

BLOCK 831 LOT 1 QUALIFICATION CODE _____ ADDRESS (SITE) 1652 HARVARD AVE PERMIT NO. 13-2093



CONSTRUCTION PERMIT APPLICATION

Applicant Completes: Sections I, II, III (optional), IV, VI, and VII

V. FEE SUMMARY (for office use only)

		Update	Update
1. Building	\$ <u>40</u>		
2. Electrical	\$ <u>20</u>		
3. Plumbing			
4. Fire Protection			
5. Elevator Devices			
6. Subtotal			
7. Less 20% for State Plan Review	\$		
8. Subtotal	\$ <u>3</u>		
9. State Permit Surcharge Fee	\$		
10. Subtotal			
11. Cert. of Occupancy			
12. Other	\$ <u>103</u>		
13. TOTAL	\$		

BUILDING/SITE CHARACTERISTICS

	(office use only)
1. Number of Stories	
2. Height of Structure	ft.
3. Area — Largest Floor	sq. ft.
4. New Building Area	sq. ft.
5. Volume of New Structure	cu. ft.
6. Max. Live Load	
7. Max. Occupancy Load	
8. If Industrialized Building: State Approved _____ HUD _____	
9. Total Land Area Disturbed	sq. ft.
10. Flood Hazard Zone	
11. Base Flood Elevation	ft.
12. Wetlands yes _____ no _____	

I. IDENTIFICATION

1. Proposed Work Site at: 1652 HARVARD AVE BRICK, NJ 08724

2. Name of Owner in Fee: ANTHONY TOCCI

Tel. _____ e-mail _____

Address 1652 HARVARD AVE BRICK NJ 08724

3. Ownership in Fee: Public _____ Private ☒ Municipality _____ Zip code _____

4. Principal Contractor: Anthony Tocchi Te _____

Address 1652 HARVARD AVE BRICK NJ 08724 e-mail _____

License No. OR, if new home, Builder Reg. No. _____ Exp. Date _____

Home Improvement Contractor Registration No. or Exemption Reason (if applicable): _____

Federal Emp. ID No. _____ FAX: (_____) _____

5. Architect or Engineer _____ Contact _____

Address _____ e-mail _____

Tel. (_____) _____ FAX: (_____) _____

6. Responsible Person in Charge once Work has Begun _____

Tel. (_____) _____ FAX: (_____) _____

IIa. PROPOSED WORK

- | | | | |
|---|--|--|---|
| ☐ Minor Work | ☐ New Building | ☐ Addition | ☐ Demolition |
| ☐ Repair | ☐ Alteration | ☐ Renovation | ☐ Reconstruction |
| ☐ Asbestos Abat. -Subch. 8 | ☐ Lead Hazard Abatement | ☐ Radon Remediation | ☐ Annual Permit |

IIb. SUBCODES

(Check all that apply)

- | |
|--|
| ☐ Building |
| ☐ Electrical |
| ☐ Plumbing |
| ☐ Fire Protection |
| ☐ Elevator |

FOR OFFICE USE ONLY (Optional)								
Est. Cost	Plans Rec'd by	Date Rec'd	Rejection Date	Approval Date	Re-viewer	Resubmission Dates Approval	Rejection	Re-viewer
<u>100.00</u>	<u>JS</u>	<u>5/6/13</u>						
<u>100.00</u>				<u>5-9-13</u>	<u>JP</u>			
<u>1500.00</u>				<u>05/10/13</u>	<u>PA</u>			
<u>300.00</u>								

TOTAL COST 2000.00

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL (primary use)

- State Specific Use: _____
- Use Group, Proposed: _____
- Change in Use Group, Indicate Present: _____
- No. of dwelling units: Total Units Income-restricted

Gained, Sale	_____
Gained, Rental	_____
Lost, Sale	_____
Lost, Rental	_____

B. NON-RESIDENTIAL (primary use)

- State Specific Use: _____
- Use Group, Proposed: _____
- Change in Use Group, Indicate Present: _____

C. MIXED USE -List secondary use(s): _____

D. Construct. Classification: Present _____ Proposed _____

III. PLAN REVIEW (optional)

DO YOU WANT:

- ☐ Partial Releases
- ☐ Prototype Processing

IV. DOES OR WILL YOUR BUILDING CONTAIN ANY OF THE FOLLOWING?

- | | | | |
|---|---|---|---|
| 1. ☐ Elevators/Escalators/Lifts/
Dumbwaiters/Moving Walks | 4. ☐ Refrigeration Systems | 6. ☐ Smoke Control Systems in Open Wells | 12. ☐ Fire Alarm |
| 2. ☐ High Pressure Boilers | 5. ☐ Cross-Connections/Backflow Preventers | 9. ☐ Underground Storage Tanks | |
| 3. ☐ Pressure Vessels | 6. ☐ Hazardous Uses/Places of Assembly | 10. ☐ Swimming Pools, Spas and Hot Tubs | |
| | 7. ☐ Sprinklers/Standpipes | 11. ☐ LPGas Tanks | |



Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued 07/10/2013
Control Number C-13-002665
Permit Number 13-2093
Permit Issue Date 05/15/2013
Certificate Number 13-2093

Certificate

Construction Code Division
(Certificate of Approval)

Identification

Work Site Location: 1652 HARVARD AVE Brick Township, NJ Block: 831 Lot: 1 Qual: _____
Owner in Fee: TOCCI, ANTHONY
Owner Address: 1652 HARVARD AVE BRICK NJ 08724
Telephone: [REDACTED]
Contractor TOCCI, ANTHONY
Address 1652 HARVARD AVE BRICK NJ 08724
Telephone: [REDACTED] Fax: _____
License Number or Builders Registration Number: _____ Federal Emp. Number: _____

Home Warranty Number: _____

Type of Warranty Plan: ☐ State ☐ Private

Use Group: R-5 Construction Classification: _____

Maximum Live Load: 0 Maximum Occupancy Load: 0

Description of Work/Use: Boiler

Certificate Comments:

☐ **Certificate of Occupancy**

This serves notice that said building or structure has been constructed in accordance with the New Jersey Uniform Construction Code and is approved for occupancy.

☒ **Certificate of Approval**

This serves notice that the work completed has been constructed or installed in accordance with the New Jersey Uniform Construction Code and is approved. If the permit was issued for minor work, this certificate was based upon what was visible at the time of inspection.

☐ **Certificate of Continued Occupancy**

This serves notice that based on a general inspection of the visible parts of the building there are no imminent hazards and the building is approved for continued occupancy.

☐ **Temporary Certificate of Compliance**

The following conditions must be met no later than or the owner will be subject to fine or order to vacate:

This certificate has an expiration date of:

Conditions to be met:

☐ **Certificate of Clearance - Lead Abatement 5:17**

This serves notice that based on written certification, lead abatement was performed as per NJAC5:17 to the following extent.

- ☐ Total removal of lead-based paint hazards in scope of work
☐ Partial or limited time period (year) ; see file

☐ **Certificate of Clearance - Asbestos Abatement**

This serves notice that based on written certification, asbestos abatement was performed to the following extent.

- ☐ Total removal of asbestos hazards in scope of work
☐ Partial or limited time period (years) ; see file

☐ **Certificate of Compliance**

This serves notice that said potentially hazardous equipment has been installed and/or maintained in accordance with the New Jersey Uniform Construction Code and is approved for use until

☐ **Temporary Certificate of Occupancy**

The following conditions must be met no later than: or the owner will be subject to fine or order to vacate:

This certificate has an expiration date of:

Conditions to be met:

Construction Official _____

Fee: \$0.00
Check Number: _____
Collected By: _____



CONSTRUCTION PERMIT

Date Issued 13-2013
Control # C-13-002665
Permit # 5-15-13

IDENTIFICATION Block: 831 Lot: 1 Qualifier _____
Work Site Location: 1652 HARVARD AVE Brick Township, NJ Contractor TOCCI, ANTHONY
Address: 1652 HARVARD AVE BRICK NJ 08724
Owner in Fee TOCCI, ANTHONY
1652 HARVARD AVE BRICK NJ 08724 Telephone: _____
Lic. No. or Bldg. Reg. No. _____
Federal Employee No. _____

Is hereby granted permission to perform the following work:

- | | | |
|--|--|--|
| ☐ BUILDING | ☒ PLUMBING | ☐ LEAD HAZARD ABATEMENT |
| ☒ ELECTRICAL | ☐ FIRE PROTECTION | ☐ DEMOLITION |
| ☐ ELEVATOR DEVICES | ☐ ASBESTOS ABATEMENT
(Subchapter 8 only) | ☐ OTHER |

DESCRIPTION OF WORK:

Boiler

Note: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work: \$1600

Daniel Newman Jr
Construction Official

5/14/13
Date

U.C.C. F170
equiv (rev 1/04)

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

4 GOLD - APPLICANT

PAYMENTS (Office Use Only)

Building	_____	\$0
Electrical	_____	\$40
Plumbing	_____	\$60
Fire Protection	_____	\$0
Elevator Devices	_____	\$0
Other	_____	\$0.00
DCA Training Fee	_____	\$3
CO Fee	_____	
Other	_____	\$0
Total	_____	\$103
Check No.	<u>2632</u>	
Cash	_____	\$0
Credit	_____	\$0
Collected By	_____	

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations, N.J.A.C. 5:23-18.4. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

- ☒ Required inspections for all subcodes for one- and two-family dwellings are as follows:

1. The bottom of footing trenches before placement of footings, except that in cases of pile foundations, inspections shall be made in accordance with the requirements of the building subcode.
2. Foundations and all walls up to grade level prior to back filling.
3. All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and/or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
4. Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

- ☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

- ☒ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

- ☐ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.

PAID BY
#2093
CHECK
\$103.00



ELECTRICAL SUBCODE TECHNICAL SECTION



A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 831 Lot 1 Qualification Code _____

Work Site Location 1652 HARVARD AVE

BRICK NJ 08724

Owner in Fee: ANTHONY TOCCI

Tel. _____ e-mail _____

Address 1652 HARVARD AVE BRICK NJ 08724

Contractor: Anthony Tocci BRICK NJ 08724

Address 1652 HARVARD AVE BRICK NJ 08724

Contractor License No. _____ Exp. Date _____

Home Improvement Contractor Registration No. or Exemption Reason (if applicable): _____

Federal Emp. ID No. _____ FAX: (____) _____

B. ELECTRICAL CHARACTERISTICS

Use Group Present _____ Proposed _____

[] Pole/Pad # _____ [] Temporary [] Other _____

Building Occupied as _____ Utility Co. _____

Est. Cost of Elec. Work \$ 100,00

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[] No Plans Required

[] Partial -Under-slab Utilities Approved

Date: _____ Approved by: _____

[] Electric Plans Approved

Date: _____ Approved by: _____

Joint Plan Review Required:

[] Bldg. [] Plumb. [] Fire. [] Elev.

