Dudley:
Let's go through them.

David Kirby:
Let's go through the eight items.

John Earhart:
That's fine with me.

Monica Davis:
Thank you.

Bill Dudley:
You're welcome.

G.W. Wiseman:
She's the appellant, she gets to go first.

Monica Davis:
Take one and pass it down please.

Bill Dudley:
What are we starting out on?

G.W. Wiseman:
Michael & Monica Davis Documents.

Bill Dudley:
Okay.

12

CERTIFICATE OF OCCUPANCY
COUNTY OF AUGUSTA
BUILDING INSPECTION

This certificate issued pursuant to the requirements of Section 118 of the Virginia Uniform Statewide Building Code certifying that at the time of issuance this structure was in compliance with the Building Code, Zoning Code and various ordinances of the county regulating building construction or use. This Certificate must be posted, as required by the Uniform Statewide building Code and permanently maintained in a conspicuous place at or near the entrance of the building. Any change of use voids this certificate of occupancy.

OWNER OF BUILDING Michael E. & Monica M. Davis

TENANT Same

BUILDING LOCATIONS 1002 Round Hill School Road

BUILDING PERMIT NO Z 718-2019

TAX MAP NO. 48-116

BUILDING USE Single Family Dwelling

ZONING DISTRICT General Agriculture

USE GROUP R-5 TYPE OF CONSTRUCTION 5B OCCUPANCY LOAD N/A FLOOR LOAD 30/40/50

CONSTRUCTED UNDER THE 2012 EDITION OF THE UNIFORM STATEWIDE BUILDING CODE

SPECIAL CONDITIONS None

NO. OF BEDROOMS 3 SPRINKLER REQUIRED N/A

BUILDING OFFICIAL Brandelle Adams DATE March 27, 2020

SERVICE AUTHORITY N/A DATE N/A

COMMUNITY DEVELOPMENT N/A DATE N/A

General Information

Package Includes

Indoor Unit MSZ-WR12NA

Outdoor Unit MUZ-WR12NA

*Remote comes with the indoor unit

Performance

Cooling Capacity 12,000 BTU

Heating Capacity 12,200 BTU

SEER 16

HSPF 8.5

Heating Minimum Temp 32 F

Cooling Minimum Temp 5 F

Room Cooling/Heating Capacity up to 550 sq ft

Mitsubishi Ductless System Guides



[Mitsubishi MSZ-WR12NA - MUZ-WR12NA 12,000 BTU WR Series Wall Mounted Heat Pump System Submittal](#)

Manual J Bonus Room

Bonus Room Load Short Form - House

Job: 1688
Date: Jun 29, 2021
By: Dave
Plan:

Project Information

For: Jay Hendricks, Hendricks & Sons
50 Lee Street, Verona, VA 24482
Phone: 540-294-2169

Design Information

	Hg	Cg	Infiltration	Simplified Average
Outside db (°F)	16	51	Method	0
Inside db (°F)	70	75	Construction quality	
Design TD (°F)	54	16	Fireplaces	
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/b)	45	31		

HEATING EQUIPMENT

Make	Mitsubishi Electric	Trade	Mitsubishi Electric
Model	MUZ-WR12NA-U2	Cond	MUZ-WR12NA-U2
AHR ref	204452676	Coil	MSZ-WR12NA-U1
AHR ref		AHR ref	204452676
Efficiency	8.5 HSPF	Efficiency	9.0 EER, 16 SEER
Heating input		Sensible cooling	8400 Btu/h
Heating output	12200 Btu/h @ 47°F	Latent cooling	3600 Btu/h
Temperature rise	28 °F	Total cooling	12000 Btu/h
Actual air flow	400 cfm	Actual air flow	400 cfm
Air flow factor	0.007 cfm/Btu	Air flow factor	0.113 cfm/Btu
Static pressure	0 in H ₂ O	Static pressure	0 in H ₂ O
Space thermostat		Load sensible heat ratio	0.81
Capacity balance point = 19 °F			

COOLING EQUIPMENT

Make	Mitsubishi Electric	Trade	Mitsubishi Electric
Model	MUZ-WR12NA-U2	Cond	MUZ-WR12NA-U2
AHR ref	204452676	Coil	MSZ-WR12NA-U1
AHR ref		AHR ref	204452676
Efficiency	8.5 HSPF	Efficiency	9.0 EER, 16 SEER
Heating input		Sensible cooling	8400 Btu/h
Heating output	12200 Btu/h @ 47°F	Latent cooling	3600 Btu/h
Temperature rise	28 °F	Total cooling	12000 Btu/h
Actual air flow	400 cfm	Actual air flow	400 cfm
Air flow factor	0.007 cfm/Btu	Air flow factor	0.113 cfm/Btu
Static pressure	0 in H ₂ O	Static pressure	0 in H ₂ O
Space thermostat		Load sensible heat ratio	0.81
Capacity balance point = 19 °F			

ROOM NAME	Area (ft ²)	Hg load (Btu/h)	Cg load (Btu/h)	Hg A/F (cfm)	Cg A/F (cfm)
Room1	576	10819	3542	400	400
Entire House	576	10819	3542	400	400
Other equip loads		0	0		
Equip @ 0.96 RSM			3396		
Latent cooling			815		
TOTALS	576	10819	4212	400	400

Calculations approved by ACCA to meet all requirements of Manual J 7th Ed.

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Manual J Bonus Room

Bonus Room Building Analysis - Entire House

Job: 1688
Date: Jun 29, 2021
By: Dave
Plan:

Project Information

For: Jay Hendricks, Hendricks & Sons
50 Lee Street, Verona, VA 24482
Phone: 540-294-2169

Design Conditions

Location: Shenandoah Valley Regional, VA, US Elevation: 1201 ft Latitude: 38°N	Outdoor: Dry bulb (°F): 16 Wet bulb (°F): - Wind speed (mph): 15.0	Heating 91	Cooling 75 (M) 7.5	Indoor: Indoor temperature (°F): 70 Design TD (°F): 54 Relative humidity (%): 50 Moisture difference (gr/b): 44.9	Heating 70 75 50 31.2	Cooling 75 76 50 31.2
--	--	----------------------	---------------------------------	--	--	--

Heating

Component	Btu/h*	Btu/h	% of load
Walls	3.1	2865	26.5
Glazing	28.8	863	8.0
Doors	0	0	0
Ceilings	1.4	809	7.5
Floors	1.4	809	7.5
Infiltration	188.8	5474	50.8
Ducts	0	0	0
Piping	0	0	0
Humidification	0	0	0
Ventilation	0	0	0
Adjustments	0	0	0
Total		10819	100.0

Cooling

Component	Btu/h*	Btu/h	% of load
Walls	1.1	1034	28.2
Glazing	42.7	1236	36.0
Doors	0	0	0
Ceilings	-1.0	598	16.9
Floors	0	0	0
Infiltration	23.2	672	18.0
Ducts	0	0	0
Ventilation	0	0	0
Internal gains	0	0	0
Blower	0	0	0
Adjustments	0	0	0
Total		3642	100.0

Latent Cooling Load = 815 Btu/h
 Overall U-value = 0.054 Btu/h-ft²-°F
 WARNING: window to floor area ratio = 5.0% - less than 10%.

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Bonus Room Component Constructions

Job: 1688
Date: Jun 28, 2021
By: Dvts
Plac: Dvts

Project Information

For: Jay Hendricks, Hendricks & Sons
50 Lee Street, Verona, Va 24482
Phone: 540-294-2168

Design Conditions

Location:		Indoor:		Heating	Cooling
Shenandoah Valley Regional, VA, US		Indoor temperature (°F)		70	75
Elevation: 1201 ft		Design TD (°F)		54	16
Latitude: 38°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		44.9	31.2
Outdoor:		Heating	Cooling	Infiltration:	
Dry bulb (°F)		16	91	Method	
Daily range (°F)		-	22 (M)	Simplified	
Wet bulb (°F)		-	73	Average	
Wind speed (mph)		15.0	7.5	0	
				Fireplaces	

Construction descriptions

	Or	Area	U-value	Infil R	Hq HTM	Loss	Cig HTM	Gain
		ft²	Btu/ft²	ft²/Btu	Btu/ft²	Btu/hr	Btu/ft²	Btu/hr
Walls								
Knee wall, asphalt shingles roof mat, r-19 ins, 1/2" gypsum board et finish		931	0.057	19.0	3.08	2865	1.11	1034
Partitions								
(none)								
Windows								
3x6 2 glazing, air out, air gas, wd fm mat, air ins, 1/4" gas, 1/4" bic clear, 6.57 ft head H	n	10	0.551	0	29.8	288	21.4	208
	s	10	0.551	0	29.8	288	30.4	351
	w	10	0.551	0	29.8	288	73.4	850
	sl	29	0.551	0	29.8	863	42.7	1238
Doors								
(none)								
Ceilings								
15/0 AISC ceiling, asphalt shingles roof mat, r-38 cell ins, 1/2" gypsum board et finish		576	0.026	38.0	1.40	809	1.04	598
Floors								
15/0 Pac floor vinyl fr finish, r-19 ins, 6" thick, 1/2" gypsum board et finish		576	0.052	19.0	1.40	809	0	0

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Bonus Room Component Constructions

Job: 1688
Date: Jun 28, 2021
By: Dvts
Plac: Dvts

Project Information

For: Jay Hendricks, Hendricks & Sons
50 Lee Street, Verona, Va 24482
Phone: 540-294-2168

Design Conditions

Location:		Indoor:		Heating	Cooling
Shenandoah Valley Regional, VA, US		Indoor temperature (°F)		70	75
Elevation: 1201 ft		Design TD (°F)		54	16
Latitude: 38°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		44.9	31.2
Outdoor:		Heating	Cooling	Infiltration:	
Dry bulb (°F)		16	91	Method	
Daily range (°F)		-	22 (M)	Simplified	
Wet bulb (°F)		-	73	Average	
Wind speed (mph)		15.0	7.5	0	
				Fireplaces	

Construction descriptions

	Or	Area	U-value	Infil R	Hq HTM	Loss	Cig HTM	Gain
		ft²	Btu/ft²	ft²/Btu	Btu/ft²	Btu/hr	Btu/ft²	Btu/hr
Walls								
Knee wall, asphalt shingles roof mat, r-19 ins, 1/2" gypsum board et finish		931	0.057	19.0	3.08	2865	1.11	1034
Partitions								
(none)								
Windows								
3x6 2 glazing, air out, air gas, wd fm mat, air ins, 1/4" gas, 1/4" bic clear, 6.57 ft head H	n	10	0.551	0	29.8	288	21.4	208
	s	10	0.551	0	29.8	288	30.4	351
	w	10	0.551	0	29.8	288	73.4	850
	sl	29	0.551	0	29.8	863	42.7	1238
Doors								
(none)								
Ceilings								
15/0 AISC ceiling, asphalt shingles roof mat, r-38 cell ins, 1/2" gypsum board et finish		576	0.026	38.0	1.40	809	1.04	598
Floors								
15/0 Pac floor vinyl fr finish, r-19 ins, 6" thick, 1/2" gypsum board et finish		576	0.052	19.0	1.40	809	0	0

8.50 x 11.00 m

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Home Tools Manual J Bonus Ro... x

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Bonus Room

Calculation Procedures A, B, C, D

Entire-House

Job: 1958
 Date: Jun 28, 2021
 By: [Name]
 Plan: Dnls

Procedure A - Winter Infiltration HTM Calculation*

1. Winter infiltration A/F	1.20	ach	x	4608	ft ³	x	0.0167	=	92	cfm	
2. Winter infiltration load	1.1	x	92	cfm	x	54	°F	Winter TD	=	5474	Btu/h
3. Winter infiltration HTM	5474	Btu/h	/	29	ft ²	Total window = and door area		=	188.8	Btu/h/ft ²	

Procedure B - Summer Infiltration HTM Calculation

1. Summer infiltration A/F	0.50	ach	x	4608	ft ³	x	0.0167	=	38	cfm	
2. Summer infiltration load	1.1	x	38	cfm	x	16	°F	Summer TD	=	672	Btu/h
3. Summer infiltration HTM	672	Btu/h	/	29	ft ²	Total window = and door area		=	23.2	Btu/h/ft ²	

Procedure C - Latent Infiltration Gain

0.68	x	31	gr/b	moist.dif.	x	38	cfm	=	815	Btu/h
------	---	----	------	------------	---	----	-----	---	-----	-------

Procedure D - Equipment Sizing Loads

1. Sensible sizing load																	
Sensible ventilation load																	
1.1	x	0	cfm	vent.	x	16	°F	Summer TD	=	0	Btu/h						
Sensible load for structure (Line 19)										=	3542	Btu/h					
Vent + structure + other equip loads										=	3542	Btu/h					
Rating and temperature swing multiplier										x	0.96						
Equipment sizing load - sensible										=	3396	Btu/h					
2. Latent sizing load																	
Latent ventilation load																	
0.68	x	0	cfm	vent.	x	31	gr/b	moist.dif.	=	0	Btu/h						
Internal loads =										230	Btu/h	x	0	people	=	0	Btu/h
Infiltration load from Procedure C										=	815	Btu/h					
Equipment sizing load - latent										=	815	Btu/h					

* Construction quality: Average
 Fireplace construction: Average Number of fireplaces: 0

Calculations approved by ACCA to meet all requirements of Manual J 7th Ed.

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Manual J Bonus Ro... x

Home Tools Manual J Bonus Ro... x

8.50 x 11.00 in

Bonus Room

Project Summary

Entire-House

Job: 1958
 Date: Jun 28, 2021
 By: [Name]
 Plan: Dnls

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Notes:

Design Information

Weather: Shenandoah Valley Regional, VA, US

Winter Design Conditions		Summer Design Conditions	
Outside db	16 °F	Outside db	91 °F
Inside db	73 °F	Inside db	75 °F
Design TD	54 °F	Design TD	16 °F
		Daily range	14
		Relative humidity	50 %
		Moisture difference	31 gr/b

Heating Summary		Sensible Cooling Equipment Load Sizing	
Structure	10816 Btu/h	Structure	3542 Btu/h
Ducts	0 Btu/h	Ducts	0 Btu/h
Central vent (0 cfm)	0 Btu/h	Central vent (0 cfm)	0 Btu/h
Infiltration	0 Btu/h	Blowers	0 Btu/h
Humidification	0 Btu/h	Use manufacturer's data	"
Piping	0 Btu/h	Rate/rating multiplier	0.96
Equipment load	10816 Btu/h	Equipment sensible load	3396 Btu/h

Infiltration		Latent Cooling Equipment Load Sizing	
Method	Simplified	Structure	815 Btu/h
Construction quality	Average	Ducts	0 Btu/h
Fireplaces	0	Central vent (0 cfm)	0 Btu/h
		Equipment latent load	815 Btu/h
Area (ft ²)	Heating 576	Equipment Total Load (Sens+Lat)	4212 Btu/h
Volume (ft ³)	4068	Req. total capacity at 0.70 SHR	0.4 ton
Air changes/hour	1.20		
Eqv. A/F (cfm)	192		

Heating Equipment Summary		Cooling Equipment Summary	
Make	Mitsubishi Electric	Make	Mitsubishi Electric
Trade	MUZ-WR12NA-L2	Trade	MUZ-WR12NA-L2
Model	2044S2676	Cond.	MUZ-WR12NA-L2
AHRF ref.		Coil	MSZ-WR12NA-U1
AHRF ref.		AHRF ref.	2044S2676
Efficiency	6.5 HSPF	Efficiency	9.0 EER, 16 SEER
Heating input	12200 Btu/h @ 47°F	Sensible cooling	8400 Btu/h
Heating output	28 °F	Latent cooling	3600 Btu/h
Temperature rise	400 cfm	Total cooling	12000 Btu/h
Actual air flow	0.037 cfm/Btu/h	Actual air flow	400 cfm
Air flow factor	0 in H ₂ O	Air flow factor	0.113 cfm/Btu/h
Static pressure		Static pressure	0 in H ₂ O
Space thermostat		Load sensible heat ratio	0.81
Capacity balance point = 19 °F			

Calculations approved by ACCA to meet all requirements of Manual J 7th Ed.

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Manual J 7th Ed

Bonus Room
Right-TO Worksheet
Entre House

Job: 1688
Date: Jun 28, 2021
By: Phil Devo

1) Name of room		Entire House 1200 sq ft						Room 1 1200 sq ft					
2) Length of exposed wall		Room 1 1200 sq ft						Room 1 1200 sq ft					
3) Room dimensions		Room 1 1200 sq ft						Room 1 1200 sq ft					
4) Ceiling		Room 1 1200 sq ft						Room 1 1200 sq ft					
TYPE OF ENCLOSURE	CONST. DETAIL	Area (sq ft)	U-Factor	Loss (Btu/hr)	Area (sq ft)	U-Factor	Loss (Btu/hr)	Area (sq ft)	U-Factor	Loss (Btu/hr)	Area (sq ft)	U-Factor	Loss (Btu/hr)
6) Window and glass doors	342	298	0.25	74.5	20	0.80	16.0	20	0.80	16.0			
7) Window and glass doors	North	21.4	0.10	2.14	206	0.10	20.6						
	SEW	0	0	0	0	0	0						
	SESW	0	0	0	0	0	0						
	South	0	0	0	0	0	0						
	West	0	0	0	0	0	0						
8) Other doors		0	0	0	0	0	0						
9) Net exposed wall and partitions		3.1	1.1	3.41	2880	1024	211	2880	1024				
10) Ceilings		14.0	1.0	14.0	828	276	276	828	276				
11) Floor (Excl. room perimeter - 1/2" thick Dr. slab - 1" thick Board)		14.0	0.1	1.4	828	0.1	82.8						
12) Infiltration		180	0.22	39.6	5474	0.22	5474						
13) Subtotal (sum of 6-11+12)				10819			10819						
14) Cooling distribution			0%	0		0%	0						
15) Total loss = 13+14				10819			10819						
16) Int. gains	People @	200	0	0	0	0	0						
	Appl. @	1200	0	0	0	0	0						
17) Subtotal (sum of 16-11+12+16)				10819			10819						
18) Cooling distribution			0%	0		0%	0						
19) Total RSH gain = 17+18+19				10819			10819						
20) Air required (gpm)			1.00	10819		1.00	10819						

Calculations approved by ACCA to meet all requirements of Manual J 7th Ed

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Window Data

Job: 1688
Date: Jun 28, 2021
By: Phil Devo

W S O G L S S N I S O O W C W S
 N K R L O T H G N H V V H H N H
 D Y I A W R A L C C R R G T A A
 W Z E M D Z L O X Y T M R R

Bonus Room

340	n	n	c	n	n	n	2	80.0	1.0	0.0	0.0	4.0	214	9.7	0.0
340	n	s	c	n	n	n	2	90.0	1.0	0.0	0.0	4.0	36.4	9.7	0.0
340	n	w	c	n	n	n	2	90.0	1.0	0.0	0.0	4.0	70.4	9.7	0.0

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Documents Submitted By Augusta County

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February 4, 2022

Office of the State Technical Review Board
600 East Main Street, Suite 300
Richmond VA, 23219

Members of the Board:

As requested, I am providing a detailed explanation and images of the Appeal of Monica and Michael Davis, Appeal number 22-02.

Item A: Mrs. Davis contacted me on May 18, 2021 regarding the air barrier behind the tub. I contacted ICC for an interpretation prior to my response. Below is my question and their response:

Exhibit #1

G.W. Wiseman

From: G.W. Wiseman
Sent: Friday, May 28, 2021 5:00 PM
To: Monica Davis
Cc: Jay Hendricks
Subject: RE: Code direction

The contractor will need to correct to code, the landings when he is there to do the rest of the repairs.

Regarding the tub, the paper on the insulation is permitted as an air barrier. Based on the limited information available from the picture, I do not see any obvious code violation.

G.W. Wiseman

From: G.W. Wiseman
Sent: Monday, June 07, 2021 8:12 AM
To: Monica Davis
Subject: RE: Code direction

The contractor was copied regarding the landings when I sent you my reply and is aware of the issues.

Before I responded to you on the air barrier I ask the International Code Council for an interpretation of the code section in question. Below is a copy of my question and their response:

Mr. Wiseman,

Following is the response to your question.

May 26, 2021

RE: 12 IRC R202 and N1102.4.1.1

Q: Does kraft faced insulation that is listed as a vapor retarder with the facing on the inside against the one piece tub shower unit meet the requirements of an air barrier as required by Table N1102.4.1.1?

A1: Since the IRC is silent on what constitutes an air barrier, the determination is subject to the opinion of the Building Official. Although kraft faced batt insulation isn't typically an air barrier, the insulation would satisfy the requirement of Table N1102.4.1.1, provided the insulation is installed per the manufacturer's instructions and is deemed an air barrier by the Building Official.

After receiving this information I checked the installation instructions from Johns Manville who manufactured the insulation and the insulation does appear to meet their installation instructions based on the photograph. I therefore see no need to remove anything to see the insulation.

As you can see I sent the response and my decision on May 28, 2021 and my explanation of that decision on June 7, 2021. As there was no appeal within the timeframe specified in section 119.5, I considered that acceptance of my decision.

Item C: I was called out to look at the floor joist which had been drilled partially for a DWV drain pipe on a band joist. That band joist and pipe is seen in the picture I took below:



As it is a band joist and is fully supported by the foundation wall below, I found no violation. After realizing that I was not going to cite that, Mrs. Davis then brought up a water line in the Local Appeals Board hearing even though it had nothing to do with the DWV she filed the complaint on.

Item F: This item was not part of the Appeal made to the Local Appeals Board. Mrs. Davis brought it up in the appeal but as it was not included in the appeal, the Board made no decision on it. I have included a copy of the local appeal for your information.



COUNTY OF AUGUSTA
 COMMONWEALTH OF VIRGINIA
 DEPARTMENT OF COMMUNITY DEVELOPMENT
 P.O. BOX 590
 COUNTY GOVERNMENT CENTER
 VERONA, VA 24482-0590



Appeal No. 21-01

Application for Appeal

Augusta County
 Locality

I (we) Monica and Michael Davis of 1002 Round Hill School Road Crimora VA 24431
 (name) (mailing address)

respectfully request that the Local Board of Appeals review the decision made on
October 19, 2021, by the code official.

Description of Decision Being Appealed: Items A – N on letter dated September 7

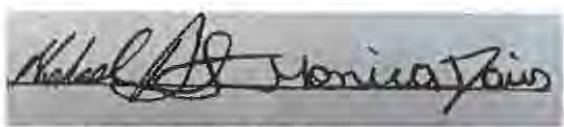
Location of Property Involved: 1002 Round Hill School Rad

What is the applicant's interest in the property?

- Owner
- Contractor
- Owner's agent

Relief Sought: We request the items "A, C, G, H, I, J, K, M" on letter dated September 7 that we received September 21, 2021 be revised and made complete to the code

Attach the Decision of the Code Official and Any Other Pertinent Documents.



Signature Of Applicant

**Dropped Off @The Government
 Center Tuesday October 19, 2021 @
 8: AM**

Filed at _____, Virginia, the ___ day of __, 20__

Mrs. Davis showed me some receptacles which she said were not code compliant. What I found was that she was only allowing 6 feet between receptacles instead of 12 feet. Hers are well within the 12 foot rule. When in the Appeal Board hearing she said she had found a room that was not compliant. After some questions from the Board and me, it was discovered that she was talking about bathroom receptacles. After discovering that, one of the board members who is also an electrical contractor, explained that that rule did not apply to bathrooms. I also agreed with that conclusion.

Item G: I explained to Mr. and Mrs. Davis that grills are always larger than the duct due to the restriction imposed by the louvers themselves. I also went over all of that in the Local Board hearing and that information is in the minutes.

I would like to point out that both of their experts are other contractors. The information from Landes is a proposal for work the Davis's want done and are not necessarily code violations. For example, they state they are going to replace the duct insulation with R-8 even though the ductwork is in the crawlspace and is only required to be R-6.

Item H: The issue that was appealed was that the air handler weight was not included in the floor joist loading. It is included in the dead load.

Item I: Mrs. Davis brought this up over a year ago and was citing a plumbing code section. The mechanical code does not require it as the insulation is larger than the 3/8" and 1/4" lines inside of the insulation. The insulation provides the space needed if the foundation would settle any.

Item J: Mrs. Davis showed me a video with her pulling the condensate lines apart in the attic. I could see condensation skinning the line set. I also saw condensation on the line set in the crawlspace. It should be noted that it was a hot and humid day the day I saw it. The code requires a minimum of R-3 insulation and I have included the data sheet below for the lines showing that they meet that requirement.



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- Insulation is marked every foot
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- 3/4" Wall R5.2 Minimum*
- 1" Wall R7.2 Minimum*
- Lengths 10'-164' (25m-50m)
- Can be ordered with Flare Nuts or Plain Ends.

TECHNICAL SPECIFICATIONS

Copper Tubing: Commercial Grade Refrigeration Tubing (ASTM B743 & ASTM B88)

Copper: No. C122200 DHP (Phosphorous deoxidized, high residual phosphorous)

Low-density Polyethylene Foam: Closed cells foam, CFC and HCFC gas free

Insulation: According to ASTM E96-00

Working Temperature: Meets/exceeds ASTM C 1427-07

Surface Burning Characteristics: UL 94HBT, UL 723, ASTM E84 (25/50), flame and spread index less than 25 and smoke development index less than 50 as tested according to UL 723.

Insulation Wall Thickness: 1/2", 3/4" & 1"

*R - Value calculation using a K-Factor of 0.25 BTU-in/hr-ft (2)-F @ 75°F; 24°C mean temp.

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INSTALLATION

- For maximum longevity, insulation material must be either painted or jacketed where outdoor environmental exposure is present.
- In order to minimize heat loss and control condensation, it is especially important to seal the end of pipe run to prevent ambient air from entering the system. Failure to do so could result in condensation formation between the insulation and pipe.

Item K: I first addressed this issue with Mrs. Davis on 9/30/2020, which was over a year ago. I informed her that there is no code issue here. The emails are below:

G.W. Wiseman

From: Monica Davis <monica.davis27@comcast.net>
Sent: Wednesday, September 30, 2020 8:46 AM
To: G.W. Wiseman
Subject: Re: [EXTERNAL] Request for Information

Ok thank you

On Sep 30, 2020, at 8:42 AM, G.W. Wiseman <gwiseman@co.augusta.va.us> wrote:

It is not addressed by code that I am aware of.

From: Monica Davis [<mailto:monica.davis27@comcast.net>]
Sent: Wednesday, September 30, 2020 8:41 AM
To: G.W. Wiseman <gwiseman@co.augusta.va.us>
Subject: Re: [EXTERNAL] Request for Information

I gather from the conversation that took place was if we get a 12" snow what prevents those electric boxes from being covered and the potential of shorting out? Do you see a potential problem with the current location and ground clearance?

On Sep 30, 2020, at 8:02 AM, G.W. Wiseman <gwiseman@co.augusta.va.us> wrote:

There is no minimum height above ground that I am aware of.

From: Monica Davis [<mailto:monica.davis27@comcast.net>]
Sent: Wednesday, September 30, 2020 7:24 AM
To: G.W. Wiseman <gwiseman@co.augusta.va.us>
Subject: Re: [EXTERNAL] Request for Information

Thank you.

It was brought to our attention yesterday that we should investigate the location our electric boxes are for the Outdoor AC units. I am attaching an image that will show the ground clearance those items currently have. Could you please provide me with the location in the code book that will indicate the required clearance from finish grade?
Thank you
<[image001.jpg](#)>

Regarding their image with the “manufactures” specification, please note that the drawing does not specify any height for the disconnect.

