BLOCK 135531 LOT 33 QUALIFICATION CODE _____ ADDRESS (SITE) 266 23rd Ave Brick PERMIT NO. 08-1129

345-6395

CONSTRUCTION PERMIT APPLICATION

08-000656

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

I. IDENTIFICATION

1. Proposed Work Site at: 266 23rd AVE BRICK N.J. 08724
2. Name of Owner in Fee: Esmelin Feliz
   Tel. (201) 323-2824 e-mail _____
   Address 259 Vernon Ave (street) Clifton (municipality) N.J. 07011 (zip code)
3. Ownership in Fee: Public _____ Private X
4. Principal Contractor: E.P. Quality Construction Tel. (201) 323-2824
   Address 259 Vernon Ave Clifton e-mail _____
   License No. OR, if new home, Builder Reg. No. 13VH03980400 Exp. Date 12/31/2008
   Home Improvement Contractor Registration No. or Exemption Reason (if applicable): 13VH03980400
   Federal Emp. ID No. 203-595-419/000 FAX: (____) _____
5. Architect or Engineer Ramon Recio PE Contact Ramon Recio
   Address 184 Princeton Ave J.C. N.J. e-mail _____
   Tel. (646) 256-6627 FAX: (201) 433-0207
6. Responsible Person in Charge once Work has Begun Esmelin Feliz
   Tel. (201) 323-2824 FAX: (____) _____

V. FEE SUMMARY (for office use only)

			Update	Update
1.	Building	$	552 ✓	170 ✓
2.	Electrical		135	80 ✓
3.	Plumbing		148 ✓	80 ✓
4.	Fire Protection		45 ✓	40 ✓
5.	Elevator Devices			
6.	Subtotal			
7.	Less 20% for State Plan Review	$	43	
8.	Subtotal	$		
9.	State Permit Surcharge Fee			
10.	Subtotal	$		
11.	Cert. of Occupancy		65	100
12.	Other			
13.	TOTAL	$		

VI. BUILDING/SITE CHARACTERISTICS

(office use only)

1. Number of Stories 1
2. Height of Structure 13 ft.
3. Area — Largest Floor 1268 sq. ft.
4. New Building Area _____ sq. ft.
5. Volume of New Structure _____ cu. ft.
6. Construction Classification _____
7. Total Land Area Disturbed _____ sq. ft.
8. Flood Hazard Zone _____
9. Base Flood Elevation _____ ft.
10. Wetlands yes _____ no _____
11. Max. Live Load _____
12. Max. Occupancy Load _____

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)

FOR OFFICE USE ONLY (Optional)

		Est. Cost	Plans Rec'd by	Date Rec'd	Rejection Date	Approval Date	Re-viewer	Resubmission Dates Approval	Resubmission Dates Rejection	Re-viewer
☒	Building	23,000.00				4-30-08	VM			
☒	Electrical	3,500.00				4-17-08	MK	9-4-08	6-25-09	328
☒	Plumbing	4,700.00				4-15-08	[illegible]	8-11-09	6-25-09	328
☒	Fire Protection	800.00				4-17-08	MK			
☐	Elevator									

TOTAL COSTS 32,000.00

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL *(primary use)*

1. State Specific Use: TO LIVE IN IT
2. Use Group:
3. Change in Use Group, Indicate Former:
4. No. of dwelling units:

	All Units	Income-restricted
Before Construction	1	
After Construction	1	
Net Gain or Loss		

B. NON-RESIDENTIAL *(primary use)*

1. State Specific Use:
2. Use Group:
3. Change in Use Group, Indicate Former:

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

III. PLAN REVIEW (optional)

DO YOU WANT:

1. ☐ Partial Releases
2. ☐ Prototype Processing

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

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

U.C.C. F100-1 (rev. 9/06)

Called 4/17/08

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(e)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. (X) I further certify that I will perform or supervise the following work:
C.1. (X) 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 Esmelin Feliz Date 02/20/08

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 Esmelin Feliz - E.F. Quality Const.

Address 259 Vernon Ave

Clifton, N.J. 07011

Telephone (201) 323-2824

Signature Esmelin Feliz

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

Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued 12/03/2009
Control Number C-08-000656
Permit Number 08-1129
Permit Issue Date 04/28/2008
Certificate Number 08-1129

Certificate

Construction Code Division

(Certificate of Approval)

Identification

Work Site Location: 266 23RD AVE Brick Township, NJ Block: 1355.34 Lot: 33 Qual:

Owner in Fee: FELIX, ESMELIN G & LEGUIZAMAN, PAUL

Owner Address: 259 VERNON AVE CLIFTON NJ 07011

Telephone: (201) 323-2824

Contractor FELIX, ESMELIN G & LEGUIZAMAN, PAUL

Address 259 VERNON AVE CLIFTON NJ 07011

Telephone: (201) 323-2824 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: INTERIOR ALTERATION(S)

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 (years); 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:

Date Printed: 12/03/2009 U.C.C. F260 (rev. 08/05)

PERMIT UPDATE

Date Update Issued 9-29-09
Control # C-09-002162
Permit # 08-1129+A

IDENTIFICATION Block: 1355.34 Lot: 33 Qualifier

Work Site Location: 266 23RD AVE Brick Township, NJ

Owner in Fee: FELIX, ESMELIN G & LEGUIZAMAN, PAUL
259 VERNON AVE CLIFTON NJ 07011

Telephone: (201) 323-2824

Contractor: FELIX, ESMELIN G & LEGUIZAMAN, PAUL
Address: 259 VERNON AVE CLIFTON NJ 07011

Telephone: (201) 323-2824
Lic. No. or Bldrs. 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:

AIR CONDITIONER, FURNACE, GAS PIPING

Note: If constuction 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 $3

Construction Official _____ Date _____

PAYMENTS (Office Use Only)

Building	$0
Electrical	$40
Plumbing	$60
Fire Protection	$90
Elevator Devices	$0
Other	$0.00
DCA Training Fee	$0
CO Fee	
Other	$0
Total	$190
Check No.	17[illegible]1
Cash	$0
Credit	$0
Collected By	

U.C.C. F170
equiv (rev 8/03)

1 WHITE - INSPECTOR 2 CANARY - OFFICE 3 PINK - TAX ASSESSOR 4 GOLD - APPLICANT

REQUIRED INSPECTIONS

09/29/09 B:45AM 00150[illegible]
#02 SERV.002
ELECTRIC $40.00
PLUMBING $60.00
$70.00

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. 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.

PLUMBING SUBCODE
TECHNICAL SECTION

Date Received / Control # 08-1129

Date Issued / Permit # 4-28-08

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

Block 1355.34 Lot 33 Qualification Code n/a

Work Site Location 766 23rd AVE
BRICK N.J. 08724

Owner in Fee Esmelin Feliz

Address 259 VERNON AVE
KEYPORT N.J. 07011

Tel (201) 323-2824

Contractor LUIS VALENCIA

Address 1900 TY-57 - NORTH BERGEN - NJ-07047

Tel (201) 662-1084 FAX (201) 9830168

Contractor License No. 21-7959

Federal Emp. No. 137-48-1754

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 $ ~~5700.00~~ 7000.00

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[ ] No Plans Required

Joint Plan Review Required:

[ ] Building [ ] Electric

[ ] Fire [ ] Elevator

[ ] Plumbing Plans Approved

Date: 4-15-09

Approved by: _____

SUBCODE APPROVAL

[ ] CO [ ] CCO [✓] CA

Date: 11-25-09

Approved by: _____

INSPECTIONS Type:	Dates (Month/Day) Failure	Failure	Approval	Initial
Slab				
Rough	9/16/08	9/24/08	10/7/08	[illegible]
Water				
Sewer				
Fixtures			11/19/09	
Gas Equipment	9/24/08		10/1/09	
Gas Piping				
LPGas Tank				
Fuel Oil Piping				
Solar				
TCO FINAL	02-25-09	03-04-09	11/19/09	
	10/6/09	11-02-09		

UPDATE 2-GAS PIPNG PCK

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's Signature/Contractor's Seal and Signature

[ ] Licensed Plumbing Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA (List of all fixtures.)

NO.	FIXTURE/EQUIPMENT
1	Water Closet
	Urinal/Bidet
1	Bath Tub
2	Lavatory
2	Shower
	Floor Drain
1	Sink
1	Dishwasher
	Drinking Fountain
1	Washing Machine
	Hose Bibb
1	Water Heater
	Fuel Oil Piping
	Gas Piping
	LPGas Tank
	Steam Boiler
1	Hot Water Boiler
	Sewer Pump
	Interceptor/Separator
	Backflow Preventer
	Greasetrap
	Sewer Connection
	Water Service Connection
	Stacks _____
	Other _____
	Other _____

50 1 1 14 & 50 000

FEE (Office Use Only)	
	$ _____
Administrative Surcharge	$ _____
Minimum Fee	$ _____
State Permit Surcharge Fee	$ _____
TOTAL FEE	$ _____

U.C.C. F130 (rev. 01/04)

1 White = Inspector Copy 2 Canary = Office Copy
3 Pink = Office Copy 4 Gold = Applicant Copy

9/C OP

① Insulate H20 in outside walls
② Vents backpitched
③ No tape on diverter
④ Big nailplate.
⑤ 3" building drain backpitched
⑥ No gas test
⑦ 3" C.O. & 2" C.O. (laundry)

9/26/08

① - NO TEST - WATER - GAS - D.W.

02-25-09 PA
NO ENTRY
03.04.09 PA

① INSTALL STOVE OK
② " DISHWASHER OK
③ VACUUM BREAKERS ON HOSE BIBS OK
④ H.W.H. PRT RELIEF DOWN (EXISTING)

10/5/09 mA
① - INDIRECT DRAIN - AIR GAP / WATER DISCHARGE
② - DW WATER - LOOP & BRKR VALVE

11.02.09
SAME

PLUMBING SUBCODE
TECHNICAL SECTION

08-1129H
Date Received 9-29-09
Control #
Date Issued
Permit # C09-112162

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

Block 1355.34 Lot 23 Qualification Code
Work Site Location 266 23rd Ave.
Brick, NJ- 08724
Owner in Fee: Pamela Kelly
Tel. ( ) e-mail
Address 259 Vernon Ave, Clifton NJ. 07011
street municipality zip code
Contractor: Luis Valencia Tel. (201) 662-1044
Address 1700-77st e-mail 2019930168
North Bergen, NJ 07047
Contractor License No. B-1-7959 Exp. Date
Home Improvement Contractor Registration No. or Exemption Reason (if applicable):
Federal Emp. ID No. 137-48-1754 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 $ included on previous application NO additional charge

JOB SUMMARY (Office Use Only)

PLAN REVIEW
[ ] No Plans Required
[ ] Partial -Underslab Utilities Approved
Date: Approved by:
[✓] Plumbing Plans Approved
Date: 8-11-09 Approved by: ew
Joint Plan Review Required:
[ ] Bldg. [ ] Elec. [ ] Fire. [ ] Elev.

SUBCODE APPROVAL for PERMIT
Date:
Approved by:

SUBCODE APPROVAL for CERTIFICATE
[ ] CO [ ] CCO [✓] CA
Date: 11-25-09
Approved by:

INSPECTIONS Type:	Dates (Month/Day) Failure	Failure	Approval	Initial
Slab				
Rough				
Water				
Sewer				
Fixtures				
Gas Equipment				
Gas Piping			10/1/08	MM
LPGas Tank				
Fuel Oil Piping				
Solar				
TCO				
Final			10/5/09	MM

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's Signature/Contractor's Seal and Signature

[ ] Licensed Plumbing Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

QTY.	FIXTURE/EQUIPMENT	FEE (Office Use Only)
	Water Closet	$
	Urinal/Bidet	
	Bath Tub	
	Lavatory	
	Shower	
	Floor Drain	
	Sink	
	Dishwasher	
	Drinking Fountain	
	Washing Machine	
	Hose Bibb	
	Water Heater	
	Fuel Oil Piping	
2	Gas Piping	
	LPGas Tank	
	Steam Boiler	
	Hot Water Boiler	
	Sewer Pump	
	Interceptor/Separator	
	Backflow Preventer	
	Greasetrap	
	Sewer Connection	
	Water Service Connection	
	Stacks	
	Other Condensate A. Coil	
	Other	

Administrative Surcharge	$
Minimum Fee	$
State Permit Surcharge Fee	$
TOTAL FEE	$

Hackensack

ELECTRICAL SUBCODE
TECHNICAL SECTION

Date Received UPD
Control #
Date Issued
Permit # C09-0021
08-D19

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

Block 1355.34 Lot 33 Qualification Code

Work Site Location 266 93rd Ave. Brick N.J. 08724

Owner in Fee: Rimelsa Feliz

Tel. (201) 373-2824 e-mail

Address 259 Vernon Ave. Clifton, N.J. 07011
(street, municipality, zip code)

Contractor: SANTANA ELECTRIC. Tel. (973 418 1841

Address 34 PARK AVE. e-mail
PASSAIC PARK NJ 07055.

Contractor License No. 8962- Exp. Date 03-12-

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

Federal Emp. ID No. 106580344 FAX: ( )

B. ELECTRICAL CHARACTERISTICS

Use Group Present Proposed

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

Building Occupied as: Utility Co.

Est. Cost of Elec. Work $ Same as on Previous Application No additional Cost

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[X] ~~No~~ Plans Required 9-9-09

[ ] Partial -Underslab Utilities Approved
Date: Approved by:

[ ] Electric Plans Approved
Date: Approved by:

Joint Plan Review Required:
[ ] Bldg. [ ] Plumb. [ ] Fire. [ ] Elev.

SUBCODE APPROVAL for PERMIT
Date:
Approved by:

SUBCODE APPROVAL for CERTIFICATE
[ ] CO [ ] CCO [ ] CA
Date: 11-4-9
Approved by:

INSPECTIONS Type:	Failure	Failure	Approval	Initial
Rough				
Barrier-Free				
Trench				
Temp. Serv.				
Constr. Serv.				
TCO				
Other				
Service				
Final	10-8-09 DD		11-2-09 DD	
Barrier-Free				

Dates (Month/Day)

Temp. Cut-in-Card Date Issued
Final Cut-in-Card Date Issued
Annual Pool Inspection
Date of Grounding and Bonding Certification

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's Signature/Contractor's Seal and Signature

[ ] Licensed Elec. Contractor [ ] Certified Landscape Irrigation Cont'r [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

QTY.	SIZE	ITEMS	FEE (Office Use Only)
		Lighting Fixtures	
		Receptacles	
		Switches	
		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
		Communications Points	
		Alarm Devices/F.A.C. Panel	
		TOTAL NUMBERS	$
		Pool Permit/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	
1	2	KW Central A/C Unit	
1	3	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 $

ELECTRICAL SUBCODE
TECHNICAL SECTION

Date Received 08-1129
Control #
Date Issued 4-28-08
Permit #

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

Block 1355.34 Lot 33 Qualification Code ______
Work Site Location 266 23rd Ave
BRICK N.J. 08724
Owner in Fee Esmelin Feliz
Address 259 VERNON AVE
CLIFTON N.J. 07011
Tel (201) 323-2834
Contractor SANTANA ELECTRIC C..
Address 32 SHERMAN AVE
JC NJ 07307
Tel (973) 418 1841 FAX (201) 9936468
Contractor License No. 8462.
Federal Emp. No. 106580344.

B. ELECTRICAL CHARACTERISTICS DR 318146781
Use Group Present ______ Proposed ______
[ ] Pole/Pad # ______ [ ] Temporary [ ] Other ______
Building Occupied as ______ Utility Co. ______
Est. Cost of Elec. Work $ 3.500.00

JOB SUMMARY (Office Use Only)

PLAN REVIEW Date Initial
[ ] No Plans Required
Joint Plan Review Required:
[ ] Building [ ] Plumbing
[ ] Fire [ ] Elevator
[X] Elec. Plans Approved
Date: 41708
Approved by: [signature]

SUBCODE APPROVAL
[ ] CO [ ] CCO [ ] CA
Date: 11-4-9 [signature]
Approved by: ______

INSPECTIONS Dates (Month/Day)

Type:	Failure	Failure	Approval	Initial
Rough 91608			103108	
Barrier-Free				
Trench				
Temp. Serv.				
Constr. Serv.				
TCO				
Other				
Service 10108			10310	
Final	2/9/09		1/2009	
Barrier-Free				

over 10/16/08 10/1/08; 10/16/08 10/1/08

Temp. Cut-in-Card Date Issued ______
Final Cut-in-Card Date Issued ______
Annual Pool Inspection ______
Date of Grounding and Bonding Certification ______

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

[signature]
Applicant's Signature/Contractor's Seal and Signature
[ ] Licensed Elec. Contractor [ ] Certif'd Landscape Irrigation Cont'r [ ] Exempt Applicant

D. TECHNICAL SITE DATA

QTY	SIZE	ITEMS	FEE (Office Use Only)
12		Lighting Fixtures	
17		Receptacles	
12		Switches	
4		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
		Communications Points	
		Alarm Devices/F.A.C. Panel	
		TOTAL NUMBERS	$
		Pool Permit/with UW Lights	
		Storable Pool/Spa/Hot Tub	
1	10	KW Elec. Range/Receptacle	
1	10	KW Oven/Surface Unit	
		KW Elec. Water Heater	
1	8	KW Elec. Dryer/Receptacle	
1	2	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	
1	200 A	AMP Service	
1	150	AMP Subpanels	
		AMP Motor Control Center	
		KW Elec. Sign/Outline Light	

Administrative Surcharge $ ______
Minimum Fee $ ______
State Permit Surcharge Fee $ ______
TOTAL FEE $ ______

① ground all metal boxes ② ReID w. ho ③ wire fan/add out box ⑤ ... screw wall plate
7 Sem 13"

U.C.C. F120 (rev. 07/03) 1 White = Inspector Copy 2 Canary = Office Copy 3 Pink = Office Copy 4 Gold = Applicant Copy

① 10/1/08 SHOWS 3 WIRE FROM PAN TO MAIN 40-50 FEET OF UNFUSED CONDUCTOR.

② PANEL FEED REQUIRES 1¼" FROM FACE.

③ NEW SELF DAMAGED, AS INSTALLED. + OUTSIDE SIDE UNSUPPORTED.

④ DEDICATED LAUNDRY CIRCUIT + 1 BATH CIRCUIT MIXED WITH ALARM LINES AT OUTSIDE TEMPERATURE.

⑤ SHOW PROPER GROUNDING SYSTEM TO MAIN.

⑥ RW INCOMPLETE. FILE FOR ALL WORK.

⑦ TEMP SERVICE INCOMPLETE.

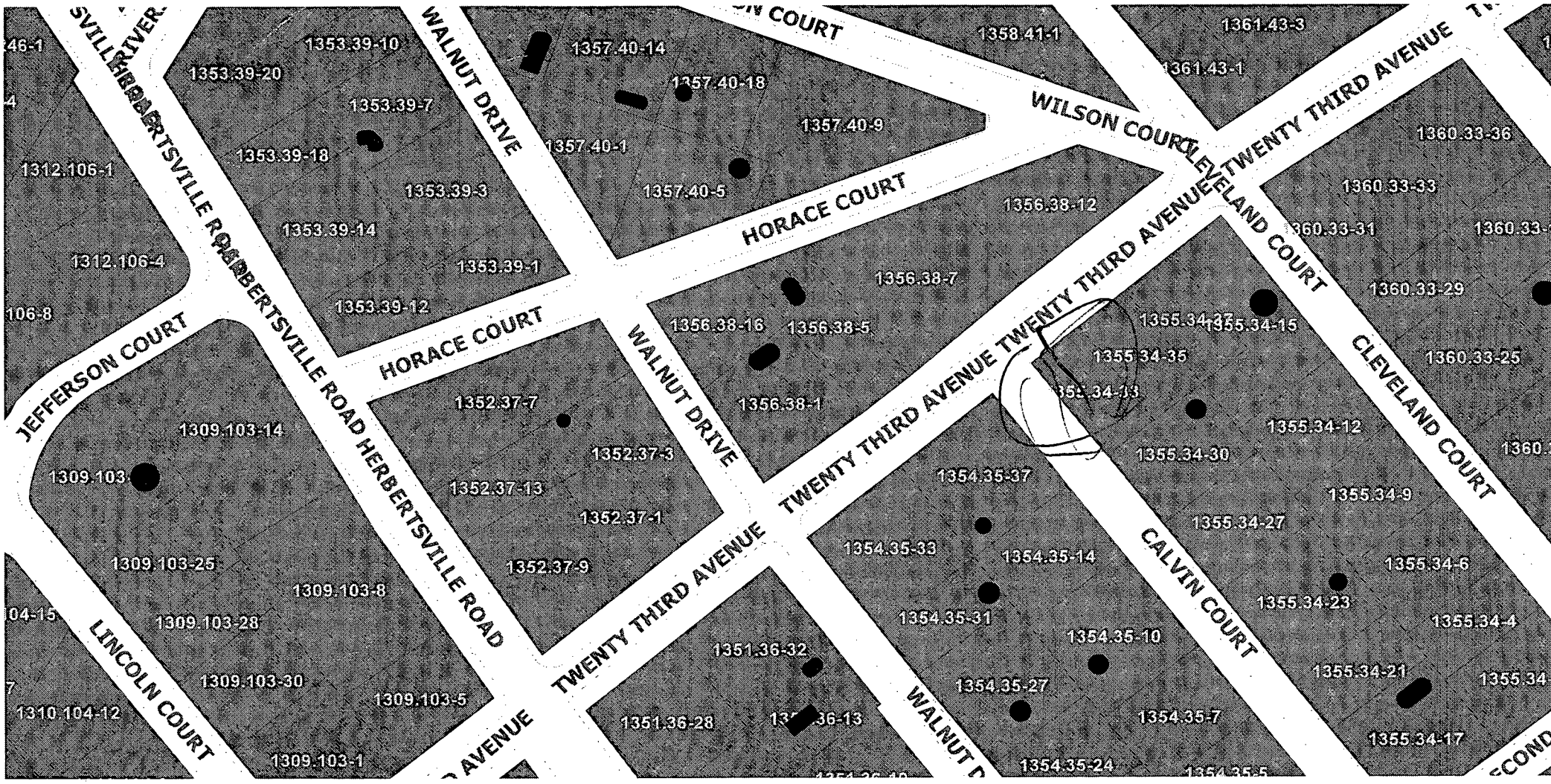
⑧ REPORT LEFT + EXPLAINED TO EC REP AT JOB.

10/10/08 SHEETROCK NOT SHOWING ON SCR
NO GROUND SCREW ON MAIN DISCONNECT
UPDATE PERMIT MAIN PANEL: ALL OTHERS
STAMP UP SCR
NO SCR CONNECTION ON MAIN DISCONNECT
ALL GROUND FROM MAIN PANEL DISCONNECT
NO STRAPS ON PVC TO SERVICE HEAD (SIDING NOT COMPLETE)

10/16/08 INCOMPLETE.

② REVIEWED ABOVE + NEED TO CHECK ONCE JOB WITH EC AT JOB.

10/27/08 ① SAME
② FILE FOR ALL WORK.


WALNUT DRIVE
WILSON COURT
TWENTY THIRD AVENUE
HORACE COURT
CLEVELAND COURT
JEFFERSON COURT
HERBERTSVILLE ROAD
TWENTY THIRD AVENUE
CALVIN COURT
LINCOLN COURT
1353.39-10
1353.39-20
1353.39-7
1353.39-18
1353.39-3
1353.39-14
1353.39-1
1353.39-12
1357.40-14
1357.40-18
1357.40-9
1357.40-1
1357.40-5
1358.41-1
1361.43-3
1361.43-1
1360.33-36
1360.33-33
1360.33-31
1360.33-29
1360.33-25
1356.38-12
1356.38-7
1356.38-16
1356.38-5
1356.38-1
1355.34-37
1355.34-15
1355.34-35
1355.34-12
1355.34-30
1355.34-9
1355.34-27
1355.34-6
1355.34-23
1355.34-4
1355.34-21
1355.34-17
1354.35-37
1354.35-33
1354.35-14
1354.35-31
1354.35-10
1354.35-27
1354.35-7
1354.35-24
1352.37-7
1352.37-3
1352.37-13
1352.37-1
1352.37-9
1351.36-32
1351.36-28
1312.106-1
1312.106-4
1309.103-14
1309.103-
1309.103-25
1309.103-8
1309.103-28
1309.103-30
1309.103-5
1310.104-12
1309.103-1

Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued	04/28/2008
Control Number	C-08-000656
Permit Number	08-1129

Construction Inspection

Identification

Work Site Location:	266 23RD AVE Brick Township, NJ
Block:	1355.34
Lot:	33
Owner in Fee:	FELIX, ESMELIN G & LEGUIZAMAN, PAUL
Owner Address:	259 VERNON AVE CLIFTON NJ 07011
Telephone:	(201) 323-2824

Inspection Details

Start Date:	10/23/2008
Start Time:	
Subcode:	
Inspector:	Paul Grosko
Inspection Level:	Progress inspection
Inspection Type:	ROUGH
Result:	Not Ready
Result Comments:	

EC see inspector violation connected requests.

EC to properly apply for and pick up updates for all work proposed and started.

Call each tech for required inspections.

Report and tech copy to EC.

Inspection Comment:

Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued	04/28/2008
Control Number	C-08-000656
Permit Number	08-1129

Construction Inspection

Identification

Work Site Location:	266 23RD AVE Brick Township, NJ
Block:	1355.34
Lot:	33
Owner in Fee:	FELIX, ESMELIN G & LEGUIZAMAN, PAUL
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Telephone:	(201) 323-2824

Inspection Details

Start Date:	10/23/2008
Start Time:	
Subcode:	
Inspector:	Paul Grosko
Inspection Level:	Progress inspection
Inspection Type:	ROUGH
Result:	Not Ready
Result Comments:	EC see inspector violation connected requests. EC to properly apply for and pick up updates for all work proposed and started. Call each tech for required inspections. Report and tech copy to EC.

Inspection Comment:

Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued	04/28/2008
Control Number	C-08-000656
Permit Number	08-1129

Construction Inspection

Identification

Work Site Location:	266 23RD AVE Brick Township, NJ
Block:	1355.34
Lot:	33
Owner in Fee:	FELIX, ESMELIN G & LEGUIZAMAN, PAUL
Owner Address:	259 VERNON AVE CLIFTON NJ 07011
Telephone:	(201) 323-2824

Inspection Details

Start Date:	10/23/2008
Start Time:	
Subcode:	
Inspector:	Paul Grosko
Inspection Level:	Progress inspection
Inspection Type:	ROUGH
Result:	Not Ready
Result Comments:	

EC see inspector violation connected requests.

EC to properly apply for and pick up updates for all work proposed and started.

Call each tech for required inspections.

Report and tech copy to EC.

Inspection Comment:

DOVER TOWNSHIP CONSTRUCTION INSPECTION DEPT.

FIELD CORRECTION NOTICE

LOCATION 266 23RD AVE PERMIT # 08-1129

ISSUED TO PERMIT HOLDER AND/OR ALL RESPONSIBLE PARTIES BLOCK 1355.34 LOT 33

NOTICE DELIVERED TO _____

Upon inspection, violations of the _____ Sec. _____ were in evidence.

The following orders are hereby issued for their correction:

SUB PANEL REMOVE BOND JUMPER

RELOCATE WATER BOND TO OUTSIDE DISC

KITCH RECPT. NEED GFCI RINGS

NEED OUTLET ON PENINSULAR

CLOSET LIGHTS DO NOT MEET 4/10 NEC

PLEASE CALL FOR INSPECTION WHEN CORRECTIONS HAVE GEEN COMPLETED. ACCEPTANCE AND APPROVAL BY AN INSPECTOR OF THIS DEPARTMENT IS REQUIRED. ALL CORRECTIONS MUST BE MADE ON OR BEFORE

DATE 3-4-09 BY Doug
INSPECTOR

White - Original Yellow - Field Copy

BUILDING SUBCODE
TECHNICAL SECTION

Date Received Control # 08-1139

Date Issued Permit # 4-28-08

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

Block 13.55.34 Lot 33 Qualification Code

Work Site Location 266 23rd Ave
BRICK N.J. 08724

Owner in Fee Esmelin Feliz

Address 259 VERNON Ave
CLIFTON, N.J. 07011

Tel. (201) 323-2824

Contractor E.P. QUALITY CONSTRUCTION LLC

Address 259 VERNON Ave
CLIFTON, N.J. 07011

Tel. (201) 323-2824 FAX ( )

Contractor License No. or Builder Registration No. 13VH03980400

Federal Emp. No 203-595-419/000

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.

Esmelin Feliz
Signature

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

INTERIOR REHABITATION

CALL FOR INSPECTION BEFORE COVERING ANY ROTTED ELEMENTS FOUND ON NORTH WALL.

JOB SUMMARY (Office Use Only)

PLAN REVIEW	Date	Initial
[ ] No Plans Required		
[X] All	4-30-08	FM.
[ ] Footing		
[ ] Foundation		
[ ] Frame		
[ ] Other		

Joint Plan Review Required:
[ ] Elec. [ ] Plumb. [ ] Fire [ ] Elevator

SUBCODE APPROVAL
[X] CO [ ] CCO [ ] CA
Date: 11/4/09
Approved by: KA

INSPECTIONS Type:	Failure	Failure	Approval	Initial
	Dates (Month/Day)			
Footing				
Footing Bonding				
Foundation				
Slab				
Frame			11/10/08	
Truss Sys./Bracing				
Barrier-Free				
Insulation			12/1/08	
Finishes -Base Layer				
Finishes -Final				
Energy				
Mechanical				
TCO				
Other				
Final	* 2-25-09	* 3-4-09	11-2-09	JU
Barrier-Free	* 5.22.09			

B. BUILDING CHARACTERISTICS

Use Group	Present	Proposed
Constr. Class	Present	Proposed
No. of Stories	1	
Height of Structure	13'	Ft.
Area — Largest Floor	1268	Sq. Ft.
New Bldg. Area/All Floors		Sq. Ft.
Volume of New Structure		Cu. Ft.
Total Land Area Disturbed		Sq. Ft.

Est. Cost of Bldg. Work:

1. New Bldg. $
2. Rehabilitation $ 231000.00
3. Total (1+ 2) $ 23,000.00

TYPE OF WORK:
- [ ] New Building
- [ ] Addition
- [X] Rehabilitation
- [ ] Roofing
- [ ] Siding
- [ ] Fence _____ Height (exceeds 6')
- [ ] Sign _____ Sq. Ft.
- [ ] Pool
- [ ] Asbestos Abatement Subchapter 8
- [ ] Lead Haz. Abatement NJAC 5:17
- [ ] Other _____
- [ ] Demolition

FEE (Office Use Only)

$

Administrative Surcharge $
Minimum Fee $
State Permit Surcharge Fee $
TOTAL FEE $

2-25-09 J.L.

* NO ACCESS TO COMPLETE INSPECTION

3-4-09 J.L.

* CLOSE EXTERIOR PENETRATIONS IN CRAWL

* PLATFORM TO APPLIANCE IN ATTIC

5-22-09 J.L.

ABOVE ITEMS NOT CORRECTED

FIRE PROTECTION SUBCODE
TECHNICAL SECTION

Date Received 08-1129
Control #

Date Issued 4-28-08
Permit #

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

Block 1355.34 Lot 33 Qualification Code _____

Work Site Location 766 23rd AVE
BLOCK N.J. 08724

Owner in Fee ESMELIN FELIZ

Address 759 VERNON AVE
CLIFTON N.J. 07011

Tel (201) 333-2824

Contractor SANTANA ELECTRIC.

Address 32 SHERMAN AVE
TC. NJ 07307 201 993 0168

Tel (973) 934 7860 FAX (_____) _____

Fire Protection Equipment, NJ Div of Fire Safety Permit No. _____

Fire Protection Equipment, NJ Div of Fire Safety Installer No. _____

Fire Alarm Contractor No. 8462

Federal Emp. No. 106580344

B. FIRE PROTECTION CHARACTERISTICS

Use Group: Present _____ Proposed _____

Constr. Class: Present _____ Proposed _____

Heating System: [ ] New OR [X] Existing [ ] HVAC

Type: [X] Gas [ ] Oil [ ] Electric [ ] Solar
[ ] Other _____

Location: _____

Fire Alarm System: [X] New OR [ ] Existing

Location of Panel: _____

Fire Suppression/Standpipe System:
[ ] New OR [ ] Existing

Location of Main Control Valve: _____

Fuel Storage Tank:

Fuel Type: [ ] Flammable OR [ ] Combustible *Capacity* _____

Total Cost of Fire Protection Work $ 800 00

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[ ] No Plans Required

Joint Plan Review Required:

[ ] Building [ ] Plumbing

[ ] Electric [ ] Elevator

[X] Fire Plans Approved

Date: 4-17-08

Approved by: _____

SUBCODE APPROVAL

[ ] CO [ ] CCO [X] CA

Date: 10-30-08

Approved by: _____

INSPECTIONS

Type:	Dates (Month/Day) Failure	Failure	Approval	Initial
Alarm System			10-30-08	OK
Suppression Sys.				
Standpipe				
Fire Pump				
Pre-Eng. System				
Mechanical				
Smoke Control				
TCO				
Flam/Combust Tanks				
Fireplace Venting				
Final	8-25-09		10-30-08	OK
Other _____				

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.

Applicant's Signature/Contractor's Signature

[ ] Certified Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK:

Water Supply Source _____

Method of Alarm/Suppression System Supervision _____

	NUMBER	FEE (Office Use Only)
Flammable/Combustible Tanks		
Alarm Systems		
[ ] System		
[ ] 110v Interconnected		
[ ] CO Detectors/110v		
Alarm Devices (i.e., smoke, heat, pulls, water/flow)	4	45
Supervisory Devices (i.e., tampers, low/high air)		
Signaling Devices (i.e., horn/strobes, bells)		
Other Devices _____		
TOTAL		
Suppression Systems		
Fire Pump ____ GPM Type ____		
Dry Pipe/Alarm Valves		
Pre-action Valves		
Sprinkler Heads (Dry and Wet)		
Standpipes		
Pre-engineered Systems		
Wet Chemical		
Dry Chemical		
CO_2 Suppression		
Foam Suppression		
FM200 Suppression		
Other _____		
Other Systems		
Kitchen Hood Exhaust System		
Smoke Control System		
Fired Appliances [ ] Gas or [ ] Oil		
Fireplace Venting/Metal Chimney		
Other _____		

Administrative Surcharge $ _____

Minimum Fee $ _____

State Permit Surcharge Fee $ _____

TOTAL FEE $ _____

Applicant: When submitting this form to your Local Construction Code Enforcement Office, please provide one original plus three photocopies.