SUBCODE APPROVAL for PERMIT

Date: 5-2-13

Approved by: [Signature]

SUBCODE APPROVAL for CERTIFICATE

[] CO [] CCO [] CA

Date: 6-18-13

Approved by: [Signature]

INSPECTIONS

Type: _____ Failure _____ Dates (Month/Day) _____

[] Rough _____ Failure _____ Approval _____ Initial _____

[] Barrier-Free _____ Failure _____ Approval _____ Initial _____

[] Trench _____ Failure _____ Approval _____ Initial _____

[] Temp. Serv. _____ Failure _____ Approval _____ Initial _____

[] Constr. Serv. _____ Failure _____ Approval _____ Initial _____

[] TCO _____ Failure _____ Approval _____ Initial _____

[] Other _____ Failure _____ Approval _____ Initial _____

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application and perform the work listed on this application.

Applicant sign/Contractor sign and seal here: [Signature]

Print name here: Anthony Tocci

[] Licensed Elec. Contractor [] Certifd Landscape Irrigation Contr [] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK: DIS TO GAS CONVERSION

ITY. SIZE ITEMS

Lighting Fixtures

Receptacles

Switches

Detectors

Light Poles

Motors—Fract. HP

Emergency & Exit Lights

Communications Points

Alarm Devices/F.A.C. Panel

TOTAL NUMBERS

Pool Permitt/with UW Lights

Storable Pool/Spa/Hot Tub

KW Elec. Range/Receptacle

KW Oven/Surface Unit

KW Elec. Water Heater

KW Elec. Dryer/Receptacle

KW Dishwasher

HP Garbage Disposal

KW Central A/C Unit

HP/KW Space Heater/Air Handler

KW Baseboard Heat

HP Motors 1/+ HP

KW Transformer/Generator

AMP Service

AMP Subpanels

AMP Motor Control Center

KW Elec. Sign/Outline Light

Administrative Surcharge \$ _____

Minimum Fee \$ _____

State Permit Surcharge Fee \$ _____

TOTAL FEE \$ _____



PLUMBING SUBCODE
TECHNICAL SECTION



A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION, WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 831 Lot 1 Qualification Code _____

Work Site Location 1652 HARVARD AVE

Owner in Fee: BRICK NJ 08724
ANTHONY TOCCI

Tel: _____

Address 1652 HARVARD AVE Municipality BRICK, NJ 08724

Contractor: Anthony Tocci e-mail _____

Address BRICK NJ 08724

Contractor License No. _____ Exp. Date _____

Home Improvement Contractor Registration No. or Exemption Reason (if applicable): _____

Federal Emp. ID No. _____ FAX: (____) _____

B. PLUMBING CHARACTERISTICS

Use Group _____ Present _____ Proposed _____

Building Sewer Size _____ Public Sewer _____ Private Septic _____

Water Service Size _____ Public Water _____ Private Well _____

Est. Cost of Plumbing Work \$ 1500.00

JOB SUMMARY (Office Use Only)

PLAN REVIEW

☒ No Plans Required

☒ Partial-Under-slab Utilities Approved

Date: 05-10-13 Approved by: PA

☐ Plumbing Plans Approved

Date: _____ Approved by: _____

Joint Plan Review Required: _____

☐ Bldg. ☐ Elec. ☐ Fire. ☐ Elev.

SUBCODE APPROVAL for PERMIT

Date: 5-14-13

Approved by: AL

SUBCODE APPROVAL for CERTIFICATE

☐ CO ☐ CCO ☒ CA

Date: 06-14-13

Approved by: PA

INSPECTIONS

Type: _____ Dates (Month/Day) _____

Slab _____ Failure _____ Approval _____ Initial _____

Rough _____ Failure _____ Approval _____ Initial _____

Water _____ Failure _____ Approval _____ Initial _____

Sewer _____ Failure _____ Approval _____ Initial _____

Fixtures _____ Failure _____ Approval _____ Initial _____

Gas Equipment _____ Failure _____ Approval _____ Initial _____

Gas Piping _____ Failure _____ Approval _____ Initial _____

LP Gas Tank _____ Failure _____ Approval _____ Initial _____

Fuel Oil Piping _____ Failure _____ Approval _____ Initial _____

Solar _____ Failure _____ Approval _____ Initial _____

TCO _____ Failure _____ Approval _____ Initial _____

Final _____ Failure _____ Approval _____ Initial _____

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application and perform the work listed on this application.

Applicant sign/Contractor: Anthony Tocci

sign and seal here: _____

Print name here: Anthony Tocci

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK _____

QTY: _____

FIXTURE/EQUIPMENT

Water Closet _____

Urinal/Bidet _____

Bath Tub _____

Lavatory _____

Shower _____

Floor Drain _____

Sink _____

Dishwasher _____

Drinking Fountain _____

Washing Machine _____

Hose Bibb _____

Water Heater _____

Fuel Oil Piping _____

Gas Piping _____

LP Gas Tank _____

Steam Boiler _____

Hot Water Boiler 103/87

Sewer Pump _____

Interceptor/Separator _____

Backflow Preventer _____

Greasetrap _____

Sewer Connection _____

Water Service Connection _____

Stacks _____

Other _____

Date Received 13-2093

Control # 5-15-13

Date Issued _____

Permit # _____

Administrative Surcharge \$ _____

Minimum Fee \$ _____

State Permit Surcharge Fee \$ _____

TOTAL FEE \$ _____



CHIMNEY VERIFICATION FOR REPLACEMENT OF FUEL-FIRED EQUIPMENT

BLOCK 831 LOT 1 QUALIFICATION CODE _____ PERMIT # _____

WORK SITE ADDRESS 1652 HARVARD AVE BRICK, NJ 08724

Owner in Fee ANTHONY TOCCI

Verifying Individual John Alexander Company John Alexander HVAC LLC

Address 1624 Shore Blvd Toms River NJ 08253

Tel: (732) 278-1616

Fax: (732) 240 1308

Check the Appropriate Box(es):

Type of Replacement:

- ☒ Oil to Gas Conversion
☐ Gas to Oil Conversion
☐ Gas Appliance Replacement
☐ Oil to Oil Replacement
☐ Other New Liner

Existing Vent/Chimney:

- ☐ "B" Label Vent ☐ Chimney-Interior
☐ "L" Label Vent ☐ Chimney-Exterior
☐ Flexible Liner ☐ Masonry Chimney-Tile Lined
☐ Power Vent/Exhauster ☐ Masonry Chimney-Unlined
☐ Other _____

Type Boiler Fuel Type Gas BTU Rating (input/hour) _____
Appliance 1: _____ Oil / Gas / Other: _____
Appliance 2: _____ Oil / Gas / Other: _____
Appliance 3: _____ Oil / Gas / Other: _____

CHIMNEY LINER

If a chimney liner is being installed, all documentation on the liner must accompany the Permit application.

Manufacturer: Z-Flex Model: GIFK UL Listing: 1777

Material of Liner: Stainless Steel _____ Aluminum ☒

Size of Appliance Vent: 5" Size of Liner: 5" Height of Chimney: 25'

Length of Connector: _____ Vent Connector Rise: _____

How does the appliance vent? ☒ Natural Draft ☐ Fan-assisted ☐ Other: _____

PLEASE SIGN ONE OF THE FOLLOWING VERIFICATION STATEMENTS

For Oil or Coal to Gas Conversions:

I have verified that the chimney/vent is in good repair and clear of obstruction and is substantially clean of residue from its previous use serving an oil or coal appliance. I have verified that the chimney/vent is appropriately lined and sized for the appliance(s) being installed.

Signature _____

Date _____

Oil to Oil or Gas to Gas Replacements or New/Additional Appliances:

I have verified that the existing chimney/vent is in good repair and clear of obstruction. I have verified that the existing chimney/vent is appropriately lined and sized for the appliance(s) being installed and/or remaining.

Direct Vent Appliance:

Signature _____

Date _____

I hereby verify that the appliance(s) being installed is a direct vent appliance. I further verify that the existing chimney/vent is appropriately lined and sized for any remaining appliances.

Verification Not Submitted:

Signature _____

Date _____

I choose not to submit verification. I understand that I will be required to be present for the inspection to remove and reinstall the chimney vent connector.

Signature _____

Date _____

FOR MINOR AND EMRGENCY WORK, THIS FORM MUST BE PROVIDED WITH YOUR PERMIT APPLICATION. FOR ALL OTHER WORK, THIS FORM MUST BE PRESENTED TO THE CODE OFFICIAL PRIOR TO FINAL INSPECTION.

All applicable information requested on this form must be supplied.

This form may not be submitted by a homeowner in lieu of the required inspection.

New Jersey Office of the Attorney General
Division of Consumer Affairs

THIS IS TO CERTIFY THAT THE
Division of Consumer Affairs
HAS REGISTERED

John Alexander HVAC, LLC
Home Improvement Contractor

NOT AN ELECTRICIAN'S OR PLUMBER'S LICENSE

12/05/2012 TO 12/31/2013

VALID

SIGNATURE

13VH03633900

License/Registration/Certificate #

ACTING DIRECTOR

[Air]

[Earth]

[Buderus]

Buderus

Gas Boiler

Output: 74.0 MBH to 132.5 MBH



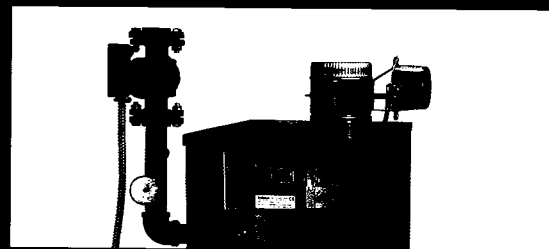
GC124 Series

- 85% AFUE Efficiency
- Compact boiler with advanced low temperature technology
- Side Piping Design for Convenient Boiler Retrofit Installation
- Limited Lifetime Warranty
- 3 Models with Inputs from 74,000 to 132,500 BTU/Hr



The GC124 requires very little space - but don't let its compact size fool you. This boiler has the quality and features you expect from Buderus. The precision castings are made using the patented Buderus GL180M cast iron, an extremely robust and durable material that can be shaped for perfect flow patterns.