As no appeal was made in accordance with the timeframe allowed by section 119.5, I considered that acceptance of my decision.

Item M: Mr. and Mrs. Davis requested the Manual S and J from the contractor and I provided those to their attorney on July 2, 2021. The documents showed the units to be sized properly. The emails from their experts are the same proposal from Landes and the email from Lee’s Heating and Cooling is an explanation of the functioning of the unit.

As I provided the information to the Davis’s on July 2, 2021, and no appeal was made in the timeframe set by section 119.5, I considered it acceptance of my decision.

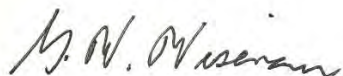
This appeal seems to be following the same pattern as many of the other items on this project. In the last State appeal, Mrs. Davis stated the Mr. Schnitzhofer (General Contractor's Engineer) was welcome back anytime on the site. The following week the Davis's filed a DPOR complaint against Mr. Schnitzhofer. DPOR found that he was not in violation of any of their standards but he is no longer willing to be part of the project.

All of the contractors on this project are frustrated to the point that they will no longer directly communicate with the Davis's. I have attached some emails for the Board's consideration. The Davis's have to communicate with them now through their attorneys.

The Davis's state that the contractors are welcome anytime, but every time one of them tries to make arrangements to be on site there are always new conditions for them to meet in order to try to correct their violations.

This appeal is a result of a letter from their attorney who in cooperation with the County attorney and the general contractor's attorney, were trying to work out the issues to get all issues resolved. Every time something seems to be getting worked out, the Davis's try to bring up a new issue.

Sincerely,

A handwritten signature in cursive script that reads "G.W. Wiseman".

G.W Wiseman
Building Official

Email Exhibits

From: Jay Hendricks [mailto:hendricks.son@gmail.com]
Sent: Friday, July 31, 2020 5:37 AM
To: G.W. Wiseman <gwiseman@co.augusta.va.us>
Subject: [EXTERNAL]

Good morning G.W.

I spoke with Greg Lambert multiple times yesterday and I understand Mrs. Davis was not home to allow them access to perform the code corrections they are responsible for. Greg also told me that his office received an email from Mrs. Davis regarding her protocol for notification of intent for the repair procedure. I have not seen the email composed by Mrs. Davis, so I don't know the details of her wishes. However, I have spoken with Greg and Daniel Devers and they both now agree that they do not wish to be on the property independently and would rather perform their duties when all parties involved are present. I concur; however, it will take some time for this to happen. Jim or Jeff must visit the property first to determine if the items needing an engineering seal are sufficient so that I do not need to address them. I also must order a fire rated door and other materials which will take several weeks due to the COVID-19 pandemic. I have no intentions of making multiple trips to the property and would like to see all corrections made in one day, two at the most. We may be looking at one to two months, realistically, before any corrections can be made as now the dynamics of scheduling everyone at one time becomes intrinsically more difficult. Everyone wants this to be over, but Mrs. Davis is making it much more difficult than need be by pulling the puppet strings. I am speaking with my attorney to see if there is any legal precedence to make this the end of the matter on a permanent basis.

Regards
Jay

From: Eddie or Greg Lambert [mailto:lambertplbg@hotmail.com]
Sent: Wednesday, August 05, 2020 3:51 PM
To: Monica Davis <monica.davis27@comcast.net>; G.W. Wiseman <gwiseman@co.augusta.va.us>; Jay Hendricks <hendricks.son@gmail.com>
Subject: [EXTERNAL] Re: Davis Issues

Mr. and Mrs. Davis,

In response to our company not addressing your issues. We made contact with you on July 22, 2020 and advised you that we were scheduling your repairs for July 30, 2020 and our crew would be there between 8:00 am and 8:30 am. This day was mutually decided based on the fact that you would be working from home that day and had concerns about problems that needed to be addressed in the attic. It was agreed that it would be better in the morning before it got to hot. You asked Amy if Jay Hendricks needed to be there. She stated she was unsure but, would let Jay and G.W. Wiseman know of our intentions to address the concerns on July 30, 2020. We informed all parties that we would be there July 30 between 8:00 am and 8:30 am. Upon our arrival the morning of July 30, 2020, we found no one home and no answer at the door. Amy called to see if we could get in. You stated that you had a conference call that was rescheduled from the previous Thursday July 23, 2020 to Thursday July 30, 2020. It would seem that you did not feel it necessary to touch base with us about your work schedule to see if we could reschedule. Our interpretation of your last email, will require Jay Hendricks, contractor, to be on location while repairs are made, as such all correspondence and scheduling would need to be handled through him.

Eddie Lambert
Greg Lambert
Lambert Plumbing, Heating & Cooling, Inc.
Sent from [Outlook](#)

Monica and Michael Davis

From: Monica Davis [mailto:monica.davis27@comcast.net]
Sent: Wednesday, August 05, 2020 4:43 PM
To: Eddie or Greg Lambert <lambertplbg@hotmail.com>
Cc: G.W. Wiseman <gwiseman@co.augusta.va.us>; Jay Hendricks <hendricks.son@gmail.com>
Subject: [EXTERNAL] Re: Davis Issues

I am sorry but you were provided inaccurate information. My phone records clearly show I was in contact with Amy on Thursday the 23rd (not her with me) with the understanding that she would reach out to Jay to see if he was required to be onsite since he was our class A and pulled our building permit for our project and then would contact me back to confirm what she had found out. I also request she inform me who was coming and the scope of the repairs and if possible provide a time frame. That was the only communication I have had with her. You are correct in stating that it was a mutually discussed day but was also tentative as Amy was unclear of the requirements since Jay pulled our building permit. At that time I also informed her of new findings in the attic and informed her she may want to get with GW to see if the new concerns needed to be addressed as they are located in the attic and accessing that space would need to happen early AM as it gets too hot to work in that locality. She communicated to me at that time she would be back in contact to confirm her findings. I was never informed that a site visit was confirmed only tentative as I never received a call back with confirmation. The only call I received was July 30 when I was at work in a conference call meeting. I was never informed of anyone coming from Lambert, Hendricks & Son, or any type of inspector. Again, you were provided with incorrect information again as my conference wasn't a rescheduled it was of normal business on the day it was originally scheduled for. Your point is not valid that I did not communicate my schedule to you because it was never a confirmed date only tentative upon Amy's findings. I am aware that your interpretation of the last email, will require Jay Hendricks, contractor, to be on location while repairs are made, as such all correspondence and scheduling would need to be handled through him. I will pass this communication along to all needed parties and make them aware of your unwillingness to at least come and address our original minimum request to seal the duct work and floor registers until they can determine what the next course of action should be. Thank you and have a great day.

From: Eddie or Greg Lambert [mailto:lambertplbg@hotmail.com]
Sent: Wednesday, August 05, 2020 6:27 PM
To: Monica Davis <monica.davis27@comcast.net>
Cc: G.W. Wiseman <gwiseman@co.augusta.va.us>; Jay Hendricks <hendricks.son@gmail.com>
Subject: [EXTERNAL] Re: Davis Issues

We are sorry that you see our attempt at following your wishes as being unwilling to address your concerns. On the contrary, we would like to resolve all 5 of the issues brought to our attention by Mr. Wiseman in a timely manner. If you are willing to provide dates and times during normal business hours for us to come for approximately 4 hours +/- to complete the revisions without Mr. Hendricks on site then we would happily put this matter to rest. Please advise how you wish to proceed.

Thank you,

Eddie Lambert
Greg Lambert

From: Monica Davis [mailto:monica.davis27@comcast.net]
Sent: Wednesday, August 05, 2020 7:45 PM
To: Eddie or Greg Lambert <lambertplbg@hotmail.com>
Cc: G.W. Wiseman <gwiseman@co.augusta.va.us>; Jay Hendricks <hendricks.son@gmail.com>
Subject: [EXTERNAL] Re: Davis Issues

On the contrary, our home is NEW and should have NO items that should not have been in compliance with the USBC in the first place. Furthermore, I should not have to even be in this situation and having this conversation about working around your normal business hours and providing you with dates and times when you along with ever other contractor and subcontractor had 10 months to provide us with the appropriate service we paid for. Myself and my husband are currently juggling our full time careers, attempting to operate as normal as possible in our home that our kids won't even open the vents up in their rooms because they are scared of snakes potentially entering their rooms through the improper work your company performed, along with the bugs that are entering already, might I add my father is currently on his death bed and instead of focusing on him I'm having to do your company's job and research codes and direct GW as well as Lambert on how to repair my problems. So excuse me if we have no sympathy for your request of normal business hours. I am sure DPOR will also have a good time when they get to Lambert's work performed and negligence on our project. Once I receive direction from our insurance agent and DPOR I will be in touch. Until then all I can request is to standby.

Thank You
Monica and Michael Davis

From: Monica Davis <monica.davis27@comcast.net>
Sent: Wednesday, August 5, 2020 8:50 AM
To: G.W. Wiseman <gwiseman@co.augusta.va.us>; Jay Hendricks <hendricks.son@gmail.com>;
lambertplbg@hotmail.com <lambertplbg@hotmail.com>
Subject: Davis Issues

Thank you for your provided information in reference to our repairs. I think it's important to make you and all parties involved that this has been submitted as an insurance claim and I will need to touch base with them since they will be the ones handling the claim and all potential repairs. I can speak on our main concern currently is the unsealed HVAC duct work and boots as we are concerned about the snakes possibly entering our living quarters I know we would at a minimal like that addressed ASAP. As for the other 21 items on the report I will be in contact with the insurance adjuster and relay the appropriate process she suggests. Our adjuster is on vacation until August 10 so I will not be able to provide appropriate guidance until she returns. For our protection we feel it is important to let the insurance company provide guidance and direction of this project as no one to date has had our project or our families best concern on the front line. Again, I would like to state we request all communication for site visit and scheduled work be handled via email so we have it documented. Last but not least we would also like all parties to be advised that DPOR as well as Augusta County Board of Supervisors have been contacted and complaints filed. Thank you and have a great day.

----- Forwarded message -----

From: **Monica Davis** <monica.davis27@comcast.net>
Date: Mon, Jun 28, 2021, 8:27 AM

Subject: Resolution

To: Jay Hendricks <hendricks.son@gmail.com>

Good Morning Jay, we are reaching out to you with no direction or guidance from anyone. We thought it may be a long shot in doing this but felt the efforts could not be set aside or ignored. We are sure you are exhausted in dealing with our dwelling issues as much as we are. We are not sending this email to point fingers or to lay blame; it is merely a means of communicating to you, informing you we have collected and wanted to share in reference to the insurance claim we have with your insurance company. There is a part of your policy that will cover most of the issues we are having with work that was performed on our property. The issues that you are having to incur cost in that KBL, Lambert, Pucket, and Crummett performed would be covered under your policy under the exclusion part of work that was performed by a subcontractor or the completed operations part. We attempted to share this information with our legal counsel to get it relayed to you through Penrod but are unsure if such communication took place. All though you were the Class A on our project we don't feel it is fair that you're having to absorb the financial burden of such parties' errors. Even though it is a long shot we felt it may be beneficial to send this email in the hope that we could come to a resolution through the insurance party side. There are parts of our engineers report that your engineer did not touch base on such as the footing on the house, house over height walls and the foundation walls which were subcontracted work. Do you see any harm in approaching the insurance with those items and seeing if we can get resolution through that avenue versus the path we are all currently on? We have not shared the engineer report from Engineer Solutions yet with your insurance company because honestly we were unsure of the direction we should take with it. After some off record direction from a third party it was suggested we send the report to your insurance for review and remind them that this is subcontracted work and should be covered due to the exclusion part of the policy. Feel free to send a simple response if you feel this may be a new avenue of direction for us to pursue.

Monica and Michael Davis

Additional Documents
Submitted By Monica
and Michael Davis

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Charlottesville
434-202-8527

November 15, 2021

ES. 1120-677

Harrisonburg
540-442-8787

Ms. Monica Davis
1002 Roundhill School Road
Crimora, Virginia

Richmond
571-477-9328

www.engsoln.com Subject: Repair Requirements for 1002 Roundhill School Road

Ms. Davis,

This is a summary of the proposed corrective measures to be performed at 1002 Roundhill School Road. Completing these items would bring the house and garage into compliance with the 2012 Virginia Residential Construction Code (see Appendix A). This was the code cycle in enforcement by Augusta County and the State of Virginia when the construction permit was issued. The Repair Item Numbers 1-9 as listed in this Repair Requirements correspond to the August County letter dated March 16, 2021.

Repair Item #1 - Improve grading around the house and garage.

1. At a minimum, the grade must slope 6" within the first 10' of the foundation perimeter.
2. At a minimum, the grade must be at least 6" below the wall sheathing.

Repair Item #2 – Bonus Room Framing

1. Due to the manufactured trusses supporting the load, the original truss company needs to be contacted and hired to provide a repair using their existing trusses for support. NO EXCEPTION!
2. Truss company to provide new hangers to support the roof beam

Repair Item #3 – Shear Wall and Stud Size for Detached and Attached Garages

1. Existing 2x4 wall framing in both the attached garage and detached garage that have heights greater than 10' shall be sistered with 2x6 framing at 16" on center stud spacing. The studs should be fastened together with 3" GRK screws spaced 12" on center staggered 1" from each face of the 2x4 stud. At door openings, match number of 2x4 king studs with 2x6 studs.
2. Install fire blocking in all walls with height greater than 10' if not present. The fire blocking needs to be horizontal and fill the entire cavity in the wall
3. At the detached garage, the existing wall with the two overhead doors and the personnel door will need to be sheathed with 7/16 OSB sheathing and nailed to all 2x6 studs after installing the following:
 - a. Create new framed wall that accommodates two Portal Frame at Garage Door (PFG) panels will need to be installed – one to the left of the left door when looking at the garage from the front, and one on the right side of the right door. The sketch below is found in the 2012 IRC R602.10.6.3
 - b. Fastening sheathing can be accomplished on the inside face or exterior face of the stud.

- c. A double 2x12 header needs to be installed as shown in 2012 IRC R602.10.6.3
- d. Install two ½” diameter anchors and 2”x2”x3/16 plate washers in each of the portal frames to be installed as shown in 2012 IRC R602.10.6.3. If not present, install two ½” diameter Simpson Titen HD anchors with plate washers.
- e. Provide wind bracing at bottom middle of end truss back up to roof at an angle along a truss web member.
- f. Sheathing to be fastened per Figure 1 shown below. Also found in R602.10.6.3

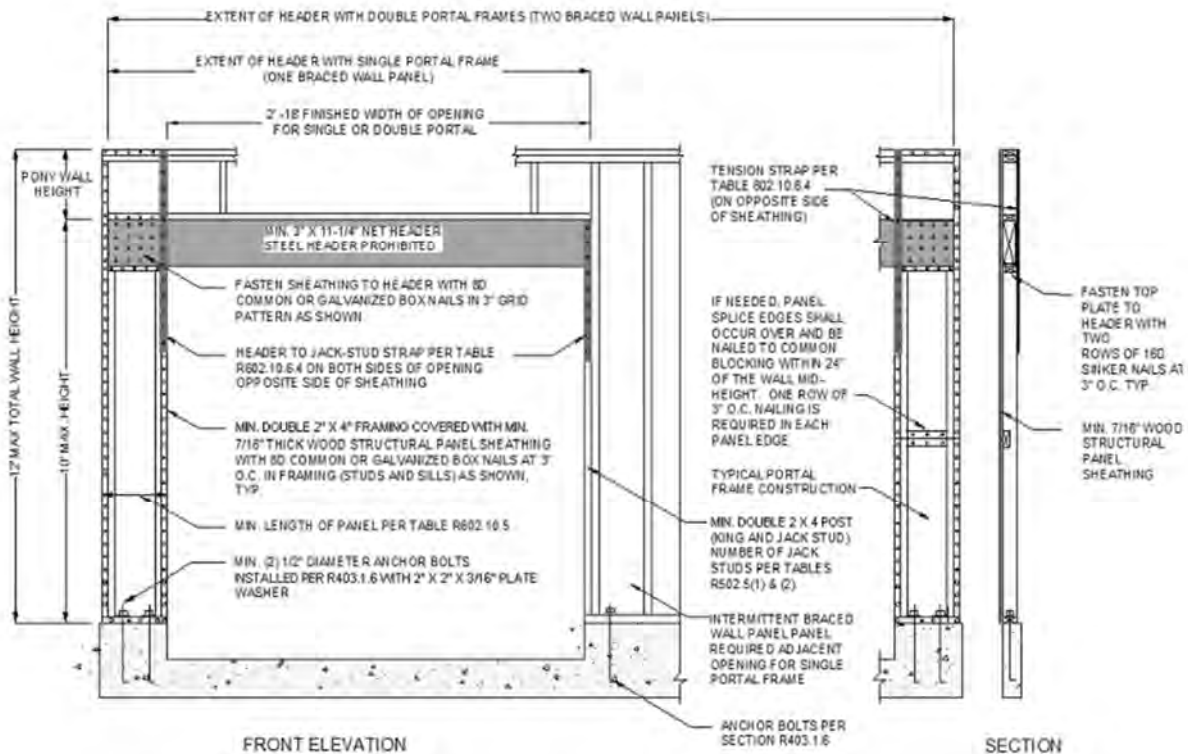


Figure 1 - Garage Portal Frame - R602.10.6.3

Repair Item #4 – Cracks in Crawspace and Garage Foundation Walls

1. Grind out and tuckpoint all mortar joints where cracks are visible in both the crawspace or garage.
2. Remove the CMU and grind out the mortar joint where the mortar joint exceeds the dimensions as set forth in R607.2.1.1 This occurs in the crawspace
 - a. Bed joint over ½”
 - b. Head joint over ¾”
 - c. Collar joint over ¾”

Repair Item #5 – Front Porch

1. Remove front porch slab and tie new slab into shoe block at the perimeter of the foundation wall.
2. Porch slab shall be reinforced with #4 @ 12” on center each way.
3. Minimum slab thickness to be 5”. Slab to slope from door to front stairs.

4. Provide connection between the perimeter foundation wall and the intersecting masonry wall that surrounds the front porch. This can be accomplished by using $4 \times 4 \times 1/4$ painted or galvanized. Install $1/4$ " diameter tapcons at 8" o.c. vertical into both faces of CMU. This needs to occur at the garage walls as well.
5. All deteriorated OSB shall be removed and replaced. The grade should be a minimum of 6" below all untreated wood.

Repair Item #6 – Footing Frost Depth House and Detached Garage

1. Several options were considered for these shallow footings. Since the garage and crawlspace are not heated, insulating the exterior for a shallow placed footings cannot be obtained. Therefore, two options remain:
 - a. Install helical piers or push piers. These should be installed at a maximum spacing of 4' on center and 2' from each corner. These should have a minimum gravity capacity of at least 20,000 pounds per anchor.
 - b. Dig below the existing footings in a maximum length of 6' at one time. Reinforce the new underpinning with (2) #4 running continuous. Dowel to the existing footing with #4 @ 24" on center. Rebar to be epoxied into place a minimum of 3" embedment and installed according to the manufacturer's directions. The minimum thickness of this underpinning footing shall be 8" and at least 24" wide. Once the first 6' are underpinned, the 6' between the underpinned areas will be performed. At the corners, only one side can be worked on at a time.

Repair Item #7 – Detached and Attached Garage Floor Slope

1. The existing garage floor needs to slope to the front doors per R309.1. This can be accomplished by a built-up epoxy or similar proprietary garage floor covering

Repair Item #8 – Front Porch Landing

1. The front porch landing will be repaired as described in Item #5. Slope per R311.3.1

Repair Item #9 – Front Porch Landing

1. The landing below the front steps needs to be the same width as the stairs per R311.7.6
2. New concrete to be doweled into existing concrete slab with #4 rebar @ 24" on center spacing. New concrete to be 4" thick with 6x6 – w1.4xw1.4 welded wire fabric.

Repair Item #10 – Vinyl Siding

1. Vinyl siding is not installed per manufacturer's recommendations. Remove areas of siding that are non-compliant and reinstall. This includes areas where proper nail spacing is not used, areas of siding that have pieces cut too short, or areas where buckling is occurring.

Repair Item #11 – Floor Joist Hangers

1. A majority of the floor joists have the wrong nails installed. Remove improper nails and install proper nails or screws where possible per the ESR documents.
2. For floor joists that are too short and do not provide proper end gap.
 - a. Support floor joist

- b. Sister existing floor joist with same size member but longer to provide the proper end spacing.
- c. Install a double joist face mount hanger
- d. Fasten joists together with 2 rows 2 ½” GRK screws at 12” on center spacing staggered.

Repair Item #12 – Wall and Ceiling Gypsum Board

1. The existing wall and ceiling gypsum board are not attached per Table R702.3.5. Approved fasteners shall be used to fasten the ceiling at 12” on center and 16” on center for walls.
2. The attached garage ceiling shall be fastened to the framing at a maximum spacing of 6” on center (see footnote e in Table R702.3.5)
3. Both of these repairs will need to be done. When shining a flashlight across the drywall, it is apparent that the spacing exceeds both Item #1 and #2 as listed above.

Repair Item #13 – Vapor Barrier

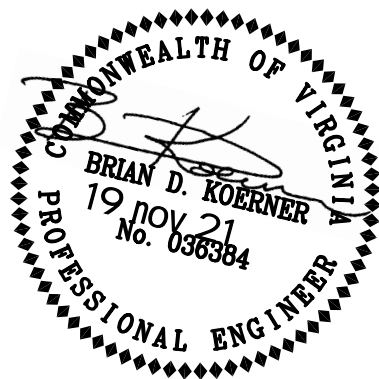
1. The bathroom tub and shower do not have a vapor barrier between the shower and the insulation as required by code. This was confirmed by looking through the tub hole in the crawlspace.
2. Remove tub shower combo unit and install vapor barrier. Reinstall tub and shower unit, patch drywall, and paint

These 13 repairs are to be performed in accordance with the 2012 Virginia Residential Code, codes referenced therein, and standard building practices.

This work presented is subject to Engineering Solutions & Construction Management, PLC standard Terms and Conditions. It is based upon visual observations performed during the site visit. There may be hidden conditions that are not able to be evaluated. Should you have any questions, please do not hesitate to contact our office. We appreciate the opportunity to work with you on this project.

Sincerely,
ENGINEERING SOLUTIONS AND CONSTRUCTION MANAGEMENT, PLC

Brian Koerner, PE
Partner



Appendix A
County of Augusta Letter
March 16, 2021



COUNTY OF AUGUSTA
COMMONWEALTH OF VIRGINIA
DEPARTMENT OF COMMUNITY DEVELOPMENT
P.O. BOX 590
COUNTY GOVERNMENT CENTER
VERONA, VA 24482-0590



21-302

March 16, 2021

CERTIFIED MAIL

COPY

Hendricks & Son General Contractor, LLC
50 Lee Street
Verona, VA 24482

Dear Mr. Hendricks:

On February 23, 2021, our office visited the Davis house, located at 1002 Round Hill School Road, to inspect concerns they have with the house you constructed under permit #718-2019. This house was constructed under the 2012 edition of the International Residential Code as amended by the Uniform Statewide Building Code.

In addition, we were provided by the owners an engineer's report dated March 8, 2021, a copy of which is attached. This letter is a report of our findings based on the inspection, the engineer's report and the rulings of the State Technical Review Board on the Davis appeal which occurred on January 22, 2021.

After review of the owners' concerns, inspections of those items, inspections of the structures, the attached engineer's report and the Technical Review Board rulings, the following items are not in compliance with the building code and need to be corrected. These findings are in addition to the items in the July 16, 2020, letter you received.

1. The grade around the house and garage has settled and no longer meets code for the required fall away from the structure per section R401.3. The grade needs to be corrected so that the fall away from the structure is a minimum of 6 inches within the first 10 feet. You also need to make sure that the grade is kept at least 6 inches from the sheathing in accordance with section R317.1 number 5.
2. The engineer found framing in the bonus room area which is not in accordance with the truss manufacturer's plans. This will need to be evaluated and approved by a licensed Professional Engineer or the engineer will need to design a repair. He also found hangers supporting the trusses which are not installed in accordance with the manufacturer's specifications. This will also need to be evaluated by a Professional Engineer and approved or have a repair designed by the engineer.
3. In addition to the shear wall design required by number 9 of the letter dated July 16, 2020, the engineer will need to evaluate the walls in the attached garage in accordance with section R602.3.1 and determine if they are adequate for the load imposed or have a repair designed by the

Staunton (540) 245-5700

TOLL FREE NUMBERS
From Deerfield (540) 939-4111
FAX (540) 245-5066

Waynesboro (540) 942-5113

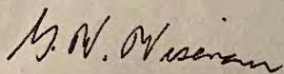
engineer. In addition, the engineer needs to verify that the fire blocks required by section R302.11 are installed in the walls and if not, have the blocks installed.

4. There are cracks in the crawlspace walls. The engineer needs to evaluate and determine if the foundation will meet the requirements of section R606 and R607. If not, the engineer will need to design the appropriate repairs to make it compliant.
5. The block walls at the foyer entrance and the garage wall in the crawlspace need to be evaluated for interconnection compliance with section R606.9.1.2 and that they can withstand all loads applied. If not, the engineer will need to design a repair.
6. In addition to the detached garage which was noted on the July 16, 2020, report, the house foundation will need to be checked by the engineer for proper depth for frostline protection and if it is not, design a repair to correct the condition.
7. The attached garage floor needs to drain towards the garage doors in accordance with section R309.1.
8. The front porch landing needs to drain towards the steps in accordance with section R311.3.1.
9. The landing at the bottom of the front steps needs to be as wide as the stairs in accordance with section R311.7.6.

Items 7, 8 and 9 were rulings by the State Technical Review Board. Please note, I have not received the written report from the January decision so there could be some changes to those items. If so, I will notify you but those were the Board's decisions during the meeting. Also, items 8 and 12 from the July 16, 2020, letter that were resolved by the engineer's report from Schnitzhofer are being appealed to the State Technical Review Board and that hearing is not until May 21, 2021.

Due to the complexity of many of the items in both this letter and the July 16, 2020, letter, all of the items will need to be inspected and approved by a licensed Professional Engineer. They need to provide documentation to our office that all items have been completed to the code requirements, the engineer's design or manufacture's specifications.

Sincerely,



G.W. Wiseman
Building Official

Attachment

Bonus Room



Load Short Form
House

Job: 1658
Date: Jun 29, 2021
By:
Plan: Davis

Project Information

For: Jay Hendricks, Hendricks & Sons
50 Lee Street, Verona, Va 24482
Phone: 540-294-2169

Design Information

	Htg	Clg	Method	Infiltration	Simplified Average
Outside db (°F)	16	91	Construction quality		0
Inside db (°F)	70	75	Fireplaces		
Design TD (°F)	54	16			
Daily range	-	M			
Inside humidity (%)	50	50			
Moisture difference (gr/lb)	45	31			

HEATING EQUIPMENT

Make Mitsubishi Electric
Trade Mitsubishi Electric
Model MUZ-WR12NA-U2
AHRI ref 204452676
Efficiency 8.5 HSPF
Heating input
Heating output 12200 Btuh @ 47°F
Temperature rise 28 °F
Actual air flow 400 cfm
Air flow factor 0.037 cfm/Btuh
Static pressure 0 in H2O
Space thermostat
Capacity balance point = 19 °F

COOLING EQUIPMENT

Make Mitsubishi Electric
Trade Mitsubishi Electric
Cond MUZ-WR12NA-U2
Coil MSZ-WR12NA-U1
AHRI ref 204452676
Efficiency 9.0 EER, 16 SEER
Sensible cooling 8400 Btuh
Latent cooling 3600 Btuh
Total cooling 12000 Btuh
Actual air flow 400 cfm
Air flow factor 0.113 cfm/Btuh
Static pressure 0 in H2O
Load sensible heat ratio 0.81

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Room 1	576	10819	3542	400	400
Entire House	576	10819	3542	400	400
Other equip loads		0	0		
Equip. @ 0.96 RSM			3396		
Latent cooling			815		
TOTALS	576	10819	4212	400	400

Calculations approved by ACCA to meet all requirements of Manual J 7th Ed.