- need update for stove, furnace, and wood stove
- need SD/CO outside front bedroom

FIRE PROTECTION SUBCODE
TECHNICAL SECTION

Date Received
Control #

Date Issued
Permit #

08-1129A
9-29-09
C09-00262

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

Block 355.34 Lot 37 Qualification Code _____
Work Site Location 266 23rd Ave.
Brick N.J. 08724
Owner in Fee Empleton Felix
Address 459 Grimson Rd.
Clifton NJ 07011
Tel (201) 223-2324
Contractor SANTANA ELECTRIC
Address 32 Sherman Ave.
JC. NJ. 07307
Tel (973) 934-7662 FAX (201) 993-0168
Fire Protection Equipment, NJ Div of Fire Safety Permit No. _____
Fire Protection Equipment, NJ Div of Fire Safety Installer No. _____
Fire Alarm Contractor No. 9467
Federal Emp. No. 106580344

B. FIRE PROTECTION CHARACTERISTICS

Use Group: Present _____ Proposed _____
Constr. Class: Present _____ Proposed _____
Heating System: [ ] New OR [ ] Existing [ ] HVAC
Type: [ ] Gas [ ] Oil [ ] Electric [ ] Solar
[ ] Other _____
Location: _____
Fuel Storage Tank:
Fuel Type: [ ] *Flammable* OR [ ] *Combustible* *Capacity* _____
Fire Alarm System: [ ] New OR [ ] Existing
Location of Panel: _____
Fire Suppression/Standpipe System:
[ ] New OR [ ] Existing
Location of Main Control Valve: _____
Total Cost of Fire Protection Work $ Excluded on Previous Application @ additional Charge

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. _____
Applicant's Signature/Contractor's Signature
[ ] Certified Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA
DESCRIPTION OF WORK:

Water Supply Source _____
Method of Alarm/Suppression System Supervision _____

	NUMBER	FEE (Office Use Only)
Flammable/Combustible Tanks	____	____
Alarm Systems		
[ ] System		
[ ] 110v Interconnected		
[ ] CO Detectors/110v		CO Detectors
Alarm Devices (i.e., smoke, heat, pulls, water/flow)	____	____
Supervisory Devices (i.e., tampers, low/high air)	____	____
Signaling Devices (i.e., horn/strobes, bells)	____	____
Other Devices _____	____	____
TOTAL	____	____
Suppression Systems		
Fire Pump ____ GPM Type ____	____	____
Dry Pipe/Alarm Valves	____	____
Pre-action Valves	____	____
Sprinkler Heads (Dry and Wet)	____	____
Standpipes	____	____
Pre-engineered Systems		
Wet Chemical	____	____
Dry Chemical	____	____
CO_2 Suppression	____	____
Foam Suppression	____	____
FM200 Suppression	____	____
Other _____	____	Stove
Other Systems		
Kitchen Hood Exhaust System	____	____
Smoke Control System	2	135
Fired Appliances [X] Gas or [ ] Oil	2	
Fireplace Venting/Metal Chimney	____	____
Other _____	____	____

Administrative Surcharge $ _____
Minimum Fee $ _____
State Permit Surcharge Fee $ _____
TOTAL FEE $ _____

JOB SUMMARY (Office Use Only)

PLAN REVIEW
[X] No Plans Required
Joint Plan Review Required:
[ ] Building [ ] Plumbing
[ ] Electric [ ] Elevator
[ ] Fire Plans Approved
Date: 8/11/09
Approved by: LW

SUBCODE APPROVAL
[ ] CO [ ] CCO [X] CA
Date: 10/5/09
Approved by: DD

INSPECTIONS Type:	Dates (Month/Day) Failure	Failure	Approval	Initial
Alarm System	____	____	____	____
Suppression Sys.	____	____	____	____
Standpipe	____	____	____	____
Fire Pump	____	____	____	____
Pre-Eng. System	____	____	____	____
Mechanical	____	____	10/5/09	DD
Smoke Control	____	____	____	____
TCO	____	____	____	____
Flam/Combust Tanks	____	____	____	____
Fireplace Venting	____	____	____	____
Final	____	____	10/5/09	DD
Other _____	____	____	____	____

PLUMBING SUBCODE
TECHNICAL SECTION

Date Received
Control #

Date Issued
Permit #

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

Block 1855.34 Lot 33 Qualification Code

Work Site Location 266 23rd Ave.
Keansburg, NJ 07734

Owner in Fee:

Tel. ( ) e-mail

Address 254 Vernon Ave, Clifton NJ 07011
street municipality zip code

Contractor: Luis Valencia Tel. (201) 660-1044

Address 1700-75th e-mail 2019930168
North Bergen NJ 07047

Contractor License No. 13479 Exp. Date

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

Federal Emp. ID No. 137-18-1754 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 $ Included on previous application NO additional charge

JOB SUMMARY (Office Use Only)

PLAN REVIEW
[ ] No Plans Required
[ ] Partial -Underslab Utilities Approved
Date: Approved by:
[✓] Plumbing Plans Approved
Date: 8-11-09 Approved by:
Joint Plan Review Required:
[ ] Bldg. [ ] Elec. [ ] Fire. [ ] Elev.

SUBCODE APPROVAL for PERMIT
Date:
Approved by:

SUBCODE APPROVAL for CERTIFICATE
[ ] CO [ ] CCO [ ] CA
Date:
Approved by:

INSPECTIONS Type:	Dates (Month/Day) Failure	Failure	Approval	Initial
Slab				
Rough				
Water				
Sewer				
Fixtures				
Gas Equipment				
Gas Piping				
LPGas Tank				
Fuel Oil Piping				
Solar				
TCO				
Final				

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's Signature/Contractor's Seal and Signature

[ ] Licensed Plumbing Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

QTY.	FIXTURE/EQUIPMENT	FEE (Office Use Only)
	Water Closet	$
	Urinal/Bidet	
	Bath Tub	
	Lavatory	
	Shower	
	Floor Drain	
	Sink	
	Dishwasher	
	Drinking Fountain	
	Washing Machine	
	Hose Bibb	
	Water Heater	
	Fuel Oil Piping	
2	Gas Piping	
	LPGas Tank	
	Steam Boiler	
	Hot Water Boiler	
	Sewer Pump	
	Interceptor/Separator	
	Backflow Preventer	
	Greasetrap	
	Sewer Connection	
	Water Service Connection	
	Stacks	
	Other Contractor A. ins	
	Other	

Administrative Surcharge	$
Minimum Fee	$
State Permit Surcharge Fee	$
TOTAL FEE	$

PLUMBING SUBCODE
TECHNICAL SECTION

Date Received
Control #

Date Issued
Permit #

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

Block _____ Lot _____ Qualification Code _____

Work Site Location _____

Owner in Fee: _____

Tel. (____) _____ e-mail _____

Address _____
street municipality zip code

Contractor: _____ Tel. (____) _____

Address _____ e-mail _____

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 $ _____

JOB SUMMARY (Office Use Only)

PLAN REVIEW
[ ] No Plans Required
[ ] Partial-Underslab Utilities Approved
Date:_____ Approved by: _____

[ ] Plumbing Plans Approved
Date:_____ Approved by: _____

Joint Plan Review Required:
[ ] Bldg. [ ] Elec. [ ] Fire. [ ] Elev.

SUBCODE APPROVAL for PERMIT
Date: _____
Approved by: _____

SUBCODE APPROVAL for CERTIFICATE
[ ] CO [ ] CCO [ ] CA
Date: _____
Approved by: _____

INSPECTIONS Type:	Dates (Month/Day) Failure	Failure	Approval	Initial
Slab				
Rough				
Water				
Sewer				
Fixtures				
Gas Equipment				
Gas Piping				
LPGas Tank				
Fuel Oil Piping				
Solar				
TCO				
Final				

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's Signature/Contractor's Seal and Signature

[ ] Licensed Plumbing Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

QTY.	FIXTURE/EQUIPMENT	FEE (Office Use Only)
	Water Closet	$
	Urinal/Bidet	
	Bath Tub	
	Lavatory	
	Shower	
	Floor Drain	
	Sink	
	Dishwasher	
	Drinking Fountain	
	Washing Machine	
	Hose Bibb	
	Water Heater	
	Fuel Oil Piping	
2	Gas Piping	
	LPGas Tank	
	Steam Boiler	
	Hot Water Boiler	
	Sewer Pump	
	Interceptor/Separator	
	Backflow Preventer	
	Greasetrap	
	Sewer Connection	
	Water Service Connection	
	Stacks _____	
	Other	
	Other _____	

Administrative Surcharge	$
Minimum Fee	$
State Permit Surcharge Fee	$
TOTAL FEE	$

FIRE PROTECTION SUBCODE
TECHNICAL SECTION

Date Received 9-29-09
Control #
Date Issued
Permit #

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

Block 1355.34 Lot 37 Qualification Code ______
Work Site Location 266 23rd [illegible]
[illegible] N.J. 08724
Owner in Fee [illegible]
Address 259 [illegible]
[illegible]
Tel ( ) [illegible]
Contractor SANTANA ELECTRIC
Address [illegible]
[illegible] N.J. 07727
Tel (973) 934-1960 FAX (201) 793-0168
Fire Protection Equipment, NJ Div of Fire Safety Permit No. ______
Fire Protection Equipment, NJ Div of Fire Safety Installer No. ______
Fire Alarm Contractor No. 9452
Federal Emp. No. 12-590346

B. FIRE PROTECTION CHARACTERISTICS
Use Group: Present ______ Proposed ______
Constr. Class: Present ______ Proposed ______
Heating System: [ ] New OR [ ] Existing [ ] HVAC
Type: [ ] Gas [ ] Oil [ ] Electric [ ] Solar
[ ] Other ______
Location: ______
Fire Alarm System: [ ] New OR [ ] Existing
Location of Panel: ______
Fire Suppression/Standpipe System:
[ ] New OR [ ] Existing
Location of Main Control Valve: ______

Fuel Storage Tank:
Fuel Type: [ ] *Flammable* OR [ ] *Combustible* *Capacity* ______
Total Cost of Fire Protection Work $ [illegible]

JOB SUMMARY (Office Use Only)
PLAN REVIEW
[X] No Plans Required
Joint Plan Review Required:
[ ] Building [ ] Plumbing
[ ] Electric [ ] Elevator
[ ] Fire Plans Approved
Date: 8/11/[illegible]
Approved by: [illegible]
SUBCODE APPROVAL
[ ] CO [ ] CCO [ ] CA
Date: ______
Approved by: ______

INSPECTIONS Type:	Failure	Failure	Approval	Initial
Alarm System				
Suppression Sys.				
Standpipe				
Fire Pump				
Pre-Eng. System				
Mechanical				
Smoke Control				
TCO				
Flam/Combust Tanks				
Fireplace Venting				
Final				
Other				

Dates (Month/Day)

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. [signature]
Applicant's Signature/Contractor's Signature
[ ] Certified Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA
DESCRIPTION OF WORK:

Water Supply Source ______
Method of Alarm/Suppression System Supervision ______

	NUMBER	FEE (Office Use Only)
Flammable/Combustible Tanks		
Alarm Systems		
[ ] System		CO Detectors
[ ] 110v Interconnected		
[ ] CO Detectors/110v		
Alarm Devices (i.e., smoke, heat, pulls, water/flow)		
Supervisory Devices (i.e., tampers, low/high air)		
Signaling Devices (i.e., horn/strobes, bells)		
Other Devices		
TOTAL		
Suppression Systems		
Fire Pump ___ GPM Type ___		
Dry Pipe/Alarm Valves		
Pre-action Valves		
Sprinkler Heads (Dry and Wet)		
Standpipes		
Pre-engineered Systems		
Wet Chemical		
Dry Chemical		
CO_2 Suppression		
Foam Suppression		
FM200 Suppression		
Other	[illegible]	[illegible]
Other Systems		
Kitchen Hood Exhaust System		
Smoke Control System	3	
Fired Appliances [X] Gas or [ ] Oil	[illegible]	
Fireplace Venting/Metal Chimney		
Other		

Administrative Surcharge $ ______
Minimum Fee $ ______
State Permit Surcharge Fee $ ______
TOTAL FEE $ ______

U.C.C. F140
(rev. 1/04)

1 White = Inspector Copy
3 Pink = Office Copy
2 Canary = Office Copy
4 Gold = Applicant Copy

FIRE PROTECTION SUBCODE
TECHNICAL SECTION

Date Received
Control #

Date Issued
Permit #

9-29-09

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

Block _____ Lot _____ Qualification Code _____

Work Site Location _____

Owner in Fee _____

Address _____

Tel (____) _____

Contractor _____

Address _____

Tel (____) _____ FAX (____) _____

Fire Protection Equipment, NJ Div of Fire Safety Permit No. _____

Fire Protection Equipment, NJ Div of Fire Safety Installer No. _____

Fire Alarm Contractor No. _____

Federal Emp. No. _____

B. FIRE PROTECTION CHARACTERISTICS

Use Group: Present _____ Proposed _____

Constr. Class: Present _____ Proposed _____

Heating System: [ ] New OR [ ] Existing [ ] HVAC

Type: [ ] Gas [ ] Oil [ ] Electric [ ] Solar

[ ] Other _____

Location: _____

Fuel Storage Tank:

Fuel Type: [ ] *Flammable* OR [ ] *Combustible* *Capacity* _____

Fire Alarm System: [ ] New OR [ ] Existing

Location of Panel: _____

Fire Suppression/Standpipe System:

[ ] New OR [ ] Existing

Location of Main Control Valve: _____

Total Cost of Fire Protection Work $ _____

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[X] No Plans Required

Joint Plan Review Required:

[ ] Building [ ] Plumbing

[ ] Electric [ ] Elevator

[ ] Fire Plans Approved

Date: 8/11/09

Approved by: _____

SUBCODE APPROVAL

[ ] CO [ ] CCO [ ] CA

Date: _____

Approved by: _____

INSPECTIONS	Dates (Month/Day)			
Type:	Failure	Failure	Approval	Initial
Alarm System				
Suppression Sys.				
Standpipe				
Fire Pump				
Pre-Eng. System				
Mechanical				
Smoke Control				
TCO				
Flam/Combust Tanks				
Fireplace Venting				
Final				
Other				

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. _____ Applicant's Signature/Contractor's Signature

[ ] Certified Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK:

Water Supply Source _____

Method of Alarm/Suppression System Supervision _____

	NUMBER	FEE (Office Use Only)
Flammable/Combustible Tanks		
Alarm Systems		
[ ] System		
[ ] 110v Interconnected		
[ ] CO Detectors/110v		Detectors
Alarm Devices (i.e., smoke, heat, pulls, water/flow)		
Supervisory Devices (i.e., tampers, low/high air)		
Signaling Devices (i.e., horn/strobes, bells)		
Other Devices _____		
TOTAL		
Suppression Systems		
Fire Pump ____ GPM Type ____		
Dry Pipe/Alarm Valves		
Pre-action Valves		
Sprinkler Heads (Dry and Wet)		
Standpipes		
Pre-engineered Systems		
Wet Chemical		
Dry Chemical		
CO_2 Suppression		
Foam Suppression		
FM200 Suppression		
Other _____		
Other Systems		
Kitchen Hood Exhaust System		
Smoke Control System		
Fired Appliances [X] Gas or [ ] Oil		
Fireplace Venting/Metal Chimney		
Other _____		

Administrative Surcharge $ _____

Minimum Fee $ _____

State Permit Surcharge Fee $ _____

TOTAL FEE $ _____

Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Electrical Plan Review

Control Number: C-09-002162 Permit Number: 08-1129+A Tube Number:
Application Date: 06/19/2009 Permit Issue Date:
Received Date: 06/23/2009 Result: Fail Result Date: 06/23/2009

Work Site Location: 266 23RD AVE. Brick Township, NJ
Block: 1355.34 Lot: 33 Qualifier:
Owner: FELIX, ESMELIN G & LEGUIZAMAN, PAUL
Owner Address: 259 VERNON AVE CLIFTON NJ 07011
Telephone: (201) 323-2824
Agent: FELIX, ESMELIN G & LEGUIZAMAN, PAUL
Agent Address: 259 VERNON AVE CLIFTON NJ 07011
Telephone: (201) 323-2824
Contractor: SANTANA ELECTRIC CO
Contractor Address: 32 SHERMAN AVENUE JC NJ 07307
Telephone: (973) 418-1841
Engineer:
Engineer Address:
Telephone:
Architect:
Architect Address:
Telephone:

06-23-09
fax # 201-393-0168
(contractor)

Plan Review Comments: ELECTRICAL CONTRACTOR MUST SIGN AND SEAL ELECTRICAL TECHNICAL SUBCODE CARD...

Plan Review Subcode Notes

09-02-09 Resubmit

8/12/09 Waiting for New Elec Tech Card

Land Use/ Bldg Dept Fax:732-262-8954

** Transmit Conf.Report **

P.1 Jun 23 2009 9:10

T.1.1	Check condition of remote fax.	12013930168

Brick Township
401 Chambersbridge Rd
Brick, NJ 08723
(732) 262-1027

Subcode Official Review

To: 110 SKYLINE DR BRICK, NJ 08724 CC:

RE: Fire Subcode
Block: 1383 Lot: 7 Qual: C142
110 SKYLINE DR
Permit Number: Control Number: C-09-002154
Last Submit Date: Friday, June 19, 2009

Date: Monday, June 22, 2009

Dear GRIFFITH, JANET,
Your request is hereby denied based upon the following infractions.

Need installation guide and product description guide for furnace

06:23 09
fax # 201-393-0168
(Contractor)

Sincerely,

Ron Piszar, Subcode Official

Esmelin Feliz
Property Owner
259 Vernon Avenue
Clifton, NJ 07011

RECD AUG 31 2009

Township of Brick
Building Department
401 Chambers Bridge Road
Brick, NJ 08723

To Whom It May Concern:

The attached updated electrical permit application should be the last item in the missing items list for the C.O. approval on the property located at 266 23rd Ave, Brick, NJ. All of the other items have being addressed. Please notify me on how to proceed.

Should you have any questions please don't hesitate to contact me at 201-927-5877

Thank you,

Esmelin Feliz

Esmelin Feliz
HVAC Load Calculations

for

Esmelin Feliz
266 23th Ave.
Brick Township New Jersey

Elite Software

RHVAC RESIDENTIAL HVAC LOADS

Ricardo Mercader

Prepared By:

Ricardo Mercader
Mercader Heating Cooling Ventilation LLC
233 75th Street
North Bergen NJ 07047
201-286-0163
Monday, July 27, 2009

Project Report

General Project Information

Project Title:	Esmelin Feliz
Designed By:	Mercader Heating Cooling Ventilation LL
Project Date:	Friday, July 24, 2009
Client Name:	Esmelin Feliz
Client Address:	266 23th Ave.
Client City:	Brick Township New Jersey
Client Phone:	201-323-2824
Company Name:	Mercader Heating Cooling Ventilation LLC
Company Representative:	Ricardo Mercader
Company Address:	233 75th Street
Company City:	North Bergen NJ 07047
Company Phone:	201-286-0163
Company Fax:	201-662-7329

Design Data

Reference City:		Lakehurst, New Jersey
Building Orientation:		Front door faces North
Daily Temperature Range:		High
Latitude:	40	Degrees
Elevation:	103	ft.
Altitude Factor:	0.996	
Elevation Sensible Adj. Factor:	1.000	
Elevation Total Adj. Factor:	1.000	
Elevation Heating Adj. Factor:	1.000	
Elevation Heating Adj. Factor:	1.000	

	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	0	12.83	100%	n/a	72	n/a
Summer:	95	74	38%	50%	72	34

Check Figures

Total Building Supply CFM:	915	CFM Per Square ft.:	0.669
Square ft. of Room Area:	1,367	Square ft. Per Ton:	613
Volume (ft³) of Cond. Space:	12,433		

Building Loads

Total Heating Required Including Ventilation Air:	44,863	Btuh	44.863	MBH
Total Sensible Gain:	20,060	Btuh	90	%
Total Latent Gain:	2,212	Btuh	10	%
Total Cooling Required Including Ventilation Air:	22,272	Btuh	1.86	Tons (Based On Sensible + Latent)
			2.23	Tons (Based On 75% Sensible Capacity)

Notes

Calculations are based on 8th edition of ACCA Manual J.
All computed results are estimates as building use and weather may vary.
Be sure to select a unit that meets both sensible and latent loads.

Duct Size Preview

Room or Duct Name	Minimum Velocity	Maximum Velocity	Rough. Factor	Design L/100	Actual L/100	SP Loss	Duct Velocity	Duct Length	Htg Flow	Clg Flow	Act. Flow	Duct Size
System 1												
Supply Runouts												
Zone 1												
1-Bedroom 1	450	750	0	0.1	0.2		518.1		104	203	203	2--6
2-Bedroom 2	450	750	0	0.1	0.2		557		89	149	149	1--7
3-Dining Room	450	750	0	0.1	0.1		470.1		59	126	126	1--7
4-Kitchen	450	750	0	0.1	0		126		28	11	11	1--4
5-Living Room	450	750	0	0.1	0.2		560.9		60	110	110	1--6
6-Bedroom 3	450	750	0	0.1	0.1		492.6		96	132	132	1--7
7-Bathroom1	450	750	0	0.1	0.2		418.4		27	37	37	1--4
8-Bathroom 2	450	750	0	0.1	0.2		418.4		27	37	37	1--4
9-Entry	450	750	0	0.1	0.2		502.8		82	99	99	1--6
10-Hallway	450	750	0	0.1	0		145.9		12	13	13	1--4
Other Ducts												
Supply Main Trunk	650	900	0	0.1	0.1		775.2		585	915	915	10x17

Summary

System 1

Heating Flow: 585

Cooling Flow: 915

Project Bill of Materials

Part No.	Description	Req. Qty.	Qty. Unit	Unit Matl. Cost	Matl. Cost	Unit Shop Labor Hours	Unit Field Labor Hours	Total Labor Cost	Total Cost
	Ductwork Accessories								
	Subtotal - Ductwork Accessories				**$0.00**			**$0.00**	**$0.00**
	HVAC Equipment								
	Subtotal - HVAC Equipment				**$0.00**			**$0.00**	**$0.00**
	Grand Total				**$0.00**			**$0.00**	**$0.00**

Total Building Summary Loads

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
1D-cm-o: Glazing-Double pane, operable window, clear, metal frame no break, u-value 0.87, SHGC 0.67	149	9,336	0	11,139	11,139
11P: Door-Metal - Polyurethane Core	35.8	746	0	301	301
12C-0sw: Wall-Frame, R-13 insulation in 2 x 4 stud cavity, no board insulation, siding finish, wood studs	1030.8	6,755	0	2,299	2,299
16B-19: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), Vented Attic, No Radiant Barrier, Dark Asphalt Shingles or Dark Metal, Tar and Gravel or Membrane, R-19 insulation	1286	4,538	0	3,338	3,338
22A-ph: Floor-Slab on grade, No edge insulation, no insulation below floor, any floor cover, passive, heavy moist soil	165	16,131	0	0	0
Subtotals for structure:		37,506	0	17,077	17,077
People:	4		1,100	1,200	2,300
Equipment:			0	0	0
Lighting:	0			0	0
Ductwork:		0	0	0	0
Infiltration: Winter CFM: 93, Summer CFM: 48		7,357	1,112	1,201	2,313
Ventilation: Winter CFM: 0, Summer CFM: 0		0	0	0	0
AED Excursion:		0	0	582	582
Total Building Load Totals:		44,863	2,212	20,060	22,272

Check Figures

Total Building Supply CFM:	915	CFM Per Square ft.:	0.669
Square ft. of Room Area:	1,367	Square ft. Per Ton:	613
Volume (ft³) of Cond. Space:	12,433		

Building Loads

Total Heating Required Including Ventilation Air:	44,863	Btuh	44.863	MBH
Total Sensible Gain:	20,060	Btuh	90	%
Total Latent Gain:	2,212	Btuh	10	%
Total Cooling Required Including Ventilation Air:	22,272	Btuh	1.86	Tons (Based On Sensible + Latent)
			2.23	Tons (Based On 75% Sensible Capacity)

Notes

Calculations are based on 8th edition of ACCA Manual J.
All computed results are estimates as building use and weather may vary.
Be sure to select a unit that meets both sensible and latent loads.

System 1 Summary Loads

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
1D-cm-o: Glazing-Double pane, operable window, clear, metal frame no break, u-value 0.87, SHGC 0.67	149	9,336	0	11,139	11,139
11P: Door-Metal - Polyurethane Core	35.8	746	0	301	301
12C-0sw: Wall-Frame, R-13 insulation in 2 x 4 stud cavity, no board insulation, siding finish, wood studs	1030.8	6,755	0	2,299	2,299
16B-19: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), Vented Attic, No Radiant Barrier, Dark Asphalt Shingles or Dark Metal, Tar and Gravel or Membrane, R-19 insulation	1286	4,538	0	3,338	3,338
22A-ph: Floor-Slab on grade, No edge insulation, no insulation below floor, any floor cover, passive, heavy moist soil	165	16,131	0	0	0
Subtotals for structure:		37,506	0	17,077	17,077
People:	4		1,100	1,200	2,300
Equipment:			0	0	0
Lighting:	0			0	0
Ductwork:		0	0	0	0
Infiltration: Winter CFM: 93, Summer CFM: 48		7,357	1,112	1,201	2,313
Ventilation: Winter CFM: 0, Summer CFM: 0		0	0	0	0
AED Excursion:		0	0	582	582
System 1 Load Totals:		44,863	2,212	20,060	22,272

Check Figures

Supply CFM:	915	CFM Per Square ft.:	0.669
Square ft. of Room Area:	1,367	Square ft. Per Ton:	613
Volume (ft³) of Cond. Space:	12,433		

System Loads

Total Heating Required Including Ventilation Air:	44,863	Btuh	44.863	MBH
Total Sensible Gain:	20,060	Btuh	90	%
Total Latent Gain:	2,212	Btuh	10	%
Total Cooling Required Including Ventilation Air:	22,272	Btuh	1.86	Tons (Based On Sensible + Latent)
			2.23	Tons (Based On 75% Sensible Capacity)

Notes

Calculations are based on 8th edition of ACCA Manual J.
All computed results are estimates as building use and weather may vary.
Be sure to select a unit that meets both sensible and latent loads.

System 1, Zone 1 Summary Loads (Average Load Procedure for Rooms)

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
1D-cm-o: Glazing-Double pane, operable window, clear, metal frame no break, u-value 0.87, SHGC 0.67	149	9,336	0	11,139	11,139
11P: Door-Metal - Polyurethane Core	35.8	746	0	301	301
12C-0sw: Wall-Frame, R-13 insulation in 2 x 4 stud cavity, no board insulation, siding finish, wood studs	1030.8	6,755	0	2,299	2,299
16B-19: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), Vented Attic, No Radiant Barrier, Dark Asphalt Shingles or Dark Metal, Tar and Gravel or Membrane, R-19 insulation	1286	4,538	0	3,338	3,338
22A-ph: Floor-Slab on grade, No edge insulation, no insulation below floor, any floor cover, passive, heavy moist soil	165	16,131	0	0	0
Subtotals for structure:		37,506	0	17,077	17,077
People:	4		1,100	1,200	2,300
Equipment:			0	0	0
Lighting:	0			0	0
Ductwork:		0	0	0	0
Infiltration: Winter CFM: 93, Summer CFM: 48		7,357	1,112	1,201	2,313
System 1, Zone 1 Load Totals:		44,863	2,212	20,060	22,272

Check Figures

Supply CFM:	915	CFM Per Square ft.:	0.669
Square ft. of Room Area:	1,367	Square ft. Per Ton:	613
Volume (ft³) of Cond. Space:	12,433		

Zone Loads

Total Heating Required:	44,863	Btuh	44.863	MBH
Total Sensible Gain:	20,060	Btuh	90	%
Total Latent Gain:	2,212	Btuh	10	%
Total Cooling Required:	22,272	Btuh	1.86	Tons (Based On Sensible + Latent)
			2.23	Tons (Based On 75% Sensible Capacity)

Notes

Calculations are based on 8th edition of ACCA Manual J.
All computed results are estimates as building use and weather may vary.
Be sure to select a unit that meets both sensible and latent loads.

System 1 Room Load Summary

No	Room Name	Area SF	Htg Sens Btuh	Min Htg CFM	Run Duct Size	Run Duct Vel	Clg Sens Btuh	Clg Lat Btuh	Min Clg CFM	Act Sys CFM
---Zone 1---										
1	Bedroom 1	168	7,946	104	2-6	518	4,459	740	203	203
2	Bedroom 2	156	6,862	89	1-7	557	3,263	458	149	149
3	Dining Room	132	4,498	59	1-7	470	2,754	110	126	126
4	Kitchen	171	2,176	28	1-4	126	241	0	11	11
5	Living Room	240	4,581	60	1-6	561	2,414	121	110	110
6	Bedroom 3	180	7,345	96	1-7	493	2,886	472	132	132
7	Bathroom1	64	2,095	27	1-4	418	800	59	37	37
8	Bathroom 2	64	2,095	27	1-4	418	800	59	37	37
9	Entry	156	6,310	82	1-6	503	2,164	171	99	99
10	Hallway	36	955	12	1-4	146	279	22	13	13
	System 1 total	1,367	44,863	585			20,060	2,212	915	915

System 1 Main Trunk Size: 10x17 in.
Velocity: 775 ft./min
Loss per 100 ft.: 0.101 in.wg

Cooling System Summary

	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Net Required:	1.86	90% / 10%	20,060	2,212	22,272
Recommended:	2.23	75% / 25%	20,060	6,687	26,746

Equipment Data

	Heating System	Cooling System
Type:	Natural Gas Furnace	Standard Air Conditioner
Model:		
Indoor Model:		
Brand:		
Efficiency:	0 AFUE	0 SEER
Sound:		
Capacity:	0 Btuh	0 Btuh
Sensible Capacity:	n/a	0 Btuh
Latent Capacity:	n/a	0 Btuh

LIMITED WARRANTY

Models: GMV8, GCH9, GDH8, GME8, GMH8, GMV9, GMS95, GMH95, GMV95, GCV9

This heating or air conditioning unit is warranted by Goodman Manufacturing Company, L.P. ("Goodman") to be free from defects in materials and workmanship under normal use and maintenance, as described below:

- **To the original registered owner** and his or her spouse ("owner"), the **HEAT EXCHANGER** is warranted for the owner's **LIFETIME** or for so long as the owner owns the home in which the unit was originally installed (whichever ends first), and **all remaining parts** are warranted for a period of **10 YEARS**, except as provided below. These warranties apply only if:
  1) The unit is installed in an owner-occupied, single family residence, and
  2) The unit is properly registered with Goodman online within 60 days after the original installation. To register, follow the instructions found at www.goodmanmfg.com
- If the above warranties do not apply, then the **HEAT EXCHANGER** is warranted for a period of **20 YEARS**, and **all remaining parts** are warranted for a period of **5 YEARS**.

Neither warranty continues after the unit is removed from the location where it was originally installed.

Neither warranty applies to, and no warranty is offered by Goodman on, any unit ordered over the Internet.

Regardless of time of registration, the warranty period begins on the date of the original installation. If that date cannot be verified, the warranty period begins three months after the month of manufacture (indicated by the first four digits of the serial number (yymm)).

As its only responsibility, and your only remedy, Goodman will furnish (i) a replacement part, without charge for the part only, to replace any part that is found to be defective due to workmanship or materials under normal use and maintenance, or (ii) for a heat exchanger that is covered by the lifetime warranty and that fails in the first 10 years, a new, equivalent furnace. For warranty credit, the defective part must be returned to a Goodman heating and air conditioning products distributor by a state certified or licensed contractor. Any part replaced pursuant to this warranty is warranted only for the unexpired portion of the warranty term applying to the original part.

These warranties do not apply to labor, freight, or any other cost associated with the service, repair or operation of the unit.

These warranties are in lieu of all other express warranties. **ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THIS WARRANTY.** Some states and provinces do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

GOODMAN SHALL IN NO EVENT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO EXTRA UTILITY EXPENSES OR DAMAGES TO PROPERTY. Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you.

Goodman is not responsible for:

1. Damage or repairs required as a consequence of faulty installation or application.
2. Damage as a result of floods, fires, winds, lightning, accidents, corrosive atmosphere or other conditions beyond the control of Goodman.
3. Use of components or accessories not compatible with this unit.
4. Products installed outside the United States or Canada.
5. Normal maintenance as described in the installation and operating manual, such as cleaning of the coils, filter cleaning and/or replacement and lubrication.
6. Parts not supplied or designated by Goodman.
7. Damage or repairs required as a result of any improper use, maintenance, operation or servicing.
8. Failure to start due to interruption and/or inadequate electrical service.
9. Any damage caused by frozen or broken water pipes in the event of equipment failure.
10. Changes in the appearance of the unit that do not affect its performance.

This warranty gives you specific legal rights, and you may also have other rights that may vary from state to state or province to province.

Owner Name _____

Address of Installation _____

City/State-Province/Zip-Postal Code

_____

Installer Name _____

City/State-Province/Zip-Postal Code

_____

Phone # / Fax # _____

Distributor Name _____

City/State-Province/Zip-Postal Code

_____

Phone # / Fax # _____

Model # & Serial # _____

Installation Date _____

Part No. PWCFURNUA
Printed in USA
01/07

For further information about this warranty, contact Goodman Consumer Affairs at **(877) 254-4729** or by mail to 7401 Security Way, Houston, Texas 77040.

24 VOLT HUMIDIFIER WIRE
INSTALLATION INSTRUCTIONS

⚠ WARNING

HIGH VOLTAGE

DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

24 VOLT HUMIDIFIER WIRE (P/N W18207050220007)

TAPE BROWN WIRE HERE

The yellow wire connected to the I.D. Blower pressure switch is powered whenever the pressure switch is closed and provides 24 VAC humidifier control. Remove the yellow wire and connect the supplied brown jumper wire to the pressure switch terminal. Reconnect the yellow wire to the "piggyback" terminal on the brown jumper and then connect the 24 VAC line of the humidifier to the stripped end of the brown wire. This connection can be made by using a wire nut or by using a field-supplied quick connect terminal. The wiring must conform to all local and national codes. Connect the COM side of the humidifier to the B/C terminal on the furnace control board (or to the COM side of the 24 VAC transformer). **Do not connect 115V humidifier to these terminals.**

⚠ RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION.

ATTENTION INSTALLING PERSONNEL

As s a professional installer, you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this Instruction Manual. Pay special attention to all safety warnings.

Remember, it is **your** responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting. Most dealers have a list of specific, good safety practices...follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.

Part No. IO-669
Printed in USA

Goodman Company, L.P.
1810 Wilson Parkway • Fayetteville, Tennessee 37334
www.amana-hac.com

August 2006

GAS-FIRED WARM AIR FURNACE
USER'S INFORMATION MANUAL

ENERGY STAR

⚠ WARNING

IF THE INFORMATION IN THESE INSTRUCTIONS IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

- 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.

Installer - *Affix this manual, Installation Guide, and Warranty adjacent to the appliance.*

Owner - *Read and keep all product literature in a safe place for future reference.*

⚠ WARNING

SHOULD OVERHEATING OCCUR, OR THE GAS SUPPLY FAIL TO SHUT OFF, SHUT OFF THE MANUAL GAS VALVE TO THE FURNACE BEFORE SHUTTING OFF THE ELECTRICAL SUPPLY.

⚠ WARNING

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, DO NOT USE THIS FURNACE IF ANY PART OF THE FURNACE HAS BEEN UNDER WATER. IMMEDIATELY CALL A QUALIFIED SERVICE TECHNICIAN TO INSPECT THE FURNACE AND TO REPLACE ANY PART OF THE CONTROL SYSTEM AND ANY GAS CONTROL HAVING BEEN UNDER WATER.