The stainless steel atmospheric premix gas burner ensures precise premixing for excellent energy utilization. Capable of delivering efficiencies of 85% AFUE, with heating capacities of 74,000 through 133,000 BTU/Hr. All GC124 boilers are CSA approved for installation on combustible floors, have electronic ignition and can be installed in elevations up to 8500'.



The GC124 slim profile and convenient side piping are designed for quick and easy installation - especially as a replacement boiler. The threaded connections are made from steel to ensure maximum robustness and stability.

Buderus

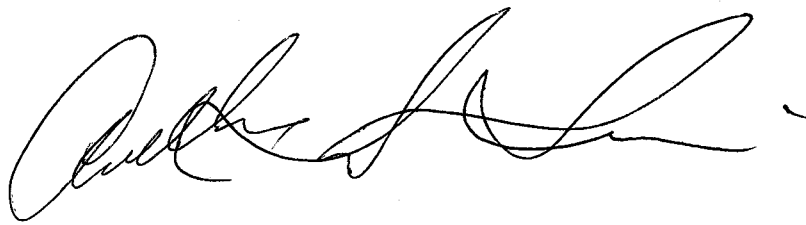
Bosch Group

Gas Piping 09-1861

↓
on this permit

Letter oil tank in BSM T

Oil Co. will take oil & tank

A handwritten signature in cursive script, appearing to read "R. L. L.", with a long horizontal flourish extending to the right.

5-6-13

FOR REPLACEMENT FURNACE/BOILER

OLD BTU -- INPUT 100⁰⁰⁰ OUTPUT 82⁰⁰⁰
NEW BTU -- INPUT 103⁰⁰⁰ OUTPUT 87⁰⁰⁰

A/C REPLACEMENT

OLD UNIT _____ TON

NEW UNIT _____ TON

AND/OR

HEAT LOSS/HEAT GAIN

***IF YOU DON'T HAVE OLD BTU'S AND NEW BTU'S OF UNIT'S, YOU WILL
HAVE TO SUBMIT A HEAT LOSS/HEAT GAIN.

***IF THE NEW UNIT BTU IS LESS THAN THE OLD UNIT BTU YOU WILL HAVE
TO SUBMIT A HEAT LOSS/HEAT GAIN.

*****WE ALSO WILL NEED *****

*****COPY OF THE BROCHURE/SPECS OF THE NEW FURNACE (NOT THE
INSTALLATION GUIDE) AND /OR AIR CONDITION UNIT.

*****CHIMNEY CERTIFICATION

(CANNOT BE CERTIFICATION BY HOMEOWNER)

HVAC

JACKET COMPLETED and SIGNED _____

PLUMBING, ELECTRICAL, FIRE TECHS _____

(BUILDING if new ductwork and/or A/C has platform) _____

Drawings if there is a platform and/or Ductwork _____

Complete BTU form for A/C, FURNACE, BOILER _____

CHIMNEY VERIFICATION FORM (Homeowner Cannot Verify) _____

HOME IMPROVEMENT CONTRACTORS LICENSE _____

COMPLETE SUBSTANTIALLY DAMAGED FORM _____

ZONING AND ENGINEERING IF OUTSIDE MECHANICALS

RELOCATED _____

Electrical Tech must be sealed if A/C

Plumbing Tech must be sealed if HWH, Boiler, Backflow

Z-Flex®

THE
NOVAFLEX
GROUP



Installation Instructions

All models are intended for use with Natural gas or propane fired appliances only installed in a masonry chimney to a maximum height of 65 feet.

MODEL GAK

Z-Flex Aluminum Chimney Liner Kit

MODEL GIAK

Insul-Liner Kit

Kit includes:

- Gas liner
- Mortar guard
- Rain cap
- Self-tapping screws
- Flashing

MODEL GIAFK

Insul-Liner Gas Fireplace Kit

MODEL GAFK

Gas Fireplace Kit

Kit includes:

- Gas liner
- Rain cap
- Appliance connector
- Self tapping screws
- Flashing

Tools required: Duct tape, Screwdriver, $\frac{5}{8}$ Rope length, and Knife or Hacksaw



Listed to UL 1777, ULC S635

Manufacturer's address:

Z-FLEX 

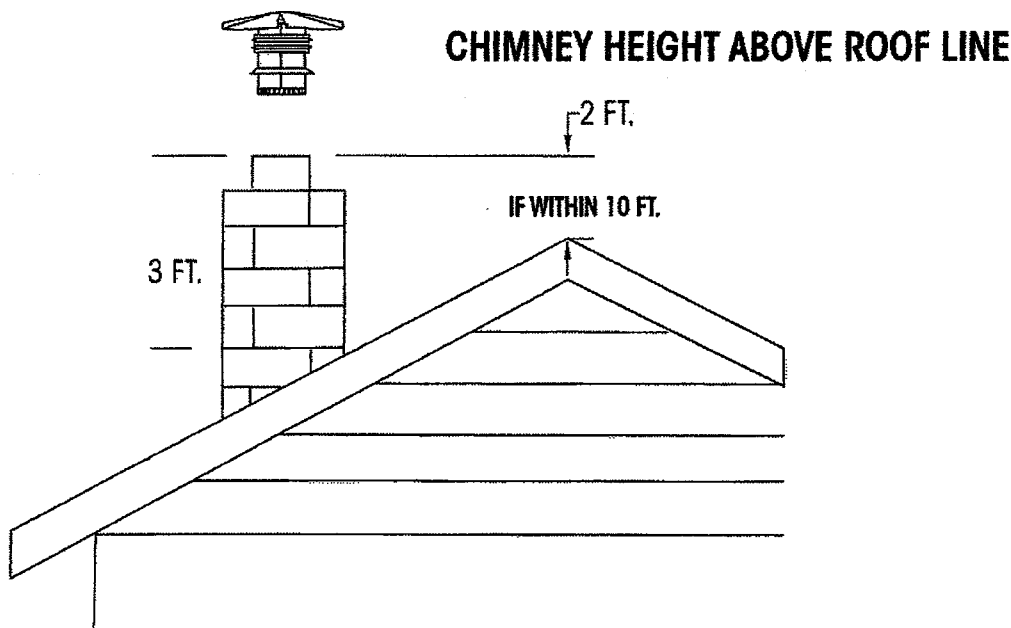
20 Commerce Park North, Bedford, NH 03110-6911

452 Attwell Drive Etobicoke, ON M9W 5C3

GENERAL INSTRUCTIONS

WARNING: Do not use any materials other than those specified in the instructions.

1. These instructions are for models **GAK, GAFK, GIAK and GIAFK**.
2. Read the installation instructions carefully prior to installing the chimney liner. If doubts exist, contact your local distributor or Z-Flex at 1-800-654-5600 (in NH 603-669-5136).
3. Clean and repair chimney as required. **NOTE: Removal of all tar glazed creosote is a must prior to installation of chimney liner.** Also, cracked, loose or missing bricks, mortar or other materials that could inhibit correct installation of the chimney lining system should be removed/repared.
4. Contact your local building or fire officials about any restrictions and inspections required.
5. The wall penetration assemblies must not be located directly behind a heating appliance.
6. The chimney liner must not be sized less than that specified in the appliance manufacturer's instructions.
7. The liner may be purchased in various lengths to suit chimney height. If it is necessary a single joint is allowed to join two liners.
8. Nose cone is a catalogue item and is sold by Z-Flex.
9. Be sure to extend the chimney liner to conform to applicable building codes (local & national). That is, chimneys are required to extend at least *three (3) feet above the highest point where they pass through the roof of a building, and at least two (2) feet higher than any portion of the building within 10 feet* (see illustration).
10. The air space clearance between the masonry chimney exterior and combustible materials should be checked to verify that the chimney is in accordance with the clearance specifications contained in the NFPA 211 Standard or other recognized major building codes, i.e., on an exterior chimney, clearance is 1" while on an interior chimney, clearance is 2".



This list details only some of the intended uses of the gas liner. If your appliance is not on this list and you are not sure if it is appropriate to use with a gas liner, contact your appliance manufacturer prior to installation.

Gas or propane:

Furnaces	Water heater
Fireplaces	Boilers
Clothes dryers	Burners
Ranges	

Minimum Appliance Clearances – Table 1.10

Clearances from connectors to unprotected combustible material must be in accordance with the table below.

Description of Appliance	Minimum clearance: in (mm)
Gas appliance without draft hood	18 (457)
Electric gas and oil incinerators	18 (457)
Unlisted gas appliance with draft hood	9 (229)
Boilers/furnaces equipped with listed gas burners and draft hoods	9 (229)
Listed gas appliance with draft hood	6 (152)
Restaurant-type ranges	18 (457)
Unlisted gas unit heaters	18 (457)
Listed gas unit heaters with draft hoods	6 (152)
Other low heat industrial appliances	18 (457)

Minimum and Maximum Clearances – Table 1.8

Liner diameter	Minimum chimney dimensions
3"	3 $\frac{5}{8}$ " x 3 $\frac{5}{8}$ "
4"	4 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ "
5"	5 $\frac{5}{8}$ " x 5 $\frac{5}{8}$ "
6"	6 $\frac{5}{8}$ " x 6 $\frac{5}{8}$ "
7"	7 $\frac{5}{8}$ " x 7 $\frac{5}{8}$ "
8"	8 $\frac{5}{8}$ " x 8 $\frac{5}{8}$ "
9"	9 $\frac{5}{8}$ " x 9 $\frac{5}{8}$ " Max. chimney height: 65 ft.
10"	10 $\frac{5}{8}$ " x 10 $\frac{5}{8}$ " Min. chimney height: 10 ft.
12"	12 $\frac{5}{8}$ " x 12 $\frac{5}{8}$ " Min. brick thickness: 3 $\frac{1}{2}$ in.