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Page 1



Bonus Room

Building Analysis

Entire House

M.J.T.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

Project Information

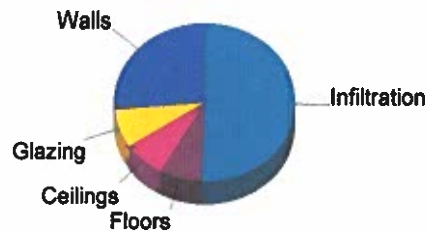
For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, Va 24482
 Phone: 540-294-2169

Design Conditions

Location:				Indoor:	Heating	Cooling
Shenandoah Valley Regional, VA, US				Indoor temperature (°F)	70	75
Elevation: 1201 ft				Design TD (°F)	54	16
Latitude: 38°N				Relative humidity (%)	50	50
				Moisture difference (gr/lb)	44.9	31.2
Outdoor:	Heating	Cooling		Infiltration:		
Dry bulb (°F)	16	91		Method	Simplified	
Daily range (°F)	-	22 (M)		Construction quality	Average	
Wet bulb (°F)	-	73		Fireplaces	0	
Wind speed (mph)	15.0	7.5				

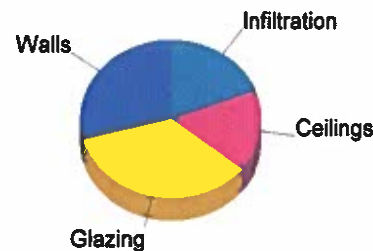
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.1	2865	26.5
Glazing	29.8	863	8.0
Doors	0	0	0
Ceilings	1.4	809	7.5
Floors	1.4	809	7.5
Infiltration	188.8	5474	50.6
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		10819	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.1	1034	29.2
Glazing	42.7	1238	35.0
Doors	0	0	0
Ceilings	1.0	598	16.9
Floors	0	0	0
Infiltration	23.2	672	19.0
Ducts		0	0
Ventilation		0	0
Internal gains		0	0
Blower		0	0
Adjustments		0	0
Total		3542	100.0



Latent Cooling Load = 815 Btuh
 Overall U-value = 0.054 Btuh/ft²·°F

WARNING: window to floor area ratio = 5.0% - less than 10%.



Bonus Room
Component Constructions
~~Entire House~~
Main

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, Va 24482
 Phone: 540-294-2169

Design Conditions

Location: Shenandoah Valley Regional, VA, US Elevation: 1201 ft Latitude: 38°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 54 50 44.9	Cooling 75 16 50 31.2
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 16 - - 15.0	Cooling 91 22 (M) 73 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

Construction descriptions

	Or	Area ft ²	U-value Btu/ft ² ·°F	Insul R ft ² ·h/Btu	Htg HTM Btu/h ²	Loss Btu/h	Cig HTM Btu/h ²	Gain Btu/h
Walls								
Knee: Knee wall, asphalt shingles roof mat, r-19 kw ins, 1/2" gypsum board int fsh								
		931	0.057	19.0	3.08	2865	1.11	1034
Partitions (none)								
Windows								
3A0: 2 glazing, clr outr, air gas, wd frm mat, clr innr, 1/4" gap, 1/4" thk; clear; 6.67 ft head ht								
	n	10	0.551	0	29.8	288	21.4	206
	s	10	0.551	0	29.8	288	36.4	351
	w	10	0.551	0	29.8	288	70.4	680
	all	29	0.551	0	29.8	863	42.7	1238
Doors (none)								
Ceilings								
16H0: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fsh								
		576	0.026	38.0	1.40	809	1.04	598
Floors								
19D0: Part floor, vinyl fir fsh, r-19 ins, frm fir, 6" thkns, 1/2" gypsum board int fsh								
		576	0.052	19.0	1.40	809	0	0



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Page 1

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Bonus Room Component Constructions

~~Room~~ ~~main house~~

Job: 1658
Date: Jun 29, 2021
By:
Plan: Davis

Project Information

For: Jay Hendricks, Hendricks & Sons
50 Lee Street, Verona, Va 24482
Phone: 540-294-2169

Design Conditions

Location: Shenandoah Valley Regional, VA, US Elevation: 1201 ft Latitude: 38°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 54 50 44.9	Cooling 75 16 50 31.2
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 16 - - 15.0	Cooling 91 22 (M) 73 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

Construction descriptions

	Or	Area ft ²	U-value Btu/h ² ·ft ² ·°F	Insul R ft ² ·h/Btu	Htg HTM Btu/h ² ·ft ²	Loss Btu/h	Clg HTM Btu/h ² ·ft ²	Gain Btu/h
Walls								
Knee: Knee wall, asphalt shingles roof mat, r-19 kw ins, 1/2" gypsum board int fnsh								
		931	0.057	19.0	3.08	2865	1.11	1034
Partitions (none)								
Windows								
3A0: 2 glazing, dr outr, air gas, wd frm mat, dr innr, 1/4" gap, 1/4" thk; clear, 6.67 ft head ht								
	n	10	0.551	0	29.8	288	21.4	206
	s	10	0.551	0	29.8	288	36.4	351
	w	10	0.551	0	29.8	288	70.4	680
	all	29	0.551	0	29.8	863	42.7	1238
Doors (none)								
Ceilings								
16H0: Attic ceiling, asphalt shingles roof mat, r-38 cell ins, 1/2" gypsum board int fnsh								
		576	0.026	38.0	1.40	809	1.04	598
Floors								
19D0: Part floor, vinyl fir fnsh, r-19 ins, frm fir, 6" thkns, 1/2" gypsum board int fnsh								
		576	0.052	19.0	1.40	809	0	0



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Page 2

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Bonus Room
Calculation Procedures A, B, C, D
Entire House
Area

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

Procedure A - Winter Infiltration HTM Calculation*

1.	Winter infiltration AVF								
	1.20 ach	x	4608 ft ²	x	0.0167	=	92	cfm	
2.	Winter infiltration load								
	1.1	x	92 cfm	x	54 °F	Winter TD =	5474	Btuh	
3.	Winter infiltration HTM								
	5474 Btuh	/	29 ft ²			Total window = and door area	188.8	Btuh/ft ²	

Procedure B - Summer Infiltration HTM Calculation

1.	Summer infiltration AVF								
	0.50 ach	x	4608 ft ²	x	0.0167	=	38	cfm	
2.	Summer infiltration load								
	1.1	x	38 cfm	x	16 °F	Summer TD =	672	Btuh	
3.	Summer infiltration HTM								
	672 Btuh	/	29 ft ²			Total window = and door area	23.2	Btuh/ft ²	

Procedure C - Latent Infiltration Gain

	0.68	x	31 gr/lb	moist.diff.	x	38 cfm	=	815 Btuh
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Procedure D - Equipment Sizing Loads

1.	Sensible sizing load								
	Sensible ventilation load								
	1.1	x	0 cfm	vent.	x	16 °F	Summer TD	=	0 Btuh
	Sensible load for structure (Line 19)								+ 3542 Btuh
	Vent + structure + other equip loads								= 3542 Btuh
	Rating and temperature swing multiplier								x 0.96
	Equipment sizing load - sensible								= 3396 Btuh
2.	Latent sizing load								
	Latent ventilation load								
	0.68	x	0 cfm	vent.	x	31 gr/lb	moist.diff.	=	0 Btuh
	Internal loads = 230 Btuh								+ 0 Btuh
	Infiltration load from Procedure C								+ 815 Btuh
	Equipment sizing load - latent								= 815 Btuh

* Construction quality: Average
 Fireplace construction: Average
 Number of fireplaces: 0

Calculations approved by ACCA to meet all requirements of Manual J 7th Ed.



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Bonus Room Project Summary EntireHouse.

Job: 1658
Date: Jun 29, 2021
By:
Plan: Davis

Project Information

For: Jay Hendricks, Hendricks & Sons
50 Lee Street, Verona, Va 24482
Phone: 540-294-2169

Notes:

Design Information

Weather: Shenandoah Valley Regional, VA, US

Winter Design Conditions

Outside db 16 °F
Inside db 70 °F
Design TD 54 °F

Summer Design Conditions

Outside db 91 °F
Inside db 75 °F
Design TD 16 °F
Daily range M
Relative humidity 50 %
Moisture difference 31 gr/lb

Heating Summary

Structure 10819 Btuh
Ducts 0 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 10819 Btuh

Sensible Cooling Equipment Load Sizing

Structure 3542 Btuh
Ducts 0 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.96
Equipment sensible load 3396 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft ²)	576	576
Volume (ft ³)	4608	4608
Air changes/hour	1.20	0.50
Equiv. AVF (cfm)	92	38

Latent Cooling Equipment Load Sizing

Structure 815 Btuh
Ducts 0 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Equipment latent load 815 Btuh
Equipment Total Load (Sen+Lat) 4212 Btuh
Req. total capacity at 0.70 SHR 0.4 ton

Heating Equipment Summary

Make Mitsubishi Electric
Trade Mitsubishi Electric
Model MUZ-WR12NA-U2
AHRI ref 204452676
Efficiency 8.5 HSPF
Heating input 12200 Btuh @ 47°F
Heating output 28 °F
Temperature rise 400 cfm
Actual air flow 0.037 cfm/Btuh
Air flow factor 0 in H2O
Static pressure
Space thermostat
Capacity balance point = 19 °F

Cooling Equipment Summary

Make Mitsubishi Electric
Trade Mitsubishi Electric
Cond MUZ-WR12NA-U2
Coil MSZ-WR12NA-U1
AHRI ref 204452676
Efficiency 9.0 EER, 16 SEER
Sensible cooling 8400 Btuh
Latent cooling 3600 Btuh
Total cooling 12000 Btuh
Actual air flow 400 cfm
Air flow factor 0.113 cfm/Btuh
Air flow factor 0 in H2O
Static pressure
Load sensible heat ratio 0.81

Calculations approved by ACCA to meet all requirements of Manual J 7th Ed.



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Bonus Room
Right-J® Worksheet
Entire House
AA

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

MANUAL J 7th Ed.															
1 Name of room		Entire House 120.0 ft										Room1 120.0 ft			
2 Length of exposed wall												1.0 x 576.0 ft			
3 Room dimensions												8.0 ft heat/cool			
4 Ceilings		Condit. Option										d			
TYPE OF EXPOSURE	CST NO.	Htg	HTM Clg	Area (ft²)	Load (Btuh)		Area (ft²)	Load (Btuh)		Area	Htg	Clg	Area	Htg	Clg
					Htg	Clg		Htg	Clg						
5	Gross Exposed walls and partitions	a	Knee	3.1	1.1	960	0	0	960	0	0				
		b		0	0	0	0	0	0	0	0				
		c		0	0	0	0	0	0	0	0				
		d		0	0	0	0	0	0	0	0				
		e		0	0	0	0	0	0	0	0				
		f		0	0	0	0	0	0	0	0				
6	Windows and glass doors Heating	a	3A0	29.8	**	29	863	0	29	863	0				
		b		0	**	0	0	0	0	0	0				
		c		0	**	0	0	0	0	0	0				
		d		0	**	0	0	0	0	0	0				
		e		0	**	0	0	0	0	0	0				
		f		0	**	0	0	0	0	0	0				
7	Windows and glass doors Cooling	North		21.4		10	0	206	10	0	206				
		NE/NW		0		0	0	0	0	0	0				
		E/W		70.4		10	0	680	10	0	680				
		SE/SW		0		0	0	0	0	0	0				
		South		36.4		10	0	351	10	0	351				
		Horz		0		0	0	0	0	0	0				
8	Other doors	a		0	0	0	0	0	0	0	0				
		b		0	0	0	0	0	0	0	0				
		c		0	0	0	0	0	0	0	0				
9	Net exposed walls and partitions	a	Knee	3.1	1.1	931	2865	1034	931	2865	1034				
		b		0	0	0	0	0	0	0	0				
		c		0	0	0	0	0	0	0	0				
		d		0	0	0	0	0	0	0	0				
		e		0	0	0	0	0	0	0	0				
		f		0	0	0	0	0	0	0	0				
10	Ceilings	a	16H0	1.4	1.0	576	809	598	576	809	598				
		b		0	0	0	0	0	0	0	0				
		c		0	0	0	0	0	0	0	0				
		d		0	0	0	0	0	0	0	0				
		e		0	0	0	0	0	0	0	0				
		f		0	0	0	0	0	0	0	0				
11	Floors (Note: room perimeter is diapl. for slab floors)	a	18D0	1.4	0	576	809	0	576	809	0				
		b		0	0	0	0	0	0	0	0				
		c		0	0	0	0	0	0	0	0				
		d		0	0	0	0	0	0	0	0				
		e		0	0	0	0	0	0	0	0				
		f		0	0	0	0	0	0	0	0				
12	Infiltration Ventilation	a		189	23.2	29	5474	672	29	5474	672				
							0	0		0	0				
13	Subtotal loss=6+8.+11+12						10819			10819					
	Less external heating						0			0					
	Less transfer						0			0					
	Heating redistribution						0			0					
14	Duct loss				0%		0			0					
15	Total loss = 13+14						10819			10819					
16	Int. gains: People @			300		0	0	0		0	0				
	Appl. @			1200		0	0	0		0	0				
17	Subtot RSH gain=7+8.+12+16						3542			3542					
	Less external cooling						0			0					
	Less transfer						0			0					
	Cooling redistribution						0			0					
18	Duct gain				0%		0	0%		0	0%				
19	Total RSH gain=(17+18)*PLF				1.00		3542	1.00		3542					
20	Air required (cfm)						400	400		400	400				

Calculations approved by ACCA to meet all requirements of Manual J 7th Ed.



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Window Data

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

W N D W	S K Y	O R I	G L A Z	L O W E	S T R M	S H A D	N G L Z	I N C L	S H C O	O V R X	O V R Y	W H G T	C H T M	W N A R	S H A R
<i>Bonus Room</i>															
3A0	n	n	c	n	n	n	2	90.0	1.0	0.0	0.0	4.0	21.4	9.7	0.0
3A0	n	s	c	n	n	n	2	90.0	1.0	0.0	0.0	4.0	36.4	9.7	0.0
3A0	n	w	c	n	n	n	2	90.0	1.0	0.0	0.0	4.0	70.4	9.7	0.0



Manual S Compliance Report
Entire House

Job: 1658
Date: Jun 29, 2021
By:
Plan: Davis

Project Information

For: Jay Hendricks, Hendricks & Sons
50 Lee Street, Verona, Va 24482
Phone: 540-294-2169

Cooling Equipment

Design Conditions

Outdoor design DB:	90.9°F	Sensible gain:	3542	Btuh	Entering coil DB:	75.0°F
Outdoor design WB:	73.4°F	Latent gain:	815	Btuh	Entering coil WB:	62.5°F
Indoor design DB:	75.0°F	Total gain:	4357	Btuh		
Indoor RH:	50%	Estimated airflow:	169	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP	Model:	MUZ-WR12NA-U2+MSZ-WR12NA-U1
Manufacturer:	Mitsubishi Electric		
Actual airflow:	400 cfm		
Sensible capacity:	8400 Btuh	237% of load	
Latent capacity:	3600 Btuh	441% of load	
Total capacity:	12000 Btuh	275% of load	SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	16.0°F	Heat loss:	10819	Btuh	Entering coil DB:	70.0°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP	Model:	MUZ-WR12NA-U2+MSZ-WR12NA-U1
Manufacturer:	Mitsubishi Electric		
Actual airflow:	400 cfm		
Output capacity:	12200 Btuh	113% of load	
Supplemental heat required:	0 Btuh		
		Capacity balance:	19 °F
		Economic balance:	-99 °F

Meets all requirements of ACCA Manual S.





Project Summary
Entire House
 Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24487 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Notes:

Design Information

Weather: Shenandoah Valley Regional, VA, US

Winter Design Conditions

Outside db 16 °F
 Inside db 70 °F
 Design TD 54 °F

Summer Design Conditions

Outside db 91 °F
 Inside db 75 °F
 Design TD 16 °F
 Daily range M
 Relative humidity 50 %
 Moisture difference 34 gr/lb

Heating Summary

Structure 29772 Btuh
 Ducts 0 Btuh
 Central vent (0 cfm)
 (none) 0 Btuh
 Humidification 0 Btuh
 Piping 0 Btuh
 Equipment load 29772 Btuh

Sensible Cooling Equipment Load Sizing

Structure 17938 Btuh
 Ducts 0 Btuh
 Central vent (0 cfm)
 (none) 0 Btuh
 Blower 0 Btuh
 Use manufacturer's data y
 Rate/swing multiplier 1.00
 Equipment sensible load 17938 Btuh

Infiltration

Method Simplified
 Construction quality Average
 Fireplaces 0

	Heating	Cooling
Area (ft ²)	1499	1499
Volume (ft ³)	13491	13491
Air changes/hour	0.58	0.30
Equiv. AVF (cfm)	130	67

Latent Cooling Equipment Load Sizing

Structure 2692 Btuh
 Ducts 0 Btuh
 Central vent (0 cfm)
 (none) 0 Btuh
 Equipment latent load 2692 Btuh
 Equipment Total Load (Sen+Lat) 20630 Btuh
 Req. total capacity at 0.70 SHR 2.1 ton

Heating Equipment Summary

Make
 Trade
 Model
 AHRI ref

Efficiency 80 AFUE
 Heating input 0 Btuh
 Heating output 0 Btuh
 Temperature rise 0 °F
 Actual air flow 852 cfm
 Air flow factor 0.029 cfm/Btuh
 Static pressure 0 in H2O
 Space thermostat

Cooling Equipment Summary

Make
 Trade
 Cond
 Coil
 AHRI ref
 Efficiency 0 SEER
 Sensible cooling 0 Btuh
 Latent cooling 0 Btuh
 Total cooling 0 Btuh
 Actual air flow 852 cfm
 Air flow factor 0.047 cfm/Btuh
 Static pressure 0 in H2O
 Load sensible heat ratio 0.87

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



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AED Assessment Entire House

Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
Date: Jun 29, 2021
By:
Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6180 Fax: 540-248-0802 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

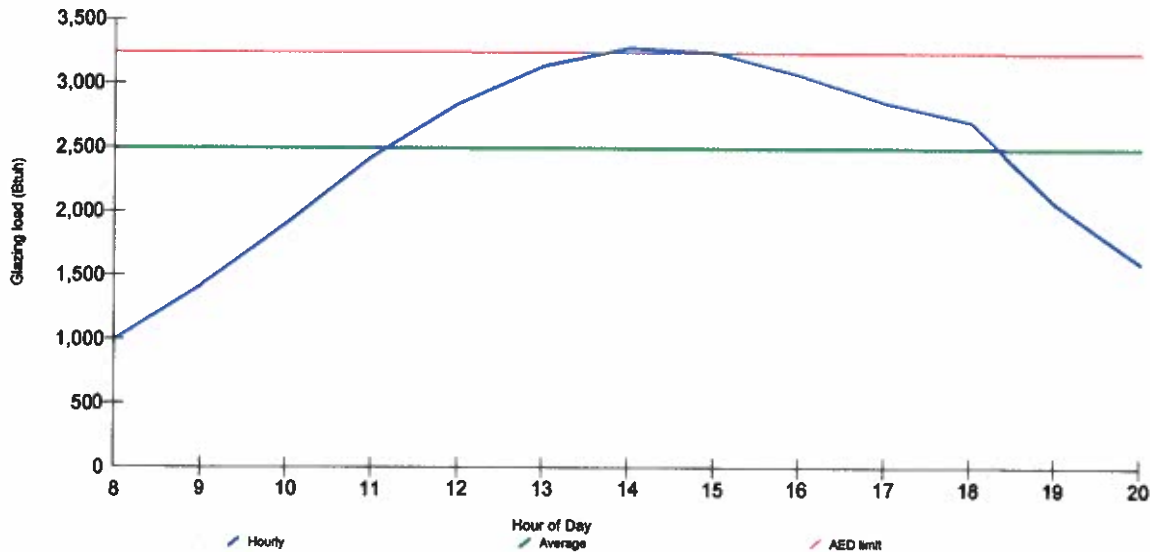
For: Jay Hendricks, Hendricks & Sons
50 Lee Street, Verona, VA 24482
Phone: 540-294-2169

Design Conditions

Location:		Indoor:		Heating	Cooling
Shenandoah Valley Regional, VA, US		Indoor temperature (°F)		70	75
Elevation: 1201 ft		Design TD (°F)		54	16
Latitude: 38°N		Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		46.9	34.0
	Heating	Cooling	Infiltration:		
Dry bulb (°F)	16	91			
Daily range (°F)	-	22 (M)			
Wet bulb (°F)	-	73			
Wind speed (mph)	15.0	7.5			

Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 31.4%.

House does not have adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 35 Btuh (PFG - 1.3*AFG)



Right-J® Worksheet Entire House

Lambert Plumbing, Heating & Cooling,
Inc.

Job: 1658
Date: Jun 29, 2021
By: Davis
Plan:

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0802 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

1 Room name		Entire House							Room1					
2 Exposed wall		234.0 ft							29.0 ft					
3 Room height		9.0 ft							9.0 ft					
4 Room dimensions		1499.0 ft²							16.0 x 12.0 ft					
5 Room area		1499.0 ft²							192.0 ft²					
6	Ty	Construction number	U-value (Btu/h/ft²-F)	Or	HTM (Btu/h/ft²)		Area (ft²) or perimeter (ft)		Load (Btu/h)		Area (ft²) or perimeter (ft)		Load (Btu/h)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
8	W	12D-0sw	0.088	n	4.64	1.69	540	438	2036	739	144	121	563	205
	G	1D-c2ov	0.570	n	30.78	20.06	11	0	349	227	11	0	349	227
11	G	4A5-2ov	0.470	n	25.38	13.56	31	0	778	416	11	0	288	154
	G	4A5-2ov	0.470	n	25.38	13.56	39	0	981	524	0	0	0	0
11	D	11D0	0.390	n	21.06	6.20	21	21	442	130	0	0	0	0
	W	12A-0sw	0.240	e	12.96	6.38	72	72	933	480	0	0	0	0
11	W	12D-0sw	0.088	e	4.64	1.69	441	441	2048	743	72	72	334	121
	W	12A-0sw	0.240	s	12.96	6.38	72	72	933	480	0	0	0	0
11	W	12D-0sw	0.088	s	4.64	1.69	396	303	1405	510	45	24	111	40
	G	4A5-2ov	0.470	s	25.38	19.52	39	0	981	755	0	0	0	0
11	D	11D0	0.390	s	21.06	10.37	21	21	442	218	21	21	442	218
	D	11D0	0.390	s	21.06	6.20	34	34	713	210	0	0	0	0
11	W	12D-0sw	0.088	w	4.64	1.69	387	352	1837	594	0	0	0	0
	G	4A5-2ov	0.470	w	25.38	38.84	6	0	152	221	0	0	0	0
11	D	11D0	0.390	w	21.06	10.37	29	29	602	297	0	0	0	0
	D	12C-0sw	0.000	-	0.00	0.00	198	177	0	0	0	0	0	0
11	D	11D0	0.390	n	21.06	10.37	21	21	442	218	0	0	0	0
	C	16B-0ad	0.408	-	22.03	20.44	64	64	1410	1308	0	0	0	0
11	C	16B-30ad	0.032	-	1.73	1.60	32	32	55	51	0	0	0	0
	C	16B-38ad	0.026	-	1.40	1.30	1340	1340	1881	1745	192	192	270	250
11	C	C part ceiling	0.302	-	16.29	15.11	63	63	1026	952	0	0	0	0
	F	19A-19cscp	0.049	-	2.07	0.61	192	192	398	117	182	182	398	117
11	F	19A-19cscp	0.049	-	2.07	0.61	286	286	593	175	0	0	0	0
	F	19A-19cspv	0.049	-	2.07	0.61	862	862	1787	526	0	0	0	0
11	F	19A-19cscp	0.049	-	2.07	0.61	159	159	330	97	0	0	0	0
6	c) AED excursion								35					-22
	Envelope loss/gain								22356	11728			2756	1311
12	a) Infiltration								7416	1129			1014	155
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @		230		6			1380	2			480
			Appliances/other							3700				0
	Subtotal (lines 6 to 13)								29772	17938			3770	1925
14	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
	Subtotal								29772	17938			3770	1925
15	Duct loads							0%	0%			-0%	0%	0
	Total room load								29772	17938			3770	1925
	Air required (cfm)								852	852			108	91

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



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Right-J® Worksheet Entire House

Lambert Plumbing, Heating & Cooling,
Inc.

Job: 1658
Date: Jun 29, 2021
By: Davis
Plan:

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

1 2 3 4 5	Room name		Room2 16.0 ft 9.0 ft 7.0 x 9.0 ft 63.0 ft²						Room4 13.0 ft 9.0 ft 1.0 x 101.0 ft 101.0 ft²					
	Ty	Construction number	U-value (Btu/ft²·F)	Or	HTM (Btu/ft²)		Area (ft²) or perimeter (ft)		Load (Btu/h)		Area (ft²) or perimeter (ft)		Load (Btu/h)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12D-0sw	0.086	n	4.64	1.69	63	63	293	106	0	0	0	0
	G	1D-c2ov	0.570	n	30.78	20.06	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	n	25.38	13.56	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	n	25.38	13.56	0	0	0	0	0	0	0	0
11	D	11D0	0.390	n	21.06	6.20	0	0	0	0	0	0	0	0
	W	12A-0sw	0.240	e	12.96	6.38	0	0	0	0	0	0	0	0
	W	12D-0sw	0.086	e	4.64	1.69	0	0	0	0	0	0	0	0
	W	12A-0sw	0.240	s	12.96	6.38	0	0	0	0	0	0	0	0
	W	12D-0sw	0.086	s	4.64	1.69	0	0	0	0	18	18	84	30
	G	4A5-2ov	0.470	s	25.38	19.52	0	0	0	0	0	0	0	0
	D	11D0	0.390	s	21.06	10.37	0	0	0	0	0	0	0	0
	D	11D0	0.390	s	21.06	6.20	0	0	0	0	0	0	0	0
	W	12D-0sw	0.086	w	4.64	1.69	81	81	376	137	99	93	432	157
	G	4A5-2ov	0.470	w	25.38	36.84	0	0	0	0	6	0	152	221
	D	11D0	0.390	w	21.06	10.37	0	0	0	0	0	0	0	0
	R	12C-0sw	0.000	-	0.00	0.00	0	0	0	0	0	0	0	0
	D	11D0	0.390	n	21.06	10.37	0	0	0	0	0	0	0	0
	C	16B-0ad	0.408	-	22.03	20.44	0	0	0	0	0	0	0	0
	C	16B-30ad	0.032	-	1.73	1.60	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.40	1.30	0	0	0	0	101	101	142	132
	C	C part ceiling	0.302	-	16.29	15.11	63	63	1028	952	0	0	0	0
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0	0	0	0	0
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0	0	0	0	0
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0	101	101	209	62
	F	19A-19cscp	0.049	-	2.07	0.61	63	63	131	38	0	0	0	0
6	c) AED excursion													84
	Envelope loss/gain								1825	1218			1019	685
12	a) Infiltration								560	65			455	69
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				1200
	Subtotal (lines 6 to 13)								2385	1304			1474	1954
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								2385	1304			1474	1954
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								2385	1304			1474	1954
	Air required (cfm)								68	62			42	93

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



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Right-Suite® Universal 2021 21.0.07 RSU64796

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Right-J® Worksheet Entire House

Lambert Plumbing, Heating & Cooling,
Inc.

