The indoor blower motor and the outdoor fan motor have permanently lubricated bearings and do not require routine service. The refrigeration system is sealed and factory charged with R-410A so that routine maintenance is not required. Cleaning of the outdoor coil, indoor coil, drain pan, and inside the bottom of the chassis are recommended at least once a year, and more often if the equipment is operated in a dusty or hostile environment. The electrical controls do not require routine service.

Power to the unit should always be turned off before performing service or removing the cooling chassis from the unit. One power connector and one control circuit connector are provided for easy disconnecting and re-connecting of the wires between the cooling chassis and cabinet. The controls enclosure cover must be removed to allow access to the screws holding the indoor blower cover plate to the cooling chassis and cabinet. **After reinstalling the cooling chassis, the indoor blower cover plate and controls enclosure cover must be reinstalled**.

⚠ WARNING

IF YOU TURN OFF POWER SUPPLY, TURN OFF THE GAS. SEE HAZARD LEVELS, PAGE 3. THE MATERIAL CONTAINED IN THE MAINTENANCE AND SERVICE SECTION OF THIS MANUAL IS DESIGNED TO AID A QUALIFIED SERVICE PERSON IN MAINTAINING AND SERVICING THIS EQUIPMENT. THIS UNIT WILL OPERATE WITH MINIMUM MAINTENANCE. TO ENSURE LONG LIFE AND SATISFACTORY PERFORMANCE, A HEATER THAT IS OPERATED UNDER NORMAL CONDITIONS SHOULD BE INSPECTED AND CLEANED AT THE START OF EACH HEATING SEASON. IF THE HEATER IS OPERATING IN AN AREA WHERE AN UNUSUAL AMOUNT OF DUST, SOOT OR OTHER IMPURITIES ARE PRESENT IN THE AIR, MORE FREQUENT MAINTENANCE IS RECOMMENDED. WHEN ANY SERVICE IS COMPLETE, BE CAREFUL TO REASSEMBLE CORRECTLY TO ENSURE THAT NO UNSAFE CONDITIONS ARE CREATED. WHEN RE-LIGHTING, ALWAYS FOLLOW THE LIGHTING INSTRUCTIONS ON THE HEATER.

Maintenance Schedule

At least every six weeks check the filter. Clean or replace as necessary. A clean filter in addition to providing a comfortable environment ensures fuel-efficient operation and long heat exchanger life. Do the following procedures at least annually.

- Clean all dirt, lint, and grease from the combustion air openings and venter motor.
- Inspect the heat exchanger. Clean if needed.
- Check the burner for scale, dust, or lint accumulation. Clean if needed.
- Check the vent system for soundness. Replace any parts that do not appear sound.
- Check the wiring for any damaged wire. Replace damaged wiring.

NOTE: USE ONLY FACTORY-AUTHORIZED REPLACEMENT PARTS.