Installation Procedure

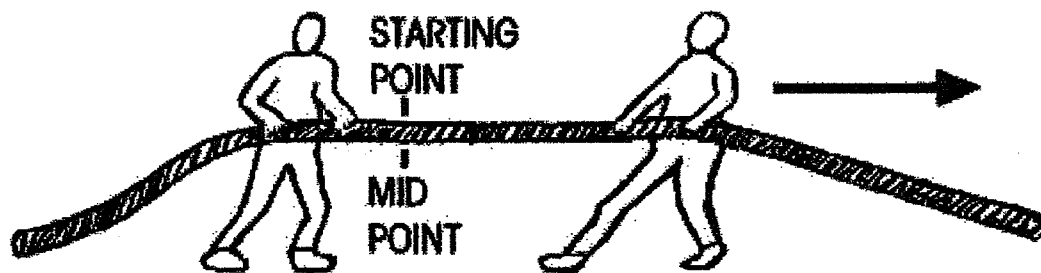
1. All models are designed and listed to be installed in a masonry or prefab metal chimney.
2. Read all instructions carefully prior to installing and using appliance.
3. Clean the chimney thoroughly, removing all soot, debris and tar glaze creosote. Repair or replace any cracked, loose or missing bricks, mortar and other materials that could inhibit correct installation of the chimney liner

- system. Trim the top protruding clay tile to allow for the installation of the Z-Flex chimney flashing.
4. Eliminate any obstructions in the chimney.
 5. Prior to installing **Models GAK & GAFK**, extend to their maximum length (see proper stretching techniques below). **Models GIAK & GIAFK** are shipped fully extended.
 6. Now the Flexible Liner is ready to be installed in the chimney. Take a rope slightly longer than the liner and make a knot at one end of the rope and place other end through the backside of the *Nose Cone and pull the rope until the knot is completely in the Nose Cone. Place the Nose Cone at the end of liner. To secure, use duct tape or other fastener.
 7. Using the rope attached to the Nose Cone*, guide the liner down the chimney through the inlet opening. Allow approximately 1 foot of liner to extend out of the basement wall. (**Models GAK & GIAK** see figures 1 & 2, page 7)

Important Notice

Follow these instructions carefully to prevent injury and damage to liner.

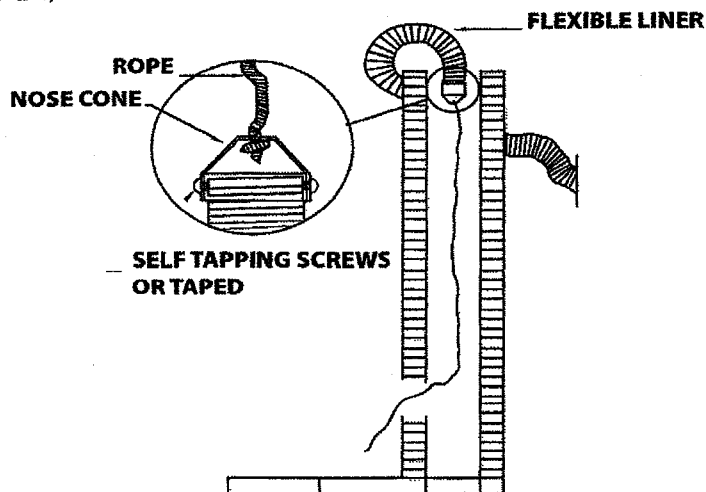
Proper Stretching Technique For Z-flex Aluminum Chimney Liner



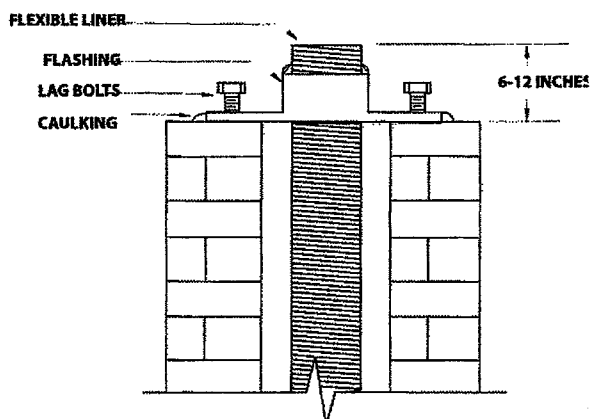
- The enclosed liner is in a fully compressed form.
- The stretching of the liner requires two people.
- The liner should be stretched working half the length at a time following this procedure:
 - Start by facing each other at the approximate mid point in the liner.
 - Holding the liner firmly in your hands one person should walk backwards, stretching portions of the liner as they backup.
- As you stretch the liner, watch the corrugation to make sure you are expanding the liner fully as well as not over-stretching it.
- Follow the same procedure for the other half of the liner. If you have any questions contact:
Z-Flex U.S., Inc., 1-800-654-5600.
- The liner should now be at full length.

***Nose Cone can be purchased from the Z-Flex catalogue.**

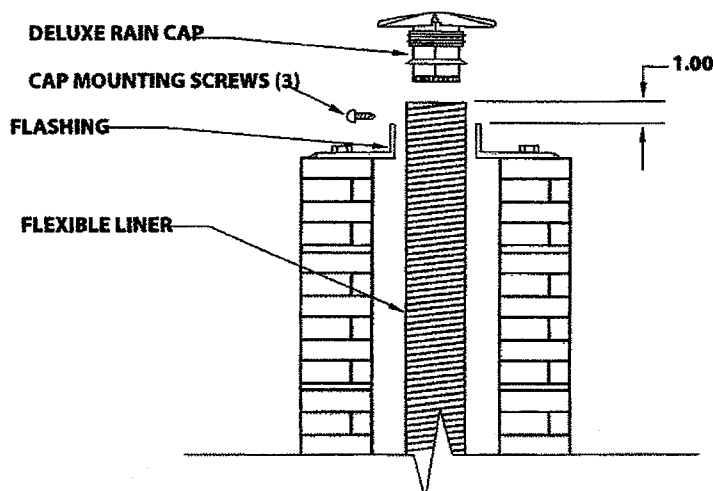
8. For models **GAFK & GIAFK** attach liner directly to appliance using appliance connector included in kit.
(See figures 3 & 4)



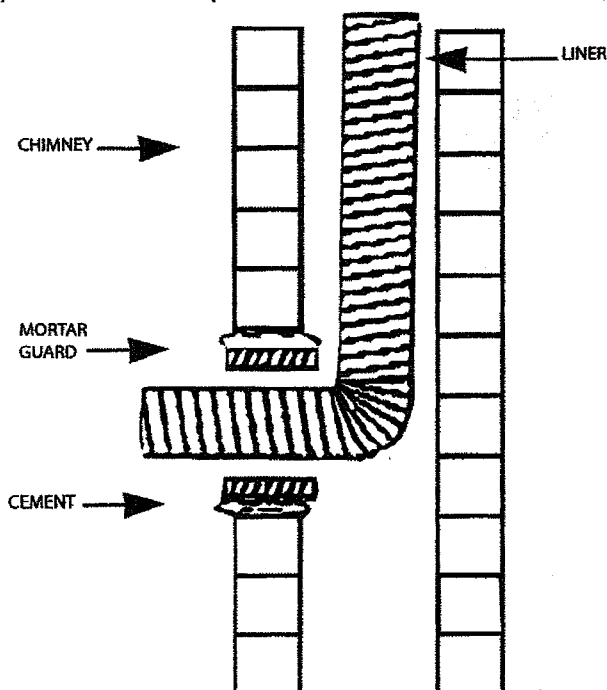
9. Allow at least 6 inches to 12 inches of the liner to extend above the top of the chimney for attaching Rain Cap. Place the chimney flashing over the liner and secure to chimney using nail-in anchors. Caulk all joints with a quality silicone sealant and paint if required.



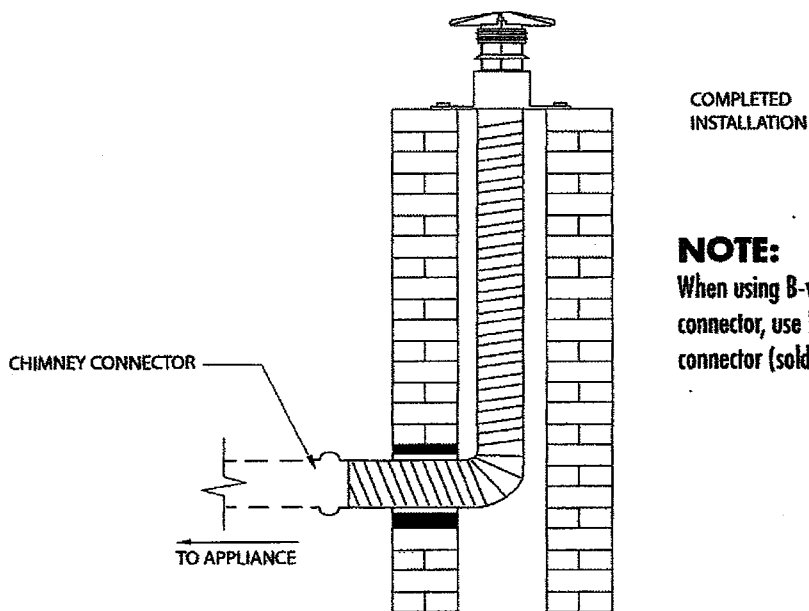
10. Using a knife or hacksaw, trim the liner to within 1" of the chimney flashing. Secure the Rain Cap to the liner with three evenly spaced screws (provided).



11. At the chimney inlet, remove Nose Cone and place the Mortar Guard around the liner. Secure Mortar Guard with cement.



12. Trim the liner at the bottom with a knife or hacksaw and attach the chimney connector pipe into the liner.



NOTE:

When using B-vent as the vent connector, use B-vent to Z-Flex liner connector (sold separately).

Maintenance Instructions

The Chimney lining system should be checked by an authorized representative of the company, or other qualified person such as a certified chimney sweep, at least once a year following initial installation.

To clean the liner, remove Rain Cap via the three securing screws. Check appliance manufacturer's instructions to see if any particular precautions should be taken on initial firing of any appliance that is vented through a chimney liner.

Save these instructions for future reference.