Job: 1658
Date: Jun 29, 2021
By: Davis
Plan:

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

1 2 3 4 5	Room name		Room5 16.0 ft						Room6 16.0 ft								
	Exposed wall		9.0 ft			8.0 x 8.0 ft			9.0 ft			8.0 x 4.0 ft					
	Room height		64.0 ft			heat/cool			32.0 ft			heat/cool					
Room dimensions		Room area		U-value (Btu/h-ft ² -°F)		Or		HTM (Btu/h-ft ²)		Area (ft ²) or perimeter (ft)		Load (Btu/h)		Area (ft ²) or perimeter (ft)		Load (Btu/h)	
Ty		Construction number				Heat		Cool		Gross		N/P/S		Heat		Cool	
6	W	12D-0sw	0.088	n	4.64	1.89	0	0	0	0	0	0	0	0	0	0	0
	G	1D-c2ov	0.570	n	30.78	20.06	0	0	0	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	n	25.38	13.56	0	0	0	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	n	25.38	13.56	0	0	0	0	0	0	0	0	0	0	0
11	D	11D0	0.390	n	21.06	6.20	0	0	0	0	0	0	0	0	0	0	0
	W	12A-0sw	0.240	e	12.96	6.38	72	72	933	460	0	0	0	0	0	0	0
	W	12D-0sw	0.088	e	4.64	1.89	0	0	0	0	36	36	167	61	0	0	0
	W	12A-0sw	0.240	s	12.96	6.38	72	72	933	460	0	0	0	0	0	0	0
	W	12D-0sw	0.088	s	4.64	1.89	0	0	0	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	s	25.38	13.56	0	0	0	0	0	0	0	0	0	0	0
	D	11D0	0.390	s	21.06	6.20	0	0	0	0	0	0	0	0	0	0	0
	D	11D0	0.390	s	21.06	6.20	0	0	0	0	0	0	0	0	0	0	0
	W	12D-0sw	0.088	w	4.64	1.89	0	0	0	0	36	36	167	61	0	0	0
	G	4A5-2ov	0.470	w	25.38	13.56	0	0	0	0	0	0	0	0	0	0	0
	D	11D0	0.390	w	21.06	6.20	0	0	0	0	0	0	0	0	0	0	0
	R	12C-0sw	0.000	-	0.00	0.00	0	0	0	0	72	51	0	0	0	0	0
	D	11D0	0.390	n	21.06	10.37	0	0	0	0	21	21	442	218	0	0	0
	C	18B-0ad	0.408	-	22.03	20.44	64	64	1410	1308	0	0	0	0	0	0	0
	C	18B-30ad	0.032	-	1.73	1.60	0	0	0	0	32	32	55	51	0	0	0
	C	18B-38ad	0.028	-	1.40	1.30	0	0	0	0	0	0	0	0	0	0	0
	C	C part ceiling	0.302	-	16.29	15.11	0	0	0	0	0	0	0	0	0	0	0
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0	0	0	0	0	0	0	0
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0	0	0	0	0	0	0	0
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0	0	0	0	0	0	0	0
	F	19A-19cscp	0.049	-	2.07	0.61	64	64	133	39	32	32	66	20	0	0	0
6	c) AED excursion																-5
	Envelope loss/gain								3409	2235					698	405	
12	a) Infiltration								560	85					280	43	
	b) Room ventilation								0	0					0	0	
13	Internal gains:		Occupants @	230			0				0	0					0
			Appliances/other								500						0
	Subtotal (lines 6 to 13)								3969	2820					1178	448	
	Less external load								0	0					0	0	
	Less transfer								0	0					0	0	
	Redistribution								0	0					0	0	
14	Subtotal								3969	2820					1178	448	
15	Duct loads								0	0					0	0	
	Total room load								3969	2820					1178	448	
	Air required (cfm)								114	134					34	21	

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



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Right-J® Worksheet Entire House

Lambert Plumbing, Heating & Cooling,
Inc.

Job: 1658
Date: Jun 29, 2021
By: Davis
Plan:

2630 Lee Highway Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

1 2 3 4 5	Room name		Room10 89.0 ft						Room11 22.0 ft							
	Exposed wall		9.0 ft			1.0 x 657.0 ft			9.0 ft			13.0 x 11.0 ft				
	Room height		657.0 ft²			heat/cool			143.0 ft²			heat/cool				
Room dimensions		Room area		HTM (Btu/h/ft²)		Area (ft²) or perimeter (ft)		Load (Btu/h)		Area (ft²) or perimeter (ft)		Load (Btu/h)				
Ty		Construction number	U-value (Btu/h/ft²-F)	Or	Heat		Cool		Heat		Cool		Heat		Cool	
6	W	12D-0sw	0.088	n	4.64	1.69	216	156	726	264	0	0	0	0		
	G	1D-c2ov	0.570	n	30.78	20.06	0	0	0	0	0	0	0	0		
	G	4A5-2ov	0.470	n	25.38	13.56	0	0	0	0	0	0	0	0		
	G	4A5-2ov	0.470	n	25.38	13.56	39	0	981	524	0	0	0	0		
	D	11D0	0.390	n	21.06	6.20	21	21	442	130	0	0	0	0		
11	W	12A-0sw	0.240	e	12.96	6.38	0	0	0	0	0	0	0	0		
	W	12D-0sw	0.088	e	4.64	1.69	72	72	334	121	90	90	418	152		
	W	12A-0sw	0.240	s	12.96	6.38	0	0	0	0	0	0	0	0		
	W	12D-0sw	0.088	s	4.64	1.69	216	163	756	274	108	89	412	149		
	G	4A5-2ov	0.470	s	25.38	19.52	19	0	491	377	19	0	491	377		
	D	11D0	0.390	s	21.06	10.37	0	0	0	0	0	0	0	0		
	D	11D0	0.390	s	21.06	6.20	34	34	713	210	0	0	0	0		
	W	12D-0sw	0.088	w	4.64	1.69	171	142	661	240	0	0	0	0		
	G	4A5-2ov	0.470	w	25.38	36.84	0	0	0	0	0	0	0	0		
	D	11D0	0.390	w	21.06	10.37	29	29	602	297	0	0	0	0		
	R	12C-0sw	0.000	-	0.00	0.00	126	126	0	0	0	0	0	0		
	D	11D0	0.390	n	21.06	10.37	0	0	0	0	0	0	0	0		
	C	16B-0ad	0.408	-	22.03	20.44	0	0	0	0	0	0	0	0		
	C	16B-30ad	0.032	-	1.73	1.60	0	0	0	0	0	0	0	0		
	C	16B-38ad	0.026	-	1.40	1.30	657	657	922	856	143	143	201	186		
	C	C part ceiling	0.302	-	16.29	15.11	0	0	0	0	0	0	0	0		
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0	0	0	0	0		
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0	143	143	297	87		
	F	19A-19cscp	0.049	-	2.07	0.61	657	657	1362	401	0	0	0	0		
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0	0	0	0	0		
6	c) AED excursion													74		
	Envelope loss/gain								7992	3661			1818	1026		
12	a) Infiltration								2624	400			770	117		
	b) Room ventilation								0	0			0	0		
13	Internal gains:		Occupants @	230		4				920	0			0		
			Appliances/other							2000				0		
	Subtotal (lines 6 to 13)								10615	6981			2587	1143		
	Less external load								0	0			0	0		
	Less transfer								0	0			0	0		
	Redistribution								27	14			15	8		
14	Subtotal								10642	6995			2602	1151		
15	Duct loads								0	0			0	0		
	Total room load								10642	6995			2602	1151		
	Air required (cfm)								304	332			74	55		

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



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Right-J® Worksheet Entire House

Lambert Plumbing, Heating & Cooling,
Inc.

Job: 1658
Date: Jun 29, 2021
By: Davis
Plan:

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

1 2 3 4 5	Room name		Room12 24.0 ft 9.0 ft 13.0 x 11.0 ft 143.0 ft ²						Room14 0 ft 9.0 ft 3.0 x 8.0 ft 24.0 ft ²					
	Ty	Construction number	U-value (Btu/h/ft ² -F)	Or	HTM (Btu/h/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btu/h)		Area (ft ²) or perimeter (ft)		Load (Btu/h)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12D-0sw	0.088	n	4.64	1.69	117	98	454	165	0	0	0	0
	G	1D-c2ov	0.570	n	30.78	20.06	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	n	25.38	13.56	19	0	491	262	0	0	0	0
	G	4A5-2ov	0.470	n	25.38	13.56	0	0	0	0	0	0	0	0
11	D	11D0	0.390	n	21.06	6.20	0	0	0	0	0	0	0	0
	W	12A-0sw	0.240	e	12.96	6.38	0	0	0	0	0	0	0	0
	W	12D-0sw	0.088	e	4.64	1.69	99	99	480	167	0	0	0	0
	W	12A-0sw	0.240	s	12.96	6.38	0	0	0	0	0	0	0	0
	W	12D-0sw	0.088	s	4.64	1.69	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	s	25.38	19.52	0	0	0	0	0	0	0	0
	D	11D0	0.390	s	21.06	10.37	0	0	0	0	0	0	0	0
	D	11D0	0.390	s	21.06	6.20	0	0	0	0	0	0	0	0
	W	12D-0sw	0.088	w	4.64	1.69	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	w	25.38	36.84	0	0	0	0	0	0	0	0
	D	11D0	0.390	w	21.06	10.37	0	0	0	0	0	0	0	0
	R	12C-0sw	0.000	-	0.00	0.00	0	0	0	0	0	0	0	0
	D	11D0	0.390	n	21.06	10.37	0	0	0	0	0	0	0	0
	C	16B-0ad	0.408	-	22.03	20.44	0	0	0	0	0	0	0	0
	C	16B-30ad	0.032	-	1.73	1.60	0	0	0	0	0	0	0	0
	C	16B-36ad	0.026	-	1.40	1.30	143	143	201	166	24	24	34	31
	C	C part ceiling	0.302	-	16.29	15.11	0	0	0	0	0	0	0	0
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0	0	0	0	0
	F	19A-19cscp	0.049	-	2.07	0.61	143	143	297	87	0	0	0	0
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0	24	24	50	15
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0	0	0	0	0
6	c) AED excursion									-11				-1
	Envelope loss/gain								1901	856			83	45
12	a) Infiltration								840	128			0	0
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0		0	0	0		0	0
			Appliances/other						0	0			0	0
	Subtotal (lines 6 to 13)								2741	984			83	45
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								11	6			-83	-45
14	Subtotal								2752	990			0	0
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								2752	990			0	0
	Air required (cfm)								79	47			0	0

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



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Right-J® Worksheet Entire House

Lambert Plumbing, Heating & Cooling,
Inc.

Job: 1658
Date: Jun 29, 2021
By: Davis
Plan:

2530 Lee Highway Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

						Room15								
1	Room name					9.0 ft		9.0 ft						
2	Exposed wall					80.0 ft		10.0 x 8.0 ft						
3	Room height													
4	Room dimensions													
5	Room area					80.0 ft²								
	Ty	Construction number	U-value (Btu/h/ft²-F)	Or	HTM (Btu/h/ft²)		Area (ft²) or perimeter (ft)		Load (Btu/h)		Area or perimeter		Load	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12D-0sw	0.088	n	4.64	1.69	0	0	0	0				
	G	1D-c2ov	0.570	n	30.78	20.06	0	0	0	0				
	G	4A5-2ov	0.470	n	25.38	13.56	0	0	0	0				
	G	4A5-2ov	0.470	n	25.38	13.56	0	0	0	0				
11	D	11D0	0.390	n	21.06	6.20	0	0	0	0				
	W	12A-0sw	0.240	e	12.96	6.38	0	0	0	0				
	W	12D-0sw	0.088	e	4.64	1.69	72	72	334	121				
	W	12A-0sw	0.240	s	12.96	6.38	0	0	0	0				
	W	12D-0sw	0.088	s	4.64	1.69	9	9	42	15				
	G	4A5-2ov	0.470	s	25.38	19.52	0	0	0	0				
	D	11D0	0.390	s	21.06	10.37	0	0	0	0				
	D	11D0	0.390	s	21.06	6.20	0	0	0	0				
	W	12D-0sw	0.088	w	4.64	1.69	0	0	0	0				
	G	4A5-2ov	0.470	w	25.38	38.84	0	0	0	0				
	D	11D0	0.390	w	21.06	10.37	0	0	0	0				
	R	12C-0sw	0.000	-	0.00	0.00	0	0	0	0				
	D	11D0	0.390	n	21.06	10.37	0	0	0	0				
	C	18B-0ad	0.408	-	22.03	20.44	0	0	0	0				
	C	18B-30ad	0.032	-	1.73	1.60	0	0	0	0				
	C	18B-38ad	0.026	-	1.40	1.30	80	80	112	104				
	C	C part ceiling	0.302	-	16.29	15.11	0	0	0	0				
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0				
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0				
	F	19A-19cscp	0.049	-	2.07	0.61	80	80	166	49				
	F	19A-19cscp	0.049	-	2.07	0.61	0	0	0	0				
6	c) AED excursion									-4				
	Envelope loss/gain								654	286				
12	a) Infiltration								315	48				
	b) Room ventilation								0	0				
13	Internal gains:		Occupants @	230			0			0				
			Appliances/other							0				
	Subtotal (lines 6 to 13)								969	334				
	Less external load								0	0				
	Less transfer								0	0				
	Redistribution								30	17				
14	Subtotal								1000	350				
15	Duct loads						-0%	0%	0	0				
	Total room load								1000	350				
	Air required (cfm)								29	17				

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Building Analysis Entire House

Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
Date: Jun 29, 2021
By:
Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24487 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

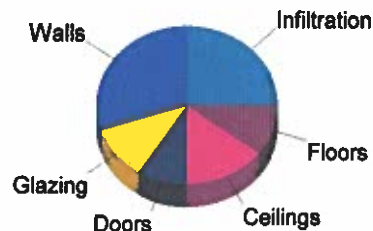
For: Jay Hendricks, Hendricks & Sons
50 Lee Street, Verona, VA 24482
Phone: 540-294-2169

Design Conditions

Location: Shenandoah Valley Regional, VA, US Elevation: 1201 ft Latitude: 38°N	Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 54 50 46.9	Cooling 75 16 50 34.0
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 16 - - 15.0	Cooling 91 22 (M) 73 7.5	Infiltration: Method Construction quality Fireplaces
		Simplified Average 0	

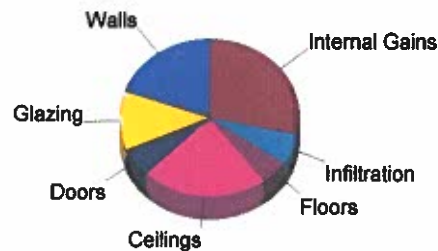
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.8	8991	30.2
Glazing	25.9	3242	10.9
Doors	21.1	2641	8.9
Ceilings	2.9	4373	14.7
Floors	2.1	3108	10.4
Infiltration	3.9	7416	24.9
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		29772	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.9	3505	19.5
Glazing	17.4	2178	12.1
Doors	8.5	1072	6.0
Ceilings	2.7	4057	22.6
Floors	0.6	915	5.1
Infiltration	0.6	1129	6.3
Ducts		0	0
Ventilation		0	0
Internal gains		5080	28.3
Blower		0	0
Adjustments		0	0
Total		17938	100.0



Latent Cooling Load = 2692 Btuh
Overall U-value = 0.084 Btuh/ft²·°F

Data entries checked.



Load Short Form

Entire House

Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Design Information

	Htg	Clg	Infiltration	Simplified
Outside db (°F)	16	91	Method	Average
Inside db (°F)	70	75	Construction quality	0
Design TD (°F)	54	16	Fireplaces	
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	47	34		

HEATING EQUIPMENT

Make	
Trade	
Model	
AHRI ref	
Efficiency	80 AFUE
Heating input	0 Btuh
Heating output	0 Btuh
Temperature rise	0 °F
Actual air flow	852 cfm
Air flow factor	0.029 cfm/Btuh
Static pressure	0 in H2O
Space thermostat	

COOLING EQUIPMENT

Make	
Trade	
Cond	
Coil	
AHRI ref	
Efficiency	0 SEER
Sensible cooling	0 Btuh
Latent cooling	0 Btuh
Total cooling	0 Btuh
Actual air flow	852 cfm
Air flow factor	0.047 cfm/Btuh
Static pressure	0 in H2O
Load sensible heat ratio	0.87

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Room1	192	3770	1925	108	91
Room2	63	2385	1304	68	62
Room4	101	1474	1954	42	93
Room5	64	3969	2820	114	134
Room6	32	1178	448	34	21
Room10	657	10642	6995	304	332
Room11	143	2602	1151	74	55
Room12	143	2752	990	79	47
Room14	24	0	0	0	0
Room15	80	1000	350	29	17

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



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Entire House	1499	29772	17938	852	852
Other equip loads		0	0		
Equip. @ 1.00 RSM			17938		
Latent cooling			2692		
TOTALS	1499	29772	20630	852	852

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Component Constructions Entire House

Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
Date: Jun 29, 2021
By:
Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
50 Lee Street, Verona, VA 24482
Phone: 540-294-2169

Design Conditions

Location: Shenandoah Valley Regional, VA, US Elevation: 1201 ft Latitude: 38°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 54 50 46.9	Cooling 75 16 50 34.0
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 16 - - 15.0	Cooling 91 22 (M) 73 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

Construction descriptions	Or	Area ft²	U-value Btu/ft²·F	Insul R ft²·F/Btu	Htg HTM Btu/ft²	Loss Btu	Cig HTM Btu/ft²	Gain Btu
Walls								
12D-0sw: Fm wall, vnl ext, 1/2" wood shth, r-15 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood fm, 16" o.c. stud	n	438	0.086	15.0	4.64	2036	1.69	739
	e	441	0.086	15.0	4.64	2048	1.69	743
	s	303	0.086	15.0	4.64	1405	1.69	510
	w	352	0.086	15.0	4.64	1637	1.69	594
	all	1534	0.086	15.0	4.64	7125	1.69	2586
12A-0sw: Fm wall, 1/2" gyp.bd ext, 1/2" gypsum board int fnsh, 2"x4" wood fm, 16" o.c. stud	e	72	0.240	0	13.0	933	6.38	460
	s	72	0.240	0	13.0	933	6.38	460
	all	144	0.240	0	13.0	1866	6.38	919
Partitions								
12C-0sw		177	0	0	0	0	0	0
Windows								
1D-c2ov: 2 glazing, dr outr, air gas, vnl fm mat, dr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	11	0.570	0	30.8	349	20.1	227
4A5-2ov: 2 glazing, dr lowe outr, argon gas, vnl fm mat, dr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	31	0.470	0	25.4	778	13.6	416
	n	39	0.470	0	25.4	981	13.6	524
	s	39	0.470	0	25.4	981	19.5	755
	w	6	0.470	0	25.4	152	36.8	221
	all	114	0.470	0	25.4	2893	16.8	1916
Doors								
11D0: Door, wd sc type	n	21	0.390	0	21.1	442	6.20	130
	s	21	0.390	0	21.1	442	10.4	218
	s	34	0.390	0	21.1	713	6.20	210
	w	29	0.390	0	21.1	602	10.4	297
	n	21	0.390	0	21.1	442	10.4	218
	all	125	0.390	0	21.1	2641	8.55	1072
Ceilings								
16B-0ad: Attic ceiling, asphalt shingles roof mat, 1/2" gypsum board int fnsh		64	0.408	0	22.0	1410	20.4	1308
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		32	0.032	30.0	1.73	55	1.80	51

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh	1340	0.026	38.0	1.40	1881	1.30	1745
C part ceiling,: C part ceiling, vinyl fir fnsh, frm fir, 6" thkns, 1/2" gypsum board int fnsh	63	0.302	1.0	16.3	1026	15.1	952
Floors							
19A-19cscp: Fir floor, frm fir, 10" thkns, carpet fir fnsh, r-19 cav ins, tight cwl ovr	192	0.049	19.0	2.07	398	0.61	117
19A-19cscp: Fir floor, frm fir, 8" thkns, carpet fir fnsh, r-19 cav ins, tight cwl ovr	286	0.049	19.0	2.07	593	0.61	175
19A-19csvp: Fir floor, frm fir, 8" thkns, vinyl fir fnsh, r-19 cav ins, tight cwl ovr	862	0.049	19.0	2.07	1787	0.61	526
19A-19cvcp: Fir floor, frm fir, 8" thkns, carpet fir fnsh, r-19 cav ins, leaky cwl ovr	159	0.049	19.0	2.07	330	0.61	97



Component Constructions
Room1
Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Design Conditions

Location: Shenandoah Valley Regional, VA, US Elevation: 1201 ft Latitude: 38°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 54 50 46.9	Cooling 75 16 50 34.0
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 16 - - 15.0	Cooling 91 22 (M) 73 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

Construction descriptions	Or	Area ft²	U-value Btu/ft²·F	Insul R ft²·F/Btu	Htg HTM Btu/ft²	Loss Btu	Clg HTM Btu/ft²	Gain Btu
Walls								
12D-0sw: Fm wall, vnl ext, 1/2" wood shth, r-15 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood fm, 16" o.c. stud	n	121	0.086	15.0	4.64	563	1.69	205
	e	72	0.086	15.0	4.64	334	1.69	121
	s	24	0.086	15.0	4.64	111	1.69	40
	all	217	0.086	15.0	4.64	1009	1.69	366
Partitions (none)								
Windows								
1D-c2ov: 2 glazing, cr outr, air gas, vnl frm mat, cr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	11	0.570	0	30.8	349	20.1	227
4A5-2ov: 2 glazing, cr low-e outr, argon gas, vnl frm mat, cr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	11	0.470	0	25.4	288	13.6	154
Doors								
11D0: Door, wd sc type	s	21	0.390	0	21.1	442	10.4	218
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 cell ins, 1/2" gypsum board int fnsh		192	0.026	38.0	1.40	270	1.30	250
Floors								
19A-19cscp: Fir floor, frm fir, 10" thkns, carpet fir fnsh, r-19 cav ins, tight cwl ovr		192	0.049	19.0	2.07	398	0.61	117



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Component Constructions

Room2

Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Design Conditions

Location: Shenandoah Valley Regional, VA, US Elevation: 1201 ft Latitude: 38°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 54 50 46.9	Cooling 75 16 50 34.0
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 16 - - 15.0	Cooling 91 22 (M) 73 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

Construction descriptions

	Or	Area ft ²	U-value Btu/ft ² ·h·°F	Insul R ft ² ·h·Btu/h	Htg HTM Btu/ft ²	Loss Btu/h	Cig HTM Btu/ft ²	Gain Btu/h
Walls								
12D-Osw. Fm wall, vnl ext, 1/2" wood shth, r-15 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood fm, 16" o.c. stud	n	63	0.086	15.0	4.64	293	1.69	106
	w	81	0.086	15.0	4.64	376	1.69	137
	all	144	0.086	15.0	4.64	669	1.69	243
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings								
C part ceiling.: C part ceiling, vinyl flr fnsh, frm fr, 6" thkns, 1/2" gypsum board int fnsh		63	0.302	1.0	16.3	1026	15.1	952
Floors								
19A-19cvcp: Fir floor, frm fr, 8" thkns, carpet flr fnsh, r-19 cav ins, leaky cwl ovr		63	0.049	19.0	2.07	131	0.61	38



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Component Constructions

Room4

Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Design Conditions

Location: Shenandoah Valley Regional, VA, US Elevation: 1201 ft Latitude: 38°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 54 50 46.9	Cooling 75 16 50 34.0
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 16 - - 15.0	Cooling 91 22 (M) 73 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

Construction descriptions

	Or	Area ft²	U-value Btu/ft²-F	Insul R ft²-F/Btu	Htg HTM Btu/ft²	Loss Btu	Cig HTM Btu/ft²	Gain Btu
Walls								
12D-0sw: Fm wall, vnl ext, 1/2" wood shth, r-15 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood fm, 16" o.c. stud	s	18	0.086	15.0	4.64	84	1.69	30
	w	93	0.086	15.0	4.64	432	1.69	157
	all	111	0.086	15.0	4.64	515	1.69	187
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, cr low-e outr, argon gas, vnl frm mat, cr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	w	6	0.470	0	25.4	152	36.8	221
Doors (none)								
Ceilings								
16B-36ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		101	0.026	38.0	1.40	142	1.30	132
Floors								
19A-19csvp: Fir floor, frm fir, 8" thkns, vinyl fir fnsh, r-19 cav ins, tight cowl ovr		101	0.049	19.0	2.07	209	0.61	62



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Component Constructions
Room5
Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Design Conditions

Location:		Indoor:		Heating	Cooling
Shenandoah Valley Regional, VA, US		Indoor temperature (°F)		70	75
Elevation: 1201 ft		Design TD (°F)		54	16
Latitude: 38°N		Relative humidity (%)		50	50
Outdoor:	Heating	Cooling	Moisture difference (gr/lb)		
Dry bulb (°F)	16	91	46.9		
Daily range (°F)	-	22 (M)			
Wet bulb (°F)	-	73			
Wind speed (mph)	15.0	7.5			
			Infiltration:	Simplified	
			Method	Average	
			Construction quality	0	
			Fireplaces	0	

Construction descriptions

	Or	Area ft ²	U-value Btu/h-ft ² -°F	Insul R ft ² -hr/Btu	Htg HTM Btu/ft ²	Loss Btu	Cig HTM Btu/ft ²	Gain Btu
Walls								
12A-0sw: Fm wall, 1/2" gyp.bd ext, 1/2" gypsum board int fnsh, 2"x4" wood fm, 16" o.c. stud	e	72	0.240	0	13.0	933	6.38	460
	s	72	0.240	0	13.0	933	6.38	460
	all	144	0.240	0	13.0	1866	6.38	919
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings								
16B-0ad: Attic ceiling, asphalt shingles roof mat, 1/2" gypsum board int fnsh		64	0.408	0	22.0	1410	20.4	1308
Floors								
19A-19cvcp: Fir floor, fm fir, 8" thkns, carpet fir fnsh, r-19 cav ins, leaky cwl ovr		64	0.049	19.0	2.07	133	0.61	39



Component Constructions

Room6

Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24487 Phone: 540-248-8160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Design Conditions

Location: Shenandoah Valley Regional, VA, US Elevation: 1201 ft Latitude: 38°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 54 50 46.9	Cooling 75 16 50 34.0
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 16 - - 15.0	Cooling 91 22 (M) 73 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

Construction descriptions

	Or	Area ft²	U-value Btu/ft²·F	Insul R ft²·F/Btu	Htg HTM Btu/ft²	Loss Btu	Cig HTM Btu/ft²	Gain Btu
Walls								
12D-0sw: Fm wall, vnl ext, 1/2" wood shth, r-15 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood fm, 16" o.c. stud	e	36	0.086	15.0	4.64	167	1.69	61
	w	36	0.086	15.0	4.64	167	1.69	61
	all	72	0.086	15.0	4.64	334	1.69	121
Partitions								
12C-0sw		51	0	0	0	0	0	0
Windows (none)								
Doors								
11D0: Door, wd sc type	n	21	0.390	0	21.1	442	10.4	218
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		32	0.032	30.0	1.73	55	1.60	51
Floors								
19A-19cvcp: Fir floor, fm fir, 8" thkns, carpet fir fnsh, r-19 cav ins, leaky cwl ovr		32	0.049	19.0	2.07	66	0.61	20