⚠ WARNING

PRODUCT CONTAINS FIBERGLASS WOOL. DISTURBING THE INSULATION IN THIS PRODUCT DURING INSTALLATION, MAINTENANCE, OR REPAIR WILL EXPOSE YOU TO FIBERGLASS WOOL. BREATHING THIS MAY CAUSE LUNG CANCER. (FIBERGLASS WOOL IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.) FIBERGLASS WOOL MAY ALSO CAUSE RESPIRATORY, SKIN, AND EYE IRRITATION. TO REDUCE EXPOSURE OR FOR FURTHER INFORMATION, CONSULT MATERIAL SAFETY DATA SHEETS AVAILABLE FROM ADDRESS SHOWN BELOW.

⚠ RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION.

Due to policy of continual product improvement, the right is reserved to change specifications and design without notice.

Part No. HI-115A
Printed in USA

Effective: May 2006

Safety

Signal Words

Dear Homeowner, please recognize the following safety information. This information will alert you to the potential for personal injury.

WARNING - Indicate hazards or unsafe practices which **COULD** result in severe personal injury or death.

> **WARNING**
>
> THIS PRODUCT CONTAINS OR PRODUCES A CHEMICAL OR CHEMICALS WHICH MAY CAUSE SERIOUS ILLNESS OR DEATH AND WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

> **WARNING**
>
> TO AVOID POSSIBLE EQUIPMENT DAMAGE, PERSONAL INJURY, FIRE OR DEATH, THE FOLLOWING INSTRUCTIONS MUST BE OBSERVED REGARDING UNIT LOCATION, AIR REQUIREMENTS AND OPERATING PROCEDURES.

> **WARNING**
>
> HEATING UNIT SHOULD NOT BE UTILIZED WITHOUT REASONABLE, ROUTINE, INSPECTION, MAINTENANCE AND SUPERVISION. IF THE BUILIDNG IN WHICH ANY SUCH DEVICE IS LOCATED WILL BE VACANT, CARE SHOULD BE TAKEN THAT SUCH DEVICE IS ROUTINELY INSPECTED, MAINTAINED AND MONITORED. IN THE EVENT THAT THE BUILDING MAYBE EXPOSED TO FREEZING TEMPERATURES AND WILL BE VACANT, ALL WATER-BEARING PIPES SHOULD BE DRAINED, THE BUILDING SHOULD BE PROPERLY WINTERIZED, AND THE WATER SOURCE CLOSED. IN THE EVENT THAT THE BUILDING MAY BE EXPOSED TO FREEZING TEMPERATURES AND WILL BE VACANT, ANY HYDRONIC COIL UNITS SHOULD BE DRAINED AS WELL AND, IN SUCH CASE, ALTERNATIVE HEAT SOURCES SHOULD BE UTILIZED.

Important Note To The Owner

It is important that you fill out the owner's registration card and mail it today. This will assist us in contacting you should any service or warranty information change in the future. When filling in the registration card, be sure to include the Model, Manufacturing and Serial Numbers, plus the installation date. If the registration card cannot be located, please call 1-877-254-4729 to register the furnace.

Your warranty certificate is also supplied with the unit. Read the warranty carefully and note what is covered. Keep the warranty certificate in a safe place, so you can find it, if necessary.

Before using this manual, check the serial plate for proper model identification.

The installation and servicing of this equipment must be performed by qualified, experienced technicians only.

Unit Location

1. The furnace area and the vicinity of any other gas appliances must be kept clear and free of combustible materials, gasoline, and other flammable vapors and liquids. Also, do not store or use flammable items such as paint, varnish, or lacquer in the area.
2. Do not store or use chlorine or fluorine products (bleaches, cements, strippers, aerosols) near the unit. They can corrode the heat exchanger.
3. Do not use the furnace closet as storage for brooms, mops, brushes and oily rags or cloths. The area must be kept clear, clean and free of lint. Furnace must be kept free and clear of exposed or loose insulation materials in the area of installation. Examine the furnace area when the furnace or additional insulation is added since some insulation materials may be combustible.
4. Make sure the furnace is always connected to an approved vent, in good condition, to carry combustion products outdoors.
5. Familiarize yourself with the controls that shut off the gas and electrical power to the furnace. If the furnace is to be shut down at the end of the heating season, turn off both the gas and electrical power. For safety, always turn the gas and electrical power off before performing service or maintenance on the furnace.
6. Establish a regular maintenance schedule to insure efficient and safe operation of the furnace. The furnace should be checked at the beginning of each heating and cooling season by a qualified service technician.

> **WARNING**
>
> TO AVOID PERSONAL INJURY OR FIRE, MINIMUM CLEARANCES TO COMBUSTIBLE SURFACES MUST BE FOLLOWED.

7. Make certain the required clearances for the furnace are always maintained. These clearances are listed on the furnace clearance label. If any question develops, contact the installer of the furnace, or another qualified servicer.

Unit Installation

Examine the furnace installation to determine the following:

1. All flue product carrying passages external to the furnace (i.e. chimney, vent connector) are clear and free of obstructions.
2. The vent connector is in place, slopes upward and is physically sound without holes or excessive corrosion.
3. The return air duct connection is physically sound, sealed to the furnace casing, and terminates outside the space containing the furnace.
4. The physical support of the furnace is sound without sagging, cracks, or gaps around the base so as to provide a seal between the support and the base.
5. There are no obvious signs of deterioration of the furnace.
6. Check for proper burner flame performance. Flame should extend directly outward from burners without, curling, floating, or lifting off.

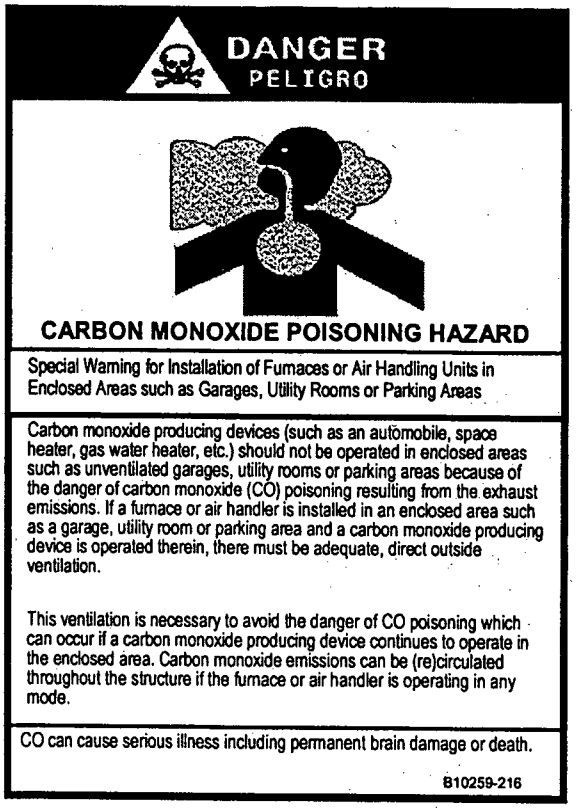
Air Requirements

> **WARNING**
>
> TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, SUFFICIENT FRESH AIR MUST BE SUPPLIED FOR PROPER COMBUSTION AND VENTILATION OF FLUE GASES. MOST HOMES REQUIRE OUTSIDE AIR TO BE SUPPLIED INTO THE FURNACE AREA.

Improved construction and additional insulation in homes have reduced the heat loss and made these homes much tighter around doors and windows so that air infiltration is minimal. This creates a problem to supply ventilation and/or combustion air for gas fired or other fuel burning appliances. Any use of appliances that pull air out of the house (clothes dryers, exhaust fans, fireplaces, water heaters, non-direct vent furnaces, etc.) increases this problem and appliances could be starving for air.

If fuel-burning appliances are starved for air, the flue gases which these appliances produce as they operate may not vent outdoors properly, but remain in the home instead. These flue gases may

include carbon monoxide.



Carbon monoxide or "CO" is a colorless and odorless gas produced when fuel is not burned completely or when the flame does not receive sufficient oxygen.

Be aware of these air starvation signals which indicate conditions that my result in carbon monoxide or that carbon monoxide may be present:

1. Headaches-Nausea-Dizziness, Flu-like symptoms.
2. Excessive humidity-heavily frosted windows or a moist "clammy" feeling in the home.
3. Smoke from a fireplace will not draw up the chimney.
4. Flue gases that will not draw up the appliance vent pipe.

Combustion Air

The air for combustion and ventilation can typically be obtained from the surrounding unconfined space or louvered closet door. Observe the following precautions concerning air availability:

- When a furnace is installed in a closet and the closet door is louvered, DO NOT OBSTRUCT LOUVERS. Louvers must be open and clear to provide combustion air to the furnace.
- When a furnace is installed in a confined space within a home and the air for combustion and ventilation enters the space through ducts from the outside, be sure to routinely check the entering and outlet, grilled openings to verify that they are always clear and clean.
- Do not partition off a small area around the furnace utilizing a non-louvered door. This could obstruct the combustion air from reaching the furnace.

Indoor Humidity

Relative humidity is the amount of water vapor in the air relative to the amount the air can hold at the same temperature. The colder the air; the less moisture it can hold. As air is warmed, its ability to hold moisture is increased. Relative humidity is important to your health and home as proper humidification helps reduce respiratory difficulties and helps improve the indoor air quality.

A good relative humidity is one just high enough to barely start condensation along the lower edges or lower corners of the windows. More than that can be damaging.

Frequent fogging or excessive condensation on inside windows indicates the indoor humidity level is too high for outdoor weather conditions. Damage to the building may result if the condition persists. Condensation on inside of storm windows indicates loose inside windows. Adding weather-stripping to tighten inside windows usually corrects this problem.

The following table shows the recommended maximum indoor humidity in relationship to the outdoor temperatures.

Outdoor Temperature	Humidity	
	Single-Paned Glass	Double-Paned Glass
+30°F	30%	50%
+20°F	20%	40%
+10°F	15%	35%
0°F	10%	30%
-10°F	5%	25%
-20°F	5%	20%
-30°F	3%	18%

Table 1

For Propane (LP) Gas Installations Only

For furnaces operating on propane gas, please review the following warnings before use.

⚠ WARNING

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, DUE TO EXPLOSION OR FIRE, INSTALL A GAS DETECTING WARNING DEVICE. SINCE THE ODORANT IN PROPANE GAS CAN BE REDUCED BY IRON OXIDE (RUST), A GAS DETECTING WARNING DEVICE IS THE ONLY RELIABLE METHOD TO DETECT PROPANE GAS LEAKS.

⚠ WARNING

IF THE GAS FURNACE IS INSTALLED IN A BASEMENT, AN EXCAVATED AREA OR A CONFINED SPACE, IT IS STRONGLY RECOMMENDED TO CONTACT A PROPANE SUPPLIER TO INSTALL A GAS DETECTING WARNING DEVICE IN CASE OF A GAS LEAK.

- SINCE PROPANE GAS IS HEAVIER THAN AIR, ANY LEAKING GAS CAN SETTLE IN ANY LOW AREAS OR CONFINED SPACES.
- PROPANE GAS ODORANT MAY FADE, MAKING THE GAS UNDETECTABLE EXCEPT WITH A WARNING DEVICE.

⚠ WARNING

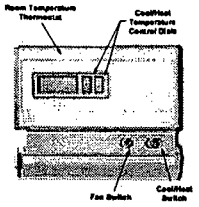
AN UNDETECTED GAS LEAK WILL CREATE A DANGER OF EXPLOSION OR FIRE. IF THE PRESENCE OF GAS IS SUSPECTED, FOLLOW THE INSTRUCTIONS ON THE COVER OF THIS MANUAL. FAILURE TO DO SO COULD RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

Thermostat Functions

There are many types and styles of thermostats but the operation is usually similar. BE SURE TO BECOME FAMILIAR WITH YOUR

THERMOSTAT. The simplest type of thermostat only starts and stops the furnace to maintain the desired room temperature. The most widely used types will control both heating and cooling functions and will have a Fan Switch with Auto and ON settings. On Auto, the circulating air blower will cycle on/off with the furnace but if switched to ON it will run continuously regardless of whether or not heating or cooling is being provided.

In addition, there are thermostats which automatically switch from heating to cooling mode and those with night set back capability. The night set back, or multiple set back, type allows for a different temperature at night or during the day when no one is at home. Programmable thermostats will allow for more control and tailoring of the heating and cooling functions. The level of this control will depend on the type of thermostat applied.



System Switch	Fan Switch	Action
OFF	AUTO	None
COOL	AUTO	System only cools, fan cycles off and on.
COOL	ON	System only cools, fan runs all the time.
HEAT	AUTO	System only heats, fan cycles off and on.
HEAT	ON	System only heats, fan runs all the time.
OFF	ON	No heating or cooling, fan runs all the time.

Furnace Operation

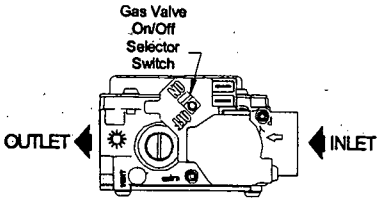
WARNING

ELECTRICAL COMPONENTS ARE CONTAINED IN BOTH COMPARTMENTS. TO AVOID PERSONAL INJURY, ELECTRICAL SHOCK OR DEATH, DO NOT REMOVE ANY INTERNAL COMPARTMENT COVERS. CONTACT A QUALIFIED SERVICER AT ONCE IF AN ABNORMAL CONDITION IS NOTICED.

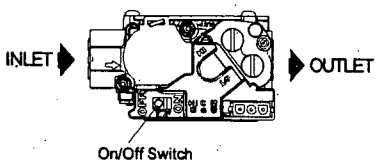
Keep both doors in place except for inspection and maintenance. An interlock switch prevents furnace operation if the blower door is not in place.

Furnace Start-Up

1. Close the external manual gas shut-off valve.
2. Turn off the electrical power to the furnace.
3. Set the room thermostat to the lowest possible setting.
4. Remove the burner compartment door.
5. This furnace is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
6. Move the furnace's gas valve ON/OFF switch to the OFF position.
7. Wait five minutes to clear out any gas. Then smell for gas, including near the floor as some types of gas are heavier than air.
8. If you smell gas following the five minute waiting period in step 7, immediately follow the instructions on the cover of this manual. If you do not smell gas after five minutes, move the furnace's gas valve ON/OFF switch to the ON position.
9. Replace the burner compartment door.
10. Open the external manual gas shut-off valve.
11. Turn on the electrical power to the furnace.
12. Adjust the thermostat to a setting above room temperature.
13. After the burners are lit, set the thermostat to desired temperature.



White-Rodgers Model 36G22 (Single-Stage)



White-Rodgers Model 36G54 (Two-Stage)

Furnace Shut Down

To shut down your furnace, follow the steps listed below.

1. Set the thermostat to the lowest setting.
2. Integrated control closes gas valve extinguishing flame.
3. Induced draft blower is de-energized following a 15 second delay. The circulator blower is de-energized following a 60, 90, 120, or 180 second delay period.
4. Remove the burner compartment door.
5. Move the furnace's gas valve ON/OFF switch to the OFF position.
6. Close the external manual gas shut-off valve.
7. Replace the burner compartment door.

Lockout Reset

Furnace lockout is characterized by a non-functioning furnace (circulator blower may be running continuously) providing a one flash diagnostic LED code. Lockout results when a furnace control detects abnormal conditions. If the furnace is in "lockout", it may be reset by any of the following methods:

1. One hour automatic reset. Control will automatically reset itself and attempt to resume normal operations following a one hour lockout period.
2. Power interruption. Interrupt 115 volt power to the furnace for between 0 and 20 seconds.
3. Thermostat cycle. Interrupt thermostat signal to the furnace for between 0 and 20 seconds.

If the condition which originally caused the lockout still exists, the control will return to lockout. If your furnace frequently locks out, a problem exists which must be corrected. Contact a qualified servicer.

Routine Maintenance

Maintenance is to be performed by a qualified service technician only. User maintenance is to be restricted to frequent air filter changes and to ensure the warnings and notices found elsewhere in this manual be followed. We recommend that at a minimum system maintenance be performed by a qualified service technician prior to the beginning of each heating season, and if equipped with air conditioning prior to that season.

⚠ WARNING

PERSONAL INJURY OR DEATH MAY RESULT FROM IMPROPER MAINTENANCE PERFORMED BY UNTRAINED PERSONNEL. CALL YOUR INSTALLING DEALER OR OTHER QUALIFIED SERVICE COMPANIES TO PERFORM THE MAINTENANCE INSPECTION.

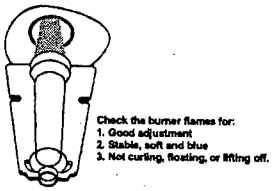
⚠ WARNING

TO AVOID PERSONAL INJURY OR DEATH DUE TO ELECTRICAL SHOCK, DISCONNECT THE ELECTRICAL POWER BEFORE PERFORMING ANY MAINTENANCE.

ANNUAL INSPECTION

The furnace should be inspected by a qualified installer, or service agency at least once per year. This check should be performed at the beginning of the heating season. This will insure that all furnace components are in proper working order and that the heating system functions appropriately. Particular attention should be paid to the following items. Repair as necessary.

- Flue pipe system. Check for blockage and/or leakage. Check the outside termination and the connections at and internal to the furnace.
- Combustion air intake pipe system (where applicable). Check for blockage and/or leakage. Check the outside termination and the connection at the furnace.
- Heat exchanger. Check for corrosion and/or buildup within the heat exchanger passageways.
- Burners. Check for proper ignition, burner flame, and flame sense. Flames should extend directly outward from burners without curling, floating or lifting off.
- Wiring. Check electrical connections for tightness and/or corrosion. Check wires for damage.
- Filters. Check that filters are clean and in the proper placement in the furnace or duct system.



Burner Flame

FILTERS

⚠ WARNING

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, DISCONNECT ELECTRICAL POWER BEFORE REMOVING FILTERS. NEVER OPERATE FURNACE WITHOUT A FILTER INSTALLED BECAUSE DUST AND LINT WILL BUILD UP ON INTERNAL PARTS RESULTING IN LOSS OF EFFICIENCY, EQUIPMENT DAMAGE AND POSSIBLE FIRE.

A return air filter is not supplied with this furnace; however, a means of filtering all of the return air must be provided. Your installer will supply filters at the time of installation. Become familiar with filter location and procedures for removing, cleaning and replacing them.

If you need assistance, contact the installer of your furnace or another qualified servicer.

Filters must be inspected, cleaned or changed every two months or as required. As a homeowner, it is your personal responsibility to keep air filters clean. Remember that dirty filters are the most common cause of inadequate heating or cooling performance.

FILTER REMOVAL

Filters can be located in a central return grille, a side panel external filter rack (upflow only), or internally. To remove filters from an external filter rack in an upright upflow installation, follow the directions provided with external filter rack kit. To remove all other filter configurations, follow the directions listed in the Installation Manual.

If using Media or Electronic Air Cleaner, follow the directions provided with the air cleaner for proper filter removal, cleaning, and replacement.

FILTER CLEANING AND/OR REPLACEMENT

Disposable filters must be replaced with a filter or filters of the same size as that which is removed. Filters must comply with UL900 or CAN/ULC-S111 Standards.

Permanent filters must be cleaned, washed, and dried as specified by the filter manufacturer. If it becomes necessary to replace a permanent filter, it must be replaced with a filter or filters of the same size as that which is removed. Filters must comply with UL900 or CAN/ULC-S111 Standards.

When reinstalling filters, be careful to maintain correct airflow direction.

SAFETY LABELS

NOTE: If safety labels are missing or illegible, contact the installing dealer or our Customer Service Department for ordering information.

FOR YOUR SAFETY READ BEFORE OPERATING

WARNING: If you do not follow these instructions explosion may result causing property damage, personal injury or loss of life.

A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electric 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.

C. Use only your hand to push in or turn the gas control lever. Never use tools. If the lever will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part has been underwater. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been underwater.

LIRE AVANT DE METTRE EN MARCHELIRE

AVERTISSEMENT: Quiconque ne respecte pas á la lettre les instructions dans le présent manuel risque de déclecher un incendie ou une explosion entraînant des dammages matériels, des lésions corporelles ou la perte de vies humaines.

A. Cet appareil ne comporte pas de veilleuse. Il est muni d'un dispositif d'allumage qui allume automatiquement le brûleur. Ne pas tenter d'allumer le brûleur manuellement.

B. AVANT DE LE FAIRE FONCTIONNER, renifler tout autour de l'appariel pour déceler une odeur de gaz. Renifler près du plancher, car certains gaz sont plus lourds que l'air et peuvent s'accumuler au niveau du so.l

QUE FAIRE S'IL Y A UNE ODEUR DE GAZ

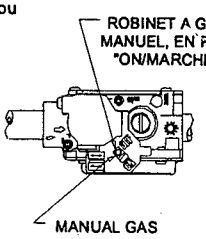
- Ne pas tenter d'allumer l'appariel
- Ne toucher aucun interrupteur électrique; n'utiliser aucun téléphone dans le bâtiment.
- Appeler immédiatement le fournisseur de gaz en employant le téléphone dún voisin. Respecter à la lettre les instructions du fournisseur de gaz.
- Si personne ne répond, appeler le service des incendies.

C. Ne pousser ou tourner le levier d'admission du gaz qu'à la main; ne jamais emploer d'outil à cet effet. Si la manette reste coincée, ne pas tenter de la réparer; appeler un technicien qualifié. Quiconque tente de forcer la manette ou de la reparer peut déclencher une explosion ou un incendie.

D. Ne pas se servir de cet appareil s'il a été plongé dans l'eau, complètement ou en partie. Appeler un technicien qualifié pour inspecter l'appareil et remplacer tout partie du système de contrôle et toute commande qui ont été plongés dans l'eau.

OPERATING INSTRUCTIONS

1. STOP! Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all power to the appliance.
4. This appliance is equipped with an ignition. device which automatically lights the burner. Do not try to light the burner by hand.
5. Push the gas control lever to "OFF" Position. Do not force.
6. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you then smell gas, STOP! Follow "B" in the safety. information above on this label if you don't smell gas, go to next step.
7. Push gas control lever to "ON".
8. Replace access panel.
9. Turn on all electric power to the appliance.
10. Set thermostat to desired setting.
11. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas company.



MISE EN MARCHE

1. ARRETER! Lisez les instructions de sécurité sur la portion supérieure de cette étiquette.
2. Régler le thermostat à la température la plus basse
3. Couper l'alimentation électrique de l'appareil.
4. Cet appareil ménager étant doté d'un système d'allumage automatique, ne pas essayer à allumer le brûleur manuellement.
5. Pousse le levier du contrôle du gaz à "OFF/ ARRET" position.
6. Attendre cinq (5) minutes pour laisser echapper tout le gaz. Renifler tout autour de l'appareil, y compris près du plancher, pour déceler une odeur de gaz. Si c'est le cas, ARRETER! Passer à l'étape B des instructions de sécuritié sur la portion supérieure de cette étiquette. S'il n'y a pas d'odeur de gaz, passer à l'étape suivanté.
7. Pousse le levier du contrôle du gaz à "ON/MARCHE" position.
8. Remettre en place le panneau d'accés.
9. Mettre l'appareil sous tension.
10. Régler le thermostat à la température desirée.
11. Si l'appareil ne se met pas en marche, suiyre les instructions intitulées. Comment coupler l'admission de gaz de l'appereil et appeler un technicien qualifié ou le fournisseur de gaz.

TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Push the gas control lever to "OFF" Position. Do not force.
4. Replace control access panel.

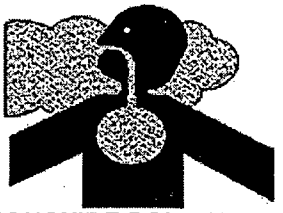
POUR COUPER L'ADMISSION DE GAZ DE L'APPAREIL

1. Régler le thermostat à la température la plus basse.
2. Couper l'alimentation électrique de l'appareil s'il faut procéder à des opérations d'entretien.
3. Pousse le levier du contrôle du gaz à "OFF / ARRET" position.. Ne pas forcer.
4. Remettre en place le panneau d'accès.

11072712

SAFETY LABELS

DANGER
PELIGRO



CARBON MONOXIDE POISONING HAZARD

Special Warning for Installation of Furnaces or Air Handling Units in Enclosed Areas such as Garages, Utility Rooms or Parking Areas

Carbon monoxide producing devices (such as an automobile, space heater, gas water heater, etc.) should not be operated in enclosed areas such as unventilated garages, utility rooms or parking areas because of the danger of carbon monoxide (CO) poisoning resulting from the exhaust emissions. If a furnace or air handler is installed in an enclosed area such as a garage, utility room or parking area and a carbon monoxide producing device is operated therein, there must be adequate, direct outside ventilation.

This ventilation is necessary to avoid the danger of CO poisoning which can occur if a carbon monoxide producing device continues to operate in the enclosed area. Carbon monoxide emissions can be (re)circulated throughout the structure if the furnace or air handler is operating in any mode.

CO can cause serious illness including permanent brain damage or death.

B10259-216

⚠ WARNING: FIRE, EXPLOSION AND ASPHYXIATION HAZARD	⚠ WARNING: FIRE AND EXPLOSION HAZARD
IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, OR EXPOSURE TO SUBSTANCES IN FUEL OR FROM FUEL COMBUSTION WHICH CAN CAUSE DEATH OR SERIOUS ILLNESS, AND WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM. READ AND FOLLOW INSTRUCTIONS AND PRECAUTIONS IN USER'S INFORMATION MANUAL PROVIDED WITH THIS FURNACE. INSTALLATION AND SERVICE MUST BE PERFORMED BY A QUALIFIED INSTALLER, SERVICE AGENCY OR GAS SUPPLIER.	CAN RESULT IN SERIOUS INJURY OR DEATH. DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE. STORAGE OF OR USE OF GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY APPLIANCE CAN RESULT IN SERIOUS INJURY OR DEATH.
⚠ AVERTISSEMENT: RISQUE D'INCENDIE, D'EXPLOSION ET ASPHYXIE	⚠ AVERTISSEMENT:RISQUE D'INCENDIE ET D'EXPLOSION
UN REGLAGE, UNE MODIFICATION, UN RÉPARATION, UN ENRETIEN OU UNE INSTALLATION INCORRECT PUET ENTRAÎNER DES BLESSURES GRAVES OU LA MORT. SUIVRE LES INSTRUCTION ET LES CONSIGNES QUI FIGURENT DANS LA NOTICE D'UTILISATION QUI ACCOMPAGNE CE GÉNÉRATEUR D'AIR CHAUD. L'INSTALLATION ET L'ENTRETIEN DOIVENT ÊTRE EFFECTURES PAR UN RÉPARATEUR QUALIFIÉ OU PAR LE FOURNISSEUR DE GAZ.	RISQUE DE BLESSURES GRAVES OU DE MORT. NE PAS ENTREPOSER NI UTILISER DE L'ESSENCE NI D'AUTRES VAPEURS OU LIQUIDES INFLAMMABLES DANS LE VOISINAGE DE CET APPAREIL, NI DE TOUT AUTRE APPAREIL. LE FAIT D'ENTREPOSER OU D'UTILISER DE L'ESSENCE OU D'AUTRES LIQUIDES OU VAPEURS INFLAMMABLES À PROXIMITÉ DE CET APPAREIL OU DE TOUT AUTRE APPAREIL PEUT CAUSER DES BLESSURES GRAVES OU LA MORT.
SEE INSIDE SURFACE OF BURNER COMPARTMENT DOOR FOR LIGHTING/OPERATING INSTRUCTIONS.	FILTER(S) SHOULD BE INSPECTED FREQUENTLY AND CLEANED WHEN NECESSARY. WHEN REPLACEMENT IS REQUIRED BE SURE TO USE THE SAME TYPE (CLASS 1 OR 2) AND SIZE ORIGINALLY INSTALLED AND THAT IT IS U.L.C.* CERTIFIED *CANADIAN REQUIREMENT
LES INDICATIONS POUR L'ECLAIRAGE ET LE SERVICE SE TROUVENT A LA SURFACE INTERIEURE LA PORTE DU COMPARTIMENT DU BRULEUR.	LES FILTRES DOIVENT ETRE FREQUEMMENT INSPECTES ET NETTOYES SI NECESSAIRE. REMPLACES-LES DE FILTRES DU MEME TYPE (CLASSE 1 OU 2) ET FORMAT QUE DANS L'EQUIPEMENT ORIGINAL: CERTIFIES PAR LE U.L.C. 22317001

⚠WARNING

Risk of electric shock or death.

Disconnect remote electric power supply or supplies before servicing.

This compartment must be closed except when servicing.

⚠AVERTISSEMENT

Danger de choc électrique ou de mort.
Débrancher toute boite á fusibles avant l'entretien.
Ce compartment doit rester ferme, sauf pour l'entretien.

⚠ WARNING

HEATING UNITS SHOULD NOT BE UTILIZED WITHOUT REASONABLE, ROUTINE, INSPECTION, MAINTENANCE AND SUPERVISION. IF THE BUILDING IN WHICH ANY SUCH DEVICE IS LOCATED WILL BE VACANT, CARE SHOULD BE TAKEN THAT SUCH DEVICE IS ROUTINELY INSPECTED, MAINTAINED AND MONITORED. IN THE EVENT THAT THE BUILDING MAY BE EXPOSED TO FREEZING TEMPERATURES AND WILL BE VACANT, ALL WATER-BEARING PIPES SHOULD BE DRAINED, THE BUILDING SHOULD BE PROPERLY WINTERIZED, AND THE WATER SOURCE CLOSED. IN THE EVENT THAT THE BUILDING MAY BE EXPOSED TO FREEZING TEMPERATURES AND WILL BE VACANT, ANY HYDRONIC COIL UNITS SHOULD BE DRAINED AS WELL AND, IN SUCH CASE, ALTERNATIVE HEAT SOURCES SHOULD BE UTILIZED.

B14933-206

Troubleshooting / Before You Request a Service Call

If your furnace is not operating or is performing improperly, take time to perform the following checks before requesting service. A couple of simple checks may allow you to avoid a service call. If the following steps do not resolve the problem, contact a qualified servicer for further troubleshooting and/or repairs. Do not attempt troubleshooting beyond that which is outlined below. Do not attempt repairs yourself.

- Check the blower compartment sight glass. If LED is flashing, record the number of flashes seen in sequence, shutdown your unit as outlined in the "Furnace Start-up" section and contact a qualified servicer for further troubleshooting and/or repairs. Refer to Installation Instructions for code identification. If not flashing, continue with checks.
- Check thermostat for proper operation. Verify that it is set on HEAT and that temperature (above room temperature) setting is appropriate.
- Check fuse or circuit breaker in furnace electrical circuit. Replace as necessary.
- Check to see that the manual gas shut-off valve external to the furnace is in the ON position. If the valve is in the OFF position, turn the gas ON following the start up procedures outlined in the "Furnace Start-up" section.
- Check for dirty filter(s). This in the most common cause of improper furnace operation. Replace or clean filters as necessary.
- Check for blocked return air or supply air grilles throughout you home. Grilles may be blocked by furniture, drapery, clothes, carpeting, etc. Clear any blockage.

Most questions can be answered by your local dealer. For additional information, please call:

CONSUMER INFORMATION LINE
TOLL FREE
1-877-254-4729 (U.S. only)
email us at: customerservice@goodmanmfg.com
fax us at: (731) 856-1821
(Not a technical assistance line for dealers.)

Outside the U.S., call 1-713-861-2500.
(Not a technical assistance line for dealers.)
Your telephone company will bill you for the call.

To obtain the proper labels, the Model Number and Serial Number of the unit must be supplied. These numbers are recorded on the nameplate of the furnace. For convenience, record this information here:

MODEL NUMBER: _ _ _ _ _ _ _ _ _ _ _ _ _

Effective: May 2006

GMH8 & GDH8
GAS-FIRED WARM AIR FURNACE
INSTALLATION INSTRUCTIONS

Installer: Affix all manuals adjacent to the unit.

(CATEGORY 1)

These furnaces comply with requirements embodied in the American National Standard / National Standard of Canada ANSI Z21.47-CSA-2.3 Gas Fired Central Furnaces.

⚠ RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION.

ATTENTION INSTALLING PERSONNEL

As a professional installer, you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this Instruction Manual. Pay special attention to all safety warnings. Often during installation or repair, it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember, it is **your** responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting. Most dealers have a list of specific, good safety practices...follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.

*NOTE: Please contact your distributor or our website for the applicable product data book referred to in this manual.

Goodman Manufacturing Company, L.P.
2550 North Loop West, Suite 400, Houston, TX 77092
www.goodmanmfg.com

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Table of Contents

⚠ WARNING

IF THE INFORMATION IN THESE INSTRUCTIONS IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

- 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.

I. GENERAL INFORMATION

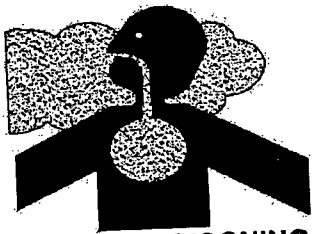
⚠ WARNING

GOODMAN WILL NOT BE RESPONSIBLE FOR ANY INJURY OR PROPERTY DAMAGE ARISING FROM IMPROPER SERVICE OR SERVICE PROCEDURES. IF YOU INSTALL OR PERFORM SERVICE ON THIS UNIT, YOU ASSUME RESPONSIBILITY FOR ANY PERSONAL INJURY OR PROPERY DAMAGE WHICH MAY RESULT. MANY JURISDICTIONS REQUIRE A LICENSE TO INSTALL OR SERVICE HEATING AND AIR CONDITIONING EQUIPMENT.

⚠ WARNING

SHOULD OVERHEATING OCCUR OR THE GAS SUPPLY FAIL TO SHUT OFF, TURN OFF THE MANUAL GAS SHUTOFF VALVE EXTERNAL TO THE FURNACE BEFORE TURNING OFF THE ELECTRICAL SUPPLY.

DANGER
PELIGRO



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This ventilation is necessary to avoid the danger of CO poisoning which can occur if a carbon monoxide producing device continues to operate in the enclosed area. Carbon monoxide emissions can be (re)circulated throughout the structure if the furnace or air handler is operating in any mode.

CO can cause serious illness including permanent brain damage or death.

B10259-216

⚠ WARNING

TO PREVENT PERSONAL INJURY OR DEATH DUE TO IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE, REFER TO THIS MANUAL. FOR ADDITIONAL ASSISTANCE OR INFORMATION, CONSULT A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.

TO THE INSTALLER

Before installing this unit, please read this manual thoroughly to familiarize yourself with specific items which must be adhered to, including but not limited to: unit maximum external static pressure, gas pressures, BTU input rating, proper electrical connections, circulating air temperature rise, minimum or maximum CFM, and motor speed connections, and venting. These furnaces are designed for Category I venting only.

⚠ WARNING

TO PREVENT POSSIBLE PERSONAL INJURY OR DEATH DUE TO ASPHYXIATION, THIS FURNACE MUST BE CATEGORY I VENTED. DO NOT VENT USING CATEGORY III VENTING.
PROVISIONS MUST BE MADE FOR VENTING COMBUSTION PRODUCTS OUTDOORS THROUGH A PROPER VENTING SYSTEM. THE LENGTH OF FLUE PIPE COULD BE A LIMITING FACTOR IN LOCATING THE FURNACE.