Models GAK & GIAK

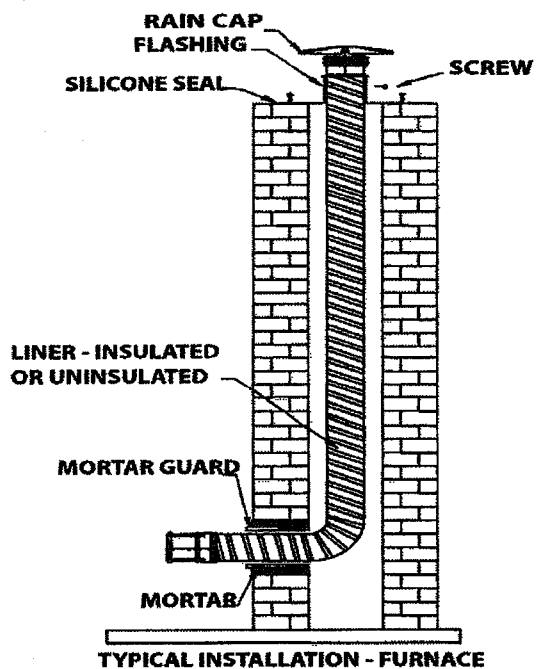


Fig. 1

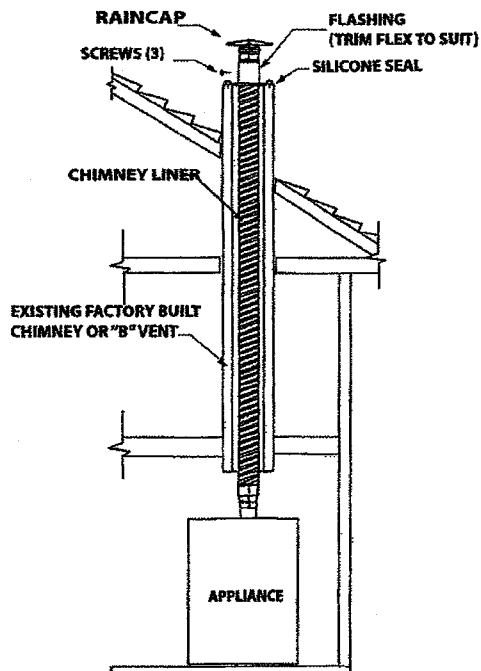


Fig. 2

Models GAFK & GIAFK

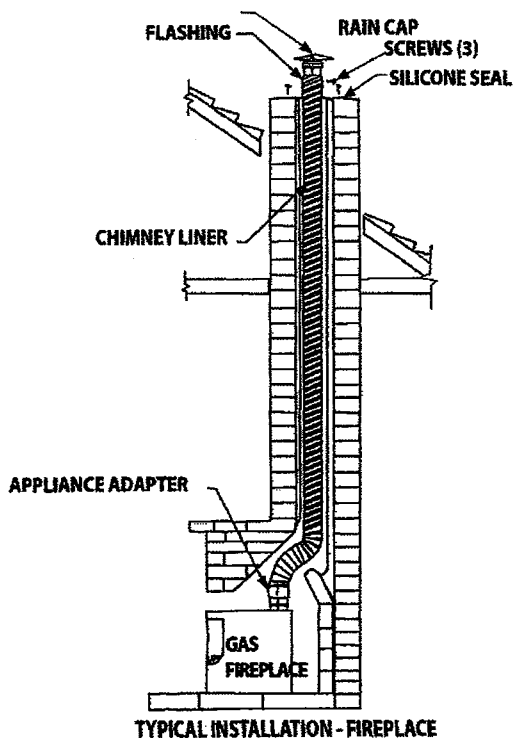


Fig. 3

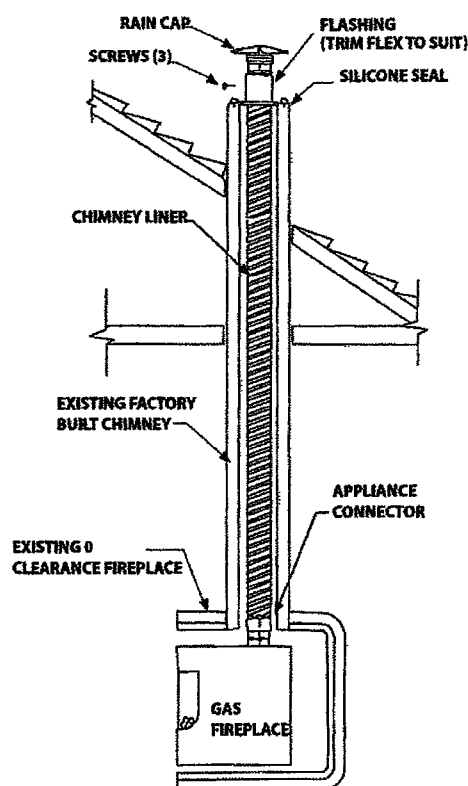


Fig. 4

Warranty



Full 25 years liner warranty

Z-Flex® U.S., Inc. ("Z-Flex®") warrants its ALUMINUM CHIMNEY LINER to the original purchaser or if purchased by a contractor, to the end user. The warranty is valid for a period of ten (25) years, provided it is installed according to UL installation instructions. Deviating from the installation and use instructions included with the liner will void the warranty. Z-Flex® warrants that at the time of shipping the ALUMINUM CHIMNEY LINER will be free of manufacturer's defects in material and/or workmanship.

Liability under the warranty shall be limited to the replacement of the liner and accessories found to be defective according to the terms of the warranty, and shall not include replacement installation or other costs.

IMPORTANT: Z-Flex® ALUMINUM CHIMNEY LINERS are designed to be used with these fuels only: Natural gas and propane gas. Excessive condensation with high chlorine content may have a corrosive effect on aluminum. Where these conditions prevail, we recommend using our AL29-4C® Stainless Steel vent system. Refer to equipment manufacturer's installation instructions for proper liner material.

To activate the warranty, the purchaser or end user must complete and return the Z-Flex® warranty registration card within ninety (90) days of installation. Upon receipt of written notice of any defect, Z-Flex® reserves the right to examine or engage others to examine the liner. Such examination must establish reasonable proof of defective material or workmanship justifying replacement.

The sole remedy for breach of any and all warranties and the sole remedies for Z-Flex®'s liability of any kind shall be limited to the remedies provided herein. Z-flex shall not be liable for any special, incidental, indirect or consequential damages, or for any claim against the purchaser or end user by any other party. EXCEPT AS SPECIFICALLY PROVIDED HEREIN, Z-FLEX® DOES NOT MAKE ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE. Some states do not allow the exclusion of implied warranties or the limitation or exclusion of liability for incidental or consequential damages, so the above limitations may not apply to you. You may also have other rights which vary from state to state.

For further information, call or write to:

20 Commerce Park North
Bedford, NH 03110-6911
Tel: (603) 669-5136
Toll Free: 1-800-654-5600

452 Attwell Drive
Etobicoke, Ontario
M9W 5C3
Tel: (416) 731-9411

WARRANTY REGISTRATION CARD



For this warranty to be effective this card must be completed upon purchase of the covered liner and returned to Z-flex, Inc.

NAME: _____

ADDRESS: _____

LINER PURCHASED FROM: _____

DATE OF INSTALLATION: _____

FIREPLACE, STOVE OR FURNACE MODEL: _____

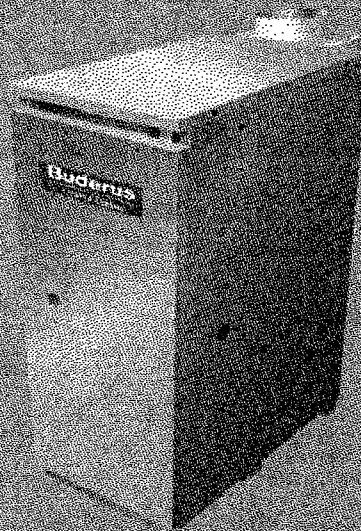
I understand and agree

to the warrant as stated: _____

(signature)

Installation and Service Instructions

Gas boiler



WARNING!

Installation, adjustment, modification, operation or maintenance of the heating system carried out by unqualified personnel may result in property damage, personal injury, and loss of life.

The directions of this installation and maintenance manual must be followed precisely.

Contact a qualified service company, service provider or the gas company if support or additional information is required.

CAUTION!

Before placing this boiler in operation observe the safety instructions of this installation and maintenance manual.

CAUTION!

The operating manual is a component of the technical documentation handed over to the operator of the heating system. Discuss the instructions in this manual with the owner or operator of the heating system and ensure that they are familiar with all information required for operation of the heating system.

In the Commonwealth of Massachusetts this boiler must be installed by a licensed plumber or gas fitter.

Keep this installation and maintenance manual available for future reference.

In the Commonwealth of Massachusetts this boiler must be installed by a licensed plumber or gas fitter.

Logano GC 124 II

6 720 804 440 (2012/11) EN-US



Buderus

1 Safety considerations

1.1 Key to symbols

Warnings



Warnings in this document are identified by a warning triangle printed against a grey background. Keywords at the start of a warning indicate the type and seriousness of the ensuing risk if measures to prevent the risk are not taken.

The following keywords are defined and can be used in this document:

- **NOTE** indicates a situation that could result in damage to property or equipment.
- **CAUTION** indicates a situation that could result in minor to medium personal injury.
- **WARNING** indicates a situation that could result in severe personal injury or death.
- **DANGER** indicates a situation that will result in severe injury or death.

Important information



This symbol indicates important information where there is no risk of personal injury or property damage.

Additional symbols

Symbol	Explanation
▶	Step in an action sequence
→	Cross-reference to another part of the document
•	List entry
–	List entry (second level)

Table 1

1.2 Safety instructions

Observe these instructions for your safety.

The burner and control must be correctly installed and adjusted to ensure safe and economical operation of the gas boiler.

Read this installation and maintenance manual carefully and note the details on the boiler nameplate before placing the boiler in operation.

Risk of fatal injury from explosion of flammable gases

If you smell gas there is a danger of explosion.

- ▶ Never work on gas lines unless you are licensed for this type of work.
- ▶ Make sure that a qualified company installs the boiler, connects gas and ventplaces the boiler in operation, connects the electrical power, and maintains and repairs the boiler.
- ▶ No open flame! No smoking! Do not use lighters
- ▶ Prevent spark formation. Do not operate electrical switches, including telephones, plugs or door bells.
- ▶ Close main gas valve.
- ▶ Open doors and windows.
- ▶ Warn other occupants of the building, but do not use door bells.
- ▶ Call gas company from outside the building.
- ▶ If gas can be heard escaping, leave the building immediately, prevent other people from entering, notify police and fire departments from outside the building.

Risk to life from electrical shock.

- ▶ Disconnect the power supply to the boiler heating system before conducting any work on it, e.g. turn off the heating system emergency switch outside the boiler room.
- ▶ It is not sufficient just to turn off the control.
- ▶ Do not carry out electrical work unless you are qualified for this type of work.
- ▶ Before disconnect electrical power completely and pad lock to prevent accidental reconnection.
- ▶ Observe the local installation regulations.

Risk of fatal injury from flue gas poisoning

Insufficient ventilation or combustion air availability may cause dangerous flue gas leaks or formation.

- ▶ Make sure that inlets and outlets are not reduced in size or closed.
- ▶ If faults are not corrected immediately, the boiler must not be operated until all faults have been corrected.
- ▶ Inform the system operator and/or owner of the fault and the danger in writing. Elektroanschluss nur durch eine Elektrofachkraft ausführen lassen.

When working on the flue gas venting equipment or vent damper leakage of flue gases may endanger the lives of people.

- ▶ Carefully observe proper operation of the vent damper. Do not start up the boiler unless the vent damper is operating properly.
- ▶ Use only original parts when replacing parts.
- ▶ When replacing the vent damper, install the new one in the specified position.