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Component Constructions

Room10

Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Design Conditions

Location: Shenandoah Valley Regional, VA, US Elevation: 1201 ft Latitude: 38°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 54 50 46.9	Cooling 75 16 50 34.0
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 16 - - 15.0	Cooling 91 22 (M) 73 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

Construction descriptions

	Or	Area ft²	U-value Btu/ft²·F	Insul R ft²·F/Btu	Htg HTM Btu/ft²	Loss Btu	Cig HTM Btu/ft²	Gain Btu
Walls								
12D-0sw: Frm wall, vnl ext, 1/2" wood shth, r-15 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood fm, 16" o.c. stud	n	156	0.086	15.0	4.64	726	1.69	264
	e	72	0.086	15.0	4.64	334	1.69	121
	s	163	0.086	15.0	4.64	756	1.69	274
	w	142	0.086	15.0	4.64	661	1.69	240
	all	534	0.086	15.0	4.64	2478	1.69	899
Partitions								
12C-0sw		126	0	0	0	0	0	0
Windows								
4A5-2ov: 2 glazing, cr low-e outr, argon gas, vnl frm mat, cr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	39	0.470	0	25.4	981	13.6	524
	s	19	0.470	0	25.4	491	19.5	377
	all	58	0.470	0	25.4	1472	15.5	902
Doors								
11D0: Door, wd sc type	n	21	0.390	0	21.1	442	6.20	130
	s	34	0.390	0	21.1	713	6.20	210
	w	29	0.390	0	21.1	602	10.4	297
	all	83	0.390	0	21.1	1757	7.63	637
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 cell ins, 1/2" gypsum board int fnsh		657	0.026	38.0	1.40	922	1.30	856
Floors								
19A-19csvp: Fir floor, frm fir, 8" thkns, vinyl fir fnsh, r-19 cav ins, tight cowl ovr		657	0.049	19.0	2.07	1362	0.61	401



Component Constructions

Room11

Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-8160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Design Conditions

Location: Shenandoah Valley Regional, VA, US Elevation: 1201 ft Latitude: 38°N	Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 54 50 46.9	Cooling 75 16 50 34.0
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 16 - - 15.0	Cooling 91 22 (M) 73 7.5	Infiltration: Method Construction quality Fireplaces
		Simplified Average 0	

Construction descriptions

	Or	Area ft ²	U-value Btu/ft ² ·°F	Insul R ft ² ·°F/Btu	Htg HTM Btu/ft ²	Loss Btu	Clg HTM Btu/ft ²	Gain Btu
Walls								
12D-0sw: Fm wall, vnl ext, 1/2" wood shth, r-15 cav ins, 1/2" gypsum board int fsh, 2"x4" wood fm, 16" o.c. stud	e	90	0.086	15.0	4.64	418	1.69	152
	s	89	0.086	15.0	4.64	412	1.69	149
	all	179	0.086	15.0	4.64	830	1.69	301
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, argon gas, vnl fm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	s	19	0.470	0	25.4	491	19.5	377
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fsh		143	0.026	38.0	1.40	201	1.30	186
Floors								
19A-19cscp: Fir floor, fm fir, 8" thkns, carpet fir fsh, r-19 cav ins, tight cwl ovr		143	0.049	19.0	2.07	297	0.61	87



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Component Constructions
Room12
 Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24487 Phone: 540-248-6160 Fax: 540-248-0802 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Design Conditions

Location: Shenandoah Valley Regional, VA, US Elevation: 1201 ft Latitude: 38°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 54 50 46.9	Cooling 75 16 50 34.0
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 16 - - 15.0	Cooling 91 22 (M) 73 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

Construction descriptions

	Or	Area ft²	U-value Btu/ft²·F	Insul R ft²·F/Btu	Htg HTM Btu/ft²	Loss Btu	Cig HTM Btu/ft²	Gain Btu
Walls								
12D-0sw: Fm wall, vnl ext, 1/2" wood shth, r-15 cav ins, 1/2" gypsum board int fsh, 2"x4" wood fm, 16" o.c. stud	n	98	0.086	15.0	4.64	454	1.69	165
	e	99	0.086	15.0	4.64	460	1.69	167
	all	197	0.086	15.0	4.64	913	1.69	332
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, cr low-e outr, argon gas, vnl fm mat, cr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	19	0.470	0	25.4	491	13.6	262
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fsh		143	0.026	38.0	1.40	201	1.30	186
Floors								
19A-19cscp: Fir floor, fm fir, 8" thkns, carpet fir fsh, r-19 cav ins, tight cwl ovr		143	0.049	19.0	2.07	297	0.61	87



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Component Constructions
Room14
Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-8160 Fax: 540-248-0602 Email: lambertpibg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Design Conditions

Location:			Indoor:	Heating	Cooling
Shenandoah Valley Regional, VA, US			Indoor temperature (°F)	70	75
Elevation: 1201 ft			Design TD (°F)	54	16
Latitude: 38°N			Relative humidity (%)	50	50
Outdoor:	Heating	Cooling	Moisture difference (gr/lb)	46.9	34.0
Dry bulb (°F)	16	91	Infiltration:		
Daily range (°F)	-	22 (M)	Method	Simplified	
Wet bulb (°F)	-	73	Construction quality	Average	
Wind speed (mph)	15.0	7.5	Fireplaces	0	

Construction descriptions

	Or	Area ft ²	U-value Btu/ft ² ·°F	Insul R ft ² ·F/Btu	Htg HTM Btu/ft ²	Loss Clg HTM Btu	Gain Btu
Walls (none)							
Partitions (none)							
Windows (none)							
Doors (none)							
Ceilings 16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 cell ins, 1/2" gypsum board int fnsh		24	0.026	38.0	1.40	34	31
Floors 19A-19csvp: Fir floor, frm fir, 8" thkns, vinyl fir fnsh, r-19 cav ins, tight crwl ov		24	0.049	19.0	2.07	50	15



Component Constructions
Room15
Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-8160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Design Conditions

Location:		Indoor:		Heating	Cooling
Shenandoah Valley Regional, VA, US		Indoor temperature (°F)		70	75
Elevation: 1201 ft		Design TD (°F)		54	16
Latitude: 38°N		Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		46.9	34.0
	Heating	Cooling	Infiltration:		
Dry bulb (°F)	16	91	Method	Simplified	
Daily range (°F)	-	22 (M)	Construction quality	Average	
Wet bulb (°F)	-	73	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions	Or	Area ft²	U-value Btu/ft²·F	Insul R ft²·F/Btu	Htg HTM Btu/ft²	Loss Btu	Cig HTM Btu/ft²	Gain Btu
Walls								
12D-0sw: Fm wall, vnl ext, 1/2" wood shth, r-15 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood fm, 16" o.c. stud	e	72	0.086	15.0	4.64	334	1.69	121
	s	9	0.086	15.0	4.64	42	1.69	15
	all	81	0.086	15.0	4.64	376	1.69	137
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		80	0.026	38.0	1.40	112	1.30	104
Floors								
19A-19csvp: Fir floor, fm fir, 8" thkns, vinyl fir fnsh, r-19 cav ins, tight cml ovr		80	0.049	19.0	2.07	166	0.61	49



Manual S Compliance Report
Entire House
Lambert Plumbing, Heating & Cooling, Inc.

Job: 1658
 Date: Jun 29, 2021
 By:
 Plan: Davis

2530 Lee Highway, Mount Sidney, VA 24467 Phone: 540-248-6160 Fax: 540-248-0602 Email: lambertplbg@hotmail.com Web: www.lambertplumbing-heating.com

Project Information

For: Jay Hendricks, Hendricks & Sons
 50 Lee Street, Verona, VA 24482
 Phone: 540-294-2169

Cooling Equipment

Design Conditions

Outdoor design DB:	90.9°F	Sensible gain:	17938	Btuh	Entering coil DB:	75.0°F
Outdoor design WB:	73.4°F	Latent gain:	2692	Btuh	Entering coil WB:	62.3°F
Indoor design DB:	75.0°F	Total gain:	20630	Btuh		
Indoor RH:	50%	Estimated airflow:	927	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	York	Model:	YHE30B21+SL6936++TD		
Actual airflow:	927	cfm			
Sensible capacity:	19460	Btuh	108%	of load	
Latent capacity:	8340	Btuh	310%	of load	
Total capacity:	27800	Btuh	135%	of load	SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	16.0°F	Heat loss:	29772	Btuh	Entering coil DB:	70.0°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	York	Model:	YHE30B21+SL6936++TD		
Actual airflow:	927	cfm			
Output capacity:	28000	Btuh	94%	of load	Capacity balance: 23 °F
Supplemental heat required:	1772	Btuh			Economic balance: -99 °F

Backup equipment type:	Elec strip				
Manufacturer:		Model:			
Actual airflow:	927	cfm			
Output capacity:	8.7	kW	100%	of load	Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.

Additional Submitted Information

A. Air Barrier - Below you will find the suggested repair from Engineer Solutions for the missing air barrier he observed while on site:

Repair Item #13 – Vapor Barrier 1. The bathroom tub and shower do not have a vapor barrier between the shower and the insulation as required by code. This was confirmed by looking through the tub hole in the crawlspace. 2. Remove tub shower combo unit and install vapor barrier. Reinstall tub and shower unit, patch drywall, and paint

G. HVAC return too small - Attached you will find the Manuel J and S. Please note the date of those reports, they were created June 29, 2021 and our system was installed March of 2020 which is a clear indication that the Manuel J and S were not provided to the county before install like code requires. As I expressed to Mr. Wiseman on site inquiring if he knew how to read the report and he said "yes". When I question about the inaccurate report pointing out the internal gain being 6 and it should be 4 (one for each bedroom and then the +1), on the duct system report I pointed out the E section in red as well as the return branch has it being sized as 16" and mine is only 14", I also went on to point out the return branch on the report has 1 return and I actually have 2 as well as my return in is a 8" x 8", moving on to the duct sizes mine are all 6" no 7" like the report calls out, on the final page of the report under Building Analysis it has under the cooling location as the ducts % of load as being 0 which would indicate my crawl space is conditioned and it is not. Below is an image showing the 2 returns, as well as the 6" ducts





M. HVAC mini split - Mr Wiseman states the reports state at the bottom approved by ACCA requirements. Please notice it has Manuel J 7th Edition, that edition was released in 2009, a new requirement and Manuel J edition was released in 2016 which was the 8th edition. Moving onto the actual report it again has internal gain at 0 and report no doors but the room as 2 doors in it. Researching myself with Wrightsoft the software company Lambert used it was determined that the templates were changed to suggest the systems complied but do not. That is why you see the missing return on the house report because they deleted it. Evidence from the manufacture and from a hired expert show the system could not sustain the requirements of code for heating and cooling the space. Below is one of the expert opinion I had done on the system. It was not for work to be done or for an estimate just for pure documentation of what I had in place. A static pressure test was run as well while on site, which indicated major issues with the system.

From: allan mayz <allan@leesheating.net>
Date: November 11, 2021 at 10:56:36 AM EST
To: monica.davis27@comcast.net
Subject: mini split

Hello Mrs Davis

In the attachments you see information on the mini splits
davis 12k existing system gives you the performance of your existing unit
davis 12k mini split hi heat, gives you the performance for a comparison between hi heat and standard system
The other submittals are the full submittals for the units

This is a lot of material for you. If you need assistance deciphering the material, give me a call

Thank you and enjoy the day

Allan Mayz

540-885-3139

leesheating@comcast.net

On Mon, Nov 15, 2021 at 1:15 PM Monica Davis <monica.davis27@comcast.net> wrote:

Thank you for the additional information. I see you highlighted the btu 9000 and 7400 on the unit I currently have. I remember you commenting on it over the phone but could you explain that again to me here in the email so I can explain it to my husband.

On Nov 15, 2021, at 6:37 PM, allan mayz <allan@leesheating.net> wrote:

Hello Monica

Sure I will explain this for you.

The current system (MUZ-WR12NA) you have is a standard heat pump system. It is used primarily in more temperate climates of Florida, Georgia, Louisiana, etc. This particular unit has a very low heat output at temperatures of 17degrees or 5 degrees. The design parameters for our area are 17 degrees or lower. So we must look at how much heat will be produced at 17 degrees to sufficiently heat the living space.

So when we look at the submittal data of your existing unit, we see:

47 deg = 14,500 btu max

17 deg = 9,000 btu max

5 deg = 7,440 btu max

So now we need to look at the btu's needed to heat the living space. My quick calculation shows a requirement of 11,500 Btu at 17 degrees.

If you look at the required btu load in "your" load calculation report (this is listed as "bonus room project summary") you will see the report states the requirement is 10,819 btu.

So now we look at the submittal data, and we look at 17 degrees and we see the max btu is 9,000. So if we subtract the need vs the output, this equals a 1,819 btu deficit. Now, 1,800 doesn't sound like much, but it affects the comfort of the space. This space would not meet the 70 degree threshold in the report.

Now let's look at the "high heat" system.

The submittal data shows:

47 deg = 21,000

17 deg = 17,410

5 deg = 14,960

So as you will note, at 17 degrees, in the high heat version, we achieve 17,410 btu's of heat. The performance is quite dramatic at the lower temperatures. It actually produces more heat than the 12,000 btu the model number states. The high heat version will give you an extra 8,410 btu of heating capacity in comparison to the existing model.

When you compare the 10,819 btu in the load report, the high heat version gives you an extra 6,591 btu of heat. This far outways the deficit of 1,819 btu with your existing system.

I hope this helps in understanding the differences in the units and which system is needed to supply enough heat for the bonus room. Give me a call if you need to.

Thank you

Allan

Allan Mayz

540-885-3139

leesheating@comcast.net

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Additional Documents
Submitted By
Augusta County

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3/25/22

The following manufacture's specifications show that the line set jacket provides insulation protection as well as UV protection.



THE EZ-PULL® ADVANTAGE

JMF Line Sets are available with our unique EZ-PULL® Tear Resistant Insulation (left). This high-quality insulation has a tough, polyethylene outer layer which helps to protect the line set from accidental tears, cuts, or abrasions that could affect insulating and condensation control performance.

- Meets ASTM E84 for smoke and fire (25/50)
- Superior tear resistance
- Insulation is marked every foot
- UV Resistant
- R410 A Approved
- Paintable

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Augusta County
Local Appeals Board
Meeting Minutes

Building Board of Appeals
Appeals Hearing, Michael & Monica Davis

November 17, 2021, 8:30 a.m.

Clean Transcript

Members Present:

Bob Seaman, Chairman
Bill Dudley
John Earhart
Pat Katz
David Kirby

Appellants:

Michael & Monica Davis

Attendees:

Jay Hendricks

Staff Present

G.W. Wiseman, Secretary & Building Official
Renee Southers

Bob Seaman:

Meeting is called to order and quorum has been determined.

G.W. Wiseman:

As Secretary to the Board, I do have an issue I need to bring up to the Board. Go to the last packet in the handout. I've got it divided in three sections so it's easier to find. *Section 119.5* is out of the *Uniform Statewide Building Code*. It says "*Right of appeal; filing of appeal application. Any person aggrieved by the local building department's application of the USBC or the refusal to grant a modification to the provisions of the USBC may appeal to the Local Building Board Code of Appeals. The applicant shall submit a written request for appeal to the Local Building Board Code of Appeals within 30 days of the receipt of the decision being appealed. The application shall contain the name and address of the owner of the building or structure and in addition, the name and address of the person appealing, when the applicant is not the owner. A copy of the building official's decision shall be submitted along with application for appeal and maintained as part of the record. The application shall be marked by the Local Building Board Code of Appeals to indicate the date received. Failure to submit an application for appeal within the time limit established by this section shall constitute acceptance of the building official's decision.*"

Next is a paragraph that comes from the handbook. "*Raising Issues. The chairman, or any board member, has the right to raise issues in the course of a hearing, and to determine the issues which are, or are not, properly before the board in an appeal. Issues which, if decided upon, may have the effect of dismissing an appeal without a hearing upon the substantive issues in an appeal, such as whether a party is a proper party to bring an appeal, whether the timeframes have been met for a proper appeal to exist, or whether the nature of the appeal is improper for other reasons...*"

I bring this up because this appeal has eight parts to it, referencing eight sections which is in the application for appeal, items A, C, G, H, I, J, K and M. If you look at item A on the next page, I'm not going over the testimony at this time, I can go over that later. I need to bring to your attention the two emails for item A, one was dated

May 28, 2021, which was the building official's original decision and June 7, 2021, was the explanation of that decision.

If you go back in the packet to Item K, there is another email that has the entire email chain from Mrs. Davis plus my responses that is dated September 30, 2020.

And if you go to the last page to Item M, that email is dated July 2, 2021.

I need to bring those matters to the attention of the Board, for the Board to determine if those items in accordance with *Raising Issues* meet *Section 119.5*. That is the Board's decision.

Bill Dudley:

Thank you for explaining that to us.

Bob Seaman:

It says there is 30 days to bring an appeal.

Monica Davis:

May I bring something to your attention? The emails that are you're looking at was only part of conversations that took place. Emails went back and forth. There were emails that weren't answered. Three and four that were sent, just asking for a response that goes all the way in to September. What took place is, G.W. wouldn't respond so I would just say, hey, can I get a follow up? Mr. Wiseman is considering the issues closed or that he had reviewed them and he was content with what he determined. But there were emails that still went back and forth. He just chose not to answer them. Mr. Wiseman come on site and provided the, it's in your packet, the September the 7th document, we didn't receive until the 22nd, which was the document that I was appealing off of because it was from Mr. Wiseman. It said that these are his decisions and they are final in reference to *Chapter 119* of the Code. So that's what I appealed off of. But the emails that you're seeing here were not the only email sent, I had emails about the air barrier.

Bob Seaman:

But the appeal wasn't filed?

Monica Davis:

Right, because the appeal wasn't filed until I got the document that he...

G.W. Wiseman:

There is nothing in 119.5 that says I have to state a decision is final. It says my decision.

Monica Davis:

But how do I know that the decision is final? Just because he didn't answer emails doesn't mean I know where we were at.

G.W. Wiseman:

I had made the decision, there was nothing to answer.

Monica Davis:

I understand that you made the decision but there were still conversations that took place and I provided emails from other manufacturers after this email.

(cross talk)

G.W. Wiseman:

That's fine. Right now, the issue is just whether or not those issues are valid. That is the Board's decision.

Bill Dudley:

I don't want to interrupt, but what happened with the results of our first two meetings?

Monica Davis:

Our first meeting, and I can provide you the documentation, which was something I wanted to bring up at the end of this, that is a legal document from the state level, that is dated March 19th, of items that were remanded back to the County that needed to be revisited and actually needed to take place and that has yet to happen.

The second appeal that went to the state, it was determined that both engineer's reports were valid, but neither report resolved any issues. That was the end of both of those. All those items were almost up to 50 code violations now they're all still open and nothing's been repaired. We are still sitting in the exact same place, unfortunately, as the first time we met you guys.

Bob Seaman:

Let's get back to what G.W. has brought up right here.

G.W. Wiseman:

This is this appeal. That was state appeal.

Bill Dudley:

I'm sorry, I didn't mean to get into... **(cross talk)**

G.W. Wiseman:

No problem. That has nothing to do with this appeal.

Bob Seaman:

No.

Michael Davis:

No, it was simply what he asked about.

Monica Davis:

That's just what he asked about.

Bill Dudley:

I did ask about how that other turned out.

G.W. Wiseman:

You all have to decide.

Bob Seaman:

We have to decide what we are going to hear today.

G.W. Wiseman:

You all have to decide. Basically, there are eight items on the appeal that was listed. You can decide that they meet the definition, in which case that is your decision. You can decide that they don't, in which case you can dismiss them. You can dismiss the entire appeal. Or you can treat it as eight separate items and dismiss three items or one item or two items or whatever you decide or no items. It is your decision.

Monica Davis:

But I did appeal off the document that Mr. Wiseman provided.

G.W. Wiseman:

The document she is referring to is a letter from her attorney that was sent to all three attorneys. It has nothing to do with when my decision was made.

Bob Seaman:

Ok, what are the feelings of the Board?

David Kirby:

I'm of the opinion since we're here we could just respond to these eight individual items. I don't know about timeframe and all that sort of thing.

Bill Dudley:

I think the people have some gripes that should be attentioned, I really do.

Pat Katz:

I'm open to do what everyone else thinks.

Bill Dudley:

Five a piece, look at them together? That's up to you all, I'm just me. I'm an electrical contractor, so that's all I can really speak on is the electrical part of it and around it. The other issues are more to you all's behalf than mine.

Bob Seaman:

What are your thoughts John?

John Earhart:

I don't know, I really don't know. The only thing I have to say is, if G.W. has the authority to make a decision, then I'm going to go with G.W. I don't know the legalities of that. But if he has that authority, I'm going with him on this. Is there anything that was done on any of these appeals? Is everything that these appeals encompass...

G.W. Wiseman:

If you look at the first set of documents, after the application for appeal, you will see a letter dated September 7, 2021. You will notice that there are three attorneys listed there Mr. Benkahla, the County Attorney, Mr. Moyers is the Davis's attorney, and Mr. Penrod as Mr. Hendricks attorney. Mr. Moyer drafted a letter that was sent to Mr. Benkahla and Mr. Penrod. It was a letter that they had gotten together, with items that was going to be corrected that takes everything into account, the items in appeal and everything else.

This letter was generated by me in response to item number two of that letter. Item number two listed issues that the Davis's wanted me to look at. So on three of those issues I had already looked at those issues and had made a decision. On the rest of the issues, I had never heard of. So three out of the eight, I had made decisions long before that.

This is just part of the other deal that Mr. Benkahla sent out to the other two attorneys that at the moment we can't do anything. The State Board did rule that engineer's report was valid, but after the State Board ruled that the engineer's report was valid the Davis's filed a complaint against the engineer with DPOR. Then the engineer's attorney would not let him go back on the site until that matter is resolved, so we're in holding pattern. The issues that have been brought up by the State, all will have to be fixed. The contractors know they have to be fixed, the contractors are willing to make the repairs. The mechanical contractor actually has been trying to make his repairs since July of 2020.

Bob Seaman:

Why hasn't that been done?

John Earhart:

Yeah, why hasn't it been done?

G.W. Wiseman:

Because he hasn't been allowed on site.

(cross talk)

Michael Davis:

I never forbid anybody from coming on site, so don't even try that.

Bill Dudley:

So after our first meetings, there are some repairs in progress, that are supposed to be done?

G.W. Wiseman:

The mechanical contractor actually wants to go on site and fix his and be done.

John Earhart:

And why hasn't he done it?

G.W. Wiseman:

Because he has not been able to work out with the Davis's as when he can get on site.

John Earhart:

Why is that?

G.W. Wiseman:

You'll have to ask them.

John Earhart:

Why is that?

Monica Davis:

Can I?

John Earhart:

I just want to know why they haven't been done.

Monica Davis:

They've never been on site to do any repairs. They had one conversation to schedule to come and they never confirmed to come. That's it. They've had one conversation, but there's issues about the way they want to repair, because we have duct collars that are falling out of the return boxes, because they're too large. They want to take...

John Earhart:

But that's not my problem.

Monica Davis:

I understand.

John Earhart:

That's not my problem, I don't care anything about that.

Monica Davis:

Ok, the repair avenues that they're wanting to take are band-aids, not proper repairs.

(cross talk)

John Earhart:

Does it meet code?

Monica Davis:

No, it won't...

John Earhart:

Does it meet code?

Michael Davis:

No.

Monica Davis:

No sir, it does not meet code.

(cross talk)

John Earhart:

Here's where I'm at on this, they need to make repairs and that man needs to look at it to see if it suits him. If it does, it's a moot point.

Michael Davis:

If it says in the Codebook that it has to be a 16 inch return, a 14 inch return does not work.

Bob Seaman:

We aren't...

John Earhart:

I'm putting it on him.

Bob Seaman:

...he's the inspector.

John Earhart:

They do the repair, he looks at it.

Michael Davis:

Okay.

G.W. Wiseman:

That particular item that they're bringing up is one of the five items that is not date sensitive.

John Earhart:

Not what?

G.W. Wiseman:

Not date sensitive. The three items that were brought up to you are the ones that I made the decision that was past 30 days.

Monica Davis:

But he didn't come on site. These were just emails that took place, he never actually visually looked at them.

Bill Dudley:

I thought these were new items that we came up with because...

G.W. Wiseman:

These are...

Bill Dudley:

...when I filled in for Chair for him the last time, I think we agreed at that time that the engineers had approved G.W.'s decision. So we couldn't override their stamp.

G.W. Wiseman:

The engineers did approve the one decision. They appealed that to the State. The State came back and said that the engineer's report is valid, but we will not sign off on his repairs. So they invalidated that part. But since they filed the complaint with DPOR, the engineer has not been willing to go back until that matter is settled.

Michael Davis:

May I say something? The complaint with DPOR was not with DPOR to begin with it was the Board of Engineers and it was suggested by the State several times during the State Board meeting.

Monica Davis:

During the State Appeals meeting.

Bill Dudley:

Alright.

Monica Davis:

They suggested it.

Michael Davis:

It's not like we just did it because...

Bill Dudley:

Right...

Michael Davis:

...it was suggested by the State.

Bill Dudley:

...but we have a bunch of reports on the last one that said on the preliminary text that this is okay and this is okay.

Monica Davis:

I appealed off of this document that was provided to us from Mr. Wiseman. That's what I appealed off of. The email conversations did take place way before that, absolutely. But they were ongoing. I have an email conversation that took place about this air barrier all the way into July. He would periodically respond, so to him because he was content with the answer he gave me, I gave him information from the installation company themselves that I sent back to him and he wouldn't respond. Also because he wouldn't respond doesn't mean that the issue was resolved. It meant, okay this is what they told me, let's talk about that. You're telling me one thing, you guys are...

Bob Seaman:

Going back to what John said why hasn't all of this stuff been taken care of? Have you tried to work with these guys?

Michael Davis:

With who?

Bob Seaman:

The building contractor...

Monica Davis:

He won't even communicate with us.

Michael Davis:

They don't even communicate with us. If you want to talk to that man you have to talk to his lawyer.

John Earhart:

Ok, why don't you talk to his lawyer?

Michael Davis:

I'm not allowed to talk to his lawyer even.

John Earhart:

Your lawyer can talk to his lawyer.

Monica Davis:

The end result is to get the house to minimal of code. That's why we keep...

John Earhart:

I understand that. That's why we're here.

Monica Davis:

...if the Codebook clearly says that this is a mandatory item, yet mine's not right, it's Mr. Wiseman's job to say, hey, hey, Mr. Hendricks, this is not right. We need to evaluate it.

Bill Dudley:

It's up to us to see that it's brought to Code.

Monica Davis:

Right, right.

Bill Dudley:

Who's going to determine that? There's the man that's going to determine that.

G.W. Wiseman:

I have sent letters to Mr. Hendricks...

(cross talk)

Michael Davis:

The man says that the air barrier is correct and the manufacturer says it is not.

John Earhart:

Here's where I'm at, this is stupid.

Monica Davis:

I agree.

Michael Davis:

You're telling me, we're 2 years in this.

John Earhart:

If that man says it is okay, it is okay with probably everybody sitting at this table? Now...

Michael Davis:

That's all the time we need.

(cross talk)

John Earhart:

...wait a minute. Are you going to let me talk or not?