TRANSPORTATION DAMAGE

All units are securely packed in shipping containers tested according to International Safe Transit Association specifications. The carton must be checked upon arrival for external damage. If damage is found, a request for inspection by carrier's agent must be made in writing immediately.

The furnace must be carefully inspected on arrival for damage and bolts or screws which may have come loose in transit. In the event of damage the consignee should:

1. Make a notation on delivery receipt of any visible damage to shipment or container.
2. Notify carrier promptly and request an inspection.
3. With concealed damage, carrier must be notified as soon as possible - preferably within five days.
4. File the claim with the following support documents within a nine month statute of limitations.
   - Original or certified copy of the Bill of Lading, or indemnity bond.
   - Original paid freight bill or indemnity in lieu thereof.
   - Original or certified copy of the invoice, showing trade and other discounts or reductions.
   - Copy of the inspection report issued by carrier's representative at the time damage is reported to carrier.

The carrier is responsible for making prompt inspection of damage and for a thorough investigation of each claim. The distributor or manufacturer will not accept claims from dealers for transportation damage.

Keep this literature in a safe place for future reference.

II. SAFETY

Adhere to the following warnings and cautions when installing, adjusting, altering, servicing, or operating the furnace.

⚠ WARNING

THIS PRODUCT CONTAINS OR PRODUCES A CHEMICAL OR CHEMICALS WHICH MAY CAUSE SERIOUS ILLNESS OR DEATH AND WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

⚠ WARNING

TO PREVENT POSSIBLE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO ELECTRICAL SHOCK, THE FURNACE MUST BE LOCATED TO PROTECT THE ELECTRICAL COMPONENTS FROM WATER.

⚠ WARNING

HEATING UNIT SHOULD NOT BE UTILIZED WITHOUT REASONABLE, ROUTINE, INSPECTION, MAINTENANCE AND SUPERVISION. IF THE BUILIDNG IN WHICH ANY SUCH DEVICE IS LOCATED WILL BE VACANT, CARE SHOULD BE TAKEN THAT SUCH DEVICE IS ROUTINELY INSPECTED, MAINTAINED AND MONITORED. IN THE EVENT THAT THE BUILDING MAYBE EXPOSED TO FREEZING TEMPERATURES AND WILL BE VACANT, ALL WATER-BEARING PIPES SHOULD BE DRAINED, THE BUILDING SHOULD BE PROPERLY WINTERIZED, AND THE WATER SOURCE CLOSED. IN THE EVENT THAT THE BUILDING MAY BE EXPOSED TO FREEZING TEMPERATURES AND WILL BE VACANT, ANY HYDRONIC COIL UNITS SHOULD BE DRAINED AS WELL AND, IN SUCH CASE, ALTERNATIVE HEAT SOURCES SHOULD BE UTILIZED.

ADDITIONAL SAFETY CONSIDERATIONS

- This furnace is approved for Category I Venting only.
- Provisions must be made for venting combustion products outdoors through a proper venting system. The length of flue pipe could be a limiting factor in locating the furnace.

ELECTROSTATIC DISCHARGE (ESD) PRECAUTIONS

NOTE: Discharge body's static electricity before touching unit. An electrostatic discharge can adversely affect electrical components.

Use the following precautions during furnace installation and servicing to protect the integrated control module from damage. By putting the furnace, the control, and the person at the same electrostatic potential, these steps will help avoid exposing the integrated control module to electrostatic discharge. This procedure is applicable to both installed and non-installed (ungrounded) furnaces.

1. Disconnect all power to the furnace. Do not touch the integrated control module or any wire connected to the control prior to discharging your body's electrostatic charge to ground.
2. Firmly touch a clean, unpainted, metal surface of the furnaces near the control. Any tools held in a person's hand during grounding will be discharged.
3. Service integrated control module or connecting wiring following the discharge process in step 2. Use caution not to recharge your body with static electricity; (i.e., do not move or shuffle your feet, do not touch ungrounded objects, etc.). If you come in contact with an ungrounded object, repeat step 2 before touching control or wires.
4. Discharge your body to ground before removing a new control from its container. Follow steps 1 through 3 if installing the control on a furnace. Return any old or new controls to their containers before touching any ungrounded object.

III. PRODUCT APPLICATION

This furnace is primarily designed for residential home-heating applications. It is NOT designed or certified for use in mobile homes, trailers or recreational vehicles. Neither is it designed or certified for outdoor applications. The furnace **must** be installed indoors (i.e., attic space, crawl space, or garage area provided the garage area is enclosed with an operating door).

This furnace can be used in the following non-industrial commercial applications:

Schools, Office buildings, Churches, Retail stores, Nursing homes, Hotels/motels, Common or office areas

In such applications , the furnace must be installed with the following stipulations:

- It must be installed per the installation instructions provided and per local and national codes.
- It must be installed indoors in a building constructed on site.
- It must be part of a ducted system and not used in a free air delivery application.
- It must not be used as a "make-up" air unit.
- All other warranty exclusions and restrictions apply.

This furnace may be used as a construction site heater **ONLY** if the following conditions are met:

- The vent system is permanently installed per these installation instructions.
- A room thermostat is used to control the furnace. Fixed jumpers that provide continuous heating CANNOT be used.
- Return air ducts are provided and sealed to the furnace.
- A return air temperature range between 60°F (16°C) and 80°F (27°C) is maintained.
- Air filters are installed in the system and maintained during construction, replaced as appropriate during construction, and upon completion of construction are replaced.
- The input rate and temperature rise are set per the furnace rating plate.
- 100% outside air is provided for combustion air requirements during construction. Temporary ducting can be used.

  NOTE: Do not connect the temporary duct directly to the furnace. The duct must be sized according to the instructions under *Section V, Combustion and Ventilation Air Requirements, Section 5.3.3.*
- The furnace heat exchanger, components, duct system, air filters and evaporator coils are thoroughly cleaned following final construction clean up.
- All furnace operating conditions (including ignition, input rate, temperature rise and venting) are verified according to these installation instructions.

NOTE: The Commonwealth of Massachusetts requires that the following additional requirements must also be met:

- Gas furnaces must be installed by a licensed plumber or gas fitter.
- A T-handle gas cock must be used.
- If the unit is to be installed in an attic, the passageway to and the service area around the unit must have flooring.

To ensure proper installation and operation, thoroughly read this manual for specifics pertaining to the installation and application of this product.

⚠ WARNING

POSSIBLE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO FIRE, EXPLOSION, SMOKE, SOOT, CONDENSTAION, ELECTRICAL SHOCK OR CARBON MONOXIDE MAY RESULT FROM IMPROPER INSTALLATION, REPAIR, OPERATION, OR MAINTENANCE OF THIS PRODUCT.

⚠ WARNING

TO PREVENT PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO FIRE, DO NOT INSTALL THIS FURNACE IN A MOBILE HOME, TRAILER, OR RECREATIONAL VEHICLE.

To ensure proper furnace operation, install, operate and maintain the furnace in accordance with these installation and operation instructions, all local building codes and ordinances. In their absence, follow the latest edition of the National Fuel Gas Code (NFPA 54/ANSI Z223.1), and/or CAN/CSA B149 Installation Codes, local plumbing or waste water codes, and other applicable codes.

A copy of the National Fuel Gas Code (NFPA 54/ANSI Z223.1) can be obtained from any of the following:

American National Standards Institute
1430 Broadway
New York, NY 10018

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269

CSA International
8501 East Pleasant Valley
Cleveland, OH 44131

A copy of the CAN/CSA B149 Installation Codes can also be obtained from:

CSA International
178 Rexdale Boulevard
Etobicoke, Ontario, Canada M9W 1R3

The rated heating capacity of the furnace should be greater than or equal to the total heat loss of the area to be heated. The total heat loss should be calculated by an approved method or in accordance with "ASHRAE Guide" or "Manual J-Load Calculations" published by the Air Conditioning Contractors of America.

In the USA, this furnace MUST be installed in accordance with the latest edition of the ANSI Z223.1 booklet entitled "National Fuel Gas Code" (NFPA 54), and the requirements or codes of the local utility or other authority having jurisdiction. In Canada, this furnace must be installed in accordance with the current CAN/CGA-B149.1 & 2 Gas Installation Codes, local plumbing or waste water codes and other applicable codes. Additional helpful publications available from the NFPA are, NFPA 90A - Installation of Air Conditioning and Ventilating System and NFPA 90B - Warm Air Heating and Air Conditioning System.

All venting shall be in accordance with PART 7, Venting of Equipment, of the National Fuel Gas Code, ANSI Z223.1, or applicable local building and/or air conditioning codes. These publications are available from:

National Fire Protection Association, Inc.
Batterymarch Park, Quincy, MA 02269

The GMH8 furnaces meet the California NOx emission standards and California seasonal efficiency standards. ANNUAL inspections of the furnace and its vent system is strongly recommended.

IV. LOCATION REQUIREMENTS AND CONSIDERATIONS

General

Model type determines which installation procedures must be used. For GMH8 models, you must follow instructions for Horizontal Left, Horizontal Right or Upflow installations only. GMH8 models are not approved for Downflow installations.

For GDH models, you must follow instructions for Downflow installation only. GDH models are not approved for Horizontal or Upflow installations.

⚠ WARNING

POSSIBLE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO FIRE, EXPLOSION, SMOKE, SOOT, CONDENSTAION, ELECTRICAL SHOCK OR CARBON MONOXIDE MAY RESULT FROM IMPROPER INSTALLATION, REPAIR, OPERATION, OR MAINTENANCE OF THIS PRODUCT.

⚠ WARNING

TO PREVENT POSSIBLE EQUIPMENT DAMAGE, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, THE FOLLOWING BULLET POINTS MUST BE OBSERVED WHEN INSTALLING THE UNIT.

Follow the instructions listed below when selecting a furnace location. Refer also to the guidelines provided in *Section V, Combustion and Ventilation Air Requirements.*

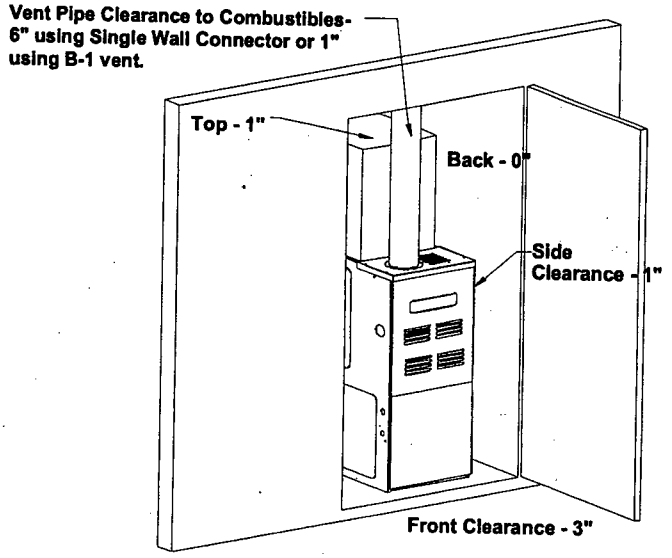
- Centrally locate the furnace with respect to the proposed or existing air distribution system.
- Ensure the temperature of the return air entering the furnace is between 55°F and 100°F when the furnace is heating.
- Provisions must be made for venting combustion products outdoors through a proper venting system. The length of flue pipe could be a limiting factor in locating the furnace.
- Ensure adequate combustion air is available for the furnace. Improper or insufficient combustion air can expose building occupants to gas combustion products that could include carbon monoxide. Refer to *Section V, Combustion and Ventilation Air Requirements.*
- The furnace must be level. If the furnace is to be set on a floor that may become wet or damp at times, the furnace should be supported above the floor on a concrete base sized approximately 1-1/2" larger than the base of the furnace.
- Ensure upflow or horizontal furnaces are not installed directly on carpeting, or any other combustible material. The only combustible material allowed is wood.
- Exposure to contaminated combustion air will result in safety and performance-related problems. Do not install the furnace where the combustion air is exposed to the following substances:

  chlorinated waxes or cleaners
  chlorine-based swimming pool chemicals
  water softening chemicals
  deicing salts or chemicals
  carbon tetrachloride
  halogen type refrigerants
  cleaning solutions (such as perchloroethylene)
  printing inks
  paint removers
  varnishes
  hydrochloric acid
  cements and glues
  antistatic fabric softeners for clothes dryers
  and masonry acid washing materials

- If the furnace is used in connection with a cooling unit, install the furnace upstream or in parallel with the cooling unit coil. Premature heat exchanger failure will result if the cooling unit coil is placed ahead of the furnace.
- If the furnace is installed in a residential garage, position the furnace so that the burners and ignition source are

located not less than 18 inches (457 mm) above the floor. Protect the furnace from physical damage by vehicles.

- If the furnace is installed horizontally, the furnace access doors must be vertical so that the burners fire horizontally into the heat exchanger. Do not install the unit with the access doors on the "up/top" or "down/bottom" side of the furnace.
- Do not connect this furnace to a chimney flue that serves a separate appliance designed to burn solid fuel.
- On Counterflow Installations, the air conditioning coil must be downstream from the heat exchanger of the furnace.
- *Counterflow Installation over a noncombustible floor.* Before setting the furnace over the plenum opening, ensure the surface around the opening is smooth and level. A tight seal should be made between the furnace base and floor by using a silicone rubber caulking compound or cement grout.
- *Counterflow Installation over a combustible floor.* If installation over a combustible floor becomes necessary, use an accessory subbase (see Product Data Book applicable to your model* for details). A special accessory subbase must be used for upright counterflow unit installations over any combustible material including wood. Refer to subbase instructions for installation details. Follow the instructions with the subbase for proper installation. Do not install the furnace directly on carpeting, tile, or other combustible material other than wood flooring. (Note: The subbase will not be required if an air conditioning coil is installed between the supply air opening on the furnace and the floor.)



- Adequate combustion/ventilation air must be supplied to the closet.
- Furnace must be **completely** sealed to floor or base. Combustion/ ventilation air supply pipes must terminate 12" from top of closet and 12" from floor of closet. DO NOT remove solid base plate for side return.
- Return air ducts must be **completely** sealed to the furnace and terminate outside the enclosure surfaces.

Clearances and Accessibility

Unobstructed front clearance of 24" **for servicing** is recommended.

VENT		SIDES	FRONT	BACK	TOP (PLENUM)
B1-VENT	SINGLE				
1"	6"	1"	3"	0"	1"

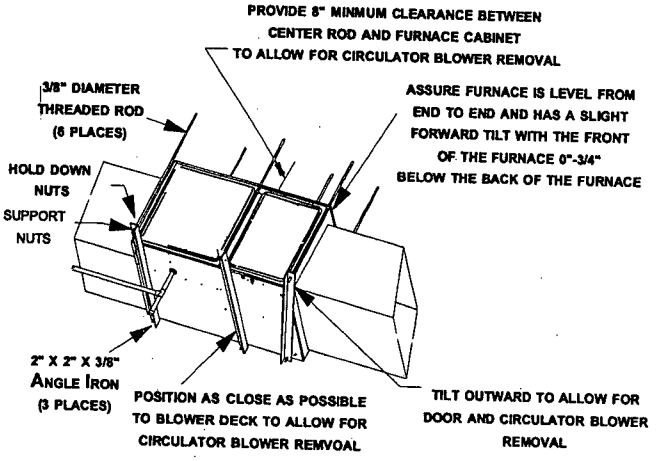
Top clearance for horizontal configuration - 1"

Horizontal Installation

Line contact to framing is permitted when installed in the horizontal configuration. Line contact is defined as the portion of the cabinet that is formed by the intersection of the top and side. ACCESSIBILITY CLEARANCE,WHERE GREATER, SHOULD TAKE PRECEDENCE OVER MINIMUM FIRE PROTECTION CLEARANCE. A gas-fired furnace for installation in a residential garage must be installed so that the ignition source and burners are located not less than eighteen inches (18") above the floor and is protected or located to prevent physical damage by vehicles. A gas furnace must not be installed directly on carpeting, tile, or other combustible materials other than wood flooring.

Furnace Suspension

If suspending the furnace from rafters or joist, use 3/8" threaded rod and 2"x2"x3/8" angle iron as shown below. The length of rod will depend on the application and the clearances necessary.



Suspended Furnace

Existing Furnace Removal

NOTE: When an existing furnace is removed from a venting system serving other appliances, the venting system may be too large to properly vent the remaining attached appliances.

The following vent testing procedure is reproduced from the **American National Standard/National Standard of Canada for Gas-Fired Central Furnaces ANSI Z21.47-Latest Edition, CSA-2.3-Latest Edition Section 1.23.1.** The following steps shall be followed with each appliance connected to the venting system placed in operation, while any other appliances connected to the venting system are not in operation:

a. Seal any unused openings in the venting system;

b. Inspect the venting system for proper size and horizontal pitch, as required by the National Fuel Gas Code, ANSI Z223.1 or the CAN/CSA B149 Installation Codes and these instructions. Determine that there is no blockage or restriction, leakage, corrosion and other deficiencies which could cause an unsafe condition;

c. In so far as practical, close all building doors and windows and all doors between the space in which the appliance(s) connected to the venting system are located and other spaces of the building. Turn on clothes dryers and any appliance not connected to the venting system. Turn on any exhaust fans, such as range hoods and bathroom exhausts, so they shall operate at maximum speed. Do not operate a summer exhaust fan. Close fireplace dampers;

d. Follow the lighting instructions. Place the appliance being inspected in operation. Adjust thermostat so appliance shall operate continuously;

e. Test for draft hood equipped appliance spillage at the draft hood relief opening after 5 minutes of main burner operation. Use the flame of a match or candle;

f. After it has been determined that each appliance connected to the venting system properly vents when tested as outlined above, return doors, windows, exhaust fans, fireplace dampers and any other gas burning appliance to their previous conditions of use;

g. If improper venting is observed during any of the above tests, the common venting system must be corrected.

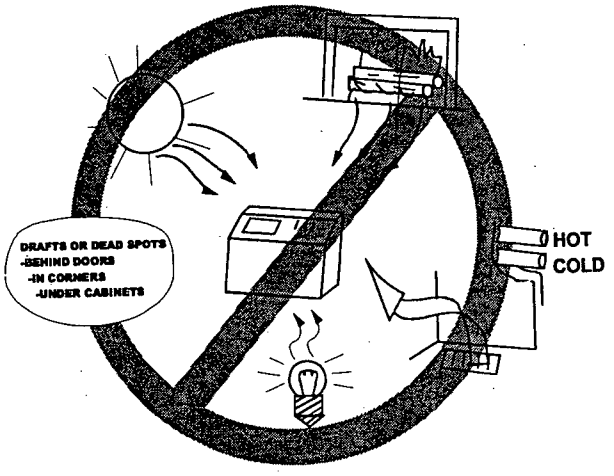
Corrections must be in accordance with the latest edition of the National Fuel Gas Code NFPA 54/ANSI Z223.1 and/or CAN/CSA B149 Installation Codes.

If resizing is required on any portion of the venting system, use the appropriate table in Appendix G in the latest edition of the National Fuel Gas Code ANSI Z223.1 and/or CAN/CSA B149 Installation Codes.

THERMOSTAT LOCATION

In an area having good air circulation, locate the thermostat about five feet high on a vibration-free inside wall. Do not install the thermostat where it may be influenced by any of the following:

- Drafts, or dead spots behind doors, in corners, or under cabinets.
- Hot or cold air from registers.
- Radiant heat from the sun.
- Light fixtures or other appliances.
- Radiant heat from a fireplace.
- Concealed hot or cold water pipes, or chimneys.
- Unconditioned areas behind the thermostat, such as an outside wall.



Thermostat Influences

Consult the instructions packaged with the thermostat for mounting instructions and further precautions.

V. COMBUSTION AND VENTILATION AIR REQUIREMENTS

⚠ WARNING

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, SUFFICIENT FRESH AIR FOR PROPER COMBUSTION AND VENTILATION OF FLUE GASES MUST BE SUPPLIED. MOST HOMES REQUIRE OUTSIDE AIR BE SUPPLIED INTO THE FURNACE AREA.

Improved construction and additional insulation in buildings have reduced heat loss by reducing air infiltration and escape around doors and windows. These changes have helped in reducing heating/cooling costs but have created a problem supplying combustion and ventilation air for gas fired and other fuel burning appliances. Appliances that pull air out of the house (clothes dryers, exhaust fans, fireplaces, etc.) increase the problem by starving appliances for air.

House depressurization can cause back drafting or improper combustion of gas-fired appliances, thereby exposing building occupants to gas combustion products that could include carbon monoxide.

If this furnace is to be installed in the same space with other gas appliances, such as a water heater, ensure there is an adequate supply of combustion and ventilation air for the other appliances. Refer to the latest edition of the National Fuel Gas Code NFPA 54/ ANSI Z223.1 (Section 5.3), or CAN/CSA B149 Installation Codes (Sections 7.2, 7.3, or 7.4), or applicable provisions of the local building codes for determining the combustion air requirements for the appliances.

This furnace must use indoor air for combustion. It cannot be installed as a direct vent (i.e., sealed combustion) furnace.

Most homes will require outside air be supplied to the furnace area by means of ventilation grilles or ducts connecting directly to the outdoors or spaces open to the outdoors such as attics or crawl spaces.

The following information on air for combustion and ventilation is reproduced from the **National Fuel Gas Code NFPA 54/ANSI Z223.1 Section 5.3.**

5.3.1 General:

(a) The provisions of 5.3 apply to gas utilization equipment installed in buildings and which require air for combustion, ventilation and dilution of flue gases from within the building. They do not apply to (1) direct vent equipment which is constructed and installed so that all air for combustion is obtained from the outside atmosphere and all flue gases are discharged to the outside atmosphere, or (2) enclosed furnaces which incorporate an integral total enclosure and use only outside air for combustion and dilution of flue gases.

(b) Equipment shall be installed in a location in which the facilities for ventilation permit satisfactory combustion of gas, proper venting and the maintenance of ambient temperature at safe limits under normal conditions of use. Equipment shall be located so as not to interfere with proper circulation of air. When normal infiltration does not provide the necessary air, outside air shall be introduced.

(c) In addition to air needed for combustion, process air shall be provided as required for: cooling of equipment or material, controlling dew point, heating, drying, oxidation or dilution, safety exhaust, odor control, and air for compressors.

(d) In addition to air needed for combustion, air shall be supplied for ventilation, including all air required for comfort and proper working conditions for personnel.

(e) While all forms of building construction cannot be covered in detail, air for combustion, ventilation and dilution of flue gases for gas utilization equipment vented by natural draft normally may be obtained by application of one of the methods covered in 5.3.3 and 5.3.4.

(f) Air requirements for the operation of exhaust fans, kitchen ventilation systems, clothes dryers, and fireplaces shall be considered in determining the adequacy of a space to provide combustion air requirements.

5.3.2 Equipment Located in Unconfined Spaces:

In unconfined spaces (see definition below) in buildings, infiltration may be adequate to provide air for combustion ventilation and dilution of flue gases. However, in buildings of tight construction (for example, weather stripping, heavily insulated, caulked, vapor barrier, etc.), additional air may need to be provided using the methods described in 5.3.3-b or 5.3.4.

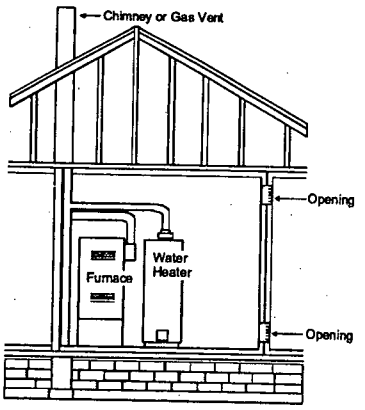
Space, Unconfined.

For purposes of this Code, a space whose volume is not less than 50 cubic feet per 1,000 BTU per hour of the aggregate input rating of all appliances installed in that space. Rooms communicating directly with the space in which the appliances are installed through openings not furnished with doors, are considered a part of the unconfined space.

5.3.3 Equipment Located in Confined Spaces:

(a) *All Air from Inside the Building:* The confined space shall be provided with two permanent openings communicating directly with an additional room(s) of sufficient volume so that the combined volume of all spaces meets the criteria for an unconfined space. The total input of all gas utilization equipment installed in the combined space shall be considered in making this determination. Each opening shall have a minimum free area of 1 square inch per 1,000 BTU per hour of the total input rating of all gas utilization equipment in the confined space, but not less than 100 square inches. One opening shall be within 12 inches of the top and one within 12 inches of the bottom of the enclosure.

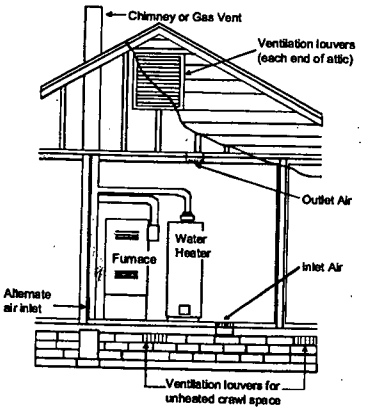
NOTE: Each opening must have a free area of not less than one square inch per 1000 BTU of the total input rating of all equipment in the enclosure, but not less than 100 square inches.



Equipment Located in Confined Spaces; All Air from Inside Building. See 5.3.3-a.

(b) *All Air from Outdoors:* The confined space shall be provided with two permanent openings, one commencing within 12 inches of the top and one commencing within 12 inches of the bottom of the enclosure. The openings shall communicate directly, or by ducts, with the outdoors or spaces (crawl or attic) that freely communicate with the outdoors.

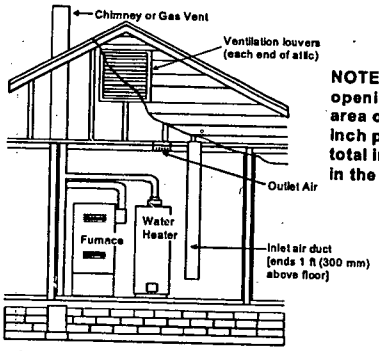
1. When directly communicating with the outdoors, each opening shall have a minimum free area of 1 square inch per 4,000 BTU per hour of total input rating of all equipment in the enclosure.



NOTE: The inlet and outlet air openings must each have a free area of not less than one square inch per 4000 BTU of the total input rating of all equipment in the enclosure.

Equipment Located in Confined Spaces; All Air from Outdoors—Inlet Air from Ventilated Crawl Space and Outlet Air to Ventilated Attic. See 5.3.3-b

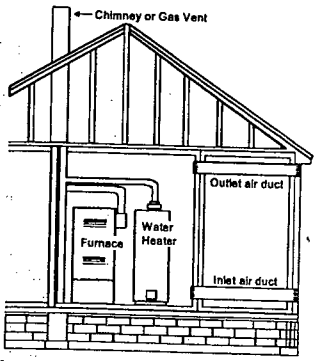
2. When communicating with the outdoors through vertical ducts, each opening shall have a minimum free area of 1 square inch per 4,000 BTU per hour of total input rating of all equipment in the enclosure.



NOTE: The inlet and outlet air openings must each have a free area of not less than one square inch per 4000 BTU of the total input rating of all equipment in the enclosure.

Equipment Located in Confined Spaces; All Air from Outdoors Through Ventilated Attic. See 5.3.3-b.

3. When communicating with the outdoors through horizontal ducts, each opening shall have a minimum free area of 1 square inch per 2,000 BTU per hour of total input rating of all equipment in the enclosure.

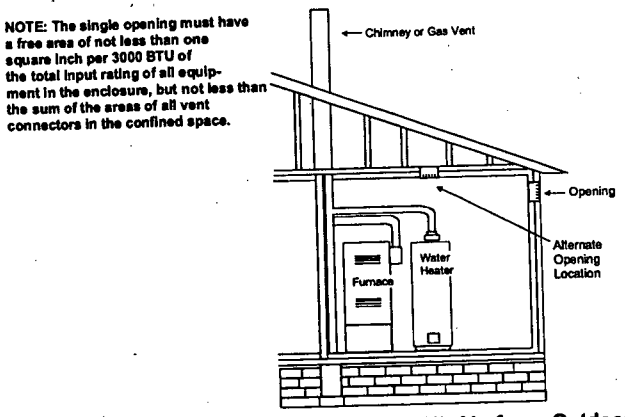


NOTE: The air duct openings must have a free area of not less than one square inch per 2000 BTU of the total input rating of all equipment in the enclosure*.

Equipment Located in Confined Spaces; All Air from Outdoors - See 5.3.3-b.

*If the appliance room is located against an outside wall and the air openings communicate directly with the outdoors, each opening shall have a free area of not less than one square inch per 4,000 BTU per hour of the total input rating of all appliances in the enclosure.

4. When ducts are used, they shall be of the same cross-sectional area as the free area of the openings to which they connect. The minimum dimension of rectangular air ducts shall not be less than 3 inches.



Equipment Located in Confined Spaces; All Air from Outdoors. Single Air Opening. See 5.3.3-b.

5. One permanent opening may be permitted, provided the equipment has clearances of at least 1" from the sides and back and 6" from the front. The opening shall communicate directly with the outdoors and must be located within 12" of the top of the enclosure. The minimum free area of the opening shall be 1 square inch per 3,000 BTU per hour of total input rating of all equipment in the enclosure. The minimum free area shall not be less than the sum of the areas of all vent connectors in the confined space.

5.3.4 Specially Engineered Installations:

The requirements of 5.3.3 shall not necessarily govern when special engineering, approved by the authority having jurisdiction, provides an adequate supply of air for combustion, ventilation, and dilution of flue gases.

5.3.5 Louvers and Grilles:

In calculating free area in 5.3.3, consideration shall be given to the blocking effect of louvers, grilles or screens protecting openings. Screens used shall not be smaller than 1/4 inch mesh. If the area through a design of louver or grille is known, it should be used in calculating the size of opening required to provide the free area specified. If the design and free area is not known, it may be assumed that wood louvers will have 20-25 percent free area and metal louvers and grilles will have 60-75 percent free area. Louvers and grilles shall be fixed in the open position or interlocked with the equipment so that they are opened automatically during equipment operation.

5.3.6 Special Conditions Created by Mechanical Exhausting or Fireplaces:

Operation of exhaust fans, ventilation systems, clothes dryers, or fireplaces may create conditions requiring special attention to avoid unsatisfactory operation of installed gas utilization equipment.

VI. CATEGORY I VENTING (VERTICAL VENTING)

⚠ WARNING

TO PREVENT POSSIBLE PERSONAL INJURY OR DEATH DUE TO ASPHYXIATION, THIS FURNACE MUST BE CATEGORY I VENTED. DO NOT VENT USING CATEGORY III VENTING.

Category I Venting is venting at a non-positive pressure. A furnace vented as Category I is considered a fan-assisted appliance and the vent system does not have to be "gas tight." **NOTE:** Single stage gas furnaces with induced draft blowers draw products of combustion through a heat exchanger allowing, in some instances, common venting with natural draft appliances (i.e. water heaters). All installations must be vented in accordance with National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest edition. In Canada, the furnaces must be vented in accordance with the National Standard of Canada, CAN/CSA B149.1 and CAN/CSA B149.2 - latest editions and amendments.

NOTE: The vertical height of the Category I venting system must be at least as great as the horizontal length of the venting system.

⚠ WARNING

TO PREVENT POSSIBLE PERSONAL INJURY OR DEATH DUE TO ASPHYXIATION, COMMON VENTING WITH OTHER MANUFACTURER'S INDUCED DRAFT APPLIANCS IS NOT ALLOWED.

The minimum vent diameter for the Category I venting system is as shown:

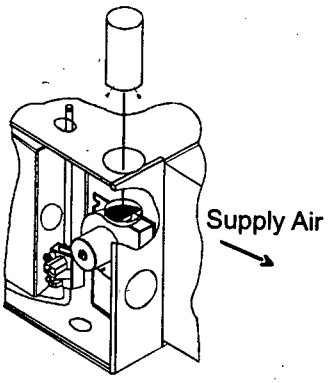
MODEL	MINIMUM VENT	
	UPFLOW	COUNTERFLOW
45	4 Inch	4 Inch
70	4 Inch	4 Inch
90	4 Inch	4 Inch
115	5 Inch	5 Inch
140	5 Inch	N/A

Under some conditions, larger vents than those shown above may be required or allowed. *When an existing furnace is removed from a venting system serving other appliances*, the venting system may be too large to properly vent the remaining attached appliances.

Upflow or Horizontal units are shipped with the induced draft blower discharging from the top of the furnace. ("Top" is as viewed for an upflow installation.) The induced draft blower can be rotated 90 degrees for Category I venting. For horizontal installations, a four inch single wall pipe can be used to extend the induced draft blower outlet 1/2" beyond the furnace cabinet. Vent the furnace in accordance with the National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest edition. In Canada, vent the furnace in accordance with the National Standard of Canada, CAN/CSA B149.1 and CAN/CSA B149.2 - latest editions and amendments.

Venting

THIS FURNACE IS NOT DESIGN CERTIFIED TO BE HORIZONTALLY VENTED.



Upflow Rotated Induced Draft Blower

To rotate the induced draft blower, proceed as follows:

1. Disconnect electrical power from the furnace.
2. Disconnect the induced draft blower power leads, flue pipe, and pressure switch tubing.
3. Remove the round cutout from the appropriate side of the furnace.
4. Remove and save the four screws that hold the induced draft blower to the flue collector box.
5. Turn the induced draft blower 90 degrees clockwise, or counterclockwise. The gasket is adhered to the back plate and will rotate with the blower assembly.
6. Reinstall the induced draft blower on the flue collector box, using the four screws removed in Step 3. Tighten screws to provide an airtight seal.
7. Reconnect the induced draft blower power leads. NOTE: If the wires are not long enough, pull extra wire from the wire bundle in the blower compartment.
8. Remove and save the screw that holds the pressure switch to the furnace top panel.
9. Relocate the pressure switch to the same side as the flue outlet in the hole provided.
10. Reconnect the draft blower power leads, flue pipe, and pressure switch tubing. Make sure that all wires and the pressure switch tubing are at least one inch from the flue pipe, or any other hot surfaces.
11. Restore power to the furnace.

Counterflow units are shipped with the induced draft blower discharging from the top of the furnace. ("Top" as viewed for a counterflow installation.) Vent the furnace in accordance with the National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest edition. In Canada, vent the furnace in accordance with the National Standard of Canada, CAN/CSA B149.1 AND CAN/CSA B149.2 - latest editions and amendments.

⚠ WARNING

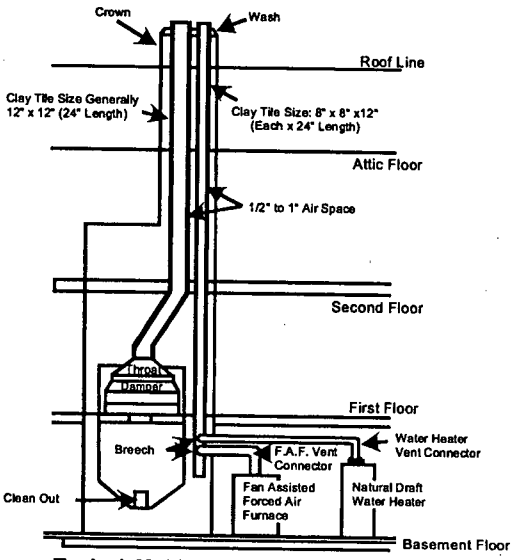
NEVER ALLOW THE PRODUCTS OF COMBUSTION, INCLUDING CARBON MONOXIDE, TO ENTER THE RETURN DUCTWORK OR CIRCULATION AIR SUPPLY.