Risk to life by poisoning by spillage of flue gases

- ▶ If the blocked vent switch trips frequently the fault must be corrected and proper operation of the blocked vent switch test must be conducted.

Risk to life by poisoning by leakage of flue gases

- ▶ Make sure that the boiler is not equipped with a thermally controlled flue gas vent damper after the open draft hood.

Risk of fatal injury from neglecting your own safety in case of emergency, such as with a fire

- ▶ Never put yourself at risk. Your own safety must always take priority.

Fire danger due to flammable materials or liquids

- ▶ Make sure that there are no flammable materials or liquids in the immediate vicinity of the boiler.
- ▶ Maintain a minimum distance of 15 inches from the boiler.

Installation and maintenance

- ▶ Observe all current standards and guidelines applicable to the installation and operation of the boiler heating system as applicable in your state or local jurisdiction.
- ▶ Clean and service the boiler system once a year. Check that the complete heating system operates correctly.
- ▶ Immediately correct all faults to prevent system damage.
- ▶ Only use original Buderus spare parts. Losses caused by the use of parts not supplied by Buderus are excluded from the Buderus warranty.

3 Dimensions and Connections

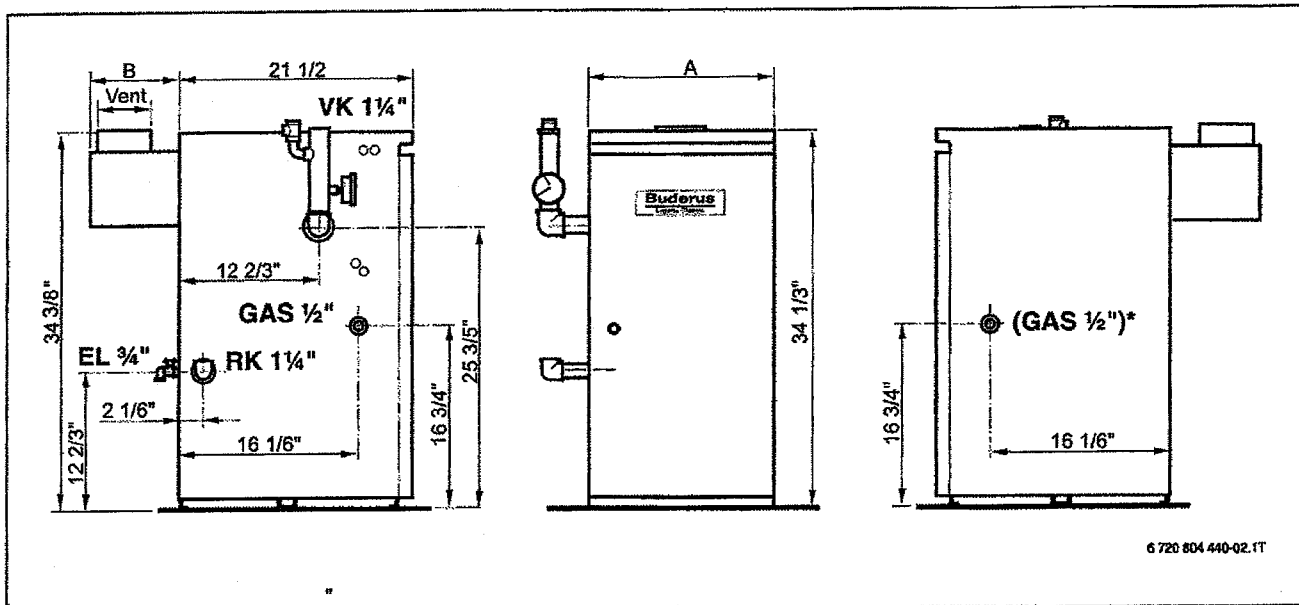


Fig. 2 Back, side and front view, measurements in inches

* optional connection
 VK Boiler supply
 RK Boiler return
 EL Boiler drain
 GAS Gas connection

Dimensions

Boiler size	Boiler input Btu/hr	A Inches	B Inches	Vent connection II Inches	Min. relief valve capacity lb/hr	Number of Orifices Qty.	Water volume US Gal.	Dry weight lbs
18/3	74000	13 1/8"	8"	5"	62	2	2.4	228
25/4	103000	16 3/4"	8 2/3"	5"	86	3	2.9	287
32/5	132500	20 3/8"	9 1/2"	6"	110	4	3.4	349.5

Table 3 Dimensions/specs for GC124 II



For the size and dimensions of the main gas orifices, refer to → chapter 16, page 29.

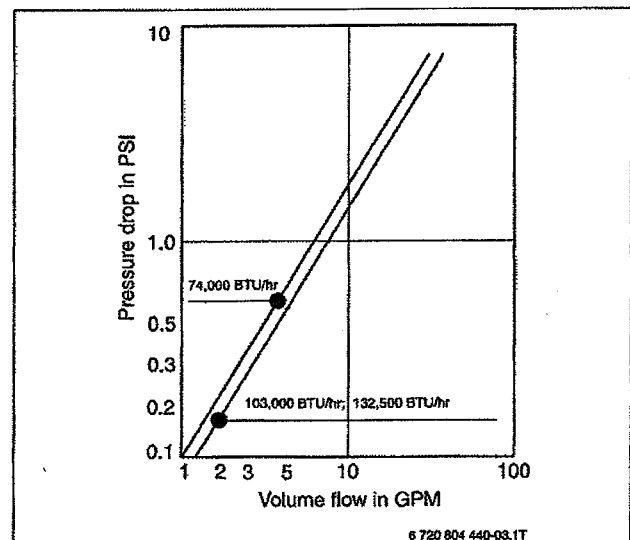


Fig. 3 Pressure drop/boiler

Buderus

Description of field installed wiring connections using factory supplied junction box.

- ▶ Remove two knock-outs from the left side of boiler panel to route electrical feed and pump power into junction box.
- ▶ Route electrical power from the outside into junction box.
- ▶ Install a metal strain relief for the incoming power line on outside of left boiler jacket panel. (→ figure 12).
- ▶ Just use supplied wiring nuts and double proper wiring before powering up the boiler.



When making the electrical connections use only wires that are approved for electrical use.



Refer to the wiring diagrams for electrical details (→ chapter 17, page 30).



WARNING: Risk to life from electrical shock.

- ▶ When conducting maintenance work label all cables before disconnecting them.
- ▶ If cables are connected incorrectly the system may not operate correctly with possibly dangerous consequences.

- ▶ Check that the heating system functions correctly after any maintenance work.



WARNING: Fire danger.

Hot boiler components may damage electrical wiring.

- ▶ Make sure that all cables are routed in the ducts or on the boiler insulation.

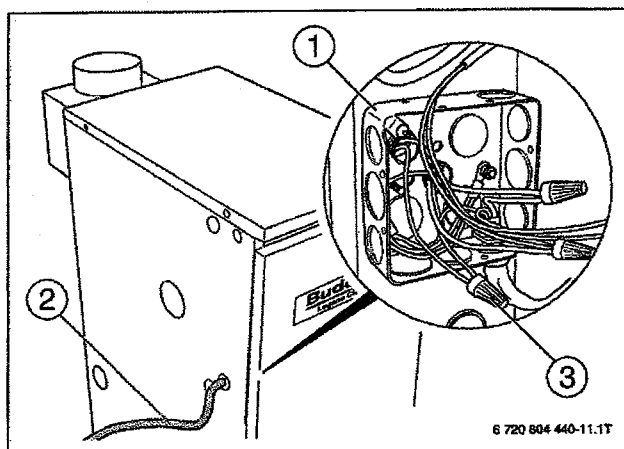


Fig. 11 Electrical junction box

- [1] Electrical junction box (inside of jacket cabinet)
- [2] Incoming line voltage wiring
- [3] Furnished wiring nuts.

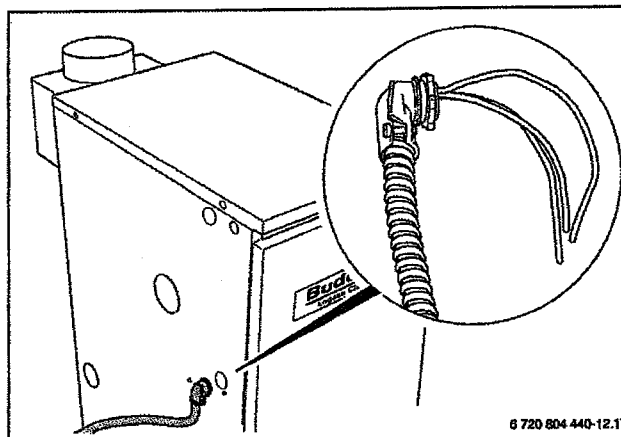


Fig. 12 Strain relief for shielded electrical wiring

7.4 Fuel gas supply connection

7.4.1 Gas connections

For the gas pipe diameter required for the installation please see table 6 and table 7 (→ page 11). Make sure that the pipe fitting has the correct thread size.

Make sure that a sediment trap is installed at the inlet for the gas supply pipe to the boiler. A manual stop valve must be installed outside the boiler jacket if required by the local code. We recommend installing a manual shut-off valve in the main gas pipe to the boiler. The gas pipe must be fastened outside the boiler.

The local codes must be observed during installation of the gas piping connections, otherwise the regulations of the National Fuel Gas Code, ANSI Z 223.1 must be followed.

- ▶ Install gas piping without any undue stress on the piping.
- ▶ The Commonwealth of Massachusetts prohibits the use of copper tubing for the gas line.



WARNING: Danger of explosion.

Leakage from the gas pipes and gas connections may cause an explosion.

- ▶ Use soap solution to find leaks.