Monica Davis:

Let him talk.

Bob Seaman:

He's got the floor, you let him have it.

John Earhart:

If you don't let me talk, I'll just leave. It doesn't matter to me. I'll just leave, I could care less. I don't want to be here.

Michael Davis:

Okay. Nor do I.

John Earhart:

So this is what I got to say, if that man says it's okay it's going to be okay with pretty much with every one of us. Now, if it's not okay with you, then it's up to you to contact your attorney, and have your attorney contact his attorney and then that becomes civil. It doesn't become our problem.

Monica Davis:

John, can I ask a question? Mr. Wiseman's job is at a minimal to inspect to the Code. But if it's not right to the Code, then he's not...

John Earhart:

If it doesn't suit you...

Monica Davis:

No listen guys, it's not about me...

Bob Seaman:

It's his interpretation of the Code and he interprets it as being to Code. So that's the end of it.

Monica Davis:

Yes, but he's interpreting it his way. So can I request we do this? May I make a suggestion? Let's run through these items. Let's run through them and look at what I've got.

John Earhart:

That's not going to change my mind.

Monica Davis:

That's fine. I'm not looking to change your mind, I'm looking for you to say okay, the Code says this. We have this. Either it is right or it is wrong to the Code, not to my standards or G.W.'s. His job is to do it per the Code.

G.W. Wiseman:

If the Board so decides, we can go through all eight of the items if you want to look at them at that point, I just brought to your attention because that's my job as Secretary. If you want to look at all eight items and then you can either uphold my decision if it's on one of the items that doesn't comply, you could deal with it then or you can deal with the other issues but that is up to the Board it is not my decision.

John Earhart:

I'm going to uphold your decision period. If you're wrong that's going to be between you're two attorneys.

G.W. Wiseman:

That's a decision you all have to make on how you wish to proceed.

(cross talk)

Bill Dudley:

Let's go through them.

David Kirby:

Let's go through the eight items.

John Earhart:

That's fine with me.

Monica Davis:

Thank you.

Bill Dudley:

You're welcome.

G.W. Wiseman:

She's the appellant, she gets to go first.

Monica Davis:

Take one and pass it down please.

Bill Dudley:

What are we starting out on?

G.W. Wiseman:

Michael & Monica Davis Documents.

Bill Dudley:

Okay.

Monica Davis:

Take one and pass it down. That's the air barrier behind the tub. The paper in your hand is the "A" on the appeals document. If you look in the Codebook, N1102.4.1 Installation, and it's in red, it says mandatory. It says the building thermal envelope is listed. It gives the chart and it tells you that item is a mandatory item. You go down to the table it says shower, tub and exterior walls. Exterior walls adjoining to the shower and tub shall be insulated and an air barrier shall be installed on the interior side of the exterior wall adjoining the tub and shower combo.

If you look at those pictures, it will show you that there is no air barrier there. The two top images were actually taken from underneath from the hole for the tub and it is not sealed. And actually you can see a mouse nest that's in there. You can see the bottom of the tub. You can see that there is no air barrier. The Code says it must be there. Mr. Wiseman, I have emails that did start back...

John Earhart:

Is there any insulation under the tub?

Monica Davis:

No.

Michael Davis:

No.

John Earhart:

None?

Monica Davis:

No.

G.W. Wiseman:

There's insulation in the floor.

John Earhart:

That's what I said.

Bill Dudley:

What's under the tub?

Monica Davis:

So you have a crawlspace.

Bill Dudley:

So there's a crawl under the tub?

Monica Davis:

That tub shower combo is on the exterior wall.

John Earhart:

Is there insulation in the crawl space underneath the tub?

Monica Davis:

Yes sir.

Michael Davis:

Yes, there is insulation in the crawl space.

Monica Davis:

Yes but this is talking about...

John Earhart:

Is that all that's needed or not?

(cross talk)

G.W. Wiseman:

Actually, in this particular instance the sub floor would be considered the air barrier and Mr. Hendricks has already been instructed to seal...

Monica Davis:

Can we stay on this G.W.? I don't want to talk about the seals, I want to talk about this.

G.W. Wiseman:

That's fine.

Monica Davis:

I want to talk about the wall. The Code says the exterior walls, it is not talking about the floor, it is talking about the walls, says the walls must have an air barrier. Lots of people use house wrap. They put it in between. They staple it on the wall. That's the end of it. Mr. Wiseman looked at the images and back and forth through email, he says he contacted Johns Manville, which is the manufacturer of the insulation. You can actually see it on the picture. He indicated after he read the instructions, that it's okay the way it is. He doesn't see any issues. If you look at the paper that I gave you, that's an email that I had with Sam Yoder who is with Johns Manville and tells you right there that it's not okay. Mr. Wiseman made a statement, the Kraft facing from the back of the insulation, if it's taped, can be an air barrier. That's not true. The company says no, that's not okay, that's not it. That email is right from them.

Michael Davis:

And even if it were ok, it's not taped anyway.

Monica Davis:

Yeah, even if it was taped it's still not ok. The manufacturer that Mr. Wiseman said he read the instructions to and he determined, but the Code says that it must be part of the manufacturer's specification and this actually says mandatory. When you read N1102.4.1, it says tub, shower and exterior walls. What happens is condensation from the outside wall gets on the interior and it gets stuck on the insulation then it causes it to sag and get wet and mold and mildew. So because we don't have that, that's what is going to take place.

Bill Dudley:

We generally considered that facing as a barrier. In our industry we consider that facing a barrier.

John Earhart:

That's all I've ever done.

G.W. Wiseman:

If you want to listen to all of hers, I will go over all the items and put my point on it? If you want to do each item separately?

Bob Seaman:

Let's move on. I don't want to spend a day, sorry.

Monica Davis:

The manufacturer company says you cannot do that, it's not okay.

Bob Seaman:

Okay, let's move on.

Monica Davis:

Okay next is the floor joists that are cut.

David Kirby:

Item C?

Monica Davis:

Item C, yes sir. Mr. Wiseman speaks in his documentation about one floor joist and actually it's not a floor joist G.W., what is it?

Michael Davis:

Band board.

Monica Davis:

Band board, that he seen no problem because it bears right all the way across which absolutely might be so except for that's not the only one. They are everywhere. The images I just gave you are of plumbing and the Code tells you that, they give you a location that says, hey you can notch and you can cut here but this is a no zone. It actually says no notching permitted and if you do you can drill for piping but if you do you have to stay

away from the bottom or top member of the board two inches. If you look on the right there, that's a water line and it's at the top of the member and my floor joists have this, they're not everywhere but they're like every other one where they run this water pipe within the top two inches of the member. In addition to that, it's in the center section of these boards. So you're compromising the strength integrity. But the Code says you can't do it.

John Earhart:

That's a water line there.

Monica Davis:

Right, it is a water line and that is on the top of a floor joist.

John Earhart:

That's a drain line and that's a water line. That looks like to me it's close to 2 inches down from the floor joist.

Monica Davis:

You're right, but it can't be. The Code says it can't be within the top two half.

John Earhart:

It can't be where?

Monica Davis:

Within the top two inches, if you read where it says R502.8 for notching of solid lumber, rafters, beam, floor joists, it tells you that first of all that the holes can't be closer than two inches and they can't be in the top two inches of the member.

Bill Dudley:

I'd rather have mine where they're at than down in the middle of it.

Monica Davis:

But that's not what the Code says to do.

David Kirby:

The first Item A, the air barrier, we always have to do it in Staunton, Waynesboro and I assume in the County. We just did them with Tyvek or sometimes blown in foam, some localities take that as an air barrier so I don't know if that's behind the insulation?

Monica Davis:

No, it's just insulation.

David Kirby:

So I see that's typically required. The pipe, that's a little bit of workmanship it's pretty close to two inches, half inch. It'd be better if it was two inches down so a nail on the plywood wouldn't go through it. But I'd say it's close enough.

Monica Davis:

Well the concerning part for me about that was not that it was so much that it doesn't meet Code because of the two inches but it's in the part of the board where it says no notching and it's in that part where it's... so what happens is, when you walk across the floor you can feel the floor move and I'm worried about the strength and integrity.

David Kirby:

Typically, from my standpoint a 2x10 it's not the end of the world, it's not that big of a deal, just a workmanship issue.

(cross talk)

Monica Davis:

Right.

John Earhart:

Did you see any problem with this bottom picture?

G.W. Wiseman:

On the date that I went out there, the only issue that was shown to me was the notch in the band. No one brought up anything about the others that day.

John Earhart:

Why are we discussing this?

G.W. Wiseman:

I have no idea.

Monica Davis:

We were here. This is right at the tub where G.W. looked for the holes. Ok, we'll move on.

Bob Seaman:

Let's move on please.

Monica Davis:

Sure.

John Earhart:

I don't want to discuss anything that hasn't been discussed before.

Monica Davis:

Well they have been discussed before, but it's ok. We'll move on.

John Earhart:

This has been discussed before?

Monica Davis:

With Mr. Wiseman, yes.

John Earhart:

Not with me.

Monica Davis:

Not with you.

G.W. Wiseman:

It hasn't been discussed with me.

Monica Davis:

You're the electrician right?

Bill Dudley:

Yes ma'am.

Monica Davis:

Okay. No disrespect to anybody else but I don't understand that so that's why I brought it to you. Can you explain that piece of the Code?

Bill Dudley:

If you put your hand on the wall you can't be over 6 feet from a receptacle.

Monica Davis:

Okay, so it says permanent. So one of the things that me and G.W. talked was they can be 12 feet apart on a wall like this, is that correct?

Bill Dudley:

Correct.

Monica Davis:

But if you have a permanent panel, you count from here and six feet should be your first one. Is that correct? So if I have a wall here to my next receptacle counting the corner, it should be six feet. Right?

Bill Dudley:

You ought to have it if it's over two feet, you ought to have a receptacle.

Monica Davis:

Okay, so I have several stretches that are not like that. The receptacle, that one's actually eight feet. And if you look at the next image behind it, it's almost twelve.

G.W. Wiseman:

Mr. Chairman, this is Item G in the letter. Item G is not part of this appeal.

Bob Seaman:

Okay.

John Earhart:

I'm done with this one.

Monica Davis:

Yes it is. It's on here.

David Kirby:

Letter F.

Monica Davis:

G.W. it is on here.

G.W. Wiseman:

I apologize.

Pat Katz:

G is HVAC return.

Bill Dudley:

We're kind of nitpicking here. You know? We've got to be six feet and we're seven feet. I mean, sometimes...

Monica Davis:

Well, I have that one...

Bill Dudley:

...the electrical wiring because of the structure they end up being...

Monica Davis:

Well, I understand that but the one in the bathroom there is...

Bill Dudley:

I don't think that applies to bathrooms does it?

G.W. Wiseman:

It does not apply to bathrooms.

Monica Davis:

That's fine. That's why I asked for clarification because the Code does say only one receptacle in the bathroom.

G.W. Wiseman:

It is not required in the bathroom.

Bill Dudley:

No.

Monica Davis:

That's fine. I asked for clarification, that's all.

Bill Dudley:

No, not in a bathroom. Alright, ready for the next one.

Monica Davis:

G. I only have one of these documents here, guys. I didn't print extra ones so I do apologize. I've had two different paid professionals come look at the HVAC system because when the system turns on, it actually sucks the furnace filter into the opening. Perusing through the stuff that we have. The first document you have there is from Craig Landes, with Landes Heating & Cooling. If you look in halfway down through the document there I highlighted in red where it tells you that the return duct is choked off behind the filter grate. Mr. Wiseman looked at it and said the filter grate supposed to be the way that it is. But after previewing the information and having the professionals look, this is the documentation from Landes that they provided to us. This is the return duct branch, it tells you it's supposed to be 16 inches. If you look mines only 14. That's the return branch and it tells you that it's supposed to be 16 inches but ours is only 14, clearly telling you it's wrong.

David Kirby:

I'm wondering if some of this is more workmanship than code related and that's something that should be addressed with the HVAC company.

Monica Davis:

No, so the Code states that under the M for installation of the heating and cooling equipment shall be installed in accordance with the manufacturer's installation and the requirements of the Code. So it's saying it needs to be to this and the paperwork doesn't align with what we have there, clearly telling you that if we're supposed to have 16 per the documentation and we have 14, it is not right.

David Kirby:

Well if your HVAC contractor provided you J Manual and said that says here's what size you need...

Monica Davis:

We do.

Michael Davis:

We got that.

David Kirby:

...So they do that and if they don't, some of these issues, they got vibration issues, and it didn't run duct very well, then that's kind of their problem, they need to fix that, make that right, in my estimation. It's not really for a building inspector to comment so much on workmanship, unless it is really egregious. You know duct sizes, the HVAC contractor is licensed and if he states it's correctly sized for the manufacturer it's sometimes difficult for a building inspector or me to say no...

Monica Davis:

Right...

David Kirby:

Because they are experts in that.

Monica Davis:

But the paperwork says it needs to be installed per the manufacturer. That paperwork is from the company that installed it, clearly telling you that it's not even right to what they said they installed. So they're not going to do anything about it unless Mr. Wiseman says, you know, the information you give me is not accurate to what's installed, you need to reevaluate. They're not going to do anything about it. That's the issue that we have.

Michael Davis:

Even the Manual J and S that was provided was generated a year later, after the fact. And it doesn't even have, it says we have six bedrooms. We have three. So I know it was just made up to appease somebody and say, here you go. It's all a joke.

Monica Davis:

Can I have that paper?

David Kirby:

Sounds like you need to go back to the HVAC contractor or whoever or whatever to make that matter right.

Monica Davis:

Well they are looking at Mr. Wiseman to give them guidance and direction when what they're saying is there is not.

Bill Dudley:

It's not up to him to give them guidance on whether they are right or wrong. They are supposed to know how to do it.

David Kirby:

I don't know that his job to comment on manufacturer's specs.

Monica Davis:

Absolutely, I agree. But the Code says it needs to be per the manufacturer's instructions which is G.W. job and it's not. I presented it that way because that is what the Code says. It says per the manufacturer's instructions and we don't have that.

John Earhart:

Was this brought up in this context before?

Bill Dudley:

Before this Board?

G.W. Wiseman:

(inaudible) this particular violation.

John Earhart:

Then why are we discussing it?

Monica Davis:

We discussed it in our kitchen when I had the Manual J and S's for both of the units and I said to Mr. Wiseman do you know how to read this? He said, I sure do. I was verifying that because the information on it is inaccurate to our dwelling alone.

G.W. Wiseman:

I can show you where it's at in my packet, but you probably just want to wait until I get there.

Bob Seaman:

Yes, let's move on.

Bill Dudley:

Put a question mark on that one.

Monica Davis:

Item H. Mr. Wiseman spoke to the fact that Code allows you to hang things from the floor joists, which it absolutely does. But the problem that I have is, again, it's not installed per the manufacturer's specifications. First of all, it's hanging in the bottom two inches of the member in the middle. And per the manufacturer's specifications, it should have three supports versus two. So I don't know how you all want to address that one. It's not accurate to their installation. The Code says things must be installed per the manufacturer. Again, I understand what you're saying so maybe you could give me a suggestion of how to approach that and get it you know, Code says for the manufacturer, but ours is not so what do I do?

David Kirby:

Normally you go to your contractor or HVAC contractor and say you have issues. We deal with them every day. Customers aren't happy. You try and make them happy and if there's an impasse and you have to work through it somehow.

Monica Davis:

We'll move on to the next one. Item I. So you're the electrician, if a pipe passes, if you have electric going up to the exterior of a home, should it not be protected in some way? If I have a mini split electricity that's running from that unit, should it, I mean, I have a live line outside that's not protected.

Bill Dudley:

I'm not seeing it.

Monica Davis:

So first of all, Mr. Wiseman said that the sleeve had been moved. The reason I took this image and put it there is because you'll see in September of 2020, the sleeve was out of the wall.

Bill Dudley:

Alright, it should be sleeved in some way.

Michael Davis:

It's because they realized there was another line that needed to be run so they pulled it out of the wall and ran the other line and just left it lay there.

Monica Davis:

This line is electric. And I didn't take a picture of the outside but it's actually just like this on the outside.

John Earhart:

Does that sleeve just need to be pushed back through the wall?

Michael Davis:

You can't. There is a line on the outside of the sleeve.

Bill Dudley:

It just needs to be protected to the wall and then when it comes out it is probably going to go right into a disconnect box.

Michael Davis:

Correct.

Monica Davis:

Actually, that one doesn't go to the disconnect. That one goes to the unit itself. So it's live. I don't want to use live because that's the wrong word but...

Bill Dudley:

If it's UF cable, see that's the difference. G.W. has to look at what's Code. You've got the NEC and you've got the DEC. NEC is the National Electrical Code, the DEC is the Dudley Electrical Code. I would go above and beyond the NEC to do some things. However, it's not up to him to say. As long as that's UF cable, it's listed.

Michael Davis:

Ok, here's a question. If you look on the other side of the cable, there's the other line. It is the reason that sleeve is not in the wall.

Bill Dudley:

It needs to be over into the wall, yes.

Michael Davis:

Well it can't be because there's a line outside of it going through the wall. Both lines are not inside that sleeve. One's in the sleeve, the electric's in the sleeve and there is a line outside the sleeve. That's why they pulled the sleeve back out of the wall because he realized they needed to run another refrigerant line. So the refrigerant lines and the wire are just laying in the cinder block wall because the sleeve is only around one line and one wire.

John Earhart:

Did you look at this?

G.W. Wiseman:

I looked at that and I addressed it.

Bill Dudley:

What did you think about it?

G.W. Wiseman:

I've seen it before. The contractor has already been instructed some time ago that it's on his list to correct but as we've said before he...

John Earhart:

He hasn't been back to correct it?

G.W. Wiseman:

He can't go.

Bob Seaman:

Let's move on.

Bill Dudley:

It ought to be something protecting that.

Monica Davis:

That one's not on the list GW. You have it on there to caulk the line but not...

G.W. Wiseman:

They are aware that it has to move forward.

Monica Davis:

I'm on J, for the mini split leaking in the attic. Mr. Wiseman, I showed him a video of this condensation lines coming off of the mini split, they are run down through the wall, that are actually dripping and running down the refrigerant pipe. Mr. Wiseman says they're condensation but the Code says you can't have that. You have to, M14.2.1 says that you have to insulate in a fashion that prevents condensation. Right now when that unit is on and it's running down that line, it's running in my wall.

Bill Dudley:

It is insulated?

Monica Davis:

So when we had the other contractor look at it, he said that the problem is not with the condensation that Mr. Wiseman thinks it is. He actually thinks that it's the drain line, it's not on properly.

Bill Dudley:

So it's leaking?

Monica Davis:

So it's leaking, but we didn't mess with it because we didn't want someone to say that we messed with the installation. Mr. Wiseman says it's condensation, either way you can't have it leaking in the walls. It's going to rot the walls.

Bill Dudley:

Well let's get back to your contractor. He's assured you that it's insulated properly. So you know, if it's leaking then that's back to your contractor.

Monica Davis:

Okay. Electric disconnect. I don't know your name so I apologize.

Bill Dudley:

I'm Bill.

Monica Davis:

Mr. Bill, if you were installing an electrical disconnect for an HVAC, how far would you mount it off the ground?

Bill Dudley:

Probably a minimum of 12 inches. But there is not a code on that.

Monica Davis:

You're right. Mr. Wiseman is absolutely right and you are as well, but when you reach out to the company and the installation that they use...

Bob Seaman:

What does the Code say?

Monica Davis:

Code doesn't give direction.

(cross talk)

John Earhart:

That's the end of this.

Bob Seaman:

Let's go somewhere else.

Monica Davis:

But the ACCA does. It says that it must be 16" per the installation per manufacturer.

G.W. Wiseman:

One thing you can look at on this picture, is look for where disconnects are. They are mounted on the wall.

Monica Davis:

Yes but they're each...

G.W. Wiseman:

So that electric wire is most likely coming in to the back of the disconnect.

Bob Seaman:

Back of the disconnect.

Bill Dudley:

It's coming in the back, so really with the weatherproof box here you're actually looking at 17 inches to the top, we don't care, and nothing is going happen. I mean it's covered.

(cross talk)

Bill Dudley:

It don't matter if it's snowing two foot deep it isn't going to hurt nothing. It's made for the rain to run off of it. Let's scratch that one.

Bob Seaman:

Ok, let's move on.

Monica Davis:

Perfect. So you all can tell me this has to do with the manufacturer also, **(cross talk)** with the installer determining what size unit should be in the house. The Codebook says that it's the Code, it's the inspector's job, the unit must be able to heat and cool the space. And if you look on the documentation you got there...

Bill Dudley:

G.W. has never sized anything for me.

Monica Davis:

Well now listen, I'm not saying that he sized anything. That's not what I'm saying, but the Code says it has to heat and cool the space. That's what the Code says. So if you look at the documentation I just give you...

Bob Seaman:

Was it installed properly?

Monica Davis:

No, it's not installed properly.

Michael Davis:

It's over a stairwell.

G.W. Wiseman:

That's just an access issue but that's been addressed too.

Bob Seaman:

Well if we don't need to discuss this...

Monica Davis:

We do sir because it said the Codebook says that the unit, any HVAC unit is required to heat and cool the space. This is not about installation. The Code says it has to heat and cool the space. The unit that is there clearly tells you on the heat pump system that it cannot heat and cool. The maximum cast capacity is 550 square feet. If you look at my papers for my area, it's 576. In addition to that, if you go...

Bill Dudley:

That's all based on outside temperatures of where you're at.

Monica Davis:

You're right, so look at that outside temperature and they put it at 47. Oh, I bet I didn't include it. I didn't, I'm sorry. But for our area, that's not the case. This area here, the unit that we have installed is actually a U1 instead of a U2. So the unit that we've got is for Georgia, Louisiana, Florida, those areas, because the output at

17 degrees is only, if you look at their equipment load here, it says that it needs to have 10,819, that unit will only perform 9,000 BTUs at 17 degrees. And that for our area here, that is the parameters that is used is 17 degrees.

Bill Dudley:

Has it got a backup?

Monica Davis:

No, it doesn't. Actually, it has emergency, it shuts off. If you read the instruction manual it says that once it gets to that degree, it won't perform, actually shuts off.

Bill Dudley:

So does it go to gas or what does it go to?

Monica Davis:

It doesn't go to anything.

Michael Davis:

Nothing. It's done. It shuts off, you get nothing.

Monica Davis:

So the 70 degrees that they have in there for the inside temperature it can't even maintain that because it's over the BTU.

John Earhart:

Was this in our original packet?

G.W. Wiseman:

Yes, and I have a response to this.

John Earhart:

Alright, let's go to the next.

Michael Davis:

That's it.

Monica Davis:

In addition to that if you look through that pamphlet that I gave you, Mr. Wiseman stated that he read it and understood it. The information that's provided is wrong. They have no internal gain. Internal gain should be how many bedrooms plus one person. Ours are zero. There should be four there. In addition to that, if you look on the back side, it says there are no doors. All these things matter when you are trying to heat and cool a house. I have doors in that room. Two of them. In addition to that, that have no insulation on them that are on

exterior walls. So all those things matter. The Code says it must heat and cool the space but the unit clearly tells you its capacity alone for the space is 550 square feet. Just alone with the square footage for the room it already doesn't comply, doesn't meet it.

Bill Dudley:

Well you got an internal gain from every person plus...

Monica Davis:

There is no internal gain on those.

Bill Dudley:

Okay. They put out 300 BTUs...

Monica Davis:

But it's zero. Yeah, it's on there. You're exactly right. Go back here. Internal gains, none. They put none.

Bill Dudley:

But you do actually have some internal gains.

Monica Davis:

So I've reached out to Wrightsoft Networks and if the number is not plugged in there that number is just auto generated on the left hand side. You have to put numbers in those boxes for it to be a part of that calculation for that design information.

Bob Seaman:

Okay.

G.W. Wiseman:

Item A, Air Barrier Behind the Tub Shower Combo. Mrs. Davis sent me an email regarding her concerns on May 18th. I responded to her on May 28th, after consulting with International Code Council that this was not a code violation. Following another email from Mrs. Davis, I sent an email on June 7th, which I copied my question to the International Code Council and their reply, which is what I used to come to my decision regarding this matter. My first email I said, regarding the tub, the paper on the insulation is permitted as an air barrier based on the limited information available, I don't see any obvious code violation. If you look on the third page of my documents, before I responded to her on the 28th, I reached out to the International Code Council for an opinion and this was my question:

“Does kraft faced insulation that is listed as a vapor retarder with the facing on the inside against the one piece tub shower unit meet the requirements as an air barrier as required by Table N1102.4.1?”

This is their answer:

“Since the IRC is silent on what constitutes an air barrier, the determination is subject to the opinion of the Building Official. Although Kraft faced batt insulation isn't typically an air barrier, the insulation would satisfy

the requirement of table N1102.4.1, provided the insulation is installed per the manufacturer's installation instructions and is deemed an air barrier by the Building Official.”

After I went to John Manvilles website, it just said it had to be stapled up. It could be stapled either to the face or it could be stapled to the sides. If you look at her picture, it is stapled to the face.

David Kirby:

Do you deem it as an air barrier?

G.W. Wiseman:

I deemed it as an air barrier based on that conversation.

David Kirby:

That's good for all times?

G.W. Wiseman:

It's actually changed in the 2018 edition.

David Kirby:

Ok, that's good to know.

G.W. Wiseman:

When you're in Section 4, because we were in the 2012 Code, the State amended it. The first part of it she told you exactly what it said. And it should have an air barrier installed, but then there's an asterisks for C which sends you to the bottom. It says air barriers used behind showers and tubs on exterior walls shall be of a permeable material that does not allow trapping of moisture in the stud cavity. So I deemed the kraft paper as an air barrier per the ICC's instructions, that it was a permeable material to let moisture out of the wall so that it would not mold. That's how it I came to my decision, and as I made that decision on June 7, 2021, when I sent her my response and she made no appeal within 30 days of that decision I believed that constituted acceptance of my decision.

Item C, the only thing my instructions said when I was sent out there by the letter from the attorney was the sill plate and the floor joist was cut for plumbing. Upon inspection, I found the joists in question to be a band joist with full bearing on the foundation wall. The cut was actually a gouge and was only in the top portion of the joist. It does not even go through the joist. As the joist has full bearing across it's length, the gouge caused no issue and there's no violation. There's a picture on the next page that shows the pipe in question with the gouge. You're on a band joist, you have three and a half inch wall over top of the band joist so when they drill through it, it gouged down through the side. But it is a band joist. It has full bearing on the sill plate.

John Earhart:

You're talking about the center picture?

Bob Seaman:

Yes.

G.W. Wiseman:

Yes.

Monica Davis:

No, he's in his packet.

G.W. Wiseman:

In my packet.

John Earhart:

Oh, that is the band joist?

G.W. Wiseman:

That is a band joist.

John Earhart:

Well it can't go anywhere.

G.W. Wiseman:

It's got full bearing. Even if it was notched all the way through, it has full bearing.

John Earhart:

If it was notched out, it still couldn't go anywhere.

G.W. Wiseman:

Right, because it has full bearing.

John Earhart:

Yes.

G.W. Wiseman:

Item G, the HVAC returned duct is too small and should be the same size as the filter grill. My response to that was "the filter grill is always larger than the duct because the filter grill acts as an obstruction to airflow so it has to be oversized for the same amount of air to pass through it as the actual duct. No code violation exists". The Code actually states that a metal louver has 75% free area. There's also additional friction loss if there's a filter grill. Whenever any unit cuts on the filters pushed back into the back of the grill because there's suction there, so I did not deem any issue there.