VII. EXTERIOR MASONRY CHIMNEYS - *CATEGORY I FURNACES ONLY*

An exterior masonry chimney is defined as a "Masonry chimney exposed to the outdoors on one or more sides below the roof line." The ability to use a clay lined masonry chimney depends on a parameter not associated with interior chimneys. This variable is the geographic location of the installation. Researchers have discovered that the winter design temperatures have a direct impact on the suitability of this type of venting. In most situations, the existing masonry chimneys will require a properly sized metallic liner.

⚠ WARNING

POSSIBILITY OF PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DAMAGING CONDENSATION CAN OCCUR INSIDE MASONRY CHIMNEYS WHEN A SINGLE FAN ASSISTED CATEGORY I APPLIANCE (80% AFUE FURNACE) IS VENTED WITHOUT ADEQUATE DILUTION AIR. DO NOT CONNECT AN 80% FURNACE TO A MASONRY CHIMNEY UNLESS THE FURNACE IS COMMON VENTED WITH A DRAFT HOOD EQUIPPED APPLIANCE OR THE CHIMNEY IS LINED WITH A METAL LINER OR TYPE B METAL VENT. ALL INSTALLATIONS USING MASONRY CHIMNEYS MUST BE SIZED IN ACCORDANCE WITH THE APPROPRIATE VENTING TABLES. IF AN 80% FURNACE IS COMMON VENTED WITH A DRAFT HOOD EQUIPPED APPLIANCE, THE POTENTIAL FOR CONDENSATION DAMAGE MAY STILL EXIST WITH EXTREMELY COLD CONDITIONS, LONG VENT CONNECTORS, EXTERIOR CHIMNEYS, OR ANY COMBINATION OF THESE CONDITIONS. THE RISK OF CONDENSATION DAMAGE IS BEST AVOIDED BY USING THE MASONRY CHIMNEY AS A PATHWAY FOR PROPERLY SIZED METAL LINER OR TYPE B METAL VENT.



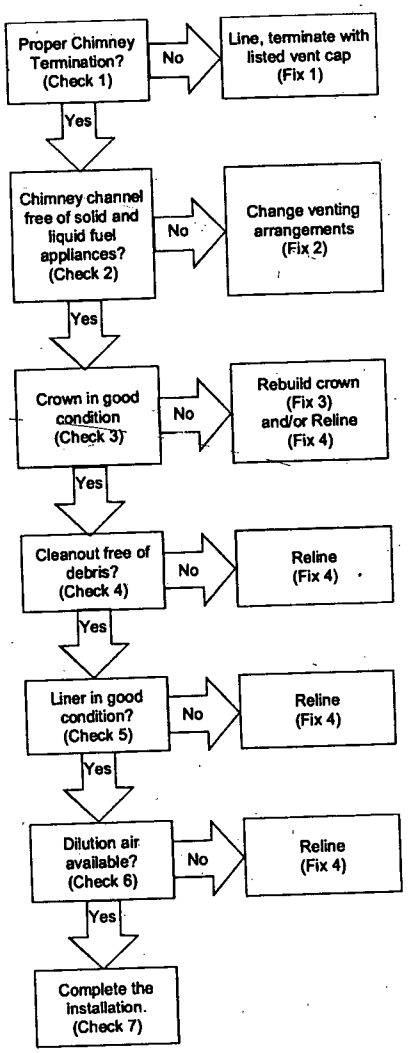
Typical Multiple Flue Clay Tile Chimney

CHECKLIST SUMMARY

This checklist serves as a summary of the items to be checked before venting an 80+ furnace into a masonry chimney. In addition, we recommend that a qualified serviceman use this checklist to perform a yearly inspection of the furnace venting system.

This checklist is only a summary. For detailed information on each of the procedures mentioned, see the paragraph referenced with each item.

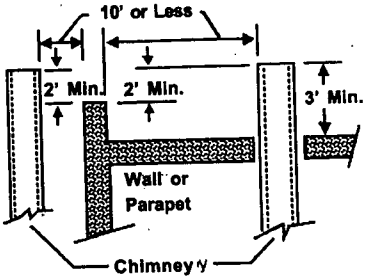
This inspection is based upon a draft topical report, "Masonry Chimney Inspection and Relining", issued by the Gas Research Institute. While not yet finalized, we believe this report represents the best information on this subject which is currently available.

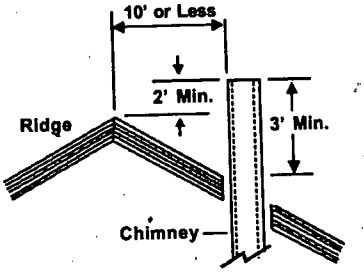


CHECK 1 - PROPER CHIMNEY TERMINATION.

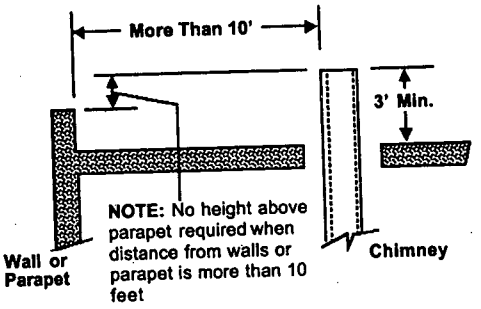
A masonry chimney used as a vent for gas fired equipment must extend at least three feet above the highest point where it passes through the roof. It must extend at least two feet higher than any portion of a building within a horizontal distance of 10 feet. In addition, the chimney must terminate at least 3 feet above any forced air inlet located within 10 feet. The chimney must extend at least five feet above the highest connected equipment draft hood outlet or flue collar.

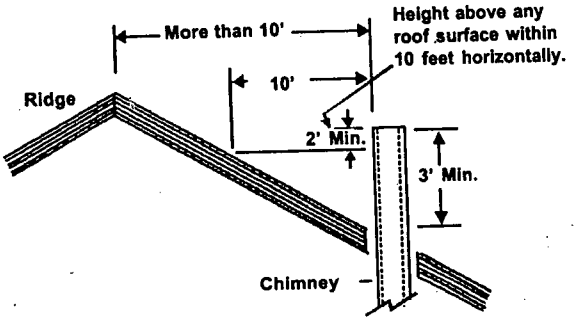
If the chimney does not meet these termination requirements, but all other requirements in the checklist can be met, it may be possible for a mason to extend the chimney. If this will not be practical, see Fix 1.





Termination 10 Feet Or Less From Ridge, Wall or Parapet





Termination More Than 10 Feet From Ridge, Wall or Parapet

CHECK 2 - ANY SOLID OR LIQUID FUEL APPLIANCES VENTED INTO THIS CHIMNEY CHANNEL

Solid fuel appliances include fireplaces, wood stoves, coa furnaces, and incinerators.

Liquid fuel appliances include oil furnaces, oil-fired boilers anc oil-fired water heaters.

Appliances which burn propane (sometimes referred to as LF (liquefied petroleum)) gas are considered gas-fired appliances

CHECK 3 - CHIMNEY CROWN CONDITION.

Damage from condensate usually shows up first in the crown. any of the following trouble signs are present, the condition of th crown is not satisfactory:

a) Crown leaning
b) Bricks missing
c) Mortar missing
d) Tile liner cracked
e) No tile liner
f) Salt staining at mortar joints. (White stains, and mortar becomes sandy and/or erodes.)

For problems a, b, or c, see Fix 3. If problems d, e, or f are present, see Fix 4. IMPORTANT: It may be necessary to follow both Fix 3 and Fix 4.

Check 4 - Debris in Cleanout

A cleanout (dropleg) must be present such that the upper edge of the cleanout cover is at least 12 inches below the lower edge of the lowest chimney inlet opening.

A chimney without a cleanout could become partially blocked by debris. If no cleanout is present, the chimney must be refined (Fix 4). Remove the cleanout cover, and examine the cleanout for debris. If significant amounts of any of the following are found:

- Fuel oil residue
- Bricks
- Mortar or sand
- Pieces of the tile liner
- Rusted pieces of the metallic liner - reline the chimney (Fix 4).

Check 5 - Liner condition.

If a metal liner is present, it must be checked. It cannot be assumed that all existing metal liners are correctly installed and in good condition.

Remove the lowest existing vent connector, and examine the inside of the elbow or tee at the base of the liner. A small amount of soot may be considered acceptable, provided the installer vacuums it away. If rusted pieces of the liner have collected here, the metal liner must be removed and replaced (Fix 4).

Next, gently tap the inside of the liner with a Phillips screwdriver. If the screwdriver perforates the liner, or if the tapping does not sound like metal hitting metal, the liner must be removed and replaced (Fix 4).

Remember that all appliances must be vented inside the liner. Venting one appliance inside the liner and another appliance outside the liner is not acceptable.

Next, use a flashlight and small mirror to sight up the liner. B vent must be supported so as to not come into direct contact with the chimney walls or tile liner. If it is not, it can probably be rehung so as to be acceptable. A thimble or fire stop may be helpful here.

Flexible liners should be hung straight or nearly straight. If it is spiraled in the chimney and in good condition, it should be rehung. To do this, break the top seal; pull up and cut off the excess liner length, and refit the top seal. Use caution when doing this, as the cut edges of flexible liners may be sharp.

The surfaces of the liner must be physically sound. If gaps or holes are present, the metal liner must be removed and replaced (Fix 4). Finally, confirm that the metal liner is the correct size for the appliances to be installed. Use the GAMA tables and rules.

If a metal liner is not present, a clay tile liner must be present, or the chimney must be lined (Fix 4).

Use a flashlight and small mirror at the cleanout or vent connector to inspect the clay tile liner. If any of the following problems are present:

- Tile sections misaligned
- Tile sections missing
- Gaps between tile sections
- Signs of condensate drainage at the cleanout or vent connectors
- Mortar protruding from between tile sections
- Use of sewer pipe or drainage pipe rather than an approved fire clay tile reline the chimney (Fix 4).

Next, measure the size of the liner. It may be possible to do this from the cleanout. The liner must be at least as large as the minimum size established by the tables in National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest edition and in the National Standard of Canada, CAN/CSA B149.1 and CAN/CSA B149.2 - latest editions and amendments. If the liner is too small or too large, then the chimney must be relined (Fix 4).

Check 6 - Dilution Air.

If gas-fired appliances are to be vented into a clay tile liner, a source of dilution air is required.

Dilution air cannot be obtained through:

- Induced draft appliances
- Natural draft appliances with vent dampers

Sufficient dilution air can ordinarily be obtained through the draft hood of a natural draft appliance only if the appliance's vent connector does not include a vent damper. If dilution air will not be available, the chimney must be relined (Fix 4).

Check 7 - Complete the Installation.

If Checks 1 through 6 have been satisfactory, and the liner is an acceptable size as determined by the tables in National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest edition and in the National Standard of Canada, CAN/CSA B149.1 and CAN/CSA B149.2 - latest editions and amendments, then the clay tile liner can probably be used as a vent for the gas appliances. However, the installer must keep in mind the following factors which may render the tile liner unsuitable for use as a vent:

- Extremely cold weather
- Long vent connectors
- Masonry chimneys with no air gap between the liner and the bricks. (In practice, this can be difficult to detect.)
- Exterior chimneys (The tables in National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest edition and in the National Standard of Canada, CAN/CSA B149.1 and CAN/CSA B149.2 - latest editions and amendments assume interior chimneys.)

If, in the judgment of the local gas utility, installer, and/or local codes; one or more of the above factors is likely to present a problem, the chimney must be relined (Fix 4).

Fix 1 - Liner termination

Any cap or roof assembly used with a liner must be approved by the liner manufacturer for such use. The liner and cap/roof assembly must then terminate above the roof in accordance with the manufacturer's instructions.

In some cases, a shorter extension above the roof may be possible with a liner than would be required with a masonry chimney.

For further information on relining, see Fix 4.

Fix 2 -Change venting arrangements

If the masonry chimney has more than one channel, it may be possible to vent the gas appliances into one channel and vent the solid or liquid fuel appliance(s) into another channel(s). Do not vent an 80+ Furnace inside of a metal liner with other appliances vented outside the liner.

Alternatively, the homeowner may agree to discontinue use of the fireplace (solid fuel appliance). If so, the tile liner must be cleaned to remove creosote buildup. The fireplace opening must then be permanently sealed.

If oil-fired appliance(s) are being replaced by gas-fired appliance(s), the tile liner must first be cleaned to remove the fuel oil residue.

If none of the above options is practical, the furnace may need to be vented vertically with a B Vent.

Under some conditions, a 90%+ furnace could be installed rather than an 80% furnace. The 90%+ furnace can be vented horizontally or vertically through PVC pipe.

Fix 3 - Rebuild the crown

If the chimney crown is damaged, a qualified mason must repair it in accordance with nationally recognized building codes or standards. One such standard which may be referenced is the Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances, ANSI/NFPA 211.

Fix 4 - Relining

Relining options include B vent and flexible liners.

If the chimney has diagonal offsets, B vent probably cannot be used.

If B vent is to be used, it must be supported adequately. Supports (such as fire stops or thimbles) must be used to prevent the B vent from coming into direct contact with the tile liner or chimney walls. Direct contact would result in higher heat loss, with an increased possibility of poor venting system performance.

It is not acceptable to vent one appliance inside the B vent and other appliances outside. The excess space between the B vent and the chimney walls must be covered at the top of the chimney by a weatherproof, corrosion resistant flashing.

The B vent should then be topped with a listed vent cap. The listed vent cap will, when installed per the manufacturer's instructions, prevent problems due to rain, birds, or wind effects.

A B-vent installed as described in this section is considered to be an enclosed vent system, and the sizing tables in National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest edition and in the National Standard of Canada, CAN/CSA B149.1 and CAN/CSA B149.2 - latest editions and amendments may be used.

If a flexible liner is to be used, it must be made of the proper materials:

- For most residential applications, an aluminum liner should be acceptable.
- If the combustion air supplied to the furnace will be contaminated with compounds containing chlorine or fluorine, a liner of AL 29-4C stainless steel should be used. Common sources of chlorine and fluorine compounds include indoor swimming pools and chlorine bleaches, paint strippers, adhesives, paints, varnishes, sealers, waxes (which are not yet dried) and solvents used during construction and remodeling. Various commercial and industrial processes may also be sources of chlorine/fluorine compounds.
- Heavier gauge 300 and 400 series stainless steel liners were developed for use with oil or solid fuel appliances. They are not suitable for use with gas-fired appliances. Flexible liners specifically intended and tested for gas applications are listed in the UL "Gas and Oil Equipment Directory". (UL Standard 1777).

For sizing of flexible liners, see Note 22 and the tables in the National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest edition and in the National Standard of Canada, CAN/CSA B149.1 and CAN/CSA B149.2 - latest editions and amendments.

To install the liner, read and follow the liner manufacturer's instructions and your local codes. Excess liner length should be pulled out of the chimney and cut off. Use caution when doing this, as the cut edges of flexible liners may be sharp. Do not spiral excess liner inside of the chimney. Support the liner as recommended by the liner manufacturer.

Some manufacturers of flexible liners offer an insulation sleeve designed to be added to the liner before it is installed in the chimney. (Poured insulation, either vermiculite or other materials, is no longer recommended.) Insulation will need to be added to the flexible liner if:

- It is required by the liner manufacturer's instructions.
- The previous liner was properly sized and installed, and suffered from condensation damage.
- It is required by your local building codes.

Even if none of those three conditions exist which require additional liner insulation, the installer may wish to consider it if:

- The local climate is very cold.
- The chimney is very tall.
- The vent connectors used are very long or have a large number of elbows.
- Local experience indicates that flexible liners installed without insulation are likely to have condensation problems.

Insulation must be selected and installed in accordance with the liner manufacturer's instructions.

Finally, cap the chimney and terminate the liner in accordance with the liner manufacturer's instructions.

VIII. ELECTRICAL CONNECTIONS

⚠ WARNING

To avoid the risk of electrical shock, wiring to the unit must be polarized and grounded.

⚠ WARNING

To avoid injury, electrical shock or death, disconnect electrical power before servicing or changing any electrical wiring.

⚠ CAUTION

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

⚠ WARNING

TO AVOID THE RISK OF INJURY, ELECTRICAL SHOCK OR DEATH, THE FURNACE MUST BE ELECTRICALLY GROUNDED IN ACCORDANCE WITH LOCAL CODES OR, IN THEIR ABSENCE, WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE.

WIRING HARNESS

The wiring harness is an integral part of this furnace. Field alteration to comply with electrical codes should not be required. Wires are color coded for identification purposes. Refer to the wiring diagram for wire routings. If any of the original wire as supplied with the furnace must be replaced, it must be replaced with wiring material having a temperature rating of at least 105° C. Any replacement wiring must be a copper conductor.

115 VOLT LINE CONNECTIONS

Before proceeding with electrical connections, ensure that the supply voltage, frequency, and phase correspond to that specified on the unit rating plate. Power supply to the furnace must be NEC Class 1, and must comply with all applicable codes. The furnace must be electrically grounded in accordance with local codes or, in their absence, with the latest edition of The National Electric Code, ANSI NFPA 70 and/or The Canadian Electric Code CSA C22.1.

Use a separate fused branch electrical circuit containing properly sized wire, and fuse or circuit breaker. The fuse or circuit breaker must be sized in accordance with the maximum overcurrent protection specified on the unit rating plate. An electrical disconnect must be provided at the furnace location.

Line voltage wiring must enter into the junction box provided with the furnace.

NOTE: Line polarity must be observed when making field connections.

FOSSIL FUIEL APPLICATIONS

This furnace can be used in conjunction with a heat pump in a fossil fuel application. A fossil fuel application refers to a combined gas furnace and heat pump installation which uses an outdoor temperature sensor to determine the most cost efficient means of heating (heat pump, gas furnace, or both).

A heat pump thermostat with *two stages of heat* is required to properly use a furnace in conjunction with a heat pump. Refer to the fossil fuel kit installation instructions for additional thermostat requirements.

Strictly follow the wiring guidelines in the fossil fuel kit installation instructions. All furnace connections must be made to the furnace integrated control module and the FURNACE terminal strip on the fossil fuel control board.

JUNCTION BOX RELOCATION

⚠ WARNING

TO AVOID THE RISK OF INJURY, ELECTRICAL SHOCK OR DEATH, THE FURNACE MUST BE ELECTRICALLY GROUNDED IN ACCORDANCE WITH LOCAL CODES OR, IN THEIR ABSENCE, WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE.

⚠ WARNING

EDGES OF SHEET METAL HOLES MAY BE SHARP. USE GLOVES AS A PRECAUTION WHEN REMOVING HOLE PLUGS.

Line voltage connections can be made through either the right or left side panel. The furnace is shipped configured for a left side electrical connection. To make electrical connections through the opposite side of the furnace, the junction box must be relocated to the left side prior to making electrical connections. To relocate the junction box, perform the following steps.

⚠ WARNING

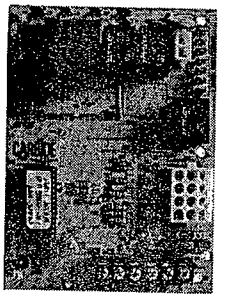
TO PREVENT PERSONAL INJURY OR DEATH DUE TO ELECTRIC SHOCK, DISCONNECT ELECTRICAL POWER.

1. Remove both doors from the furnace.
2. Remove and save the screws holding the junction box to the left side of the furnace.
3. Models that have the junction box located in the burner compartment will need to move the juction box directly over.
4. Attach the junction box to the right side of the furnace, using the screws removed in step 2.
5. Check the location of the wiring. Confirm that it will not be damaged by heat from the burners or by the rotation of the fan. Also confirm that wiring location will not interfere with filter removal or other maintenance.

After the junction box is in the desired location, use washers to connect field-supplied conduit to the junction box in accordance with NEC and local codes. Connect hot, neutral, and ground wires as shown in the furnace wiring diagram. The wires and ground screw are located in the furnace junction box.

Low voltage wires may be connected to the terminal strip.

IMPORTANT NOTE: To avoid possible equipment malfunction, route the low voltage wires to avoid interference with filter removal or other maintenance.



Integrated Ignition Control

⚠ WARNING

TO AVOID THE RISK OF INJURY, ELECTRICAL SHOCK OR DEATH, THE FURNACE MUST BE ELECTRICALLY GROUNDED IN ACCORDANCE WITH LOCAL CODES OR, IN THEIR ABSENCE, WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE.

To ensure proper unit grounding, the ground wire should run from the furnace ground screw located inside the furnace junction box all the way back to the electrical panel. **NOTE:** Do not use gas piping as an electrical ground. To confirm proper unit grounding, turn off the electrical power and perform the following check.

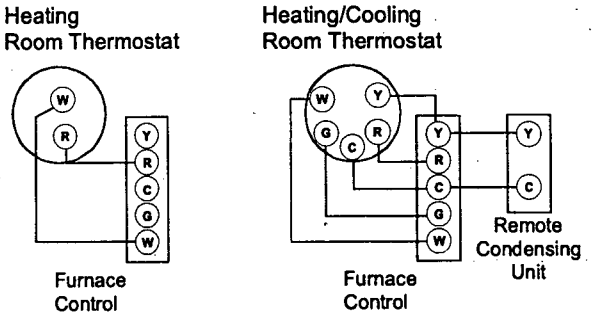
1. Measure resistance between the neutral (white) connection and one of the burners.
2. Resistance should measure 10 ohms or less.

This furnace is equipped with a blower door interlock switch which interrupts unit voltage when the blower door is opened for servicing. Do not defeat this switch.

24 Volt Thermostat Wiring

NOTE: Wire routing must not interfere with circulator blower operation, filter removal, or routine maintenance.

Low voltage connections can be made through either the right or left side panel. Thermostat wiring entrance holes are located in the blower compartment. The following figure shows connections for a "heat only" system and "heat/cool system".



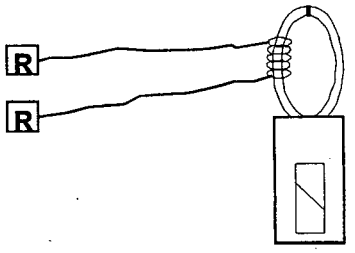
Typical Field Wiring (24 VAC Control Circuit)

This furnace is equipped with a 40 VA transformer to facilitate use with most cooling equipment. Consult the wiring diagram, located on the blower compartment door, for further details of 115 Volt and 24 Volt wiring.

A single-stage thermostat with only one heating stage can be used to control this furnace.

Setting the Heat Anticipator

The following method should be used in measuring the amp draw of the control circuit to assure proper adjustment of the thermostat heat anticipator



- Wrap the "R" leg around a clip-on ammeter 10 times.
- Energize the furnace in the heat mode.
- Record the reading.
- Divide this reading by 10.
- Set the heat anticipator on the thermostat to match this reading.

Example: If the reading on the ammeter is "4", divide this by 10. The anticipator setting will be .4 amps.

115 Volt Line Connection of Accessories (Electronic Air Cleaner)

⚠ WARNING

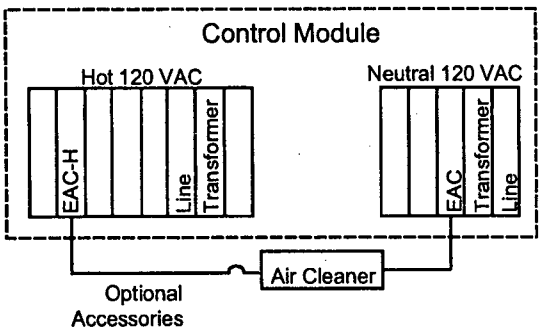
To avoid personal injury, electrical shock or death, disconnect electrical power before servicing or changing any electrical wiring.

The furnace integrated control module is equipped with line voltage accessory terminals for controlling power to an optional field-supplied electronic air cleaner.

The accessory load specifications are as follows:

Electronic Air Cleaner	1.0 Amp maximum at 120 VAC

Turn OFF power to the furnace before installing any accessories. Follow the air cleaner manufacturers' instructions for locating, mounting, grounding, and controlling these accessories. Accessory wiring connections are to be made through the 1/4" quick connect terminals provided on the furnace integrated control module. The electronic air cleaner hot terminal is identified as EAC-H and the neutral terminal is identified as NEUTRAL. All field wiring must conform to applicable codes. Connections should be made as shown in the following illustration.



If it is necessary for the installer to supply additional line voltage wiring to the inside of the furnace, the wiring must conform to all local codes, and have a minimum temperature rating of 105°C. All line voltage wire splices must be made inside the furnace junction box.

The integrated control module electronic air cleaner terminals (EAC) are energized with 115 volts whenever the circulator blower is energized.

24 Vac Hum

The yellow wire connected to the I.D. Blower pressure switch is powered anytime the pressure switch is closed and provides 24 VAC humidifier control. Remove the yellow wire and connect the supplied brown jumper wire to the pressure switch terminal. Reconnect the yellow wire to the "piggyback" terminal on the brown jumper and then connect the 24 VAC line of the humidifier to the stripped end of the brown wire. Using a wire nut or a field-supplied quick connect terminal can make this connection. The wiring must conform to all local and national codes. Connect the COM side of the humidifier to the B/C terminal on the furnace control board (or to the COM side of the 24 VAC transformer). **DO NOT CONNECT 115V HUMIDIFIER TO THESE TERMINALS.**

IX. GAS SUPPLY AND PIPING

General

The furnace rating plate includes the approved furnace gas input rating and gas types. The furnace must be equipped to operate on the type of gas applied. This includes any conversion kits required for alternate fuels and/or high altitude.

⚠ CAUTION

TO PREVENT UNRELIABLE OPERATION OR EQUIPMENT DAMAGE, THE INLET GAS SUPPLY PRESSURE MUST BE AS SPECIFIED ON THE UNIT RATING PLATE WITH ALL OTHER HOUSEHOLD GAS FIRED APPLIANCES OPERATING.

Inlet gas supply pressures must be maintained within the ranges specified in the following table. The supply pressure must be constant and available with all other household gas fired appliances operating. The minimum gas supply pressure must be maintained to prevent unreliable ignition. The maximum must not be exceeded to prevent unit overfiring.

Inlet Gas Supply Pressure		
Natural Gas	Minimum: 5.0" w.c.	Maximum:10.0" w.c.
Propane Gas	Minimum: 11.0" w.c.	Maximum:13.0" w.c.

NOTE: Adjusting the minimum supply pressure below the limits in the above table could lead to unreliable ignition. Gas input to the burners must not exceed the rated input shown on the rating plate. Overfiring of the furnace can result in premature heat exchanger failure. Gas pressures in excess of 13 inches water column can also cause permanent damage to the gas valve.

At all altitudes, the manifold pressure must be within 0.3 inches w.c. of that listed in the Product Data Book applicable to your model for the fuel used. At all altitudes and with either fuel, the air temperature rise must be within the range listed on the furnace nameplate. Should this appliance be converted to LP, refer to the instructions included in the factory authorized LP conversion kit.

High Altitude Derate

IMPORTANT NOTE: The furnace will naturally derate itself with altitude. Do not attempt to increase the firing rate by changing orifices or increasing the manifold pressure. This can cause poor combustion and equipment failure.

When this furnace is installed at high altitude, the appropriate High Altitude orifice kit must be applied. The furnace is supplied with orifices sized for natural gas at altitudes up to 4,500 feet using a heating value of approximately 1,000 Btu/hr, and should not normally require change. Most cases will not require a change at altitudes up to 7,500 feet. For use at altitudes in excess of 4,500 feet, refer to the following table for maximum input rates based on altitude. Contact your local gas utility for the heating value of the gas. Refer to National Fuel Gas Code ANSI Z223.1 and the following section to calculate firing rates.

Maximium Firing Rates At Altitude

Altitude (ft)	Model (Kbtu/hr)				
	45	70	90	115	140
5,000	39,000	58,500	78,000	97,500	117,000
7,500	35,000	52,500	70,000	87,500	105,000
10,000	34,000	51,000	68,000	77,000	92,400

* Firing rates may be lower than listed in table

It is important to check and adjust the input rate of the furnace to prevent an overfiring situation. Overfiring can cause premature heat exchanger failure. The input is controlled by the supply pressure, orifice size, manifold pressure and heating (calorific) value of the gas.

The supply pressure must be measured with this and all other gas burning appliances in operation. The supply pressure must be adjusted to the pressure range stated on the rating plate. Applications for altitudes in excess of 4,500 feet usually require an orifice change.

Alternate High Altitude Derate

Alternately standard derate for altitude from National Fuel Gas Code ANSI Z223.1 of 4% per 1000' may be taken. Refer to the most recent version of ASNI Z223.1 for correct gas orifice. The orifices must be selected using the table below. The furnace derate is 4% for each 1,000 feet above sea level. This table is based upon a heating value of approximately 1,000 Btu/ft^3

ALTITUDE	NAT. GAS ORIFICE SIZE
0 - 2,000	#43
3,000	#44
4,000	#44
5,000	#45
6,000	#45
7,000	#46

The input to the furnace must be checked AFTER reorificing.

For altitudes above 4,500 feet, refer to appropriate section of the National Fuel Gas Code, ANSI Z223.1. To calculate the input of the furnace for installations in altitudes over 7,000 feet, use the following formula:

Corrected Input = Rating Plate Input - (Altitude X .04) X (Rating Plate Input / 1000)

Example:

Corrected input for a 90,000 Btu/hr appliance installed at an altitude of 6,000 ft. utilizing natural gas with a heating value of 1,000 Btu/ft^3 is determined by-

Corrected Input = 90,000 - (6,000 X .04) X (90,000 / 1,000)

Corrected Input = 90,000 - (240 X 90)

Corrected Input = 90,000 - 21,600

Corrected Input = 68,400

Firing Rate

Using the orifices sized as shown in the table for 6,000 feet (#45), a meter time of 52.6 seconds is measured. The actual firing rate of the furnace is:

Input = 1,000 (heating value of the gas) X 3600 (constant) / 52.6 (meter time for 1 ft^3 of gas)

Input = 3,600,000 / 52.6

Input = 68,400 Btu/h

Meter Time In Minutes and Seconds For Normal Input Rating of Furnaces Equipped For Use With Natural Gas

INPUT Btu/hr	METER SIZE FT³	HEAT VALUE 900		HEAT VALUE 1000		HEAT VALUE 1040		HEAT VALUE 1100	
		MIN.	SEC.	MIN.	SEC.	MIN.	SEC.	MIN.	SEC.
40,000	1	1	21	1	30	1	33	1	39
	10	13	30	15	00	15	36	16	30
60,000	1	0	54	1	00	1	03	1	06
	10	9	00	10	10	10	24	11	00
80,000	1	0	41	0	45	0	47	0	50
	10	6	45	7	30	7	48	8	15
100,000	1	0	32	0	36	0	37	0	40
	10	5	24	6	00	6	14	6	36
120,000	1	0	27	0	30	0	31	0	33
	10	4	30	5	00	5	12	5	30

In Canada, the rating plate input for the furnace apply to installations up to 4,500 feet (1370m) above sea level. Canadian certification applies to the installations of up to 4,500 feet above sea level. Installations above 4,500 feet are subject to acceptance by the local authorities having jurisdiction.

Do **not** derate the furnace by adjusting the manifold pressure to a lower pressure than specified on the furnace rating plate. The combination of the lower air density and a lower manifold pressure will prohibit the burner orifice from drawing the proper amount of air into the burner. This may cause incomplete combustion, flashback, and possible yellow tipping.

In some areas the gas supplier may artificially derate the gas in an effort to compensate for the effects of altitude. If the gas is artificially derated, the appropriate orifice size must be determined based upon the BTU/ft³ content of the derated gas and the altitude. Refer to the National Fuel Gas Code, NFPA 54/ANSI Z223.1, and information provided by the gas supplier to determine the proper orifice size.

Some models require a pressure switch change due to the reduced air density above certain altitudes. Refer to the following table to determine proper pressure switch settings for your application.

A different pressure switch may be required at high altitude regardless of the BTU/ft³ content of the fuel used. Contact your distributor for appropriate altitude ranges and pressure switch kits.

Pressure Switch Changes

Furnace input Kbtu/hr	Altitude (ft)	Switch Setting (inches w.c.)
45	8000'	0.55
70	NR	
90*	8000'	0.60
115	NR	
140	NR	

*** 904BNA does not require a switch change**

Propane Gas Conversion

⚠ WARNING

Possible property damage, personal injury or death may occur if the correct conversion kits are not installed. The appropriate kits must be applied to insure safe and proper furnace operation. All conversions must be performed by a qualified installer or service agency.

This unit is configured for natural gas. The appropriate manufacturer's propane gas conversion kit, must be applied for propane gas installations. Refer to the "Propane Gas and/or High Altitude Installations" section for details.

Contact your distributor for a tabular listing of appropriate manufacturer's kits for propane gas and/or high altitude installations. The indicated kits must be used to insure safe and proper furnace operation. All conversions must be performed by a qualified installer, or service agency.

Gas Piping Connections

General

⚠ CAUTION

To avoid possible unsatisfactory operation or equipment damage due to underfiring of equipment, use the proper size of natural/propane gas piping needed when running pipe from the meter/tank to the furnace.

When sizing a trunk line, be sure to include all appliances which will operate simultaneously when sizing a trunk line.

The gas piping supplying the furnace must be properly sized based on the gas flow required, specific gravity of the gas, and length of the run. The gas line installation must comply with local codes, or in their absence, with the latest edition of the National Fuel Gas Code, NFPA 54/ANSI Z223.1.

Natural Gas Capacity of Pipe
In Cubic Feet of Gas Per Hour (CFH)

Length of Pipe in Feet	Nominal Black Pipe Size				
	1/2"	3/4"	1"	1 1/4"	1 1/2"
10	132	278	520	1050	1600
20	92	190	350	730	1100
30	73	152	285	590	980
40	63	130	245	500	760
50	56	115	215	440	670
60	50	105	195	400	610
70	46	96	180	370	560
80	43	90	170	350	530
90	40	84	160	320	490
100	38	79	150	305	460

(Pressure 0.5 psig or less and pressure drop of 0.3" W.C.; Based on 0.60 Specific Gravity Gas)

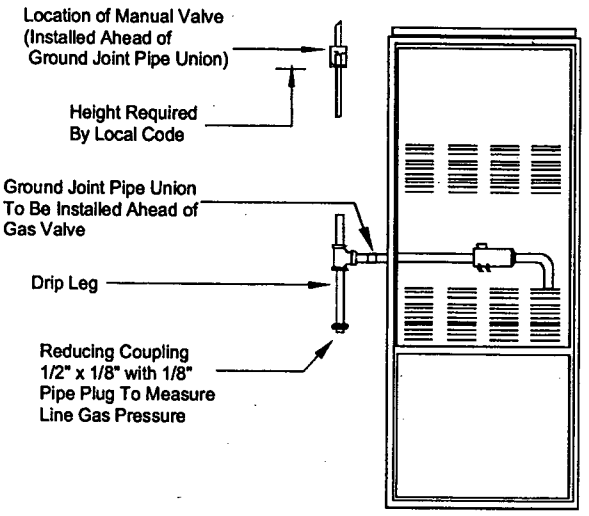
$$CFH = \frac{\text{BTUH Furnace Input}}{\text{Heating Value of Gas (BTU/Cubic Foot)}}$$

To connect the furnace to the building's gas piping, the installer must supply a ground joint union, drip leg, manual shutoff valve, and line and fittings to connect to gas valve. In some cases, the installer may also need to supply a transition piece from 1/2" pipe to a larger pipe size.