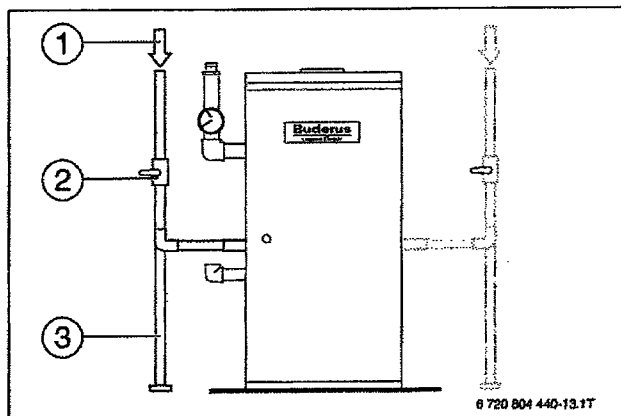


Fig. 13 Gas piping connection to gas valve – right or left side

- [1] Gas feed
- [2] Manual shut-off valve
- [3] Sediment trap

Gas carrying capacity (→ chapter 16, page 29)

Nominal diameter of iron pipe (inches)	Equivalent lengths for pipe fittings in feet			
	Pipe fitting type			
	90° angle	T-piece	Shut-off valve	Gas shut-off
Equivalent lengths in feet				
1/2	1.4	2.7	0.3	0.80
3/4	2.1	4.1	0.5	1.25
1	2.6	5.2	0.6	1.6
1 1/4	3.5	6.9	0.8	2.15
1 1/2	4.0	8.0	0.9	2.50

Table 6 Equivalent lengths for pipe fittings

Length of pipe in feet	Gas pipe supply volume in cubic feet of gas per hour ¹				
	1/2	3/4	1	1 1/4	1 1/2
10	132	278	520	1060	1600
20	92	190	350	730	1100
30	73	152	285	590	890
40	63	130	245	500	760
50	56	115	215	440	670
75	45	93	175	360	545
100	38	79	160	305	480
150	31	64	120	250	380

Table 7 Gas pipe supply volume

- 1 Maximum gas supply volume in cubic feet per hour, based on a specific gas weight of 0.60 and a gas pressure of 0.5 psi or less and a pressure gradient corresponding to a water column of 0.3 inches.

Disconnect the boiler with the manual shut-off valve and physically separate the boiler from the gas piping if the gas piping system is pressure tested with a test pressure greater than 1/2 psi.

If the gas supply pipe system is pressure tested at a test pressure of 1/2 psi or less, it is sufficient to disconnect the boiler from the gas pipe system by closing the manual shut-off valve.

Use only sealant that is resistant to corrosion by LPG for pipe connection. Only a small amount of sealant must be applied to the external thread of the pipe connections.

If you wish to convert the boiler to propane, please contact Buderus for the required conversion components. Do not attempt to convert the boiler without the approved Buderus propane conversion parts and the relevant technical documentation. The technical documentation is included with the propane conversion parts.

7.4.2 Installation at high altitudes

The boiler is designed for installation at altitudes below 8500 feet above sea level.



If the installation location is over 8500 feet above sea level, please contact Buderus for another product option as the GC124 is not approved above 8500 feet operation.

**NOTICE:** System damage due to dirt.

If the boiler is assembled and not in use, note the following:

- Protect the boiler connections from dirt by closing the connections.

7.5 Filling heating system and checking for leaks

The boiler is tested for leaks at the factory. Before placing the heating system into use, check the entire system for soundness to avoid leaks occurring during operation.

Water treatment



Have the water analyzed before filling the heating system. The water may require treatment as a result of the analysis.

Please consult the local water supply company if the water is extremely hard or has a pH level below 7.0.



NOTICE: System damage due to overpressure during the leak test. Pressure, control or safety components may be damaged by high pressure.

- Before conducting the leak test make sure that no pressure, control or safety components that cannot be disconnected from the water compartment of the boiler are installed.

Carry out the leak test at 1.5 times the normal operating pressure and as specified by the local codes as follows:

Maximum operating pressure		Maximum test pressure
30 psi	(based on supplied relief valve)	45 psi
58 psi	(with special relief valve)	75 psi

Table 8 Pressure Test

- Close connection for relief valve (→ figure 14, page 12) and all other open connections with plugs.
- Disconnect the expansion tank from the system by closing the expansion tank shut-off valve.
- Open mixing and shut-off valves on hot water side.
- Fill boiler slowly with water from the feed water connection.
- Open automatic vents slightly to allow the air to escape.
- Slowly fill heating system. Observe pressure display on pressure gauge during this process.
- Check connections and pipes for leaks.
- Bleed heating system through the bleed valves on the radiators or other air elimination components or high points in the system.
- If the pressure drops during air bleeding, water must be added.

11 Placing the heating system in operation

resistance sheet metal screws. The end section of the flue pipe must connect to the inside of the chimney smoke duct.

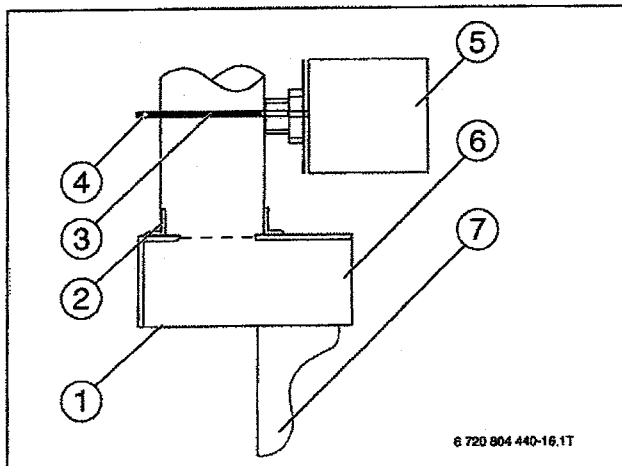


Fig. 16 Installation of vent damper

- [1] Open draft hood
- [2] Vent connection
- [3] Vent damper
- [4] Damper blade position indicator
- [5] Vent damper motor
- [6] Flue gas collector
- [7] Boiler

A minimum clearance of six inches is required between the flue pipes and all flammable materials.

The vent pipe must not be reduced in size and the venting system must not be compromised by the installation of additional appliances.

Electrically connecting the vent damper

- ▶ Disconnect your heating system from the main electricity supply.
- ▶ Route the connection wiring of the vent damper along the left side of the boiler into the opening on the left side of the boiler. Secure strain relief at the furnished knock-out.

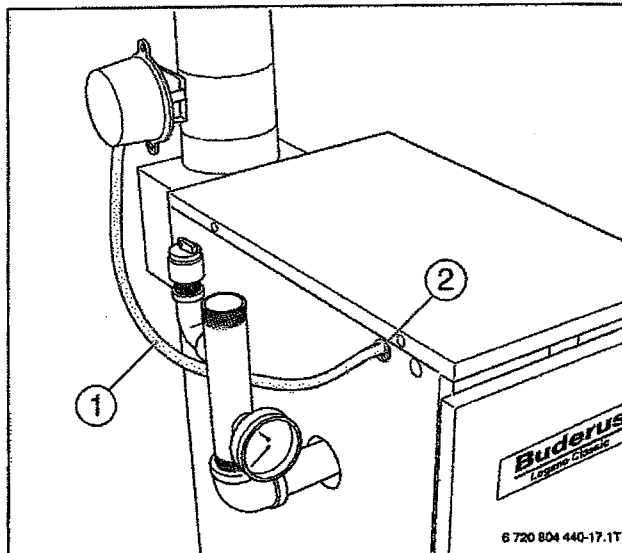


Fig. 17 Routing of vent damper wiring

- [1] Vent damper wiring
- [2] Vent damper wiring strain relief

- ▶ Connect vent damper plug into the terminal bar as shown in the circuit diagram.



All connection points on the complete venting system must be checked for correct installation and sealing immediately after carrying out one of the installation steps. The seams and connections must be checked for gas leaks. Regulations require the complete venting system to be checked at least once a year by a qualified technician after installation and initial operation.

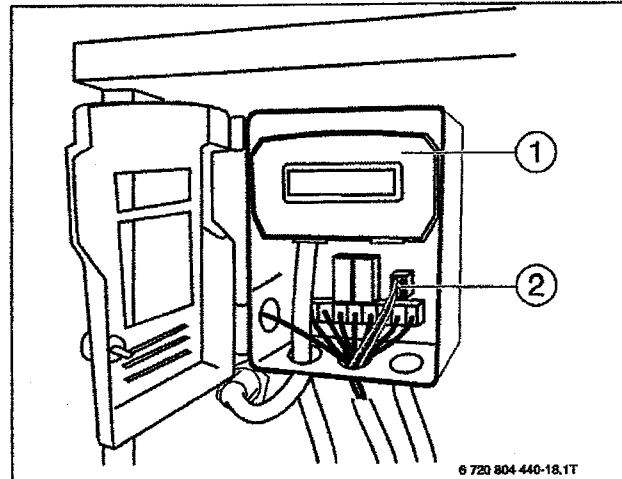


Fig. 18 Connecting vent damper wiring

- [1] Boiler temperature controller
- [2] Vent damper connection plug

11 Placing the heating system in operation

The burner and gas train integrated in the boiler have been tested at the factory as described in ANSI Z 21.13 to ensure safe operation of the heating system and verify specific performance indicators.



WARNING: Risk to life due to electric shock when the cover protecting the electric components has been removed.

Before removing the cover to the electric components:

- ▶ Cut power to the heating system by turning the emergency shut-off switch to the OFF position, or by shutting off the heating system circuit breaker.
- ▶ Take precautions to prevent accidental reactivation.

Preparing for operation

- ▶ Set the room thermostat (optional) to the lowest setting.



WARNING: Risk to life from gas poisoning. Insufficient ventilation can lead to leaking of flue gases.

- ▶ Verify that all combustion air and all flue gas openings are wide open and not obstructed.
- ▶ The boiler must not be placed in operation unless all deficiencies have been removed.
- ▶ Inform the owner and operator of the heating system of any deficiencies in writing.

GC 124	Natural Gas [Inch W.C.]	LP [Inch W.C.]
18	3.5	8.8
25	3.5	8.6
32	3.5	8.7

Table 10 Orifice pressure at 60°F / 30" Hg. These values are only valid in the U.S.A. and only for elevations from 0-8500ft.

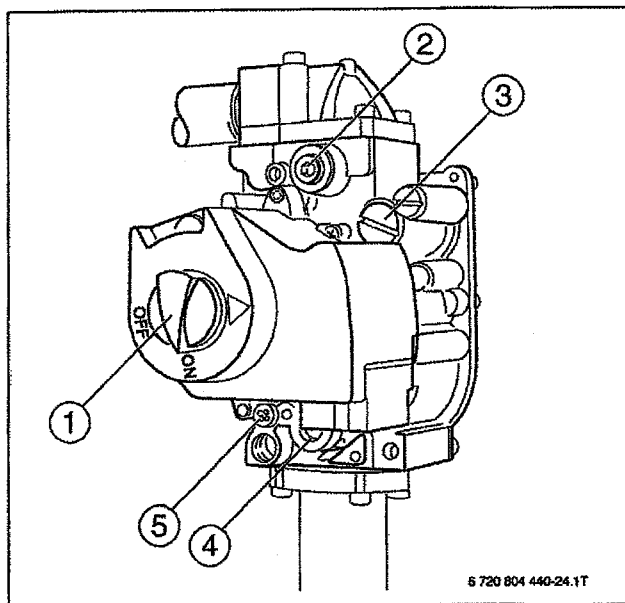


Fig. 24 Gas valve

- [1] ON/OFF knob (shown in ON position)
 - [2] Safety screw on gas supply pressure measurement port
 - [3] Safety screw on orifice pressure adjustment port
 - [4] Safety screw on orifice pressure measurement port
 - [5] Safety screw on ignition gas adjustment screw
- Record the measured value in the start-up protocol. Install the safety screw back into the gas valve.
 - Observe main burner flame through the sight glass (→ figure 22, page 16) in the burner plate. The flame must show a steady and stable body and generally be of bluish color. If the main burner flame meets the requirements, proceed to the next step. If the main burner flame is weak, yellow, or goes out, turn the ON/OFF knob (→ figure 26) on the gas valve clockwise to OFF. Close the gas shut-off and disconnect the heating system from the main power source and contact the customer service technician or the gas company.