The HVAC air handler hung from the floor joist, the question was the load values was not taken into account for the additional weight on the joist. The floor joist system is designed with two loads. The Live Loads which include those regarding the use of the building and the Dead Loads which includes the weight of all materials of construction incorporated into the building, including but not limited to, walls, floors, ceilings, stairways,

built in partition, finishes, cladding, and other similarly incorporated architectural and structural items and fixed service equipment. The plumbing, electrical and HVAC systems are part of the fixed service equipment, therefore no code violation exists. That definition came from the Residential Code Commentary. I went to the Building Code Commentator to get more clarification on service equipment. The weights of service equipment such as plumbing stacks and risers, heating ventilation, air conditioning equipment, elevators and elevator machinery, fire protection systems and similar fixed equipment are to be included in the Dead Load. For the most part tracking the weights of each utility system is not practical and the structural design is therefore based on the Dead Load allowance. So in addition to the Live Load for the floor system, it has a 10 pound per square foot Dead Load on the system, so I did not deem it to be a violation.

Refrigerant piping not sleeved. She brought that up once in a letter to the County Administrator. At that time, she cited the prefix of P and I believe it was Code Section P2603.4. That's a Plumbing Code section and it does not apply to Mechanical Code. Refrigerant lines are not plumbing pipes and are governed by the Mechanical Section of the Residential Code. There are no requirements in the Residential Code to sleeve the lines, however; the contractor did it anyway. I did notice on the last inspection that the sleeve on the mini split is now completely inside the crawlspace. I do not recall it being that way in June, but it's really irrelevant. I have previously informed the contractor that they need to caulk the refrigerant lines and seal it and that still needs to be done and they are aware of the issue with the sleeve, so no additional violation exists there.

The insulation on the refrigerant piping is giving it space. The purpose of a pipe sleeve is so that there's a space between the plumbing pipe so that if the foundation moves it doesn't break the plumbing pipe. Since a refrigerant line is an insulation shell it is accomplishing the same function.

Mini split drain leaking into the attic. Upon viewing Mrs. Davis's video and inspecting the refrigerant lines, the water appears to be condensation on the refrigerant lines. The lines are properly insulated. I saw nothing in the video or on site to show that the drain is involved, therefore no violation is evident. She did send me a video in which she was pulling the two refrigerant lines apart and I could see the condensation sticking there and it was hot and humid the day I was there and there was condensation in the crawl. The Code requires a minimum of R3 and if you look on the next page, which is the one with the line sets, in the Building Official's packet, this was the line set that was used. If you look, the smallest one they sell is a half inch wall and it has a R3.3. Code requires an R3, so it's insulated to code.

John Earhart:

But it's not plugged in at the top or something?

G.W. Wiseman:

She's referring to the drain. I didn't see water from the drain. I had no access to the attic. I just saw the condensation when she sent me the video. She's pulling part the two refrigerant lines. I could see the condensation skimming on those ones. It was skimming to the line. But the lines are insulated to Code. Code is an R3. They have an insulation of R3.3.

The electrical HVAC disconnect not mounted above average snow level. I was first notified by Mrs. Davis she believed this was a code violation on September 30, 2020. I responded to her that there was nothing in the Electrical Code regarding this. Electrical code requires disconnect to be weatherproof, which it is, there's still

no violation here. I attached the email chain below that, in the next page. It all happened on September 30, 2020, so it's been over a year. As no appeal was made within 30 days of that decision, I considered it acceptance of that decision.

The HVAC mini split does not meet heating and cooling requirements for the bonus room space. This documentation was provided to me by Lambert, the Manual J and the Manual S. If you look at the bottom where I highlighted it, this is done by a computer program. It says calculation approved by ACCA to meet requirements of a Manual J. On the Manual S it says meets all requirements of ACCA Manual S. I sent that decision to their attorney on July 2, 2021. They certainly were within their rights to appeal that, but they did not appeal it within the 30 days. So I considered it acceptance of my decision. They could have appealed it, but my thing is that they violated the timeframe section of the Building Code. So it's improper appeal.

That's all my stuff. It's up to you all to rule. You can rule each item individually, you can rule on the whole thing as one unit, it's completely up to you.

David Kirby:

I think we've addressed all these issues, the only one I thought may be an issue with was the air barrier but obviously you're well in your rights because it's a subjective thing based on locality and how you read it verses Waynesboro...

G.W. Wiseman:

Well, I did contact ICC.

David Kirby:

I just know different localities it's a little different.

G.W. Wiseman:

I completely understand.

David Kirby:

So you're well within your rights and you made the call. You know years ago, we didn't have to put anything back there so it's not much difference. Five years ago it was insulated and that's it, so he's well within his rights to do it. I think they changed the Code whenever the new one is adopted.

G.W. Wiseman:

2018 it's going to change.

David Kirby:

It'll be something new mandated, but...

John Earhart:

Well don't most people just put insulation behind the tub?

Pat Katz:

That's what I was going to ask. Isn't that a pretty standard...?

G.W. Wiseman:

It is.

David Kirby:

Anymore we have to put some kind of paper.

John Earhart:

Is it standard procedure to put insulation?

G.W. Wiseman:

Actually, the Code really didn't ever address a vapor barrier at all until 2018.

John Earhart:

So what do most people do?

G.W. Wiseman:

It's normally just got the insulation above the tub. That's a one piece fiberglass tub. So you've got the fiberglass there, which air cannot pass through. Above that, you have sheetrock which air cannot pass through. It's just like the sub floor is considered an air barrier. There is nothing put below the sub floor, the sub floor is the air barrier.

David Kirby:

Behind the tub I've been turned down for not having Tyvek or something.

G.W. Wiseman:

I know, and that interpretation has been out there and I'm aware of that.

Bill Dudley:

Behind the tub.

Pat Katz:

On the inside?

G.W. Wiseman:

Right, on the inside.

Pat Katz:

Not just the Tyvek on the outside.

David Kirby:

On the inside.

(cross talk)

G.W. Wiseman:

I've seen contractors do it because they've been turned down.

David Kirby:

Yes.

G.W. Wiseman:

To get clarification, which is why I asked for ICC's opinion.

David Kirby:

Yeah, I think you're well within your rights to make that decision.

Michael Davis:

Is ICC not a governing thing?

David Kirby:

It's really subjective depending on where you go. You'd think it would be a national but, you know. Harrisonburg is different.

Bob Seaman:

Alright, I think the testimony is done. Let's do it and decide. The testimony part is over with. Let's make a decision.

G.W. Wiseman:

Like I said, you can rule on each individual item or you can do it as one large group.

John Earhart:

The only thing I can say is, you approved it and I'm good with that. If they're not good with that, that's up to their attorneys.

David Kirby:

I'm good with everything as is, as G.W. has it here and it's unfortunate. It sounds like it's a lot more of workmanship kind of problems. And that's really unfortunate. But I think everything is within the Code and within his prerogative to make decisions and he addressed some things that needed to be fixed. I think a few items that you said need to be fixed.

G.W. Wiseman:

There were items that they did not appeal that I have said need to be fixed and that was sent to the appropriate attorneys.

David Kirby:

Yes.

Pat Katz:

I think we agree that G.W. enforced the Code.

Bob Seaman:

Bill?

John Earhart:

He's always enforced it on me. I did some things I didn't want to do but he was right and I was wrong and I don't have a problem with that. I mean if he tells me to do something, I'll do it.

Bill Dudley:

I'll say I think they've got legitimate gripes in workmanship, it's not GW. If somebody wants to run spaghetti through the attic there is nothing to say that it is wrong. It still meets the Code. That's what his job is as the Code enforcement man, to see it's done to the Code. I do feel for you but I have to go with him. He's the man that makes the decisions. Workmanship like this leaves somewhat to question but it is to Code.

Bob Seaman:

Then this matter is settled.

G.W. Wiseman:

How are you ruling? Are you doing one...

Bob Seaman:

One ruling covers everything.

G.W. Wiseman:

So you're saying you're upholding my decision?

Bob Seaman:

Yes. We're upholding your decision on the items presented today.

John Earhart:

I think we ought to vote on that.

The Board voted unanimously in favor of the Building Official and the meeting was adjourned.

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Addendum

Documents and Photographs Requested by a Board Member

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LAMBERT

PLUMBING • HEATING • COOLING • INC

P.O. Box 170, Verona, Va. 24482; 540-248-6160

G.W. Wiseman
Augusta County Building Inspections
P.O. Box 90
Verona, Va. 24482

Re: Requested info
1002 Round Hill School Rd.
Crimora, Va. 24431

Dear Mr. Wiseman,

Below is a listing of room clarification for the above mentioned address.

Room 1-	Master Bedroom
Room 2-	Master Closet
Room 4-	Master Bathroom
Room 5-	Laundry
Room 6-	½ Bath
Room 10-	Living, Dining and Kitchen
Room 11-	South front bedroom
Room 12-	North rear bedroom
Room 14-	Hallway
Room 15-	Hall bathroom

Sincerely,

Eddie Lambert

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Hendricks & Son General Contracting, LLC

50 Lee Street

Verona, Virginia 24482

(540) 294-2169

hendricks.son@gmail.com

May 11, 2022

RE: In response to the email received on May 10, 2022 from G.W. Wiseman with regards to an email sent to him by W. Travis Luter, Sr., Secretary to the State Building Code Technical Review Board, relaying a Review Board member's request for additional documentation concerning the May 20, 2022 Appeals by Michael and Monica Davis of 1002 Roundhill School Road, Crimora, Virginia.

Attached is documentation, as requested, with regards to all exterior doors, windows and insulation which were installed at the above residence. I have taken the liberty to add a brief explanation with regards to construction methods as well as installation of the mini split unit which heats and cools the bonus room above the attached garage and master bedroom area below.

The home was constructed using traditional CMU foundation for the crawl space, dimensional Frammer Series 2x10 yellow pine floor joists, 3/4 inch Advantech subfloor, 2x4 spf wall studs spaced at 16 inches on center and sheathed with 7/16 inch OSB. The exterior wall sheathing was covered with an approved house wrap and all seams were taped with seam tape. Engineered trusses spaced at 24 inches on center were installed to fabricate the general roof system as well as room trusses which framed the bonus room area above the attached garage and master bedroom. The roof trusses were sheathed with 19/32 OSB and the roof sheathing was covered with Rhino Roofing paper prior to installation of dimensional asphalt roofing shingles.

All subfloor areas on the main floor and the bonus room floor, excluding the three bedrooms, have an additional layer of 1/2 inch BC plywood installed as a spacer layer to accept the vinyl plank finished floor. This layer of BC plywood was installed so that the final vinyl plank flooring would finish on the same plane as the final carpet and carpet padding which was installed as final flooring in the master bedroom and the two satellite bedrooms on the opposite side of the dwelling.

As quoted by Davenport & Valley Insulation and included in the attached documentation, the interior cavities of the floor joist spaces separating the crawl space from the main living area were insulated using R-19 fiberglass batt insulation. The stud cavities of the exterior walls of the main floor dwelling were insulated using R-15 fiberglass batt insulation. The attic areas created by the horizontal members of the trusses were insulated using R-38 kraft faced fiberglass batt insulation.

The bonus room knee walls were insulated using R-19 kraft faced fiberglass batt insulation and the flat attic areas of the room trusses near the peak of the roof were insulated using R-38 kraft faced fiberglass batt insulation. The angled areas of the ceiling created by the bonus room trusses were insulated using a 5 inch closed cell spray foam equal to an R-32. Included in the documentation for the Review Boards' information is Quote 75626820 received from Davenport & Valley Insulation on October 8, 2019 as well as the coinciding invoices associated with the insulation installation showing that the insulation was installed as quoted.

All exterior doors which include the rear porch door, the attached garage entry door, the entry door between the garage and the dwelling as well as the front door are Thermatru fiberglass exterior doors. Attached is documentation from Huttig with regards to the specifications of each door as well as invoices from Valley Building Supply showing that the doors ordered from Huttig were the doors installed at the property.

Also included is documentation with regards to the windows installed. All windows are Atrium Series 450 double hung vinyl new construction windows. All windows were installed in the preframed window rough openings, attached with 1 1/2 inch roofing nails through the provided nailing flange of each window into the structural framing provided by the framing subcontractor. All nailing flanges, upon completion of attachment to the wall structure, were covered using Window flange wrap. The interior spaces between the jamb of each window and the rough opening framing members were filled using Great Stuff window and door spray foam. Along with the specifications sheet with regards to the Atrium windows installed is the invoice from Valley Building Supply showing that Atrium windows are the windows installed at the project.

Prior to the HVAC rough in, Eddie Lambert of Lambert Plumbing, Heating & Cooling Inc. met with me on the project for a preliminary discussion about installation of the HVAC and plumbing at the Davis residence. The original estimate issued to the Davises, included installation of a Bosch heat pump to service the heating and cooling needs of the main dwelling as well as a minisplit unit to service the bonus room. A different HVAC company, HVAC MD, was consulted during the original estimating stage in January 2019 for pricing purposes. HVAC MD installed and serviced Bosch brand products; however, HVAC MD closed for business prior to construction beginning on the Davis project. Lambert Plumbing, Heating & Cooling, Inc. was hired to replace HVAC MD as the HVAC subcontractor and Lambert Plumbing Heating & Cooling, Inc. installed YORK brand equipment instead of Bosch. This is the reason for the actual

brand installed being different than the brand included in the original estimate. I did not see any problem with the difference in brand at the time, as long as the units were appropriate for the project. The quality of the product actually used is comparable to what was estimated as well as the overall performance specifications and Lambert's performed their installation within the financial allotment included in the original estimate.

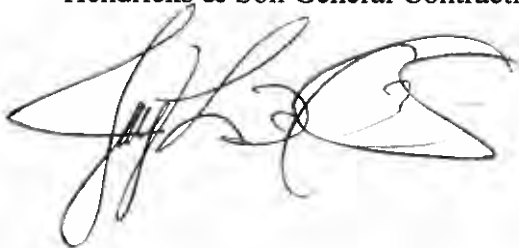
During our initial rough in site meeting, Mr. Lambert advised that a second minisplit unit be installed in the bonus room. He made this advisement due to the square footage of the bonus room nearing maximum capacity of the abilities a single minisplit unit as well as the staircase from the main floor to the bonus room remaining open to the main floor. Per the design requests of Mr. and Mrs. Davis, a door was not installed at the base or at the head of the staircase which would have offered the ability to close the bonus room from the rest of the main dwelling, allowing for more efficient heating and cooling of the bonus room. I took Mr. Lambert's advisement and informed Mrs. Davis of his recommendation. I also informed Mrs. Davis of the additional cost associated with labor and materials needed to install a second minisplit unit. I also advised Mrs. Davis that if two minisplit units were installed, each would be installed on either side of the open staircase near the middle of each knee wall to maximize efficiency. If the Davises chose to use only one minisplit unit, Mr. Lambert advised to install that unit at the head of the steps since that area was in the middle of the entire bonus room and he felt this location would allow for the most efficient airflow that one minisplit unit could produce. After relaying this information to Mrs. Davis, she chose to stay with what was originally estimated as she and Mr. Davis did not want to spend the additional funds necessary to install a second minisplit unit. Mr. Lambert was informed of the Davis' decision and proceeded with the HVAC rough in installation as necessary.

All materials installed at the Davis' project were chosen and approved by the Davis' themselves. Mr. and Mrs. Davis, on a number of occasions, chose not to upgrade to a better quality material, against advisement of myself or the corresponding subcontractor, simply because they did not have additional funds to spend on upgrades which could have made their home better. My hope is that the information I have included will show you that the Davis' home was built with the highest quality materials their budget could afford and that no corners were intentionally cut in an effort to save money or to perform inadequate work.

Sincerely,

Jay Hendricks

Hendricks & Son General Contracting, LLC.

A handwritten signature in black ink, appearing to read 'J. Hendricks', written in a cursive style.



Davenport & Valley Insulation

Lic# VG GC 2705074426

1345 New Hope Rd Waynesboro, VA 22980

Tel: 540-941-7670, Fax: 540-941-7672

WORK AGREEMENT

TO: HENDRICKS AND SON CONSTRUCTION / 507828	RE: 1002 ROUND HILL SCHOOL RD / INSULATION	
Address: 604 HILLTOP DRIVE, STAUNTON, VA, 24401	Address: 1002 ROUND HILL RD WAYNESBORO, WAYNESBORO CITY, VA, 22980	
Attn:	Date: 10/08/2019	Expiration Date: 01/06/2020
Tel: (540) 294-2169	Estimator: Smith, Cory	
Fax:	Quote #: 75626820	Version 1 of 1
	Division #: 613 - MT, CRAWFORD VA, DVI	

Subject to the terms and conditions stated in this agreement, Contractor is willing to furnish to you all material and labor required for the Scope of Work described below:

Scope of Work (the "Work") to be performed:

Draft stop, fire block, fire stop (UBC 708.2.1 et seq., formerly 2516(f), or locally adopted equivalent), and fire rated caulking are not included within Contractor's Work unless specifically listed below.

Plan #: NA | NA

Trade: INSULATION

Work Area	Product	Notes
BONUS ROOM CEILING	IBA KN R-38 KFT 24"X48" 64 SF	
BONUS ROOM WALLS	IBA KN R-19 KFT 23"X94" 135.13 SF	
CEILING AREA FLAT	IBA KN R-38 KFT 24"X48" 64 SF	
CEILING AREA FLAT - BEHIND KNEEWALL	IBA KN R-38 KFT 24"X48" 64 SF	
GARAGE CEILING AREA	IBA KN R-19 KFT 23"X94" 135.13 SF	
GARAGE EXTERIOR WALLS	IBA KN R-11 UNF 15.25"X105" 177.92 SF	
GARAGE COMMON WALL	IBA KN R-15 KHP 15"X105" 87.5 SF	
BAND JOIST, BOX SILL, RIM JOIST	IBA KN R-19 UNF 15.25"X94" 99.55 SF	
EXTERIOR WALLS	IBA KN R-15 UHP 15"X105" 87.5 SF IBA KN R-15 UHP 15"X93" 77.5 SF	
AIR INFILTRATION	CAULK, DAP POWERPOINT100 10.1 OZ WHITE	
PENETRATIONS	FOAM CF812 WINDOW & DOOR 22.5 OZ. 1" & LABOR FOAM CF-AS-CJP 24 OZ. 1" & LABOR	
BAFFLES, VENT CHUTES	BAFFLE,POLYVENT PLUS;50/BD	
BONUS ROOM VAULT	NOM. 5" CLOSED CELL FOAM R-32	
CRAWL SPACE CEILING	IBA KN R-19 KFT 15"X94" 97.92 SF INSUL SUP, #16, BX 500	
CRAWL GROUND COVER	POLY FILM,6M20' X100' BLK	

Base Price: \$6,974.00

Additional Information:

Options

Initial

SOUND WALL	AFB SP RX AFB 3" X 16" X 48" (64SF)	
		+\$127.00



Davenport & Valley Insulation

Lic# VG GC 2705074426

1345 New Hope Rd Waynesboro, VA 22980

Tel: 540-941-7670, Fax: 540-941-7672

WORK AGREEMENT

TO: HENDRICKS AND SON CONSTRUCTION / 507828		RE: 1002 ROUND HILL SCHOOL RD / INSULATION	
Address: 604 HILLTOP DRIVE, STAUNTON, VA, 24401		Address: 1002 ROUND HILL RD WAYNESBORO, WAYNESBORO CITY, VA, 22980	
Attn:		Date: 10/08/2019	Expiration Date: 01/06/2020
Tel: (540) 294-2169		Estimator: Smith, Cory	
Fax:		Quote #: 75626820	Version 1 of 1
		Division #: 613 - MT. CRAWFORD VA, DVI	

NOTE: This agreement consists of multiple pages. If you do not receive the number of pages noted below, please contact Contractor directly at the telephone number stated above.

TERMS OF PAYMENT: Payment in full due as stated on invoice regardless of any payment arrangements you have with third parties.

ACCEPTANCE: Contractor may change and/or withdraw this agreement if Contractor does not receive your signed acceptance within 10 business days after the Date stated above.

PRICING: The prices stated in the Scope of Work above will remain firm for 90 days after the Date stated above. If performance of this agreement extends beyond this 90 day period, you agree to pay Contractor's then current pricing ("Price") for any Work performed after that 90 day period. The Prices are based only on the terms and conditions expressly stated in this agreement. The Prices exclude any and all terms and conditions not expressly stated herein, including, without limitation, any obligation by Contractor to name you or any third-party as an additional insured on its insurance policy; to provide per project aggregate insurance coverage for the Work; to participate in any owner controlled, wrap, or similar insurance program; to indemnify or defend you or any third-party from any claims, actions and/or lawsuits of any kind or nature whatsoever except to the limited extent state in Section 18 of this agreement. Any terms or conditions required by you by contract or otherwise in addition to or inconsistent with those expressly stated in this agreement will result in additional charges and/or higher Prices. Any additional work performed is subject to Contractor's then current pricing (unless Contractor otherwise agrees in writing) and to this agreement.

CUSTOMER:

CONTRACTOR:

By: _____
SIGNATURE TITLE

By: _____
SIGNATURE TITLE

Company Name _____

Date: _____

THE INFORMATION CONTAINED IN THIS AGREEMENT IS CONFIDENTIAL. NEITHER THIS AGREEMENT NOR ITS TERMS MAY BE DISCLOSED TO THIRD PARTIES.

1. **ACCEPTANCE.** This agreement is expressly limited to and made conditional upon your acceptance of its terms and conditions. Any of your terms and conditions which are in addition to or different from those contained herein which are not separately agreed to in writing (except additional provisions specifying quantity, description of the products or work ordered and shipping instructions) are deemed material and are hereby objected to and rejected. You waive your objection to any terms and conditions contained herein if Contractor does not receive written notice of your objection within ten business days of the date of this agreement. You will in any event be deemed to have assented to all terms and conditions contained herein if any part of the products or work described herein are provided or performed. Please note particularly the Limited Warranty, Limitation of Remedies and Limitations on Actions and Liability provisions set forth below. You acknowledge that the prices stated are based on the enforceability of these terms and conditions, and on the Limited Warranty, Limitation of Remedies and Limitation of Actions and Liability provisions below, that the price would be substantially higher if Contractor could not limit its liability as herein provided, and that you accept these provisions in exchange for such lower prices.
2. **LIMITED WARRANTY.** All work performed by Contractor is warranted to be free from defects in material and workmanship for one year from the date of completion of the installation subject to the terms below. Contractor makes no warranties regarding products sold but assigns to you any manufacturer warranties relating to the products. **THIS EXPRESS WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESSED, IMPLIED OR STATUTORY, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** This limited warranty does not cover damages relating to (a) accident, misuse, abuse, neglect, or normal wear and tear; (b) failure to use or maintain the product in accordance with manufacturer's instructions; and (c) alteration, repair or attempted repair by anyone other than Contractor or its authorized representative. You shall be solely responsible for the correctness of the plans and specifications and shall release and hold harmless Contractor from any damages resulting from improper, inadequate or vague information supplied by you. Contractor does not take on any obligation to inspect or evaluate the work of other parties in any manner or aspect. This warranty is not transferable.
3. **INSURANCE.** Contractor shall maintain workers' compensation (employer liability), as required by law, and \$1,000,000 in general liability insurance while performing the work. Contractor reserves the right to be self insured to the extent allowed by applicable law. Contractor does not agree to name any other persons or entities as additional insureds.
4. **LIMITATION OF REMEDIES.** Your sole and exclusive remedy against Contractor for any and all claims for damages arising out of or alleged to have arisen out of the Work will be limited to the repair or replacement by Contractor, at Contractor's option, of any nonconforming work or to the issuance of a credit for such nonconforming work in accordance with these terms and conditions provided Contractor is given a reasonable opportunity to inspect the work and confirms such nonconformity. This exclusive remedy shall not be deemed to have failed of its essential purpose so long as Contractor is willing and able to repair or replace the nonconforming work and, in any event, Contractor's maximum liability for any damages shall be limited to the total amount paid to Contractor for the Work under this agreement. This Limitation of Remedies clause shall apply to the parties to this agreement as well as to the current owner(s) of the project and its/ their respective successors and assigns. If you receive a claim for damages by any owner arising out of or alleged to have arisen out of the Work, you agree to give written notice to Contractor of the claim and provide Contractor an opportunity to inspect the alleged damages within 30 days after Contractor's receipt of the notice. If you fail to give the required notice and/or fail to allow Contractor an opportunity to inspect the alleged damages within 30 days, you hereby waive any and all rights for damages and/or correction of work against Contractor. This Limitations of Remedies may be plead as a complete bar to any action in violation of this clause.
5. **LIMITATIONS ON ACTIONS AND LIABILITY.** All claims and/or lawsuits including but not limited to claims or lawsuits for indemnity and/or contribution against Contractor arising under this agreement must be made within 13 months from the date of completion of the installation. **CONTRACTOR WILL NOT BE LIABLE FOR ANY LOSS, DAMAGE OR INJURY RESULTING FROM DELAY IN DELIVERY OF THE PRODUCTS OR FOR ANY FAILURE TO PERFORM THAT IS DUE TO CIRCUMSTANCES BEYOND ITS CONTROL. CONTRACTOR DISCLAIMS ALL LIABILITY FOR ANY AND ALL DAMAGE WHICH MIGHT BE SUSTAINED BY ANY PERSON WHO MAY BE ALLERGIC TO OR AFFECTED BY THE EMANATION OF PARTICLES FROM CERTAIN TYPES OF INSULATION. THE MAXIMUM LIABILITY, IF ANY, OF CONTRACTOR FOR ALL DAMAGES, INCLUDING WITHOUT LIMITATION CONTRACT DAMAGES AND DAMAGES FOR INJURIES TO PERSONS OR PROPERTY, WHETHER ARISING FROM CONTRACTOR'S BREACH OF THIS AGREEMENT, BREACH OF WARRANTY, NEGLIGENCE, STRICT LIABILITY OR OTHER TORT WITH RESPECT TO THE PRODUCTS, OR ANY SERVICES IN CONNECTION WITH THE PRODUCTS, IS LIMITED TO AN AMOUNT NOT TO EXCEED THE CONTRACT PRICE. IN NO EVENT SHALL CONTRACTOR BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, LIQUIDATED, OR SPECIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES AND PROFITS, ATTORNEYS FEES AND/OR COSTS EVEN IF IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE RIGHT TO RECOVER DAMAGES WITHIN THE LIMITATIONS SPECIFIED IS YOUR EXCLUSIVE REMEDY IN THE EVENT THAT ANY OTHER CONTRACTUAL REMEDY FAILS OF ITS ESSENTIAL PURPOSE.**
6. **PRICES, TERMS AND SHIPMENT.** No cash discounts, back charges, set offs or counterclaims are allowed unless specified by Contractor. In addition to the prices specified, you agree to pay any federal, state or local excise, use, occupational, or similar tax now in force or to be enacted in the future, assessed against Contractor or you by reason of this transaction. No retention is permitted unless Contractor agrees otherwise in writing. Any past due payment will be, at Contractor's option, subject to interest at 1.5% per month (18% per annum) to the extent permitted by law. You agree to receive (or permit Contractor to receive) near the work site, any materials needed to complete the Work. You agree to protect such materials from damage or loss and provide Contractor, free of charge, with reasonable use of light, heat, water, power, storage space and use of available elevators and hoists as needed. Title to all materials under this agreement shall not transfer to you until Contractor receives payment in full. Contractor may charge you a fee and its actual expenses if the job site is not ready for work on the date you specify.
7. **FORCE MAJEURE.** Contractor shall not be liable for any delay, failures, or default in performance of this agreement or otherwise, in whole or in part, caused by the occurrence of any contingency beyond the control either of Contractor or of suppliers to the Contractor. Such contingencies include but are not limited to failure or delay in transportation, acts of any government or any agency or subdivision thereof, judicial action, labor disputes, fire, accident, acts of nature, severe weather, product allocation or shortages, labor shortages, fuel shortages, raw material shortages, machinery or technical failure, or work that cannot be completed because of another contractor covering the pertinent portion of the building. If any contingency occurs, Contractor may allocate production, deliveries, and performance of work among its customers or substitute substantially similar materials, in its sole discretion, without liability for doing so.
8. **CONFIDENTIALITY.** If you visit Contractor's premises or you otherwise receive any proprietary or confidential information from Contractor, you shall retain such information as confidential and not use or disclose it to any third party without Contractor's written consent.
9. **CREDIT APPROVAL.** Shipment and delivery of goods and performance of work shall at all times be subject to the approval of Contractor's credit department and Contractor may at any time decline to make any shipment or delivery or perform any work except upon receipt of payment or upon terms and conditions or security satisfactory to Contractor. By signing this agreement, you authorize Contractor to check your credit and references.
10. **CANCELLATION.** This agreement, or any part of it, may only be cancelled with Contractor's written approval. In the event of cancellation of this agreement, or any part hereof, you shall pay: (a) the contract price of all completed items; (b) that portion of the contract price that is equal to the degree of completion of products or work in process, effective on the date Contractor receives notice of cancellation; (c) the cost of any materials and supplies which Contractor shall have purchased to perform and which cannot be readily resold or used for other or similar purposes; (d) a restocking fee; and (e) any expenses incurred by Contractor (including legal fees and judgments) as a result of the cancellation of subcontracts or purchases related to this agreement.
11. **DEFAULT.** You may terminate this agreement for Contractor's default, wholly or in part, by giving Contractor written notice of termination as follows. You may give a written notice of termination only if Contractor has received a written notice from you specifying such default, the default is not excusable under any provision hereof, and the default has not been remedied within thirty (30) days (or such longer period as may be reasonable under the circumstances) after Contractor's receipt of the notice of default. Delivery of nonconforming products or work by Contractor shall give you the rights set forth in paragraph 4 hereof but shall not be deemed a default for purposes of termination. In the event of termination for default, you shall be relieved of the obligation to pay for work not performed by Contractor prior to the effective date of such termination. A default on Contractor's part shall not subject Contractor to liability, through payment by Contractor, set off or otherwise, for any other damages, whether direct, consequential or incidental, and whether sought under theories of contract or tort.
12. **ASSIGNMENT.** You may not assign this agreement or any claim against Contractor relating to this agreement.
13. **GOVERNING LAW.** This agreement shall be construed, interpreted and the rights of the parties determined in accordance with the laws of the State of Contractor's address first listed on the front of this agreement.
14. **DISPUTES AND MANDATORY MEDIATION.** In the event that a dispute arises over the reasonableness of or entitlement to fees charged by Contractor, the prevailing party will be entitled to reasonable attorneys fees and costs. In all other disputes of any nature, each party shall pay its own fees and costs. Except as required to protect confidential information and to obtain preliminary injunctive relief to prevent irreparable harm, you and the Contractor agree that prior to the initiation of any legal action the parties will engage in facilitative mediation of any and all disputes in any way related to this agreement. If the parties cannot agree upon a facilitative mediator within 30 days of when the dispute arose, one will be selected pursuant to the Commercial Mediation Rules of the American Arbitration Association. Each party will share equally the fees of the facilitative mediator and costs of the mediation.
15. **INSULATION DOES NOT PREVENT FROZEN PIPES.** Insulating around water lines in an unconditioned or semi-conditioned area will not prevent pipes from freezing or accumulating condensation. To decrease the possibility of frozen pipes, locate any water pipes within a conditioned area, such as internal walls rather than external walls. If you do not locate the pipes within an internal wall, you hold Contractor harmless and release Contractor from any claims relating to frozen or burst pipes.
16. **SEVERABILITY.** If any provision on this agreement is not enforceable, that provision shall be effective only to the extent permitted by law and all other provisions of this agreement shall remain.
17. **ENTIRE AGREEMENT.** This instrument contains the entire agreement of the parties relating to the subject matter hereof and may only be waived, changed, modified, extended or discharged orally by a writing signed by the party against whom enforcement of any such waiver, change, modification, extension or discharge is sought. The terms and conditions of this agreement supersede any agreement to which it is attached.
18. **INDEMNITY.** Each of the parties to this agreement agrees to defend and indemnify one another from any and all claims, actions and/or lawsuits caused by the party's negligent acts or omissions. This indemnity clause and the obligations created herein shall control and take priority over any contrary indemnity agreement entered into prior to this agreement. Furthermore, this indemnity clause and the obligations created herein shall control and take priority over any contrary indemnity agreement entered into subsequent to this agreement unless the subsequent agreement specifically refers to this indemnity clause and declares it null and void.