The following stipulations apply when connecting gas piping.

- Use black iron or steel pipe and fittings for the building piping.
- Use pipe joint compound on male threads only. Pipe joint compound must be resistant to the action of the fuel used.
- Use ground joint unions.
- Install a drip leg to trap dirt and moisture before it can enter the gas valve. The drip leg must be a minimum of three inches long.
- Install a 1/8" NPT pipe plug fitting, accessible for test gage connection, immediately upstream of the gas supply connection to the furnace.
- Use two pipe wrenches when making connection to the gas valve to keep it from turning. The orientation of the gas valve on the manifold must be maintained as shipped from the factory.

- Install a manual shutoff valve between the gas meter and unit within six feet of the unit. If a union is installed, the union must be downstream of the manual shutoff valve, between the shutoff valve and the furnace.
- Tighten all joints securely.
- Connect the furnace to the building piping by one of the following methods:
  - Rigid metallic pipe and fittings.
  - Semi-rigid metallic tubing and metallic fittings. Aluminum alloy tubing must not be used in exterior locations.
  - Use listed gas appliance connectors in accordance with their instructions. Connectors must be fully in the same room as the furnace.
  - Protect connectors and semi-rigid tubing against physical and thermal damage when installed. Ensure aluminum-alloy tubing and connectors are coated to protect against external corrosion when in contact with masonry, plaster, or insulation, or subjected to repeated wetting by liquids such as water (except rain water), detergents, or sewage.



General Furnace Layout

Upflow Installations

When the gas piping enters through the right side of the furnace, the installer must supply the following fittings (starting from the gas valve):

- 90 degree elbows (2).
- Close nipple.
- Straight pipe to reach the exterior of the furnace .

A ground joint union, drip leg, and manual shutoff valve must also be supplied by the installer. In some cases, the installer may also need to supply a transition piece from 1/2" to another pipe size.

When the gas piping enters through the left side of the furnace, the installer must supply the following fittings (starting from the gas valve):

- Straight pipe to reach the exterior of the furnace.
- A ground joint union, drip leg, and manual shutoff valve must also be supplied by the installer. In some cases, the installer may also need to supply a transition piece from 1/2 inch to another pipe size.

Counterflow Installations

When the gas piping enters through the left side of the furnace, the installer must supply a straight pipe to reach the exterior of the furnace.

A ground joint union, drip leg, and manual shutoff valve must also be supplied by the installer. In some cases, the installer may also need to supply a transition piece from 1/2" to another pipe size. When the gas piping enters through the right side of the furnace, the installer must supply the following fittings (starting at the gas valve):

- 90 degree elbow.
- Close nipple.
- 90 degree elbow.
- Straight pipe to reach exterior of furnace.

Gas Piping Checks

Before placing unit in operation, leak test the unit and gas connections.

⚠ WARNING

TO AVOID THE POSSIBILITY OF EXPLOSION OR FIRE, NEVER USE A MATCH OR OPEN FLAME TO TEST FOR LEAKS.

Check for leaks using an approved chloride-free soap and water solution, an electronic combustible gas detector, or other approved testing methods.

⚠ CAUTION

TO PREVENT PROPERTY DAMAGE OR PERSONAL INJURY DUE TO FIRE, THE FOLLOWING INSTRUCTIONS MUST BE PERFORMED REGARDING GAS CONNECTIONS, PRESSURE TESTING, LOCATION OF SHUTOFF VALVE AND INSTALLATION OF GAS PIPING.

NOTE: Never exceed specified pressures for testing. Higher pressure may damage the gas valve and cause subsequent overfiring, resulting in heat exchanger failure.

Disconnect this unit and shutoff valve from the gas supply piping system before pressure testing the supply piping system with pressures in excess of 1/2 psig (3.48 kPa).

This unit must be isolated from the gas supply system by closing its manual shutoff valve before pressure testing of gas supply piping system with test pressures equal to or less than 1/2 psig (3.48 kPa).

Propane Gas Tanks and Piping

⚠ WARNING

IF THE GAS FURNACE IS INSTALLED IN A BASEMENT, AN EXCAVATED AREA OR A CONFINED SPACE, IT IS STRONGLY RECOMMENDED TO CONTACT A PROPANE SUPPLIER TO INSTALL A GAS DETECTING WARNING DEVICE IN CASE OF A GAS LEAK.

- **SINCE PROPANE GAS IS HEAVIER THAN AIR, ANY LEAKING GAS CAN SETTLE IN ANY LOW AREAS OR CONFINED SPACES.**
- **PROPANE GAS ODORANT MAY FADE, MAKING THE GAS UNDETECTABLE EXCEPT WITH A WARNING DEVICE.**

A gas detecting warning system is the only reliable way to detect a propane gas leak. Rust can reduce the level of odorant in propane gas. Do not rely on your sense of smell. Contact a local propane gas supplier about installing a gas detecting warning system. If the presence of gas is suspected, follow the instructions on Page 3 of this manual.

All propane gas equipment must conform to the safety standards of the National Board of Fire Underwriters, NBFU Manual 58.

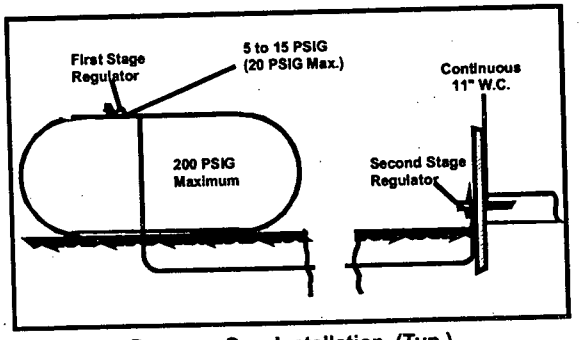
For satisfactory operation, propane gas pressure must be 11 inch WC at the furnace manifold with all gas appliances in operation. Maintaining proper gas pressure depends on three main factors:

1. Vaporization rate, depending on temperature of the liquid, and "wetted surface" area of the container or containers.
2. Proper pressure regulation. (Two-stage regulation is recommended for both cost and efficiency).
3. Pressure drop in lines between regulators, and between second stage regulator and the appliance. Pipe size will depend on length of pipe run and total load of all appliances.

Complete information regarding tank sizing for vaporization, recommended regulator settings, and pipe sizing is available from most regulator manufacturers and propane gas suppliers.

Since propane gas will quickly dissolve white lead and most standard commercial compounds, special pipe dope must be used. Shellac-based compounds resistant to the actions of liquefied petroleum gases such as Gasolac®, Stalactic®, Clyde's® or John Crane® are satisfactory.

Refer to the following illustration for typical propane gas installations and piping.



Propane Gas Installation (Typ.)

Propane Gas Piping Charts

Sizing Between First and Second Stage Regulator*
Maximum Propane Capacities listed are based on 2 psig pressure drop at 10 psig setting.
Capacities in 1,000 BTU/hour.

Pipe or Tubing Length, Feet	Tubing Size, O.D. Type L					Nominal Pipe Size Schedule 40	
	3/8"	1/2"	5/8"	3/4"	7/8"	1/2"	3/4"
10	730	1,700	3,200	5,300	8,300	3,200	7,500
20	500	1,100	2,200	3,700	5,800	2,200	4,200
30	400	920	2,000	2,900	4,700	1,800	4,000
40	370	850	1,700	2,700	4,100	1,600	3,700
50	330	770	1,500	2,400	3,700	1,500	3,400
60	300	700	1,300	2,200	3,300	1,300	310
80	260	610	1,200	1,900	2,900	1,200	2,600
100	220	540	1,000	1,700	2,600	1,000	2,300
125	200	490	900	1,400	2,300	900	2,100
150	190	430	830	1,300	2,100	830	1,900
175	170	400	780	1,200	1,900	770	1,700
200	160	380	730	1,100	1,800	720	1,500

Sizing Between First and Second Stage Regulator*
Maximum Propane Capacities listed are based on 2 psig pressure drop at 10 psig setting.
Capacities in 1,000 BTU/hour.

Pipe or Tubing Length, Feet	Tubing Size, O.D. Type L						Nominal Pipe Size Schedule 40				
	3/8"	1/2"	5/8"	3/4"	7/8"	1-1/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"
10	39	92	199	329	501	935	275	567	1,071	2,205	3,307
20	26	62	131	216	346	630	189	393	732	1,496	2,299
30	21	50	107	181	277	500	152	315	590	1,212	1,858
40	19	41	90	145	233	427	129	267	504	1,039	1,559
50	18	37	79	131	198	376	114	237	448	91	1,417
60	16	35	72	121	187	340	103	217	409	834	1,275
80	13	29	62	104	155	289	89	185	346	724	1,066
100	11	26	55	90	138	255	78	162	307	630	976
125	10	24	48	81	122	224	69	146	275	567	866
150	9	21	43	72	109	202	63	132	252	511	787
200	8	19	39	66	100	187	54	112	209	439	665
250	8	17	36	60	93	172	48	100	185	390	590

X. CIRCULATING AIR AND FILTERS

Ductwork - Air

⚠ WARNING

NEVER ALLOW THE PRODUCTS OF COMBUSTION, INCLUDING CARBON MONOXIDE, TO ENTER THE RETURN DUCTWORK OR CIRCULATION AIR SUPPLY.

Duct systems and register sizes must be properly designed for the CFM and external static pressure rating of the furnace. Ductwork should be designed in accordance with the recommended methods of "Air Conditioning Contractors of America" Manual D.

A duct system must be installed in accordance with Standards of the National Board of Fire Underwriters for the Installation of Air Conditioning, Warm Air Heating and Ventilating Systems. Pamphlets No. 90A and 90B.

A closed return duct system must be used, with the return duct connected to the furnace. **NOTE:** Ductwork must never be attached to the back of the furnace. Supply and return connections to the furnace may be made with flexible joints to reduce noise transmission. To prevent the blower from interfering with combustion air or draft when a central return is used, a connecting duct must be installed between the unit and the utility room wall. A room, closet, or alcove must not be used as a return air chamber.

When the furnace is used in connection with a cooling unit, the furnace should be installed in parallel with or on the upstream side of the cooling unit to avoid condensation in the heating element. With a parallel flow arrangement, the dampers or other means used to control the flow of air must be adequate to prevent chilled air from entering the furnace and, if manually operated, must be equipped with means to prevent operation of either unit unless the damper is in the full heat or cool position.

When the furnace is installed without a cooling coil, it is recommended that a removable access panel be provided in the outlet air duct. This opening shall be accessible when the furnace is installed and shall be of such a size that the heat exchanger can be viewed for visual light inspection or such that a sampling probe can be inserted into the airstream. The access panel must be made to prevent air leaks when the furnace is in operation.

When the furnace is heating, the temperature of the return air entering the furnace must be between 55°F and 100°F.

When a furnace is installed so that supply ducts carry air circulated by the furnace to areas outside the space containing the furnace the return air shall also be handled by a duct sealed to the furnace casing and terminating outside the space containing the furnace

Filters - Read This Section Before Installing The Return Air Ductwork

Filters must be used with this furnace. Discuss filter maintenance with the building owner. Filters do not ship with this furnace, but must be provided by the installer. Filters must comply with UL900 or CAN/ULCS111 standards. If the furnace is installed without filters, the warranty will be voided.

NOTE: An undersized opening will cause reduced airflow. The bottom return is set up as a knock out.

Upright Installations

Depending on the installation and/or customer preference, differing filter arrangements can be applied. Filters can be installed in the central return register or a side panel external filter rack kit (upflows), or the ductwork above a downflow furnace. As an alternative, a media air filter or electronic air cleaner can be used as the requested filter.

Circulation Air Filters

One of the most common causes of a problem in a forced air heating system is a blocked or dirty filter. Circulating air filters must be inspected monthly for dirt accumulation and replaced if necessary. Failure to maintain clean filters can cause premature heat exchanger failure.

A new home may require more frequent replacement until all construction dust and dirt is removed. Circulating air filters are to be installed in the return air duct external to the furnace cabinet.

MINIMUM FILTER SIZES

FURNACE INPUT	FILTER SIZE	TYPE
45M	160 in^2	permanent
70M	241 in^2	permanent
90M	320 in^2	permanent
115M	400 in^2	permanent
140M	370 in^2	permanent
45M	320 in^2	disposable
70M	483 in^2	disposable
90M	640 in^2	disposable
115M	800 in^2	disposable
140M	738 in^2	disposable

PERMANENT NOMINAL 600 F.M. FACE VELOCITY
DISPOSABLE NOMINAL 300 F.M. FACE VELOCITY

Horizontal Installations

Filters must be installed in either the central return register or in the return air duct work.

XI. SEQUENCE OF OPERATION (INTEGRATED IGNITION CONTROL)

Refer to Timing Charts for sequencing.

Power Up

- 115 VAC power applied to furnace.
- Integrated ignition control performs internal checks.
- Integrated ignition LED will light.
- Integrated ignition control monitors safety circuits continuously.
- Furnace awaits call from thermostat.

Heating Mode

(Mode DIP switch is set to "1 STG" position)

The normal operational sequence in heating mode is as follows:

- R and W thermostat contacts close, initiating a call for heat.
- Integrated control module performs safety circuit checks.
- Induced draft blower is energized for 15 second pre-purge period causing pressure switch contacts to close.
- Igniter warm up begins after 15 second prepurge expires.
- Low and high-stage gas valves open at end of igniter warm up period, delivering gas to burners and establishing flame.
- Integrated control module monitors flame presence. Gas valve will remain open only if flame is detected.
- Circulator blower is energized on high heat speed following a fixed thirty second blower on delay. Electronic air cleaner terminals are energized with circulator blower.
- Furnace operates; integrated control module monitors safety circuits continuously.
- R and W thermostat contacts open, completing the call for heat.
- Gas valve closes, extinguishing flame.
- Induced draft blower is de-energized following a fifteen second post purge.
- The circulator blower remains on high speed for thirty seconds, then switches to low heat speed for the remainder of the selected heat off delay period. For example, the selected heat off delay period is 150 seconds. The circulator blower operates at high heat for 30 seconds and at low speed for 150 - 30 = 120 seconds.
- Furnace awaits the next call from thermostat.

(Mode DIP Switch is set to "2 STG" position)

The normal operational sequence in sequence is as follows:

- R and W thermostat contacts close, initiating a call for heat.
- Integrated control module performs safety circuit checks.
- Induced draft blower is energized for 15 second prepurge period causing pressure switch contacts to close.
- Igniter warm up begins after 15 second prepurge expires.
- Low and high-stage gas valves open at end of igniter warm up period, delivering gas to burners and establishing flame.
- High-stage gas valve closes after five seconds; low-stage gas valve remains open.
- Integrated control module monitors flame presence. Gas valve will remain open only if flame is detected.
- Circulator blower is energized on low heat speed following a fixed thirty second blower on delay. Electronic air cleaner terminals are energized with circulator blower.
- Furnace is now operating in low-stage heating mode.
- Furnace operates; integrated control module monitors safety circuits continuously.
- If low-stage delay period expires, control will shift operation from low-stage heating mode operation to high-stage heating mode operation. Control will energize circulator blower high heat speed and high stage gas valve.

- Furnace is now operating in high-stage heating mode.
- R and W thermostat contacts open, completing the call for heat.
- Induced draft blower is de-energized following a fifteen second post purge.
- Circulator blower is de-energized following a heat off delay period (selectable 100 or 150 seconds; factory set at 150 seconds).

  If the furnace is operating in the low-stage heating mode when thermostat contacts open, circulator remains at low heat speed for the selected delay off period.

  If the furnace is operating in high-stage heating mode when the thermostat contacts open, the circulator blower remains at high heat speed for thirty seconds. The circulator blower then switches to low heat speed for the remainder of the selected heat off delay period. For example, the selected heat off delay period is 150 seconds. The circulator blower operates at high heat for 30 seconds and at low speed for 150 - 30 = 120 seconds.
- Furnace awaits the next call from thermostat.

Cooling Mode

The normal operational sequence in cooling mode is as follows:

- R and Y thermostat contacts close, initiating a call for cool.
- Integrated control module performs safety circuit checks.
- Outdoor fan and compressor are energized.
- Circulator blower is energized on cool speed following a fixed five second on delay. Electronic air cleaner terminals are energized with circulator blower.
- Furnace circulator blower and outdoor cooling unit run, integrated control module monitors safety circuits continuously.
- R and Y thermostat contacts open, completing the call for cool.
- Outdoor fan and compressor are de-energized.
- Circulator blower is de-energized following a fixed forty five second cool off delay period. Electronic air cleaner terminals are de-energized.
- Furnace awaits the next call from thermostat.

Fan Only Mode

The normal operational sequence in fan only mode is as follows:

- R and G thermostat contacts close, initiating a call for fan.
- Integrated control module performs safety circuit checks.
- Circulator blower is energized on low heat speed. Electronic air cleaner terminals are energized.
- Circulator blower runs, integrated control module monitors safety circuits continuously.
- R and G thermostat contacts open, completing the call for fan.
- Circulator blower is de-energized. Electronic air cleaner terminals are de-energized.
- Furnace awaits the next call from thermostat.XII. Start-up Procedure and Adjustment

XII. START-UP PROCEDURE AND ADJUSTMENT

Furnace must have a 115 VAC power supply properly connected and grounded. Proper polarity must be maintained for correct operation. An interlock switch prevents furnace operation if the blower door is not in place. Keep the blower access door in place except for inspection and maintenance.

This furnace is also equipped with a self-diagnosing electronic control module. In the event a furnace component is not operating properly, the control module LED will flash on and off in a factory-programmed sequence, depending on the problem encountered. This light can be viewed through the observation window in the blower access door. Refer to the *Troubleshooting Chart* for further explanation of the lighting codes.

Follow the start-up and adjustment items, refer to further information in *Section XIII, Operational Checks* (see table of contents, pages 2-3 for page number)..

Furnace Operation

Purge gas lines of air prior to start-up. Do not purge lines into an enclosed burner compartment.

Check for leaks using an approved chloride-free soap and water solution, an electronic combustible gas detector, or other approved method. Verify that all required kits (propane gas, high altitude, etc.) have been appropriately installed.

NOTE: An interlock switch prevents furnace operation if the blower door is not in place. Keep the blower access doors in place except for inspection and maintenance.

Furnace Start-up

1. Close the manual gas shutoff valve external to the furnace.
2. Turn off the electrical power to the furnace.
3. Set the room thermostat to the lowest possible setting.
4. Remove the burner compartment door.

NOTE: This furnace is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

5. *White-Rodgers Model 36G54:* Push the switch to the OFF position.
6. Wait five minutes to clear out any gas. Then smell for gas, including near the floor.
7. If gas can be smelled following the five minute waiting period in Step 6, immediately follow the instructions on Page 3 of this manual. If you do not smell gas after five minutes:

   White-Rodgers Model 36G54: Push the switch to the ON position.
8. Replace the door on the front of the furnace.
9. Open the manual gas valve external to the furnace.
10. Turn on the electrical power supply to the furnace.
11. Set the room thermostat to the desired temperature.

NOTE: There is an approximate 30 second delay between thermostat energizing and burner firing.

Furnace Shutdown

1. Set the thermostat to lowest setting.
2. Turn off the electrical power supply to the furnace.

3. *White-Rodgers Model 36G54:* Push switch to the OFF position.
4. Close manual gas shutoff valve external to the furnace.
5. Replace the door on the unit.

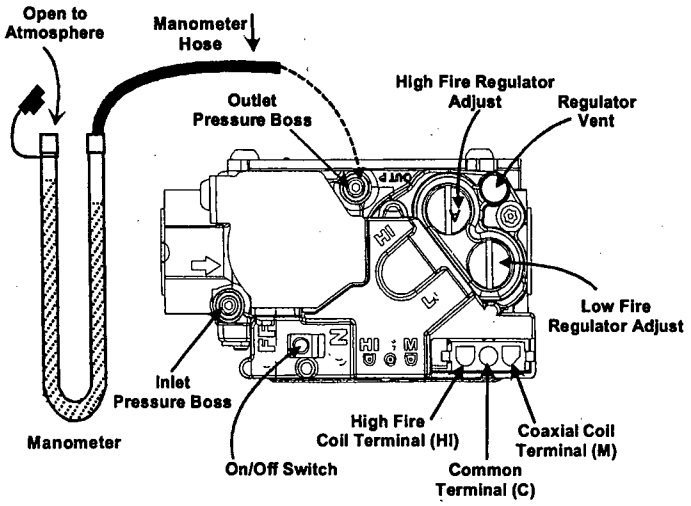
Gas Supply Pressure Measurement

⚠ CAUTION

To prevent unreliable operation or equipment damage, the inlet gas supply pressure must be as specified on the unit rating plate with all other household gas fired appliances operating.

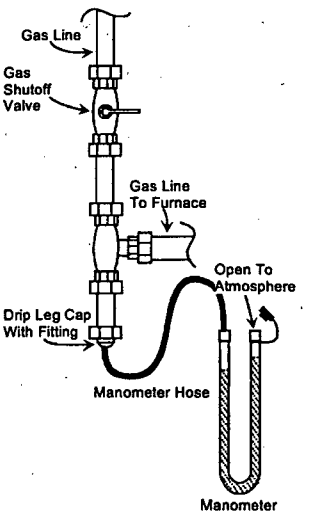
White-Rodgers 36G54 Gas Valve

The line pressure supplied to the gas valve must be within the range specified. The supply pressure can be measured at the gas valve inlet pressure boss or at a hose fitting installed in the gas piping drip leg. The supply pressure must be measured with the burners operating. To measure the gas supply pressure, use the following procedure.



White-Rodgers Model 36G54 Connected to Manometer

1. Turn OFF gas to furnace at the manual gas shutoff valve external to the furnace.
2. Connect a calibrated water manometer (or appropriate gas pressure gauge) at either the gas valve inlet pressure boss or the gas piping drip leg.



Measuring Inlet Gas Pressure (Alt. Method)

NOTE: If measuring gas pressure at the drip leg, a field supplied hose barb fitting must be installed prior to making the hose connection. If using the inlet pressure boss on the gas valve, then use the 36G Valve Pressure Check Kit, Goodman Part No. 0151K00000S.

3. Turn ON the gas supply and operate the furnace and all other gas consuming appliances on the same gas supply line.
4. Measure furnace gas supply pressure with burners firing. Supply pressure must be within the range specified in the *Inlet Gas Supply Pressure* table.

Inlet Gas Supply Pressure		
Natural Gas	Minimum: 5.0" w.c.	Maximum:10.0" w.c.
Propane Gas	Minimum: 11.0" w.c.	Maximum:13.0" w.c.

If supply pressure differs from table, make the necessary adjustments to pressure regulator, gas piping size, etc., and/or consult with local gas utility.

5. Turn OFF gas to furnace at the manual shutoff valve and disconnect manometer. Reinstall plug before turning on gas to furnace.
6. Turn OFF any unnecessary gas appliances started in step 3.

Gas Manifold Pressure Measurement and Adjustment

⚠ CAUTION

To prevent unreliable operation or equipment damage, the gas manifold pressure must be as specified on the unit rating plate. Only minor adjustments should be made by adjusting the gas valve pressure regulator.

Only small variations in gas pressure should be made by adjusting the gas valve pressure regulator. The manifold pressure must be measured with the burners operating. To measure and adjust the manifold pressure, use the following procedure.

1. Turn OFF gas to furnace at the manual gas shutoff valve external to the furnace.
2. Turn off all electrical power to the system.
3. Back outlet pressure test screw (inlet/outlet pressure boss) out one turn (counterclockwise, not more than one turn).
4. Attach a hose and manometer to the outlet pressure boss of the valve.
5. Turn ON the gas supply.
6. Turn on power and energize main (M) solenoid. Do not energize the (HI) solenoid.
7. Measure gas manifold pressure with burners firing. Adjust manifold pressure using the *Manifold Gas Pressure* table shown below.
8. Remove regulator cover screw from the low (LO) outlet pressure regulator adjust tower and turn screw clockwise to increase pressure, or counterclockwise to decrease pressure.
9. Energize main (M) solenoid as well as the (HI) terminal.
10. Remove regulator cover screw from the (HI) outlet pressure regulator adjust tower and turn screw clockwise to increase pressure, or counterclockwise to decrease pressure.
11. Turn off all electrical power and gas supply to the system.
12. Remove manometer hose from outlet pressure boss.
13. Turn outlet pressure test screw in to seal pressure port (clockwise, 7 in-lb minimum).
14. Turn on electrical power and gas supply to the system.
15. Turn on system power and energize valve.
16. Using a leak detection solution or soap suds, check for leaks at pressure boss screw. Bubbles forming indicate a leak. SHUT OFF GAS AND FIX ALL LEAKS IMMEDIATELY.

NOTE: For gas to gas conversion, consult your dealer for appropriate conversion.

Manifold Gas Pressure			
Gas	**Rate**	**Range**	**Nominal**
Natural	Low Stage	1.7 to 2.3" w.c.	2.0" w.c.
	High Stage	3.2 to 3.8" w.c.	3.5" w.c.
Propane	Low Stage	5.7 to 6.3" w.c.	6.0" w.c.
	High Stage	9.7 to 10.3" w.c.	10.0" w.c.

Gas Input Rate Measurement (Natural Gas Only)

The gas input rate to the furnace must never be greater than that specified on the unit rating plate. To measure natural gas input using the gas meter, use the following procedure.

1. Turn OFF the gas supply to all other gas-burning appliances except the furnace.
2. While the furnace is operating, time and record one complete revolution of the smallest gas meter dial.
3. Calculate the number of seconds per cubic foot (sec/ ft^3) of gas being delivered to the furnace. If the dial is a one cubic foot dial, divide the number of seconds recorded in step 2 by one. If the dial is a two cubic foot dial, divide the number of seconds recorded in step 2 by two.
4. Calculate the furnace input in BTUs per hour (BTU/ hr). Input equals the installation's gas heating value multiplied by a conversion factor (hours to seconds), divided by the number of seconds per cubic foot. The measured input must not be greater than the input indicated on the unit rating plate.

EXAMPLE:

Installation's gas heating (HTG) value: 1,000 BTU/ft^3 (Obtained from gas supplier)

Installation's seconds per cubic foot: 34 sec/ ft^3

Conversion Factor (hours to seconds): 3600 sec/hr

Input = (Htg. value x 3600) + seconds per cubic foot

Input = (1,000 BTU/ft^3 x 3600 sec/hr) + 34 sec/ ft^3

Input = 106,000 BTU/hr

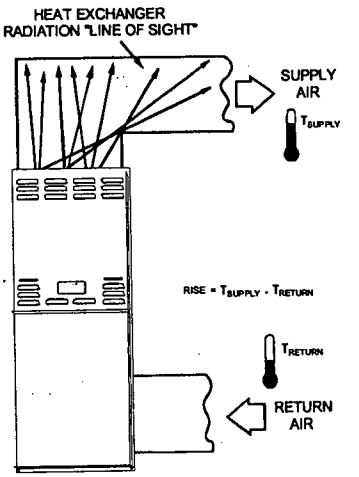
This measured input must not be greater than the input indicated on the unit rating plate.

5. Turn ON gas and relight appliances turned off in step 1. Ensure all the appliances are functioning properly and that all pilot burners are operating.

Temperature Rise

Air temperature rise is the temperature difference between suppl and return air. The proper amount of temperature rise is usuall obtained when the unit is operated at the rated input with the "a shipped" blower speed. If the correct amount of temperature ris is not obtained, it may be necessary to change the blower speec

An incorrect temperature rise can cause condensing in c overheating of the heat exchanger. Determine and adjust th temperature rise as follows. The temperature rise must be withi the range specified on the rating plate or Product Data Boc applicable to your model. *(Please contact your distributor or o website for the applicable product data book referred to in th manual.)*



Temperature Rise Measurement

1. Operate furnace with burners firing approximately 15 minutes. Ensure all registers are open and all duct dampers are in their final (fully or partially open) position.
2. Place thermometers in the return and supply ducts as close to the furnace as possible. Thermometers must not be influenced by radiant heat by being able to "see" the heat exchanger.
3. Subtract the return air temperature from the supply air temperature to determine the air temperature rise. Allow adequate time for thermometer readings to stabilize.
4. Adjust temperature rise by adjusting the circulator blower speed. Increase blower speed to reduce temperature rise Decrease blower speed to increase temperature rise Refer to the following section for speed changing details.

Circulator Blower Speed Adjustment

⚠ WARNING

To avoid personal injury or death due to electrical shock, turn OFF power to the furnace before changing speed taps.

This furnace is equipped with a PSC circulator blower motor. This blower provides ease in adjusting blower speeds. The Product Data Book applicable to your model provides an airflow table showing the relationship between airflow (CFM) and external static pressure (E.S.P.) and a table for the proper selection of heating and cooling speeds. The cooling blower speed is shipped set on HIGH. High heat ships on MEDIUM and low heat is shipped on MEDIUM-LO. These blower speeds should be adjusted by the installer to match the installation requirements so as to provide the correct heating temperature rise and the correct cooling CFM.

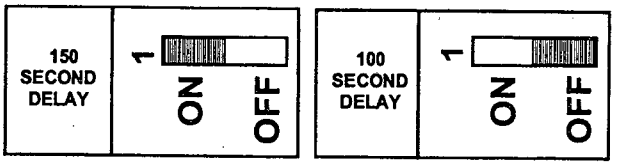
To adjust the circulator blower speed, proceed as follows:

1. Turn OFF power to the furnace.
2. Select the heating and cooling blower speeds that match the installation requirements from the airflow table in the Product Data Book applicable to your model.*(Please contact your distributor or our website for the applicable product data book referred to in this manual.)*
3. Relocate desired motor leads to the circulator blower heat and cool speed terminals on the integrated control module. (Terminals are identified as LO HEAT, HI HEAT and COOL (hot)). If a heating speed and the cooling speed are the same, a jumper wire must be used between the heat and cool terminals.
4. Connect all unused blower motor leads to the "PARK" terminals on the integrated control module. Any leads not connected to the "PARK" terminals must be taped.
5. Turn ON power to furnace.
6. Verify proper temperature rise as outlined in *Temperature Rise section.*

Circulator Blower Fan Timing Adjustment

NOTE: Items in this section refer to the **air circulator blower fan,** NOT to the induced draft blower. The induced draft blower timing sequence is not adjustable. The circulator blower fan timing is adjustable only on models with optional "heating fan OFF delay" adjustment pins or switches. It is NOT adjustable in any other circumstances.

As shipped, the circulator blower fan will remain on for 150 seconds after the gas valve closes. When a call for cooling occurs, the circulator fan comes on and remains on for 45 seconds after the call for cooling ends. During normal heating operation, the circulator fan will come on approximately 34 seconds after the gas valve opens.



Switch viewed in an upflow installation.

Adjustment Switch

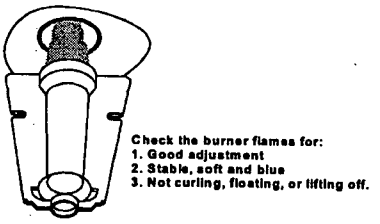
XIII. OPERATIONAL CHECKS

⚠ WARNING

To avoid personal injury or death, do not remove any internal compartment covers or attempt any adjustment. Electrical components are contained in both compartments. Contact a qualified service agent at once if an abnormal flame appearance should develop.

Burner Flame

The burner flames should be inspected with the burner compartment door installed. Flames should be stable, quiet, soft, and blue (dust may cause orange tips but they must not be yellow). Flames should extend directly outward from the burners without curling, floating, or lifting off. Flames must not impinge on the sides of the heat exchanger firing tubes.



Burner Flame

Auxiliary Limit Control

Auto reset limits are located on or near the blower. To access this auxiliary limit, disconnect the electrical power and remove the blower door. The auxiliary limit control is designed to prevent furnace operation in case of main blower failure on horizontal installations. It may also open if the power supply is interrupted while the furnace is firing. The auxiliary limit control is suitable for both horizontal right and horizontal left installations. Regardless of airflow direction, it does not need to be relocated.

⚠ WARNING

To avoid personal injury or death, do not remove any internal compartment covers or attempt any adjustment. Electrical components are contained in both compartments. Contact a qualified service agent at once if an abnormal flame appearance prevent property damage, personal injury or death due to fire,

XIV. SAFETY CIRCUIT DESCRIPTION

General

A number of safety circuits are employed to ensure safe and proper furnace operation. These circuits serve to control any potential safety hazards and serve as inputs in the monitoring and diagnosis of abnormal function. These circuits are continuously monitored during furnace operation by the integrated control module.

Integrated Control Module

The integrated control module is an electronic device which controls all furnace operations. Responding to the thermostat, the module initiates and controls normal furnace operation, and monitors and addresses all safety circuits. If a potential safety concern is detected, the module will take the necessary precautions and provide diagnostic information through an LED.

Primary Limit

The primary limit control is located on the partition panel and monitors heat exchanger compartment temperatures. It is an automatic reset, temperature sensor. The limit guards against the overheating resulting from insufficient air passing over the heat exchanger.

Auxiliary Limit

The auxiliary limit control is located either on or near the circulator blower and monitors heat exchanger compartment temperatures. The control is an automatic reset, temperature sensor. It guards against overheating resulting from insufficient air passing over the heat exchanger.

Rollout Limits

The rollout limit controls are mounted on the burner/manifold assembly and monitor the burner flame. They are manual-reset, temperature sensors. This limit guards against burner flames not being properly drawn into the heat exchanger.

Pressure Switches

The pressure switches are normally-open, negative air pressure-activated switches. They monitor the airflow (combustion air and flue products) through the heat exchanger via pressure taps located on the induced draft blower. These switches guard against insufficient airflow (combustion air and flue products) through the heat exchanger.

Flame Sensor

The flame sensor is a probe mounted to the burner/manifold assembly which uses the principle of flame rectification to determine the presence or absence of flame.

XV. TROUBLESHOOTING

Electrostatic Discharge (ESD) Precautions

NOTE: Discharge body's static electricity before touching unit. An electrostatic discharge can adversely affect electrical components.

Use the following precautions during furnace installation and servicing to protect the integrated control module from damage. By putting the furnace, the control, and the person at the same electrostatic potential, these steps will help avoid exposing the integrated control module to electrostatic discharge. This procedure is applicable to both installed and uninstalled (ungrounded) furnaces.

1. Disconnect all power to the furnace. Do not touch the integrated control module or any wire connected to the control prior to discharging your body's electrostatic charge to ground.
2. Firmly touch a clean, unpainted, metal surface of the furnace away from the control. Any tools held in a person's hand during grounding will be discharged.
3. Service integrated control module or connecting wiring following the discharge process in step 2. Use caution not to recharge your body with static electricity; (i.e., do not move or shuffle your feet, do not touch ungrounded objects, etc.). If you come in contact with an ungrounded object, repeat step 2 before touching control or wires.
4. Discharge your body to ground before removing a new control from its container. Follow steps 1 through 3 if installing the control on a furnace. Return any old or new controls to their containers before touching any ungrounded object.