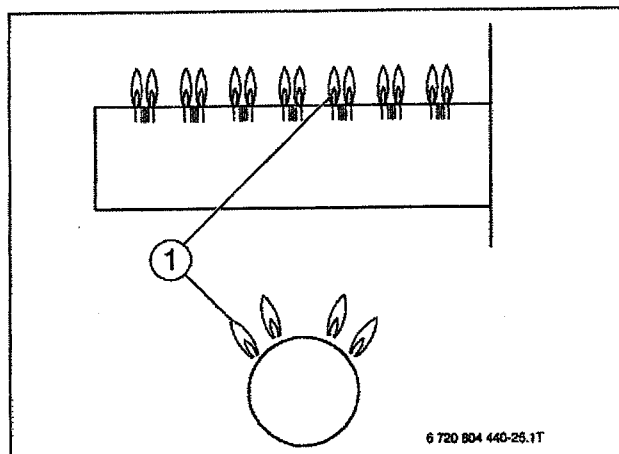


Fig. 25 Main burner

- [1] Main burner flame

Checking flame rod

- Test the flame rod by closing the gas shut-off. The main burner flame (→ figure 25) and the ignition flame are extinguished. After no more than six (6) seconds the main gas solenoid valve on the gas valve must close with an audible noise. If the gas valve does not operate correctly, turn ON/OFF knob on the gas valve clockwise to the OFF position immediately. Close the main gas shut-off and disconnect the heating system from the main power source and contact the customer service technician or the gas company.

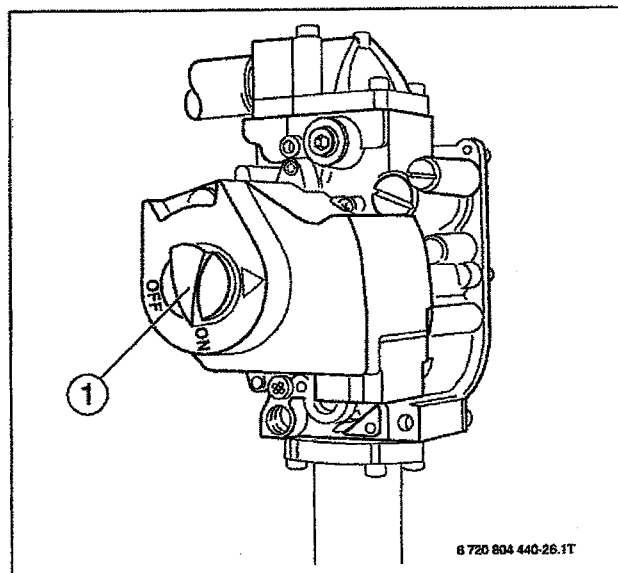


Fig. 26 Gas valve

- [1] ON/OFF knob (shown in ON position)
- After 90 seconds the igniter stops generating sparks for five (5) seconds.
 - Disconnect the heating system from the main power source. Open main gas shut-off. A normal operating cycle must follow.
 - If the main burner flame lights and burns to spec, proceed to the next step. If not, turn knob on gas valve clockwise to OFF position immediately. Close main gas shut-off. Disconnect heating system from the power source and inform the customer service technician or gas company.

- ▶ Turn gas valve ON/OFF knob clockwise to OFF position.
- ▶ Close main gas shut-off.
- ▶ Disconnect heating system from the power source and set the thermostat to the lowest setting.
- ▶ Remove pressure measuring nipple and pressure gauge for measuring gas pressure and orifice pressure from the gas valve, and close the openings with the screw plugs.

Checking for leaks

- ▶ Open main gas shut-off.
- ▶ Set thermostat at least 10°F above ambient to establish a heat demand.
- ▶ Turn main power switch ON.
- ▶ Turn gas valve ON/OFF knob counterclockwise to ON position.
- ▶ After the burner has lit check the gas valve including screw plugs for leaks using soapy water. If no leaks are found, continue with the step after the next step. If leaks are found, close gas shut-off and turn ON/OFF knob on gas valve clockwise to the OFF position. Disconnect the heating system from the power source and turn thermostat to its lowest setting.
- ▶ Seal leaks. Repeat all steps in this paragraph.
- ▶ Carefully wipe away the soapy water to prevent corrosion caused by the alkaline content of the soap.



WARNING: Risk of life due to leaking flue gases.

- ▶ Verify the functionality and operability of the vent damper.

- ▶ Check the position of the vent damper. The damper must be fully open (vertical). When burner is on flue gases must not escape from the vent hood.

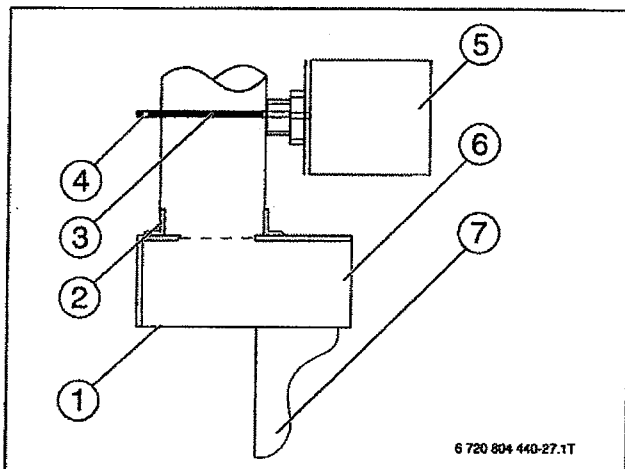


Fig. 27 Checking vent damper

- [1] Open draft hood
- [2] Vent connection
- [3] Vent damper
- [4] Damper blade position indicator
- [5] Vent damper motor
- [6] Flue gas collector
- [7] Boiler

Checking aquastat

Check the function of the maximum aquastat to make sure that it switches the boiler off as soon as the boiler water temperature set at the aquastat is reached. Record the result in the start-up protocol.

- ▶ Set aquastat to its desired setting.
- ▶ Replace front door and close.

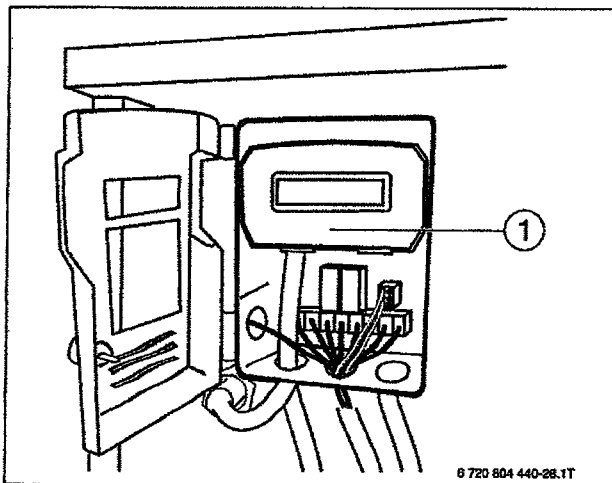


Fig. 28 Checking temperature control

- [1] Adjustment keypad

CERTIFICATION IN LIEU OF OATH

I. OWNER SECTION (to be completed if the applicant is the owner in fee)

I hereby certify that I am the owner in fee of the property listed on Page 1.

Mark the following applicable boxes:

- A. ☐ I further certify that a new home (private residence) will be constructed on this property for my own use and occupancy. This dwelling is to be occupied by myself and is not to be used for any purpose other than single family residential use. I attest that all construction, plumbing, or electrical work will be done, in whole or in part, by me or by subcontractors under my supervision, in accordance with all applicable laws; and, I further acknowledge that said new home is not covered under the New Home Warranty and Builders Registration Act (N.J.S.A. 46:3B-1 et seq.) and that such fact shall be disclosed to any person purchasing this property within ten years of the date of issuance of a certificate of occupancy.

I UNDERSTAND THAT IN MARKING BOX A, I ACKNOWLEDGE THAT I AM ASSUMING RESPONSIBILITY FOR THE WORK DONE ON SAID PROPERTY, THE CONDITION OF THE PROPERTY PRIOR TO, DURING, AND AFTER ANY WORK PERFORMED, AND FOR THE PERFORMANCE OF THE SUBCONTRACTORS I HIRE, EMPLOY, OR OTHERWISE CONTRACT OR WITH WHOM I MAKE AGREEMENTS TO PERFORM WORK. I AM VOLUNTARILY AND KNOWINGLY ASSUMING THIS RESPONSIBILITY.

- B. ☐ I further certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-2.15(f)1.ix:

I personally prepared the plans submitted for: 1) the new home referred to in A.; or, 2) an addition, alteration, renovation, or repair to an existing single family residence owned and occupied by myself and located on the property listed on Page 1; or, 3) a new structure that will be physically separate from, but that will be deemed part of, an existing single family residence that is owned and occupied by myself and located on the property listed on Page 1.

- C. ☐ I further certify that I will perform or supervise the following work:

C.1. ☒ Building C.2. ☒ Fire Protection

I further certify that I will perform the following work:

C.3. ☒ Electrical C.4. ☒ Plumbing

- D. ☐ I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I understand that if any of the above statements are willfully false, I am subject to punishment.

Signature

Date

5-2-2013

II. AGENT SECTION (to be completed if the applicant is not the owner in fee)

I hereby certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(d): the proposed work is authorized by the owner in fee; and I have been authorized by the owner in fee to make this application as his agent.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I understand that if any of the above statements are willfully false, I am subject to punishment.

- ☐ Check if contractor.

Agent Name

Address

Telephone ()

Signature

III. ☐ LEAD HAZARD ABATEMENT: Include Homeowner or Building Owner Affidavit as per N.J.A.C. 5:17.