Davenport & Valley Insulation

Lic# VG GC 2705074426

1345 New Hope Rd Waynesboro, VA 22980

Tel: 540-941-7670, Fax: 540-941-7672

ADDENDUM

TO: HENDRICKS AND SON CONSTRUCTION / 507828	RE: 1002 ROUND HILL SCHOOL RD / INSULATION	
Address: 604 HILLTOP DRIVE, STAUNTON, VA, 24401	Address: 1002 ROUND HILL RD WAYNESBORO, WAYNESBORO CITY, VA, 22980	
Attn:	Date: 10/08/2019	Expiration Date: 01/06/2020
Tel: (540) 294-2169	Estimator: Smith, Cory	
Fax:	Quote #: 75626820	Version 1 of 1
	Division #: 613 - MT. CRAWFORD VA, DVI	

Davenport & Valley Insulation ("Contractor") and Customer each agree to amend the agreement ("Agreement") for the Project specified above as follows:

1. Customer has contracted with Contractor for the installation of spray polyurethane foam in accordance with the scope of work ("Work") specifically set forth in the Agreement. This Addendum modifies the terms of the Agreement and its exhibits and addenda. If any of the terms and conditions of this Addendum should conflict with any terms and conditions of the Agreement this Addendum shall control. These modifications are mutually agreed to by the parties and are supported by legal consideration. Customer's acceptance shall be evidenced by permitting Contractor to perform the Work.
2. Contractor agrees to incorporate by reference the scope of work and terms and conditions as set forth in Contractor's Proposal, dated **Oct 08, 2019**, including all exclusions contained therein.
3. In performing work, Subcontractor is not inspecting or assessing, and undertakes no responsibility to inspect or assess, the Project site (or any component or system thereof) for any purpose other than to perform the Work. The rights and obligations between Contractor and Customer concerning Work performed by Contractor shall be as expressly stated in the Proposal.
4. Customer acknowledges that the spray polyurethane products and the installation specifications selected by the Customer and described in the Work are subject to building codes and evaluation reports which contain express requirements and/or recommendations which are outside the Work unless expressly enumerated in the Proposal. Such requirements and/or recommendations may include, but are not necessarily limited to: installing a specified attic hatch; limiting entry to the attic or crawl space only for service of utilities and not permitting storage in the attic or crawl space; ensuring that (a) there are no interconnected attic, crawl space or basement areas, (b) the air in the attic or crawl space is not circulated to other parts of the building, (c) combustion air and attic ventilation is provided when required, (d) the attic assembly has been properly constructed and (e) a code official has provided the required inspections.
5. The Contractor bears no responsibility for the failure of the Customer, developer, builder, owner or subsequent owner, to use and maintain the attic space in strict accordance with the applicable building codes and evaluation reports.
6. Building codes may require, and evaluation reports may specify, a thermal barrier or ignition barrier be applied to the spray foam applied insulation. A thermal barrier or ignition barrier is not included within the Work unless specifically listed in the Proposal.

CUSTOMER:

CONTRACTOR:

By: _____

By: _____

Date: _____

Date: _____

INVOICE



Davenport & Valley Insulation,
 Division Code :613
 LIC#: 2705074426A
 PO Box 232,
 Mt. Crawford, VA 22841,
 (540) 433-9779

Customer Number	507828
Invoice Number	00600804660
Invoice Date	18-NOV-19
SalesPerson Name	Smith, Cory
Product Trade	INSULATION

Customer Bill To Address

HENDRICKS AND SON CONSTRUCTION
 604 HILLTOP DRIVE,
 STAUNTON,VA,24401,US

Remit To Address:

ATTN: AR, Davenport & Valley Insulation,
 P.O. Box 534451,
 Atlanta, GA, 30353-4451

Line	PO#	SO#	Ship Address	Trip	Amount	Retainage	Tax	Total
1	294-2169	405671116	1002 Round Hill School Road 1002 Round Hill School Road, Waynesboro, VA	Batt	3,880.00	0.00	0.00	3,880.00

Total Contract Amount	7,101.00
Completion to Date	5,971.00
Previous Billing	2,091.00
Previous Retainage Billing	0.00
Previous Retainage	0.00
Invoice Amount	3,880.00
Tax	0.00
Less: Current Retainage	0.00
Less: Payments	0.00
Due by 18-DEC-2019	3,880.00

INVOICE



Davenport & Valley Insulation,
 Division Code :613
 LIC#: 2705074426A
 PO Box 232,
 Mt. Crawford, VA 22841,
 (540) 433-9779

Customer Number	507828
Invoice Number	00600804678
Invoice Date	18-NOV-19
SalesPerson Name	Smith, Cory
Product Trade	INSULATION

Customer Bill To Address

HENDRICKS AND SON CONSTRUCTION
 604 HILLTOP DRIVE,
 STAUNTON,VA,24401,US

Remit To Address:

ATTN: AR, Davenport & Valley Insulation,
 P.O. Box 534451,
 Atlanta, GA, 30353-4451

Line	PO#	SO#	Ship Address	Trip	Amount	Retainage	Tax	Total
1	294-2169	405671116	1002 Round Hill School Road 1002 Round Hill School Road, Waynesboro, VA	Batt Option	127.00	0.00	0.00	127.00

Total Contract Amount	7,101.00
------------------------------	-----------------

Completion to Date	5,971.00
Previous Billing	5,844.00
Previous Retainage Billing	0.00
Previous Retainage	0.00
Invoice Amount	127.00
Tax	0.00
Less: Current Retainage	0.00
Less: Payments	0.00
Due by 18-DEC-2019	127.00

INVOICE



Davenport & Valley Insulation,
 Division Code :613
 LIC#: 2705074426A
 PO Box 232,
 Mt. Crawford, VA 22841,
 (540) 433-9779

Customer Number	507828
Invoice Number	00600804686
Invoice Date	18-NOV-19
SalesPerson Name	Smith, Cory
Product Trade	INSULATION

Customer Bill To Address

HENDRICKS AND SON CONSTRUCTION
 604 HILLTOP DRIVE,
 STAUNTON,VA,24401,US

Remit To Address:

ATTN: AR, Davenport & Valley Insulation,
 P.O. Box 534451,
 Atlanta, GA, 30353-4451

Line	PO#	SO#	Ship Address	Trip	Amount	Retainage	Tax	Total
1	294-2169	405671116	1002 Round Hill School Road 1002 Round Hill School Road, Waynesboro, VA	Spray Foam Closed	1,964.00	0.00	0.00	1,964.00

Total Contract Amount	7,101.00
Completion to Date	5,971.00
Previous Billing	4,007.00
Previous Retainage Billing	0.00
Previous Retainage	0.00
Invoice Amount	1,964.00
Tax	0.00
Less: Current Retainage	0.00
Less: Payments	0.00
Due by 18-DEC-2019	1,964.00



Huttig Building Products
 3375 N Wesleyan Blvd
 Rocky Mount NC 27804
 P: (252)446-2446
 F: (252)446-4279

ACKNOWLEDGMENT

UPC V	ACK. DATE	ORDER NO.
000000	09/30/19	21879582-00
PURCHASE ORDER NO.		PAGE
14744SK		1

CUST#: 130608730
 SHIP TO:
 VALLEY BUILDING SPLY INC #672
 703 RICHMOND AVE
 VAL2
 STAUNTON, VA 24401-4954
 BILL TO:
 VALLEY BUILDING SPLY INC #672
 PO BOX 2216
 STAUNTON, VA 24402-2216

Order Placed by:
 Inside Salesperson: rm74
 Order Taken By: Jesse Tamez

SHIP TO	INSTRUCTIONS
260	

SHIP POINT	SHIP VIA	Promise Date	TERMS
Huttig Building Products	OUR TRUCK	10/03/19	.5% 10thN11

Line No.	Product and Description	Quantity Ordered	Quantity B.O.	Quantity Shipped	Quantity U/M	Unit Price	Amount (NET)
1	HTT ENTRY UNIT THERMA TRU, ENTRY DOOR, 1/0-3/0-1/0X6/8, SGL 2-SIDELITES, RH INSWING, FC OAK, HALF 1LT 2PNL (FC114), SALINAS GLASS, WROUGHT IRON CASING, DBL BORE 2-3/8, 4-5/8" WOODGRAIN COMPOSITE JAMB, BRONZE WEATHERSTRIP, COMPOSITE ADJ SILL BRONZE/LIGHT CAP FINISH, SILL COVER, FC OAK, FC113SL, SALINAS, WROUGHT IRON, TB BRZ, CONTINUOUS UNIT, WOODGRAIN COMPOSITE WM180 CASING, 3 BALL BEARING BRUSH NICKEL 5/8R HINGES, ACTUAL UNIT SIZE: 63-5/8IN. X 82IN., APPLIED CASING Weight: 0.00000 Cubes: 0.00000	1			EA		0.00
2	HTT ENTRY UNIT THERMA TRU, ENTRY DOOR, 3/0X6/8, SINGLE, RH INSWING, SMOOTH-STAR, FULL 1LT W/STILE LINES (S130-RT), RAISE/TILT GLASS, DBL BORE 2-3/8, 4-5/8" ROT PROOF BOTTOM JAMB, BRONZE WEATHERSTRIP, COMPOSITE ADJ SILL BRONZE/LIGHT CAP FINISH, SILL COVER, TB BRZ, FINAL FRAME PVC WM180 CASING, 3 BALL BEARING BRUSH NICKEL 5/8R HINGES, ACTUAL UNIT SIZE: 37-5/8IN. X 82IN., APPLIED CASING Weight: 97.41970 Cubes: 9.85000	1			EA		
3	HTT ENTRY UNIT THERMA TRU, ENTRY DOOR, 2/8X6/8, SINGLE, RH INSWING, SMOOTH-STAR, 2-LITE 4PNL (S296), CLEAR GLASS, DBL BORE 2-3/8, 4-5/8" ROT PROOF BOTTOM JAMB, BRONZE WEATHERSTRIP, COMPOSITE	1			EA		

Continued

This Acknowledgement is subject to the Huttig Building Products Sales Terms and Conditions located at
www.huttig.com/SalesTerms which are incorporated herein by this reference.



Huttig Building Products
 3375 N Wesleyan Blvd
 Rocky Mount NC 27804
 P: (252)446-2446
 F: (252)446-4279

ACKNOWLEDGMENT

UPC V	ACK. DATE	ORDER NO.
000000	09/30/19	21879582-00
PURCHASE ORDER NO		PAGE
14744SK		2

CUST#: 130608730
 SHIP TO:
 VALLEY BUILDING SPLY INC #672
 703 RICHMOND AVE
 VAL2
 STAUNTON, VA 24401-4954
 BILL TO:
 VALLEY BUILDING SPLY INC #672
 PO BOX 2216
 STAUNTON, VA 24402-2216

Order Placed by:
 Inside Salesperson: rm74
 Order Taken By: Jesse Tamez

SHIP TO	INSTRUCTIONS
260	

SHIP POINT	SHIP VIA	Promise Date	TERMS
Huttig Building Products	OUR TRUCK	10/03/19	.5% 10thN11

Line No.	Product and Description	Quantity Ordered	Quantity B.O.	Quantity Shipped	Quantity U/M	Unit Price	Amount (NET)
4	ADJ SILL BRONZE/LIGHT CAP FINISH, SILL COVER, TB BRZ, FINAL FRAME PVC WM180 CASING, 3 BALL BEARING BRUSH NICKEL 5/8R HINGES, ACTUAL UNIT SIZE:33-5/8IN. X 82IN., APPLIED CASING Weight: 87.41970 Cubes: 5.02000	1			EA		
4	ENTRY UNIT 3/0X6/8, SINGLE, RH INSWING, FIRE CORE, 2P ROMAN SMOOTH (IFRS), DBL BORE 2-3/8, 4-5/8" PRIMED JAMB, BRONZE WEATHERSTRIP, COMPOSITE ADJ SILL BRONZE/LIGHT CAP FINISH, SILL COVER, NON KERFED SWEEP, FINAL FRAME PVC WM180 CASING, 3 CC BALL BEARING BRUSH NICKEL 5/8R HINGES, ACTUAL UNIT SIZE:37-5/8IN. X 82IN., APPLIED CASING Weight: 139.84670 Cubes: 5.49000						
4	Lines Total		Qty Shipped Total:	3		Total:	
	Total Weight:	324.69	Total Cubes:	20.36		Invoice Total:	

Last Page

This Acknowledgement is subject to the Huttig Building Products Sales Terms and Conditions located at www.huttig.com/SalesTerms which are incorporated herein by this reference.



Packing slip

Ship to:

HENDRICKS & SON - ADDRESS NEXT TO 1022
ROUND HILL SCHOOL RD
NEW ADDRESS NEXT TO 1022 ROUND HILL
SCHOOL RD
Crimora, VA 24431

Sold to:

Hendricks & Son Construction
604 Hilltop Dr
Staunton, VA 24401

Page	1 of 1
Shipped date	11/4/2019 12:00 AM
Number	190531
Sales order	S154011
Customer ID	C002413
Customer PO	Davis Job
Job ID	SA006729
Job description	MORRIS JOB
Dealer order #	
Sales person	
Driver	Jeff Cale
Weight	0
Zone	2

Shipped from:

VBS-Staunton
703 RICHMOND AVE
STAUNTON, VA 24401-4954

Location	Item number	Description	Qty	Unit
Y1	SODO	FRONT door 103010 woodgrain oak salinas 1/2 light with full light sidelights rh inswing double bore 1.00 EACH and 0.00 EACH Quantity : 1.00 Batch number : 033711	1.00	EA

Thank you for your business!

Customer Signature _____
Received, inspected and approved by _____

CONCRETE PRODUCTS WARNINGS: INJURIOUS TO EYES! CAUSES SKN IRRITATION! CAUSES RESPIRATORY IRRITATION! SEE ALLIED'S SALES TERM AND CONDITIONS FOR ADDITIONAL PRODUCT WARNINGS AND INFORMATION BEFORE USING. BUYER AGREES TO CONVEY THESE WARNINGS TO ALL PERSONS WHO MAY PURCHASE, USE OR COME IN CONTACT WITH WET (UNHARDENED) CONCRETE, MORTAR, CEMENT OR CEMENT MIXTURES. Wear protective gloves and clothing, eye and face protection, and a respirator. Use only in a well-ventilated area. If exposed or concerned seek immediate medical attention. Read the material safety data sheet before using or handling this material.

ALL SALES ARE SUBJECT TO THE CURRENT VERSION OF ALLIED'S SALES TERMS AND CONDITIONS AVAILABLE ON OUR WEBSITE AT www.alliedconcrete.com/terms



Invoice

Remit to:

Allied Concrete Company
 PO Box 1647
 Charlottesville, VA 22902
 Telephone 434-296-7181

Sold to:

Hendricks & Son Construction
 604 Hilltop Dr
 Staunton, VA 24401

Ship to:

HENDRICKS & SON - ADDRESS NEXT TO 1022
 ROUND HILL SCHOOL RD
 NEW ADDRESS NEXT TO 1022 ROUND HILL
 SCHOOL RD
 Crimora, VA 24431

Number 00144304
 Invoice date 10/5/2019
 Page 1 of 2
 Sales order S154011
 Customer ID C002413
 Customer PO Davis Job
 Job ID SA006729
 Job Description MORRIS JOB
 Sales Person
 Location Staunton
 Shipped 10/4/2019 12:00:00 AM
 Packing Slip ID 181792

Item number	Description	Quantity	Unit	Unit price	Amount
LUPTS468P	5/4 X 6 X 8 PT Prem 30.00 PIECE and 0.00 PIECE	30.00	PC	8.0000	240.00
SODO	3068 SMOOTH FIBERGLASS FULL VIEW BLINDS BETWEEN GLASS RH IN SWING SN HINGES DOUBLE BORE 1.00 EACH and 0.00 EACH	1.00	EA	557.9400	557.94
LUPT448	4 X 4 X 8 PT Lumber 1.00 PIECE and 0.00 PIECE	1.00	PC	13.4200	13.42
SITEPUP	PLYWOOD LEFT OVER*****LEAVE LUMBER -1.00 EACH and -0.00 EACH	-1.00	EA	.0000	0.00
SODO	2868 SMOOTH FIBERGLASS COL 2 LITE RH IN SWING SN HINGES DOUBLE BORE 1.00 EACH and 0.00 EACH	1.00	EA	431.8800	431.88
SODO	3068 2 PANEL ARCH TOP RH IN SWING SN HINGES DOUBLE BORE 20 MIN FR 1.00 EACH and 0.00 EACH	1.00	EA	306.7200	306.72

REAR porch door

Attached garage door

entry door from attached garage to house

Thank you for your business!

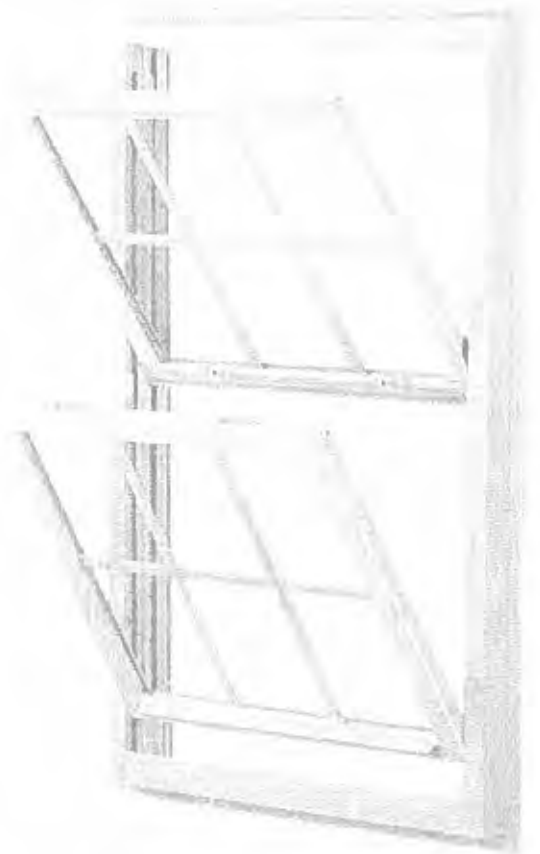
Nontaxable	Taxable	Tax Info	Sales tax	Invoice amount
0.00	1,549.96	AVATAX	82.15	1,632.11 USD



SERIES 450 DOUBLE HUNG WINDOW

Double hung, picture windows and architectural shapes

- + Beautiful, true brick mould exterior frame perimeter
- + Both sashes tilt in for easy cleaning
- + Fully welded frame and sash corners
- + Sloped sill for easy water run-off
- + Insulated glass panels with optimum thermal air space featuring warm-edge spacer system
- + DP-35 Rating (available with DP-50 option, window size tested 36" x 74")
- + Series 455/465 available with DP-50 Rating
- + Integrated J-channel (Series 460 available without J-channel)
- + Pre-punched nail fin makes installation simple
- + Block & tackle balance system
- + Continuous head and sill on twins and triples
- + Half screen comes standard*
- + Jamb depth: 3.868"
- + Matching slider #451 available in 2- and 3-lite styles
- + Limited lifetime warranty



Featuring Our New Low Profile Lock

CUSTOM Options

- + Low-E Glass
- + Low-E Glass + Argon Gas
- + Ultra Low-E Glass + Argon Gas
- + Dual push-button night vents for secure ventilation
- + 5/8" or 3/4" flat, 5/8" or 1" contoured, 1 1/8" simulated divided lite (SDL), 5/8" contoured valance grids available
- + Nine painted exterior colors (white interior only)
- + 3 1/4" flat casing with bull nose
- + Factory mulling of twins, triples and architectural shapes
- + Paintable or stainable wood jamb extensions (4 3/8" and 6 3/8")
- + Brass or brushed nickel locks
- + Charcoal aluminum mesh screen†
- + Window Opening Control Device (WOCD)
- + Custom sizes available



Pre-punched nailing fins and integrated J-channel



3 1/4" flat casing with bull nose



Scan to experience our website.



ENERGY STAR compliance available in all series. Verify product specifics before ordering.

+ COLOR OPTIONS



Note: Manufacturer reserves the right to substitute components as necessary for continued product improvement.

* Screens are not meant to restrain a child from falling through an open window.
 ** Painting process may affect color shown. Please refer to actual window sample when selecting colors.
 *** Grid offering limited to 5/8" contoured or SDL on exterior painted windows. Only use mild, water based household cleaner on painted product and rinse immediately with water. See full cleaning instructions for details.



WINDOW PACKAGE for dwelling



Invoice

Remit to:

Allied Concrete Company
 PO Box 1647
 Charlottesville, VA 22902
 Telephone 434-296-7181

Sold to:

Hendricks & Son Construction
 604 Hilltop Dr
 Staunton, VA 24401

Ship to:

HENDRICKS & SON - ADDRESS NEXT TO 1022
 ROUND HILL SCHOOL RD
 NEW ADDRESS NEXT TO 1022 ROUND HILL
 SCHOOL RD
 Crimora, VA 24431

Number 00142949
 Invoice date 9/30/2019
 Page 1 of 2
 Sales order S152070
 Customer ID C002413
 Customer PO Davis
 Job Description
 Sales Person Susan Knupp
 Location Staunton
 Shipped 9/30/2019 12:00:00 AM
 Packing Slip ID 180108

Item number	Description	Quantity	Unit	Unit price	Amount
SOWI	Atrium 450 DH White 3/4" Colonial GBG 3over1 3-1/4 Flat Casing 4-9/16 2852 3.00 EACH and 0.00 EACH	3.00	EA	329.1100	987.33
SOWI	Atrium 450 DH White 3/4" Colonial GBG 3over1 3-1/4 Flat Casing 4-9/16 2032 1.00 EACH and 0.00 EACH	1.00	EA	265.6300	265.63
SOWI	Atrium 450 DH White 3/4" Colonial GBG 3over1 3-1/4 Flat Casing 4-9/16 2846 2.00 EACH and 0.00 EACH	2.00	EA	316.8700	633.74
SOWI	Atrium 450 DH White 3/4" Colonial GBG 3over1 3-1/4 Flat Casing 4-9/16 5452-2 Twin 5.00 EACH and 0.00 EACH	5.00	EA	665.7600	3,328.80
SI65996	6" X 100' Window Flange Wrap 5.00 EACH and 0.00 EACH	5.00	EA	34.1900	170.95
MPNL112R5	1 1/2" EG Roof Nail 5# (Bx) 1.00 BOX and 0.00 BOX	1.00	BX	12.5900	12.59

Thank you for your business!

Nontaxable	Taxable	Tax Info	Sales tax	Invoice amount
0.00	5,399.04	AVATAX	286.16	5,685.20 USD



MITSUBISHI
ELECTRIC

09/02/2021

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09/02/2021

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