Diagnostic Chart

Refer to the troubleshooting chart on the following pages for assistance in determining the source of unit operational problems. The red diagnostic LED blinks to assist in troubleshooting the unit. The number of blinks refer to a specific code.

Fault Recall

The ignition control is equipped with a momentary pushbutton switch that can be used to display on the diagnostic LED the last five faults detected by the control. The control must be in Standby Mode (no thermostat inputs) to use the feature. Depress the pushbutton switch for approximately 2 seconds. Release the switch when the LED is turned off. The diagnostic LED will then display the flash codes associated with the last five detected faults. The order of display is the most recent fault to the least recent fault.

Resetting From Lockout

Furnace lockout results when a furnace is unable to achieve ignition after three attempts. It is characterized by a non-functioning furnace and a one flash diagnostic LED code from the red LED. If the furnace is in "lockout", it will (or can be) reset in any of the following ways.

1. Automatic reset. The integrated control module will automatically reset itself and attempt to resume normal operations following a one hour lockout period.
2. Manual power interruption. Interrupt 115 volt power to the furnace for 1 - 20 seconds.
3. Manual thermostat cycle. Lower the thermostat so that there is no longer a call for heat for 1 - 20 seconds then reset to previous setting.

NOTE: If the condition which originally caused the lockout still exists, the control will return to lockout. Refer to the Diagnostic Chart for aid in determining the cause.

XVI. MAINTENANCE

⚠ WARNING

TO AVOID ELECTRICAL SHOCK, INJURY OR DEATH, DISCONNECT ELECTRICAL POWER BEFORE PERFORMING ANY MAINTENANCE. IF YOU MUST HANDLE THE IGNITER, HANDLE WITH CARE. TOUCHING THE IGNITER ELEMENT WITH BARE FINGERS, ROUGH HANDLING, OR VIBRATION COULD DAMAGE THE IGNITER RESULTING IN PREMATURE FAILURE. ONLY A QUALIFIED SERVICER SHOULD EVER HANDLE THE IGNITER.

ANNUAL INSPECTION

The furnace should be inspected by a qualified installer, or service agency at least once per year. This check should be performed at the beginning of the heating season. This will ensure that all furnace components are in proper working order and that the heating system functions appropriately. Pay particular attention to the following items. Repair or service as necessary.

- Flue pipe system. Check for blockage and/or leakage. Check the outside termination and the connections at and internal to the furnace.
- Heat exchanger. Check for corrosion and/or buildup within the heat exchanger passageways.
- Burners. Check for proper ignition, burner flame, and flame sense.
- Wiring. Check electrical connections for tightness and/or corrosion. Check wires for damage.
- Filters.

FILTERS

⚠ WARNING

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, DISCONNECT ELECTRICAL POWER BEFORE REMOVING FILTERS. NEVER OPERATE FURNACE WITHOUT A FILTER INSTALLED BECAUSE DUST AND LINT WILL BUILD UP ON INTERNAL PARTS RESULTING IN LOSS OF EFFICIENCY, EQUIPMENT DAMAGE AND POSSIBLE FIRE.

A return air filter is not supplied with this furnace; however, there must be a means of filtering all of the return air. The installer will supply filter(s) at the time of installation.

FILTER MAINTENANCE

Improper filter maintenance is the most common cause of inadequate heating or cooling performance. Filters should be cleaned (permanent) or replaced (disposable) every two months or as required. When replacing a filter, it must be replaced with a filter of the same type and size.

⚠ WARNING

TO PREVENT PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO ELECTRICAL SHOCK, DISCONNECT ELECTRICAL POWER TO THE FURNACE BEFORE REMOVING THE FILTER OR PERFORMING ANY OTHER MAINTENANCE.

Become familiar with filter location and procedures for removal, cleaning and replacing them. If help is needed, contact the installer of the furnace or a qualified servicer.

FILTER REMOVAL

Depending on the installation, differing filter arrangements can be applied. Filters can be installed in either the central return register or a side panel external filter rack (upflow only). A media air filter or electronic air cleaner can be used as an alternate filter. Follow the filter sizes given in the Recommended Minimum Filter size table to ensure proper unit performance.

To remove filters from an external filter rack in an upright upflow installation, follow the directions provided with external filter rack kit. Internal filters are an accessory item and are not included with your furnace. For further details, see your distributor.

UPRIGHT FILTER REMOVAL

To remove filters from an external filter rack in an upright upflow installation, follow the directions provided with external filter rack kit.

Clean, wash and dry a permanent filter. When using a permanent filter, both sides should be sprayed with a dust adhesive as recommended on adhesive container. Spray adhesives for use with permanent filters can be found at some hardware stores. BE SURE AIRFLOW DIRECTION ARROW POINTS TOWARDS THE BLOWER.

Inspect filter. If your dirty filter is the disposable type, replace dirty with the same type and size filter. If your dirty filter is a permanent filter, clean as follows:

- Wash, rinse, and dry the permanent filters. Both sides should then be sprayed with a filter adhesive as is recommended on the adhesive container. Many hardware stores stock spray adhesives for use with permanent filters.
- If badly torn or uncleanable, these filters must be replaced by equal size permanent, high velocity filters. Throwaway filters must not be used as replacement for permanent filters. Under normal use, permanent filters should last for several years.

INDUCED DRAFT AND CIRCULATOR BLOWER MOTORS

The bearings in the induced draft blower and circulator blower motors are permanently lubricated by the manufacturer. No further lubrication is required. Check motor windings for accumulation of dust which may cause overheating. Clean as necessary.

FLAME SENSOR (QUALIFIED SERVICER ONLY)

Under some conditions, the fuel or air supply can create a nearly invisible coating on the flame sensor. This coating acts as an insulator causing a drop in the flame sense signal. If the flame sense signal drops too low the furnace will not sense flame and will lock out. The flame sensor should be carefully cleaned by a qualified servicer using emery cloth or steel wool. Following cleaning, the flame sense signal should be 1 to 6 microamps at 115 volts.

IGNITER (QUALIFIED SERVICER ONLY)

If the igniter and the surrounding air are at about 70°F and the igniter wires are not connected to any other electrical components, the resistance of the igniter should not exceed 75 ohms. If it does, the igniter should be replaced.

BURNERS

⚠ WARNING

TO PREVENT PERSONAL INJURY OR DEATH, DO NOT REMOVE ANY INTERNAL COMPARTMENT COVERS OR ATTEMPT ANY ADJUSTMENT. ELECTRICAL COMPONENTS ARE CONTAINED IN BOTH COMPARTMENTS. CONTACT A QUALIFIED SERVICE AGENT AT ONCE IF AN ABNORMAL FLAME APPEARANCE SHOULD DEVELOP.

Periodically during the heating season, make a visual check of the burner flames. Turn the furnace on at the thermostat. Wait a few minutes, since any dislodged dust will alter the normal flame appearance. Flames should be stable, quiet, soft and blue with slightly orange tips. They should not be yellow. They should extend directly outward from the burner ports without curling downward, floating or lifting off the ports.

CLEANING (QUALIFIED SERVICER ONLY)

1. Shut off electric power and gas supply to the furnace.
2. Disconnect the rollout limit wires, flame sensor wire, and disconnect the igniter plug.

⚠ CAUTION

LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING CONTROLS. WIRING ERRORS CAN CAUSE IMPROPER AND DANGEROUS OPERATION. VERIFY PROPER OPERATION AFTER SERVICING.

3. Remove four (4) screws securing the burner box top.

⚠ CAUTION

THE IGNITER IS FRAGILE AND CAN BE EASILY DAMAGED. USE EXTREME CAUTION WHEN REMOVING THE BURNER BOX TOP.

4. Remove the screws securing the burners to the burner bracket. Remove the burners.
5. Use bottle brush to clean burner insert and inside of burner.
6. Replace burner (opposite of removal). Ensure burners are fully seated on burner bracket and are properly aligned. Replace burner box top. Re-connect wiring.

⚠ CAUTION

LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING CONTROLS. WIRING ERRORS CAN CAUSE IMPROPER AND DANGEROUS OPERATION. VERIFY PROPER OPERATION AFTER SERVICING.

7. Turn on electric power and gas supply to the furnace.
8. Check furnace for proper operation. Refer to *"Operational Checks"* section to verify burner flame characteristics.

XVII. BEFORE LEAVING AN INSTALLATION

- Cycle the furnace with the thermostat at least three times. Verify cooling and fan only operation.
- Review the Owner's Manual with the homeowner and discuss proper furnace operation and maintenance.
- Leave literature packet near furnace.

XVIII. REPAIR AND REPLACEMENT PARTS

- When ordering any of the listed functional parts, be sure to provide the furnace model, manufacturing, and serial numbers with the order.
- Although only functional parts are shown in the parts list, all sheet metal parts, doors, etc. may be ordered by description.
- Parts are available from your distributor.

Functional Parts List-

Two-Stage Gas Valve	Blower/Collector Box Gasket
Natural Gas Orifice	Primary Limit Switch
Propane Gas Orifice	Rollout Limit Switch
Burner	Auxiliary Limit Switch
Hot Surface Igniter	Heat Exchanger
Flame Sensor	Door Switch
Gas Manifold	Transformer
Ignition Control	Blower Wheel
Blower Mounting Bracket	Blower Housing
Pressure Switch	Blower Cutoff
Pressure Switch Hose	Blower Motor
Induced Draft Blower	Motor Mount Bracket
Collector Box	Capacitor

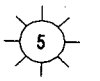
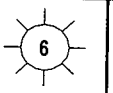
TROUBLESHOOTING CHART

Symptoms of Abnormal Operation	Associated LED Code[2]	Fault Description(s)	Possible Causes	Corrective Action	Cautions & Notes
• Furnace fails to operate. • Integrated control module diagnostic **LED** provides **no signal.**	NONE	• No 115 volt power to furnace, or no 24 volt power to integrated control module. • Blown fuse or circuit breaker.	• Manual disconnect switch OFF, door switch open, or 24 volt wires improperly connected or loose. • Blown fuse or circuit breaker.	• Assure 115 and 24 volt power to furnace integrated control module. • Check integrated control module fuse (3A). Replace if necessary. • Check for possible shorts in 115 and 24 volt circuits. Repair as necessary.	• Turn power OFF prior to repair. • Replace integrated control module fuse with 3A automotive fuse.
• Furnace fails to operate.		• Integrated control module has an internal fault.	• Integrated control module has an internal fault.	• Replace bad integrated control module.	• Turn power OFF prior to repair. • Read precautions in "Electrostatic Discharge" section of manual.
• Furnace fails to operate. • Integrated control module diagnostic **LED** is flashing **ONE** (1) flash.	 1 FLASH	• Furnace lockout due to an excessive number of ignition attempts. (3 total)[1] • Auxiliary Limit Open	• Failure to establish flame. Cause may be no gas to burners, bad igniter or igniter alignment, improper orifices, or coated/ oxidized or improperly connected flame sensor. • Loss of flame after establishment. Cause may be interrupted gas supply, lazy burner flames (improper gas pressure or restriction in flue or improper induced draft blower performance. • Insufficient conditioned air over the heat exchanger. Blocked filters, restrictive ductwork, improper circulator blower speed, or failed circulator blower.	• Locate and correct gas interruption. • Replace or realign igniter. • Check flame sense signal. Sand sensor if coated and/or oxidized. • Check flue piping for blockage, proper length, elbows, and termination. • Verify proper induced draft blower performance. • Check circulator blower speed and performance. Correct speed or replace blower if necessary.	• Turn power OFF prior to repair. • Igniter is fragile, handle with care. • Clean flame sensor with steel wool. • See "Combustion and Ventilation Air Requirements" and "Category I Venting (Vertical Venting)" section for details. • See Product Data Bulletin for allowable rise range and proper circulator speed.
• Furnace fails to operate. • Integrated control module diagnostic **LED** is flashing **TWO** (2) flashes.	 2 FLASHES	• Pressure switch circuit is closed. • Induced draft blower **is not** operating.	• Induced draft blower pressure switch contacts sticking. • Shorts in pressure switch circuit.	• Replace induced draft blower pressure switch. • Repair short.	• Turn power OFF prior to repair. • Replace pressure switch with proper replacement part.
• Induced draft blower runs continuously with no further furnace operation. • Integrated control module diagnostic **LED** is flashing **THREE** (3) flashes.	 3 FLASHES	• Pressure switch circuit not closed. • Induced draft blower **is** operating.	• Pressure switch hose blocked, pinched or connected improperly. • Blocked flue or weak induced draft blower. • Incorrect pressure switch setpoint or malfunctioning switch contacts. • Loose or improperly connected wiring.	• Inspect pressure switch hose. Repair, if necessary, • Inspect flue for blockage, proper length, elbows, and termination. • Correct pressure switch setpoint or contact motion. • Tighten or correct wiring connection.	• Turn power OFF prior to repair. • See "Combustion and Ventilation Air Requirements" and "Category I Venting (Vertical Venting)" section for details. • Replace pressure switch with proper replacement part.

[1] Integrated control module will automatically attempt to reset from lockout after one hour.

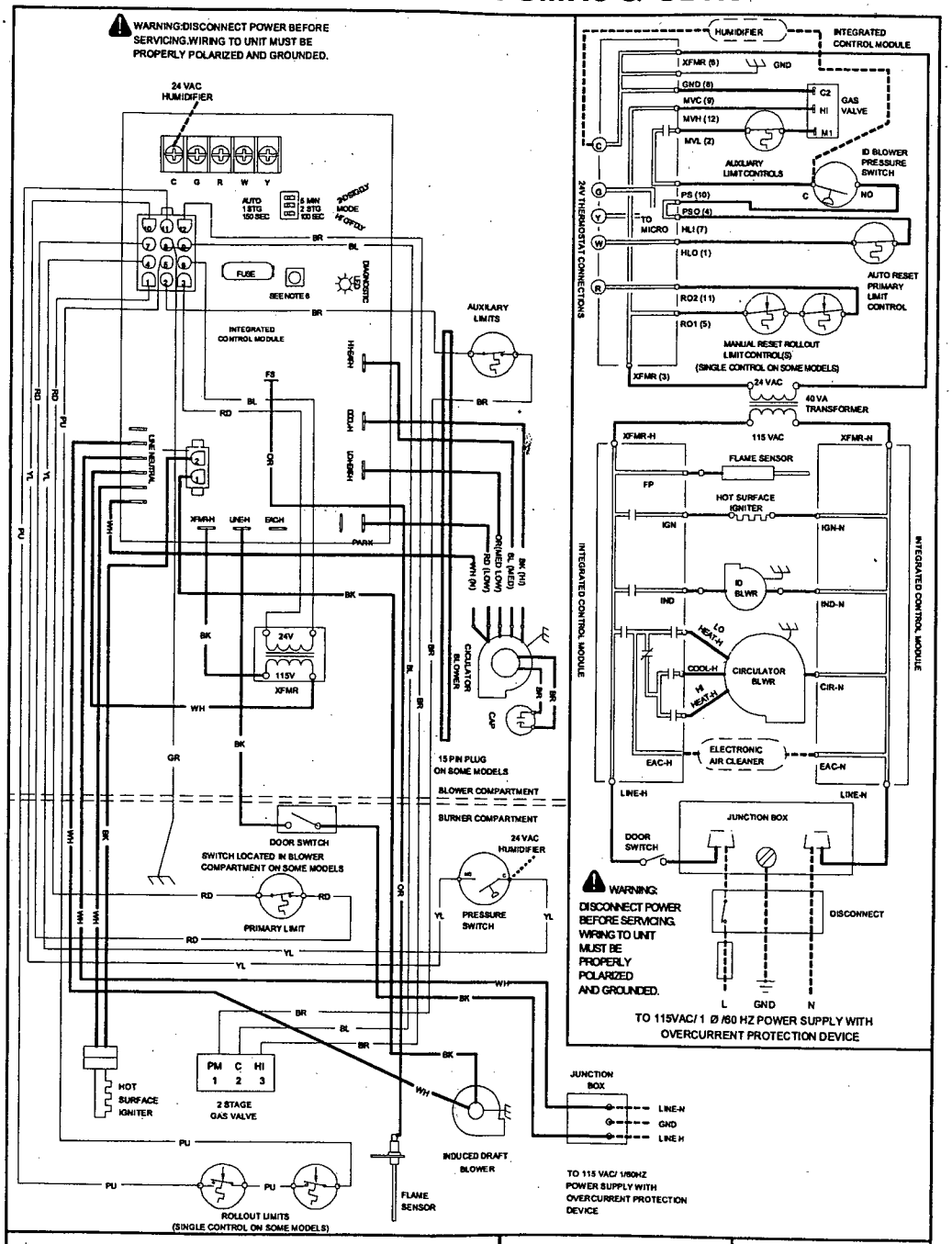
[2] LED Flash code will cease if power to the control module is interrupted through the disconnect or door switch.

TROUBLESHOOTING CHART

Symptoms of Abnormal Operation	Associated LED Code[2]	Fault Description(s)	Possible Causes	Corrective Action	Cautions & Notes
• Circulator blower runs continuously. No furnace operation. • Integrated control module diagnostic **LED** is flashing **FOUR** (4) flashes.	 4 FLASHES	• Primary limit circuit is open.	• Insufficient conditioned air over the heat exchanger. Blocked filters, restrictive ductwork, improper circulator blower speed, or failed circulator blower. • Faulty primary limit switch. • Loose or improperly connected wiring.	• Check primary limit. Replace if necessary. • Check filters and ductwork for blockage. Clean filters or remove obstruction. • Check circulator blower speed and performance. Correct speed or replace blower if necessary. • Tighten or correct wiring connection.	• Turn power Of prior to repair. • Replace prima switch with proper replacement pa • Replace blowe with correct replacement pa
• Induced draft blower and circulator blower runs continuously. No furnace operation. • Integrated control module diagnostic **LED** is flashing **FIVE** (5) flashes.	 5 FLASHES	• Flame sensed with no call for heat.	• Short to ground in flame sense circuit.	• Correct short at flame sensor or in flame sensor wiring	• Turn power OFF prior to repair.
• Furnace fails to operate. • Integrated control module diagnostic **LED** is flashing **SIX** (6) flashes. • No furnace operation.	 6 FLASHES	• Rollout limit open. • Integrated control module fuse is blown.	• Flame rollout. • Misaligned burners, blocked flue and/or air inlet pipe, or failed induced draft blower. • Loose or improperly connected wiring. • Short in 24 volt AC control circuits or safety circuits. •Faulty rollout limit.	• Check burners for proper alignment. • Check flue and air inlet piping for blockage, proper length, elbows, and termination. Correct as necessary. • Check rollout limit. Replace if necessary. • Check induced draft blower for proper performance. Replace, if necessary. • Tighten or correct wiring connection. • Repair short in 24 volt AC control/safety circuit(s). • Replace integrated control module fuse (3A).	• See "Vent/Flue Pipe" section fo piping details. • Replace induce draft blower with proper replacement pa • Replace integrated contr module fuse wit 3A automotive fuse. • Read precaution in "Electrostatic Discharge" section of manual. • Replace rollout limit with correct replacement par
• Normal furnace operation. • Integrated control module diagnostic **LED** is flashing **SEVEN** (7) flashes.	 7 FLASHES	• Flame sense microamp signal is low.	• Flame sensor is coated/ oxidized. • Flame sensor incorrectly positioned in burner flame. • Lazy burner flame due to improper gas pressure or combustion air.	• Sand flame sensor. • Inspect for proper sensor alignment. • Compare current gas pressure to rating plate info. Adjust as needed.	• Turn power OFF prior to repair. • Clean flame sensor with stee wool. • See "Vent/Flue Pipe" section for piping details. • See rating plate for proper gas pressure.
• Induced draft blower runs continuously. No furnace operation. • Integrated control module diagnostic **LED** is flashing **continuously.**	 CONTINUOUS FLASHING	• Polarity of 115 or 24 volt power is reversed.	• Polarity of 115 volt AC power to furnace or integrated control module is reversed. • Red and blue wires to transformer are reversed. • Poor unit ground.	• Review wiring diagram to correct polarity. • Verify proper ground. Correct if necessary. • Reverse red and blue wires connected to transformer.	• Turn power OFF prior to repair.
• LED is steady on	STEADY ON	• Normal operation.			

[2] LED Flash code will cease if power to the control module is interrupted through the disconnect or door switch.

WIRING DIAGRAM FOR GMH8 & GDH8



- STEADY ON = NORMAL OPERATION
- OFF = CONTROL FAILURE
- 1 FLASH = SYSTEM LOCKOUT (RETRIES/RECYCLES EXCEEDED)
- 2 FLASHES = PRESSURE SWITCH STUCK CLOSED
- 3 FLASHES = PRESSURE SWITCH STUCK OPEN
- 4 FLASHES = OPEN HIGH LIMIT
- 5 FLASHES = FLAME SENSE WITHOUT GAS VALVE
- 6 FLASHES = OPEN ROLLOUT
- 7 FLASHES = LOW FLAME SIGNAL
- RAPID FLASHES = REVERSED 115 VAC POLARITY/VERIFY GND

LOW VOLTAGE (24V)	EQUIPMENT GND
LOW VOLTAGE FIELD	FIELD GND
HI VOLTAGE (115V)	FIELD SPLICE
HI VOLTAGE FIELD	SWITCH (TEMP.)
JUNCTION	IGNITER
TERMINAL	SWITCH (PRESS.)
INTERNAL TO INTEGRATED CONTROL	OVERCURRENT PROT. DEVICE
PLUG CONNECTION	

COLOR CODES:	
YL YELLOW	PK PINK
OR ORANGE	BR BROWN
PU PURPLE	WH WHITE
GR GREEN	BL BLUE
BK BLACK	GY GRAY
	RD RED

NOTES:
1. SET HEAT ANTICIPATOR ON ROOM THERMOSTAT AT 0.7 AMPS.
2. MANUFACTURER'S SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
3. IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE FURNACE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C. USE COPPER CONDUCTORS ONLY.
4. BLOWER SPEEDS SHOULD BE ADJUSTED BY INSTALLER TO MATCH THE INSTALLATION REQUIREMENTS SO AS TO PROVIDE THE CORRECT HEATING TEMPERATURE RISE AND THE CORRECT COOLING CFM. (SEE SPEC SHEET FOR AIR FLOW CHART)
5. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N.E.C. AND LOCAL CODES.
6. TO RECALL THE LAST 5 FAULTS, MOST RECENT TO LEAST RECENT, DEPRESS SWITCH FOR MORE THAN 2 SECONDS WHILE IN STANDBY(NO THERMOSTAT INPUTS).

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WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

NOTE: SPECIFICATIONS AND PERFORMANCE DATA LISTED HEREIN ARE SUBJECT TO CHANGE WITHOUT NOTICE

Quality Makes the Difference!

All of our systems are designed and manufactured with the same high quality standards regardless of size or efficiency. We have designed these units to significantly reduce the most frequent causes of product failure. They are simple to service and forgiving to operate. We use quality materials and components. Finally, every unit is run tested before it leaves the factory. That's why we know. . . **There's No Better Quality.**

Visit our website at www.goodmanmfg.com or www.amana-hac.com for information on:

- Products
- Warranties
- Customer Services
- Parts
- Contractor Programs and Training
- Financing Options

Goodman Manufacturing Company, L.P.
2550 North Loop West, Suite 400, Houston, TX 77092
www.goodmanmfg.com

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GOODMAN MANUFACTURER

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0807122711

ANDERSON

3 TON EVAPORATOR COIL

FTY

CHPF3636B6A

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GOODMAN MANUFACTURER

GMH80904BN

0808676857

ANDERSON

90,000 BTU FURNACE
80% AFUE

FTY

GMH80904BNAC

0808676857

GOODMAN MANUFACTURER

GSX130361

UNIVERSAL

3 TON 13 SEER 410-A
CONDENSER UNIT

WO# S062775
Rev: AB

6 63051 41547 8

GSX130361

0807686189

GSX130361AB

ELECTRICAL SUBCODE
TECHNICAL SECTION

Date Received
Control # 08-1694A

Date Issued
Permit # (09-002162

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

Block 1355.34 Lot 33 Qualification Code

Work Site Location 266 73rd Ave.
Buck, N.J. 08724

Owner in Fee: Emelina Feliz

Tel. (201) 323-2824 e-mail

Address 259 Vernon Ave. Clifton N.J. 07011
street municipality zip code

Contractor: SANTANA ELECTRIC Tel. (973) 418-1841

Address 32 Sherman Pl. e-mail 201-993-0168
J.C. N.J. 07307

Contractor License No. 8462 Exp. Date

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

Federal Emp. ID No. 1065803444 FAX: ( )

B. ELECTRICAL CHARACTERISTICS

Use Group Present Proposed

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

Building Occupied as Utility Co.

Est. Cost of Elec. Work $ Same as on Previous application, NO Additional Charge

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[ ] No Plans Required

[ ] Partial -Underslab Utilities Approved
Date: Approved by:

[ ] Electric Plans Approved
Date: Approved by:

Joint Plan Review Required:
[ ] Bldg. [ ] Plumb. [ ] Fire. [ ] Elev.

SUBCODE APPROVAL for PERMIT
Date:
Approved by:

SUBCODE APPROVAL for CERTIFICATE
[ ] CO [ ] CCO [ ] CA
Date:
Approved by:

INSPECTIONS

Type:	Failure	Failure	Dates (Month/Day) Approval	Initial
Rough				
Barrier-Free				
Trench				
Temp. Serv.				
Constr. Serv.				
TCO				
Other				
Service				
Final				
Barrier-Free				

Temp. Cut-in-Card Date Issued
Final Cut-in-Card Date Issued
Annual Pool Inspection
Date of Grounding and Bonding Certification

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's Signature/Contractor's Seal and Signature

[ ] Licensed Elec. Contractor [ ] Certif'd Landscape Irrigation Cont'r [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

QTY.	SIZE	ITEMS	FEE (Office Use Only)
		Lighting Fixtures	
		Receptacles	
		Switches	
		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
		Communications Points	
		Alarm Devices/F.A.C. Panel	
		TOTAL NUMBERS	$
		Pool Permit/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	
1	13	KW Central A/C Unit ✓	
1	13	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 $

U.C.C. F120 (rev. 12/07) 1 White = Inspector Copy 2 Canary = Office Copy 3 Pink = Office Copy 4 Gold = Applicant Copy

ELECTRICAL SUBCODE
TECHNICAL SECTION

Date Received / Control # 08-1094A

Date Issued / Permit # M09-002162

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

Block 1355.34 Lot 33 Qualification Code

Work Site Location 266 73rd Ave.
Brick, N.J. 08724

Owner in Fee: Francisco Feliz

Tel. (201) 323-2824 e-mail

Address 259 Vernon Ave. Clifton NJ. 07011
street municipality zip code

Contractor: SANTANA ELECTRIC Tel. (973) 418-1641

Address 32 Sherman Rd. e-mail 201-993-0168
J.C. NJ 07307

Contractor License No. 8462 Exp. Date

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

Federal Emp. ID No. 1065803441 FAX: ( )

B. ELECTRICAL CHARACTERISTICS

Use Group Present Proposed

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

Building Occupied as Utility Co.

Est. Cost of Elec. Work $ Same as on Previous applications, NO Additional Charge

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[ ] No Plans Required

[ ] Partial -Underslab Utilities Approved
Date: Approved by:

[ ] Electric Plans Approved
Date: Approved by:

Joint Plan Review Required:
[ ] Bldg. [ ] Plumb. [ ] Fire. [ ] Elev.

SUBCODE APPROVAL for PERMIT
Date:
Approved by:

SUBCODE APPROVAL for CERTIFICATE
[ ] CO [ ] CCO [ ] CA
Date:
Approved by:

INSPECTIONS — Dates (Month/Day)

Type:	Failure	Failure	Approval	Initial
Rough				
Barrier-Free				
Trench				
Temp. Serv.				
Constr. Serv.				
TCO				
Other				
Service				
Final				
Barrier-Free				

Temp. Cut-in-Card Date Issued

Final Cut-in-Card Date Issued

Annual Pool Inspection

Date of Grounding and Bonding Certification

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's Signature/Contractor's Seal and Signature

[ ] Licensed Elec. Contractor [ ] Certif'd Landscape Irrigation Cont'r [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

QTY.	SIZE	ITEMS	FEE (Office Use Only)
		Lighting Fixtures	
		Receptacles	
		Switches	
		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
		Communications Points	
		Alarm Devices/F.A.C. Panel	
		TOTAL NUMBERS	$
		Pool Permit/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	
1	13	KW Central A/C Unit ✓	
1	3	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 $

U.C.C. F120 (rev. 12/07) 1 White = Inspector Copy 2 Canary = Office Copy 3 Pink = Office Copy 4 Gold = Applicant Copy

ELECTRICAL SUBCODE
TECHNICAL SECTION

Date Received
Control # CF-187417

Date Issued
Permit # (M19-M2162

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

Block 1355.341 Lot 33 Qualification Code

Work Site Location 266 23rd Ave
Belmar, NJ. 07724

Owner in Fee:

Tel. (201) 323-2324 e-mail

Address 259 Vernon Pl. Clifton NJ 07011
street municipality zip code

Contractor: SANTANA ELECTRIC Tel. (973) 418-1841

Address 32 Sherman Ave. e-mail 201-943-0168
J.C. NJ 07307

Contractor License No. 9462 Exp. Date

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

Federal Emp. ID No. 1065-60344 FAX: ( )

B. ELECTRICAL CHARACTERISTICS

Use Group Present Proposed

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

Building Occupied as Utility Co.

Est. Cost of Elec. Work $ Same as [illegible] No Additional Charge

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[ ] No Plans Required

[ ] Partial -Underslab Utilities Approved
Date: Approved by:

[ ] Electric Plans Approved
Date: Approved by:

Joint Plan Review Required:
[ ] Bldg. [ ] Plumb. [ ] Fire. [ ] Elev.

SUBCODE APPROVAL for PERMIT
Date:
Approved by:

SUBCODE APPROVAL for CERTIFICATE
[ ] CO [ ] CCO [ ] CA
Date:
Approved by:

INSPECTIONS — Dates (Month/Day)

Type:	Failure	Failure	Approval	Initial
Rough				
Barrier-Free				
Trench				
Temp. Serv.				
Constr. Serv.				
TCO				
Other				
Service				
Final				
Barrier-Free				

Temp. Cut-in-Card Date Issued
Final Cut-in-Card Date Issued
Annual Pool Inspection
Date of Grounding and Bonding Certification

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's Signature/Contractor's Seal and Signature

[ ] Licensed Elec. Contractor [ ] Certif'd Landscape Irrigation Cont'r [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

QTY.	SIZE	ITEMS	FEE (Office Use Only)
		Lighting Fixtures	
		Receptacles	
		Switches	
		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
		Communications Points	
		Alarm Devices/F.A.C. Panel	
		TOTAL NUMBERS	$
		Pool Permit/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	
1	3	KW Central A/C Unit	
1	3	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 $

U.C.C. F120 (rev. 12/07) 1 White = Inspector Copy 2 Canary = Office Copy 3 Pink = Office Copy 4 Gold = Applicant Copy

ELECTRICAL SUBCODE
TECHNICAL SECTION

Date Received
Control #

Date Issued
Permit #

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

Block _____ Lot _____ Qualification Code _____

Work Site Location _____

Owner in Fee: _____

Tel. (___) _____ e-mail _____

Address _____
street municipality zip code

Contractor: _____ Tel. (___) _____

Address _____ e-mail _____

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 $ _____

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[ ] No Plans Required

[ ] Partial -Underslab Utilities Approved
Date:_____ Approved by: _____

[ ] Electric Plans Approved
Date:_____ Approved by: _____

Joint Plan Review Required:
[ ] Bldg. [ ] Plumb. [ ] Fire. [ ] Elev.

SUBCODE APPROVAL for PERMIT
Date: _____
Approved by: _____

SUBCODE APPROVAL for CERTIFICATE
[ ] CO [ ] CCO [ ] CA
Date: _____
Approved by: _____

INSPECTIONS

Type:	Failure	Failure	Approval	Initial
Rough				
Barrier-Free				
Trench				
Temp. Serv.				
Constr. Serv.				
TCO				
Other				
Service				
Final				
Barrier-Free				

Dates (Month/Day)

Temp. Cut-in-Card Date Issued _____

Final Cut-in-Card Date Issued _____

Annual Pool Inspection _____ _____ _____ _____

Date of Grounding and Bonding Certification _____

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's Signature/Contractor's Seal and Signature

[ ] Licensed Elec. Contractor [ ] Certif'd Landscape Irrigation Cont'r [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

QTY.	SIZE	ITEMS	FEE (Office Use Only)
		Lighting Fixtures	
		Receptacles	
		Switches	
		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
		Communications Points	
		Alarm Devices/F.A.C. Panel	
		_____	
		TOTAL NUMBERS	$ _____
		Pool Permit/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	
1	3	KW Central A/C Unit	
1	3	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 $ _____

ELECTRICAL SUBCODE
TECHNICAL SECTION

Date Received
Control #

Date Issued
Permit #

UPDATE.
9-29-09

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

Block 1... 2... Lot _____ Qualification Code _____

Work Site Location _____

Owner in Fee: _____

Tel. (____) _____ e-mail _____

Address _____

Contractor: SANTANA ELECTRIC. (street, municipality, zip code) Tel. (973 471 8184

Address 30 PARK AVE. e-mail _____
PASSAIC PARK NJ 07055.

Contractor License No. 8462- Exp. Date 03-12.

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

Federal Emp. ID No. 226203547 FAX: (____) _____

B. ELECTRICAL CHARACTERISTICS

Use Group Present _____ Proposed _____

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

Building Occupied as _____ Utility Co. _____

Est. Cost of Elec. Work $ ...

JOB SUMMARY (Office Use Only)

PLAN REVIEW
[X] No Plans Required 9-4-9-45
[ ] Partial -Underslab Utilities Approved
Date:_____ Approved by: _____
[ ] Electric Plans Approved
Date:_____ Approved by: _____
Joint Plan Review Required:
[ ] Bldg. [ ] Plumb. [ ] Fire. [ ] Elev.
SUBCODE APPROVAL for PERMIT
Date: _____
Approved by: _____
SUBCODE APPROVAL for CERTIFICATE
[ ] CO [ ] CCO [ ] CA
Date: _____
Approved by: _____

INSPECTIONS Type:	Failure	Failure	Approval	Initial
	Dates (Month/Day)			
Rough				
Barrier-Free				
Trench				
Temp. Serv.				
Constr. Serv.				
TCO				
Other				
Service				
Final				
Barrier-Free				

Temp. Cut-in-Card Date Issued _____
Final Cut-in-Card Date Issued _____
Annual Pool Inspection ____ ____ ____
Date of Grounding and Bonding Certification _____

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's Signature/Contractor's Seal and Signature

[ ] Licensed Elec. Contractor [ ] Certif'd Landscape Irrigation Cont'r. [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

QTY.	SIZE	ITEMS	FEE (Office Use Only)
		Lighting Fixtures	
		Receptacles	
		Switches	
		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
		Communications Points	
		Alarm Devices/F.A.C. Panel	
		_____	
		TOTAL NUMBERS	$ _____
		Pool Permit/with UW Lights	
1		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	
1	7	KW Central A/C Unit	
1	7	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 $ _____

ELECTRICAL SUBCODE
TECHNICAL SECTION

Date Received
Control #

9-29-09

Date Issued
Permit #

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

Block _____ Lot _____ Qualification Code _____

Work Site Location _____

Owner in Fee: _____

Tel. (_____) _____ e-mail _____

Address _____

Contractor: Santana Electric (973) 1-214
street municipality zip code

Address 2 [illegible] e-mail _____
VASSALIC [illegible]

Contractor License No. 21[illegible] Exp. Date 2-[illegible]

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

Federal Emp. ID No. 1 [illegible] FAX: (_____) _____

B. ELECTRICAL CHARACTERISTICS

Use Group Present _____ Proposed _____

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

Building Occupied as _____ Utility Co. _____

Est. Cost of Elec. Work $ _____

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[✓] No Plans Required 9-14-09-S

[ ] Partial -Underslab Utilities Approved
Date:_____ Approved by: _____

[ ] Electric Plans Approved
Date:_____ Approved by: _____

Joint Plan Review Required:
[ ] Bldg. [ ] Plumb. [ ] Fire. [ ] Elev.

SUBCODE APPROVAL for PERMIT
Date: _____
Approved by: _____

SUBCODE APPROVAL for CERTIFICATE
[ ] CO [ ] CCO [ ] CA
Date: _____
Approved by: _____

INSPECTIONS

Type:	Failure	Failure	Approval	Initial
Rough				
Barrier-Free				
Trench				
Temp. Serv.				
Constr. Serv.				
TCO				
Other				
Service				
Final				
Barrier-Free				

Dates (Month/Day)

Temp. Cut-in-Card Date Issued _____
Final Cut-in-Card Date Issued _____
Annual Pool Inspection _____ _____ _____
Date of Grounding and Bonding Certification _____

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's Signature/Contractor's Seal and Signature

[ ] Licensed Elec. Contractor [ ] Certif'd Landscape Irrigation Cont'r [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

QTY.	SIZE	ITEMS	FEE (Office Use Only)
____		Lighting Fixtures	
____		Receptacles	
____		Switches	
____		Detectors	
____		Light Poles	
____		Motors—Fract. HP	
____		Emergency & Exit Lights	
____		Communications Points	
____		Alarm Devices/F.A.C. Panel	
____		_____	
____		TOTAL NUMBERS	$ _____
____		Pool Permit/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	
1	____	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 $ _____

Brick Township
401 Chambersbridge Rd
Brick, NJ 08723
(732) 262-1027

Subcode Official Review

To: 259 VERNON AVE CLIFTON, NJ 07011 CC:

RE: Plumbing Subcode
Block: 1355.34 Lot: 33 Qual:
266 23RD AVE
Permit Number: 08-1129+A Control Number: C-09-002162
Last Submit Date: Tuesday, June 23, 2009

Date: Thursday, June 25, 2009

Dear FELIX, ESMELIN G & LEGUIZAMAN, PAUL,

The following comments were made during the Plan Review process:

submit heat loss/gain for units

Sincerely,

Robert Wennlund, Subcode Official

06-25-09

fax # 201-393-0168

8/10/09
Please submit back to fire after Plumbing

Land Use/ Bldg Dept Fax:732-262-8954

** Transmit Conf. Report **

P.1 Jun 25 2009 12:51

T.1.1	Check condition of remote fax.	12013930168

Brick Township
401 Chambersbridge Rd
Brick, NJ 08723
(732) 262-1027

Subcode Official Review

To: 259 VERNON AVE CLIFTON, NJ 07011 CC:

RE: Plumbing Subcode
Block: 1355.34 Lot: 33 Qual:
266 23RD AVE
Permit Number: 08-1129+A Control Number: C-09-002162
Last Submit Date: Tuesday, June 23, 2009

Date: Thursday, June 25, 2009

Dear FELIX, ESMELIN G & LEGUIZAMAN, PAUL,

The following comments were made during the Plan Review process:

submit heat loss/gain for units

No 25-09

fax # 201-393-0168

Sincerely,

Robert Wennlund, Subcode Official

CHIMNEY CERTIFICATION
FOR REPLACEMENT OF FUEL FIRED EQUIPMENT

BLOCK 1355.34 LOT 33 QUALIFICATION CODE _____ PERMIT # 08-1129

WORK SITE ADDRESS 266 23rd Ave. Brick, N.J. 08724

Applicant Esmelin Feliz

Certifying Individual Esmelin Feliz Company E+P Quality Construction LLC

Address 259 Vernon Ave, Clifton NJ 07011
Street City State Zip Code

Tel. (201) 323-2824

Check the Appropriate Box

Type of Replacement:

[ ] Oil to Gas Conversion
[X] Gas Appliance Replacement
[ ] Oil to Oil Replacement
[ ] Other _____

Existing Vent/Chimney:

[ ] B Label Vent
[ ] L Label Vent
[ ] Masonry Chimney – Tile Lined
[ ] Flexible Liner
[ ] Power Vent/Exhauster
[ ] Other _____

PLEASE SIGN ONE OF THE FOLLOWING CERTIFICATION STATEMENTS

CERTIFICATION

For Oil to Gas Conversions:

I herby certify that the chimney/vent is free and clear of obstruction and is substantially clean of residue from its previous use serving an oil appliance. I further certify that the chimney/vent is appropriately lined and sized for the appliance being installed

_____
Signature Date

Oil to Oil or Gas to Gas Replacements:

I hereby certify that the existing chimney/vent is free and clear of obstruction. I further certify that the existing chimney/vent is appropriately lined and sized for the appliance being installed.

Esmelin Feliz 6/18/09
Signature Date

Certification Not Submitted:

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

_____
Signature Date

Direct Vent Appliance:

No certification required:

_____
Signature Date

THIS FORM MUST BE RETURNED TO THE CODE ENFORCEMENT OFFICE PRIOR TO FINAL INSPECTION.

U.C.C. F370 (rev. 3/04)

ELECTRICAL SUBCODE
TECHNICAL SECTION

Date Received
Control # 08-1129

Date Issued
Permit # 4-28-08

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

Block 1355.34 Lot 33 Qualification Code

Work Site Location 266 23rd AVE
BRICK N.J. 08724

Owner in Fee Osmelin Teliz

Address 259 VERNON AVE
CLIFTON N.J. 07011

Tel (201) 323-2824

Contractor SANTANA ELECTRIC

Address 32 SHERMAN AVE
JC. NJ 07307.

Tel (973) 418 1841 FAX (201) 332-68

Contractor License No. 8462.

Federal Emp. No. 106520344.

B. ELECTRICAL CHARACTERISTICS

Use Group Present Proposed

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

Building Occupied as Utility Co.

Est. Cost of Elec. Work $ 3.500 ⁰⁰

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's Signature/Contractor's Seal and Signature

[ ] Licensed Elec. Contractor [ ] Certif'd Landscape Irrigation Cont'r [ ] Exempt Applicant

D. TECHNICAL SITE DATA

QTY	SIZE	ITEMS	FEE (Office Use Only)
20	12	Lighting Fixtures	
30	17	Receptacles	
03	12	Switches	
4		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
		Communications Points	
		Alarm Devices/F.A.C. Panel	
		TOTAL NUMBERS	$
		Pool Permit/with UW Lights	
		Storable Pool/Spa/Hot Tub	
1	10	KW Elec. Range/Receptacle	
1	10	KW Oven/Surface Unit	
0		KW Elec. Water Heater	
1	8	KW Elec. Dryer/Receptacle	
1	2	KW Dishwasher	
		HP Garbage Disposal	
		KW Central A/C Unit	
		HP/KW Space Heater/Air Handler	
4		KW Baseboard Heat	
		HP Motors 1/+ HP	
		KW Transformer/Generator	
1	150	AMP Service	
1	150	AMP Subpanels	
		AMP Motor Control Center	
		KW Elec. Sign/Outline Light	

Administrative Surcharge $

Minimum Fee $

State Permit Surcharge Fee $

TOTAL FEE $

JOB SUMMARY (Office Use Only)

PLAN REVIEW

	Date	Initial
[ ] No Plans Required		
Joint Plan Review Required:		
[ ] Building [ ] Plumbing		
[ ] Fire [ ] Elevator		
[X] Elec. Plans Approved		
Date: 41708		
Approved by:		

SUBCODE APPROVAL

[ ] CO [ ] CCO [ ] CA

Date:

Approved by:

INSPECTIONS

Type:	Failure	Failure	Approval	Initial
	Dates (Month/Day)			
Rough				
Barrier-Free				
Trench				
Temp. Serv.				
Constr. Serv.				
TCO				
Other				
Service				
Final				
Barrier-Free				

Temp. Cut-in-Card Date Issued

Final Cut-in-Card Date Issued

Annual Pool Inspection

Date of Grounding and Bonding Certification

ELECTRICAL SUBCODE
TECHNICAL SECTION

Date Received Control # 08-11-09

Date Issued Permit # 4-28-08

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

Block 1355 34 Lot 23 Qualification Code

Work Site Location 266 23rd Ave

Erika N.J. 08722

Owner in Fee [illegible]

Address 259 Vernon Ave

Clifton N.J. 07011

Tel (201) 323-28-14

Contractor Santana Electric

Address 32 Sherman Ave

JC. NJ 07307

Tel (973) 418 1841 FAX (201) [illegible]

Contractor License No. 8117

Federal Emp. No. 10-[illegible]

B. ELECTRICAL CHARACTERISTICS

Use Group Present Proposed

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

Building Occupied as Utility Co.

Est. Cost of Elec. Work $ 3,500.00

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's Signature/Contractor's Seal and Signature

[ ] Licensed Elec. Contractor [ ] Certif'd Landscape Irrigation Cont'r [ ] Exempt Applicant

D. TECHNICAL SITE DATA

QTY.	SIZE	ITEMS	FEE (Office Use Only)
12		Lighting Fixtures	
19		Receptacles	
12		Switches	
4		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
		Communications Points	
		Alarm Devices/F.A.C. Panel	
		TOTAL NUMBERS	$
		Pool Permit/with UW Lights	
		Storable Pool/Spa/Hot Tub	
1	10	KW Elec. Range/Receptacle	
1	15	KW Oven/Surface Unit	
		KW Elec. Water Heater	
1	5	KW Elec. Dryer/Receptacle	
1	2	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	
1	150	AMP Service	
1	150	AMP Subpanels	
		AMP Motor Control Center	
		KW Elec. Sign/Outline Light	

Administrative Surcharge $

Minimum Fee $

State Permit Surcharge Fee $

TOTAL FEE $

JOB SUMMARY (Office Use Only)

PLAN REVIEW Date Initial

[ ] No Plans Required

Joint Plan Review Required:

[ ] Building [ ] Plumbing

[ ] Fire [ ] Elevator

[X] Elec. Plans Approved

Date: 4/17/08

Approved by:

SUBCODE APPROVAL

[ ] CO [ ] CCO [ ] CA

Date:

Approved by:

INSPECTIONS — Dates (Month/Day)

Type:	Failure	Failure	Approval	Initial
Rough				
Barrier-Free				
Trench				
Temp. Serv.				
Constr. Serv.				
TCO				
Other				
Service				
Final				
Barrier-Free				

Temp. Cut-in-Card Date Issued

Final Cut-in-Card Date Issued

Annual Pool Inspection

Date of Grounding and Bonding Certification

CONSTRUCTION PERMIT

Date Issued 4/28/2008
Control # C-08-000656
Permit # 08-1129

IDENTIFICATION Block: 1355.34 Lot: 33 Qualifier

Work Site Location: 266 23RD AVE Brick Township, NJ

Owner in Fee: FELIX, ESMELIN G & LEGUIZAMAN, PAUL
259 VERNON AVE CLIFTON NJ 07011

Telephone: (201) 323-2824

Contractor: FELIX, ESMELIN G & LEGUIZAMAN, PAUL
Address: 259 VERNON AVE CLIFTON NJ 07011

Telephone: (201) 323-2824
Lic. No. or Bldrs. Reg. No.
Federal Employee. No.

Is hereby granted permission to perform the following work:

- [x] BUILDING
- [x] PLUMBING
- [ ] LEAD HAZARD ABATEMENT
- [x] ELECTRICAL
- [x] FIRE PROTECTION
- [ ] DEMOLITION
- [ ] ELEVATOR DEVICES
- [ ] ASBESTOS ABATEMENT (Subchapter 8 only)
- [ ] OTHER

DESCRIPTION OF WORK:

INTERIOR ALTERATION(S)

Note: If constuction 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 $32,000

Construction Official _____ Date _____

PAYMENTS (Office Use Only)

Building	$552
Electrical	$175
Plumbing	$140
Fire Protection	$45
Elevator Devices	$0
Other	$0.00
DCA Training Fee	$43
CO Fee	
Other	$0
Total	$955
Check No.	133
Cash	$0
Credit	$0
Collected By	Inspection Account

U.C.C. F170
equiv (rev 8/03)

1 WHITE - INSPECTOR 2 CANARY - OFFICE 3 PINK - TAX ASSESSOR 4 GOLD - APPLICANT

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. 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.

FIRE PROTECTION SUBCODE
TECHNICAL SECTION

Date Received Control # 08-1129

Date Issued Permit # 4-28-08

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

Block 1355.34 Lot 33 Qualification Code _____

Work Site Location 766 32nd AVE
BRICK N.J. 08724

Owner in Fee YSMELIN Feliz

Address 259 VERNON AVE
CLIFTON N.J. 07011

Tel (201) 323-2824

Contractor SANTANA ELECTRIC.

Address 32 SHERMAN AVE
JC. NJ 07307 201 9930168

Tel (973) 9347860 FAX (____) _____

Fire Protection Equipment, NJ Div of Fire Safety Permit No. _____

Fire Protection Equipment, NJ Div of Fire Safety Installer No. _____

Fire Alarm Contractor No. 8462

Federal Emp. No. 106520344

B. FIRE PROTECTION CHARACTERISTICS

Use Group: Present _____ Proposed _____

Constr. Class: Present _____ Proposed _____

Heating System: [ ] New OR [X] Existing [ ] HVAC

Type: [X] Gas [ ] Oil [ ] Electric [ ] Solar

[ ] Other _____

Location: _____

Fire Alarm System: [X] New OR [ ] Existing

Location of Panel: _____

Fire Suppression/Standpipe System:

[ ] New OR [ ] Existing

Location of Main Control Valve: _____

Fuel Storage Tank:

Fuel Type: [ ] *Flammable* OR [ ] *Combustible* *Capacity* _____

Total Cost of Fire Protection Work $ 800.00

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[ ] No Plans Required

Joint Plan Review Required:

[ ] Building [ ] Plumbing

[ ] Electric [ ] Elevator

[✓] Fire Plans Approved

Date: 4-17-08

Approved by: [signature]

SUBCODE APPROVAL

[ ] CO [ ] CCO [ ] CA

Date: _____

Approved by: _____

INSPECTIONS	Dates (Month/Day)			
Type:	Failure	Failure	Approval	Initial
Alarm System				
Suppression Sys.				
Standpipe				
Fire Pump				
Pre-Eng. System				
Mechanical				
Smoke Control				
TCO				
Flam/Combust Tanks				
Fireplace Venting				
Final				
Other _____				

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. _____
Applicant's Signature/Contractor's Signature

[ ] Certified Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA
DESCRIPTION OF WORK:

Water Supply Source _____

Method of Alarm/Suppression System Supervision _____

	NUMBER	FEE (Office Use Only)
Flammable/Combustible Tanks		
Alarm Systems		
[ ] System		
[ ] 110v Interconnected		
[ ] CO Detectors/110v		
Alarm Devices (i.e., smoke, heat, pulls, water/flow)	4	45
Supervisory Devices (i.e., tampers, low/high air)		
Signaling Devices (i.e., horn/strobes, bells)		
Other Devices _____		
TOTAL		
Suppression Systems		
Fire Pump ____ GPM Type ____		
Dry Pipe/Alarm Valves		
Pre-action Valves		
Sprinkler Heads (Dry and Wet)		
Standpipes		
Pre-engineered Systems		
Wet Chemical		
Dry Chemical		
CO_2 Suppression		
Foam Suppression		
FM200 Suppression		
Other _____		
Other Systems		
Kitchen Hood Exhaust System		
Smoke Control System		
Fired Appliances [ ] Gas or [ ] Oil		
Fireplace Venting/Metal Chimney		
Other _____		

Administrative Surcharge $ _____

Minimum Fee $ _____

State Permit Surcharge Fee $ _____

TOTAL FEE $ _____

Applicant: When submitting this form to your Local Construction Code Enforcement Office, please provide one original plus three photocopies.

FIRE PROTECTION SUBCODE
TECHNICAL SECTION

Date Received 08-11-09
Control #
Date Issued 4-28-08
Permit #

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

Block 1555 34 Lot 33 Qualification Code _____

Work Site Location 766 54th AVE
N/A N.J. 07211

Owner in Fee Rosalia Feliz

Address 459 Vernon Ave
Clifton N.J. 07011

Tel (201) 223-2824

Contractor SANTANA Electric.

Address 325 Main Ave
Jc. NJ 07307 Jc. Heights

Tel (973) 434 7860 FAX (____) _____

Fire Protection Equipment, NJ Div of Fire Safety Permit No. _____

Fire Protection Equipment, NJ Div of Fire Safety Installer No. _____

Fire Alarm Contractor No. 2462

Federal Emp. No. 111-52-3044

B. FIRE PROTECTION CHARACTERISTICS

Use Group: Present _____ Proposed _____

Constr. Class: Present _____ Proposed _____

Heating System: [ ] New OR [X] Existing [ ] HVAC

Type: [X] Gas [ ] Oil [ ] Electric [ ] Solar

[ ] Other _____

Location: _____

Fuel Storage Tank:

Fuel Type: [ ] Flammable OR [ ] Combustible *Capacity* _____

Total Cost of Fire Protection Work $ 800.00

Fire Alarm System: [X] New OR [ ] Existing

Location of Panel: _____

Fire Suppression/Standpipe System:

[ ] New OR [ ] Existing

Location of Main Control Valve: _____

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. _____
Applicant's Signature/Contractor's Signature

[ ] Certified Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA
DESCRIPTION OF WORK:

Water Supply Source _____

Method of Alarm/Suppression System Supervision _____

	NUMBER	FEE (Office Use Only)
Flammable/Combustible Tanks		
Alarm Systems		
[ ] System		
[ ] 110v Interconnected		
[ ] CO Detectors/110v		
Alarm Devices (i.e., smoke, heat, pulls, water/flow)	11	45
Supervisory Devices (i.e., tampers, low/high air)		
Signaling Devices (i.e., horn/strobes, bells)		
Other Devices _____		
TOTAL		
Suppression Systems		
Fire Pump ____ GPM Type ____		
Dry Pipe/Alarm Valves		
Pre-action Valves		
Sprinkler Heads (Dry and Wet)		
Standpipes		
Pre-engineered Systems		
Wet Chemical		
Dry Chemical		
CO_2 Suppression		
Foam Suppression		
FM200 Suppression		
Other _____		
Other Systems		
Kitchen Hood Exhaust System		
Smoke Control System		
Fired Appliances [ ] Gas or [ ] Oil		
Fireplace Venting/Metal Chimney		
Other _____		

Administrative Surcharge $ _____
Minimum Fee $ _____
State Permit Surcharge Fee $ _____
TOTAL FEE $ _____

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[ ] No Plans Required

Joint Plan Review Required:

[ ] Building [ ] Plumbing

[ ] Electric [ ] Elevator

[ ] Fire Plans Approved

Date: _____

Approved by: _____

SUBCODE APPROVAL

[ ] CO [ ] CCO [ ] CA

Date: _____

Approved by: _____

INSPECTIONS Type:	Dates (Month/Day) Failure	Failure	Approval	Initial
Alarm System				
Suppression Sys.				
Standpipe				
Fire Pump				
Pre-Eng. System				
Mechanical				
Smoke Control				
TCO				
Flam/Combust Tanks				
Fireplace Venting				
Final				
Other _____				

Applicant: When submitting this form to your Local Construction Code Enforcement Office, please provide one original plus three photocopies.

Bldg Elect Fire Plumbing (Please

CONTROL NUMBER 000656

TOWNSHIP OF BRICK
APPLICATION REVIEW PROCESS

ADDRESS OF APPLICATION: 266 25th Ave.

DATE REVIEWED: 2-26-08

REVIEWED BY: Ron Bauer

CONTACT CALLED/FAXED: Bldg. already D.D.

1) need SD inside new master bedroom interconnected to others.

2) Need SD inside new Bedroom attached to M.B. interconnected to others.

3) Same as Bldg.

Frank/plan review template

(Bldg) Elect Fire Plumbing (Please mark subcode)

Resubmit 4/3/08

CONTROL NUMBER 000656

TOWNSHIP OF BRICK
APPLICATION REVIEW PROCESS

ADDRESS OF APPLICATION: 266 2nd

DATE REVIEWED: 2-22-08

REVIEWED BY: FM

CONTACT CALLED/FAXED: _____

Poor plans That DO Not Address issues That Prompted The Stop work orden

BUILDING SUBCODE
TECHNICAL SECTION

Date Received / Control # 08-1139

Date Issued / Permit # 4-28-08

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

Block 1355.34 Lot 23 Qualification Code

Work Site Location 266 23rd Ave
Brick N.J. 08724

Owner in Fee Esmelin Feliz

Address 259 Vernon Ave.
Clifton, N.J. 07011

Tel. (201) 323-2824

Contractor E.D. Quality Construction LLC

Address 259 Vernon Ave
Clifton N.J. 07011

Tel. (201) 323-2824 FAX ( )

Contractor License No. or Builder Registration No. 13VH03980400

Federal Emp. No 203-595-419/000

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.

(Esmelin Feliz)
Signature

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

Interior Rehabitation

CALL FOR inspection BEFORE Covering Any Rotted Elements Found on North Wall.

JOB SUMMARY (Office Use Only)

PLAN REVIEW	Date	Initial
[ ] No Plans Required		
[X] All	4-30-08	VM
[ ] Footing		
[ ] Foundation		
[ ] Frame		
[ ] Other		

Joint Plan Review Required:
[ ] Elec. [ ] Plumb. [ ] Fire [ ] Elevator

SUBCODE APPROVAL
[ ] CO [ ] CCO [ ] CA
Date:
Approved by:

INSPECTIONS Type:	Dates (Month/Day) Failure	Failure	Approval	Initial
Footing				
Footing Bonding				
Foundation				
Slab				
Frame				
Truss Sys./Bracing				
Barrier-Free				
Insulation				
Finishes -Base Layer				
Finishes -Final				
Energy				
Mechanical				
TCO				
Other				
Final				
Barrier-Free				

TYPE OF WORK:
[ ] New Building
[ ] Addition
[X] Rehabilitation
[ ] Roofing
[ ] Siding
[ ] Fence _____ Height (exceeds 6')
[ ] Sign _____ Sq. Ft.
[ ] Pool
[ ] Asbestos Abatement Subchapter 8
[ ] Lead Haz. Abatement NJAC 5:17
[ ] Other _____
[ ] Demolition

FEE (Office Use Only)

$

Administrative Surcharge $
Minimum Fee $
State Permit Surcharge Fee $
TOTAL FEE $

B. BUILDING CHARACTERISTICS

Use Group Present Proposed
Constr. Class Present Proposed
No. of Stories 1
Height of Structure 13' Ft.
Area — Largest Floor 1268 Sq. Ft.
New Bldg. Area/All Floors Sq. Ft.
Volume of New Structure Cu. Ft.
Total Land Area Disturbed Sq. Ft.

Est. Cost of Bldg. Work:

1. New Bldg. $
2. Rehabilitation $ 231000.00
3. Total (1+ 2) $ 23,100.00

U.C.C. F110 (rev. 07/03)

1 White = Inspector Copy 2 Canary = Office Copy
3 Pink = Office Copy 4 Gold = Applicant Copy

BUILDING SUBCODE
TECHNICAL SECTION

Date Received 08-1129
Control #

Date Issued 4-28-08
Permit #

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

Block 1355.34 Lot 23 Qualification Code ______

Work Site Location 266 23rd Ave
Brick N.J. 08724

Owner in Fee Evelina Feliz
Address 259 Vernon Ave
Clifton N.J. 07011

Tel. (201) 323-2824

Contractor E.D. Quality Construction LLC
Address 259 Vernon Ave
Clifton N.J. 07011

Tel. (201) 323-2824 FAX (____) ______

Contractor License No. or Builder Registration No. 13VH02980400

Federal Emp. No 203-595-4191000

JOB SUMMARY (Office Use Only)

PLAN REVIEW	Date	Initial
[ ] No Plans Required		
[X] All	4-30	FM
[ ] Footing		
[ ] Foundation		
[ ] Frame		
[ ] Other		

Joint Plan Review Required:
[ ] Elec. [ ] Plumb. [ ] Fire [ ] Elevator

SUBCODE APPROVAL
[ ] CO [ ] CCO [ ] CA

Date: ______

Approved by: ______

INSPECTIONS Type:	Failure	Failure	Approval	Initial
Footing				
Footing Bonding				
Foundation				
Slab				
Frame				
Truss Sys./Bracing				
Barrier-Free				
Insulation				
Finishes -Base Layer				
Finishes -Final				
Energy				
Mechanical				
TCO				
Other				
Final				
Barrier-Free				

Dates (Month/Day)

B. BUILDING CHARACTERISTICS

Use Group Present ______ Proposed ______
Constr. Class Present ______ Proposed ______
No. of Stories 1
Height of Structure 17 Ft.
Area — Largest Floor 1-68 Sq. Ft.
New Bldg. Area/All Floors ______ Sq. Ft.
Volume of New Structure ______ Cu. Ft.
Total Land Area Disturbed ______ Sq. Ft.

Est. Cost of Bldg. Work:
1. New Bldg. $ ______
2. Rehabilitation $ 23,000.00
3. Total (1+ 2) $ 23,000.00

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.

[signature]
Signature

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

Interior Rehabitation

CAll For inspection Before Covering Any Rotted Elements Found on North wall.

TYPE OF WORK:
[ ] New Building
[ ] Addition
[X] Rehabilitation
[ ] Roofing
[ ] Siding
[ ] Fence ______ Height (exceeds 6')
[ ] Sign ______ Sq. Ft.
[ ] Pool
[ ] Asbestos Abatement Subchapter 8
[ ] Lead Haz. Abatement NJAC 5:17
[ ] Other ______
[ ] Demolition

FEE (Office Use Only)
$ ______

Administrative Surcharge $ ______
Minimum Fee $ ______
State Permit Surcharge Fee $ ______
TOTAL FEE $ ______

U.C.C. F110
(rev. 07/03)

1 White = Inspector Copy
2 Canary = Office Copy
3 Pink = Office Copy
4 Gold = Applicant Copy

Date Received 08-1129
Control #

Date Issued 4-28-08
Permit #

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 1355.34 Lot 33 Qualification Code ______
Work Site Location 266 23rd Ave
Brick N.J. 08724
Owner in Fee Esmelin Feliz
Address 259 Vernon Ave
Clifton N.J. 07011
Tel (201) 323-2824
Contractor Luis Mendoza [illegible]
Address 1400 44 St. North Bergen N.J. 07047
Tel (201) [illegible] FAX (201) 9930168
Contractor License No. 21-7959
Federal Emp. No. 137-118-1754

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 $ [illegible]400.00

JOB SUMMARY (Office Use Only)

PLAN REVIEW
[ ] No Plans Required
Joint Plan Review Required:
[ ] Building [ ] Electric
[ ] Fire [ ] Elevator
[✓] Plumbing Plans Approved
Date: 4/1/08
Approved by: [signature]

SUBCODE APPROVAL
[ ] CO [ ] CCO [ ] CA
Date: ______
Approved by: ______

INSPECTIONS Type:	Failure	Failure	Approval	Initial
Slab				
Rough				
Water				
Sewer				
Fixtures				
Gas Equipment				
Gas Piping			4-[illegible]	[illegible]
LPGas Tank				
Fuel Oil Piping				
Solar				
TCO				

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.

[signature]

Applicant's Signature/Contractor's Seal and Signature
[ ] Licensed Plumbing Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA (List of all fixtures.)

NO.	FIXTURE/EQUIPMENT	FEE (Office Use Only)
1	Water Closet	$
	Urinal/Bidet	
1	Bath Tub	
2	Lavatory	
2	Shower	
	Floor Drain	
1	Sink	
1	Dishwasher	
	Drinking Fountain	
1	Washing Machine	
	Hose Bibb	
1	Water Heater	
	Fuel Oil Piping	
	Gas Piping	
	LPGas Tank	
	Steam Boiler	
1	Hot Water Boiler	
	Sewer Pump	
	Interceptor/Separator	
	Backflow Preventer	
	Greasetrap	
	Sewer Connection	
	Water Service Connection	
	Stacks	
	Other	
	Other	

50' 1 14 250,000

Administrative Surcharge $ ______
Minimum Fee $ ______
State Permit Surcharge Fee $ ______
TOTAL FEE $ ______

U.C.C. F130
(rev. 01/04)

1 White = Inspector Copy
3 Pink = Office Copy
2 Canary = Office Copy
4 Gold = Applicant Copy

PLUMBING SUBCODE
TECHNICAL SECTION

Date Received Control # 08-11-09

Date Issued Permit # 4-28-08

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

Block 1355 34 Lot 23 Qualification Code

Work Site Location

Owner in Fee

Address

Tel ( )

Contractor

Address

Tel ( ) FAX ( )

Contractor License No.

Federal Emp. No.

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 $

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[ ] No Plans Required

Joint Plan Review Required:

[ ] Building [ ] Electric

[ ] Fire [ ] Elevator

[✓] Plumbing Plans Approved

Date: --

Approved by:

SUBCODE APPROVAL

[ ] CO [ ] CCO [ ] CA

Date:

Approved by:

INSPECTIONS Type:	Dates (Month/Day) Failure	Failure	Approval	Initial
Slab				
Rough				
Water				
Sewer				
Fixtures				
Gas Equipment				
Gas Piping				
LPGas Tank				
Fuel Oil Piping				
Solar				
TCO				

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's Signature/Contractor's Seal and Signature

[ ] Licensed Plumbing Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA (List of all fixtures.)

NO.	FIXTURE/EQUIPMENT	FEE (Office Use Only)
1	Water Closet	$
	Urinal/Bidet	
2	Bath Tub	
2	Lavatory	
2	Shower	
	Floor Drain	
1	Sink	
1	Dishwasher	
	Drinking Fountain	
1	Washing Machine	
	Hose Bibb	
1	Water Heater	
	Fuel Oil Piping	
	Gas Piping	
	LPGas Tank	
	Steam Boiler	
1	Hot Water Boiler	
	Sewer Pump	
	Interceptor/Separator	
	Backflow Preventer	
	Greasetrap	
	Sewer Connection	
	Water Service Connection	
	Stacks	
	Other	
	Other	

Administrative Surcharge $

Minimum Fee $

State Permit Surcharge Fee $

TOTAL FEE $

U.C.C. F130 (rev. 01/04)

1 White = Inspector Copy 2 Canary = Office Copy 3 Pink = Office Copy 4 Gold = Applicant Copy

Resubmit 4/10/08

☐ Building ☐ Electrical ☐ Fire ☒ Plumbing

CONTROL NUMBER 000656

Resubmit See New Plan

TOWNSHIP of BRICK

APPLICATION REVIEW PROCESS

ADDRESS OF APPLICATION: 266 23rd Ave.

DATE REVIEWED: 2-27-08

REVIEWED BY: Bernie

CONTACT CALLED/FAXED: 646-256-6627

Gas sketch is not to code.

" " " " " " 4-8-08

FOR ALL PERMITS AFFECTING A RESIDENTIAL STRUCTURE (REGARDLESS IF A FIRE PERMIT IS REQUIRED) A MINIMUM OF 1 (ONE) BATTERY OPERATED OR ELECTRIC SMOKE DETECTOR IS REQUIRED ON EACH LEVEL AND IN THE VICINITYOF THE SLEEPING ROOMS. AS OF APRIL 7, 2003 THE STATE OF NJ REQUIRES THE INSTALLATION OF AT LEAST 1 (ONE) CARBON MONOXIDE DETECTOR IN THE VICINITY OF ALL SLEEPING ROOMS. THIS APPLIES TO ALL DWELLING UNITS CONTAINING A FUEL BURNING APPLIANCE OR ATTACHED GARAGE.

For work not requiring a fire inspection for fire alarms in accordance with the code, homeowners or their agents (contractors) shall be required to confirm the installation of these devices. This may be done by signing the below affidavit in lieu of an inspection.

********PLEASE READ AND SIGN********

I hereby certify that a minimum of one smoke detector is installed and is operational on each level of this residential structure in the immediate vicinity of the sleeping rooms. I further certify that a minimum of one carbon monoxide detector is installed and operational in the vicinity of the sleeping rooms. Also, I understand that failure to install and maintain these devices in an operational condition is a violation of the New Jersey Administrative Code 5:23 and may subject me to penalties as prescribed by law.

NAME: E.P. QUALITY CONSTRUCTION LLC/Esmelin Feliz

SIGNATURE: Esmelin Feliz DATE: 02/20/08

BLOCK: 1355.34 LOT: 33 ADDRESS: 266 23rd Ave Brick N.J. 08724

Applicable to Ordinance 720-92
This form must be handed in with permit application or a permit will not be issued

TOWNSHIP OF BRICK
Debris Form

Work Site Address: 266 23rd Ave Brick N.J. 08724

Block: 1355.34 Lot: 33

Contractor: E+P Quality construction / Esmelin Feliz

Contractor's Address: 259 Vernon Ave Clifton N.J. 07011

Type of Construction (minor, new home): Renovation

Type of Debris (shingles, siding, wood, etc.): Siding, wood, Sheetrock

Party responsible for removal: Esmelin Feliz

Dumpster size: 30 yards

Destination of debris: Don't know yet / I'm hiring a company

Any recyclable material must be delivered to an approved recycling center and receipts provided to the Building Department along with tipping receipts for non-recyclable.

Generator's Certification: Under penalty of criminal and civil prosecution for the making or submission of false statements, representations or omissions, I declare, on behalf of the generator that the contents of this document are fully and accurately described above and have been disposed of in accordance with all applicable State and Federal laws and regulations, and that I have been authorized in writing, to make such declaration by the person in charge of the generator's operation.

Esmelin Feliz
Signature

02/20/08
Date

Esmelin Feliz
Print Name

NOT AN ELECTRICIAN'S OR PLUMBER'S LICENSE

State Of New Jersey
New Jersey Office of the Attorney General
Division of Consumer Affairs

THIS IS TO CERTIFY THAT THE
Division of Consumer Affairs

HAS REGISTERED

E&P Quality Construction, LLC
Esmelin Feliz
259 Vernon Ave
Clifton NJ 07011

FOR PRACTICE IN NEW JERSEY AS A(N): Home Improvement Contractor

12/03/2007 TO 12/31/2008
VALID

13VH03980400
LICENSE/REGISTRATION/CERTIFICATION #

Signature of Licensee/Registrant/Certificate Holder

Lawrence DiMauro
ACTING DIRECTOR

A.T. Alicea