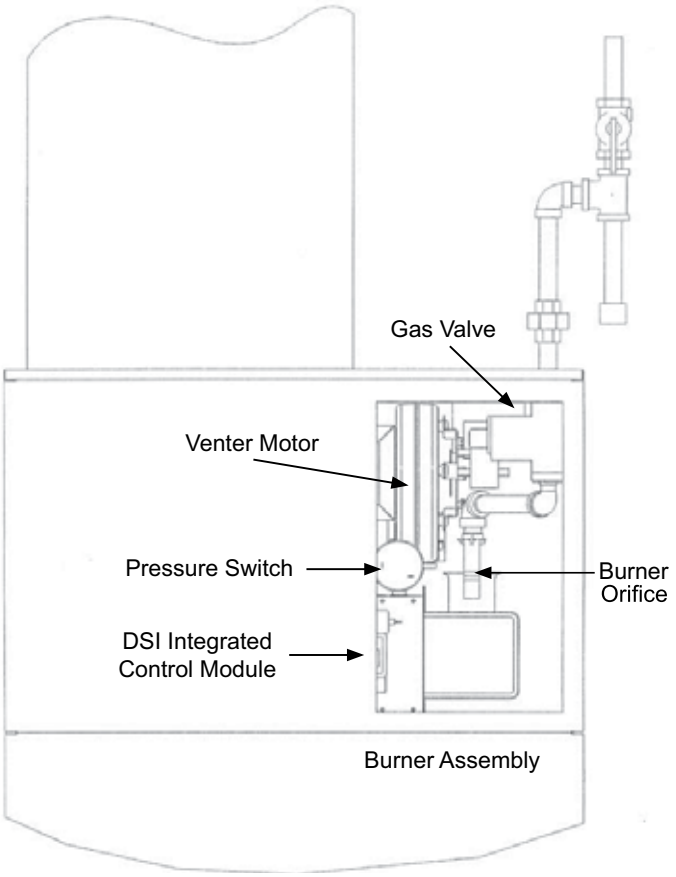
Burner/Control Compartment

Heat Section Burner/Control Compartment

Showing Locations of Burner Assembly and Controls

NOTE: Unit side panel is removed for clarity; side panel is not removable. Access to the burner/control compartment is through the small rear access panel as illustrated below.

Figure 5



Inspect the Heat Exchanger

Remove the heat furnace baffle panel (see page 29). Remove any dirt or dust accumulation. Visually check the heat exchanger for cracks and holes. If a crack or hole is observed, replace the heat exchanger. Thorough inspection of the heat exchanger can be done with furnace slid out of the cabinet. (See pages 29 & 30)

Burner Service

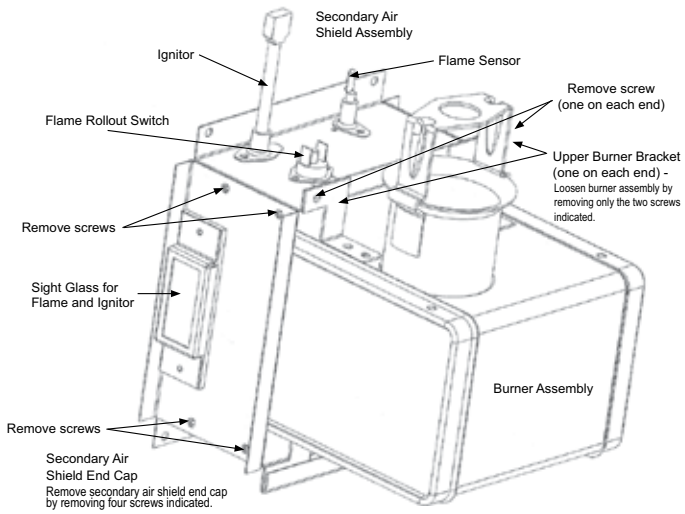
Inspect the burner/control compartment annually to determine if cleaning is necessary. Open the burner/control compartment and on the burner housing, clean the compartment and follow the instructions below to remove and clean the burner.

Instructions for Burner Removal

Note: Components may be more easily accessed with the furnace removed from cabinet. (See page 29 & 30)

1. Shut the gas supply off ahead of the combustion valve.
2. Turn off electric supply.
3. Remove the upper cabinet panel to expose the heat exchanger section and the burner/control compartment (see Figure 2).
4. Carefully loosen and remove the gas valve and gas train from the side panel and burner orifice bracket.
5. Mark and disconnect the pressure switch wires. Disconnect the tubing and remove the pressure switch.
6. Locate the secondary air shield end cap. Remove the four screws holding it to the air shield and remove the end cap.
7. Locate the upper burner brackets (one on each side). Remove the two screws (one on each side) that attach the burner assembly to the secondary air shield assembly.
8. Tilt the burner assembly slightly and lift it free from the retaining track under the burner assembly. Remove the burner assembly from the cabinet.

Figure 6A



Inspect and Clean the Burner

With the burner assembly removed, shine a flashlight on the burner ribbons. Look for carbon buildup, scale, dust, lint, and/or anything that might restrict flow through the spaces between the burner ribbons. Holding the burner assembly so that any foreign material will fall away from the burner, use a stiff bristle brush to loosen and remove any foreign material(s). If the burner is excessively dirty, refer to Figure 6A and remove one of the burner end caps. Remove the four screws that hold the end cap to the burner housing. Lightly tap the end cap to remove it.

Clean all foreign material from the burner and venturi. After the burner is thoroughly clean, replace the end cap making certain that it is tight against the burner housing.

NOTE: IF ANY OF THE BURNER COMPONENTS ARE DAMAGED OR DETERIORATED, REPLACE THE BURNER ASSEMBLY.

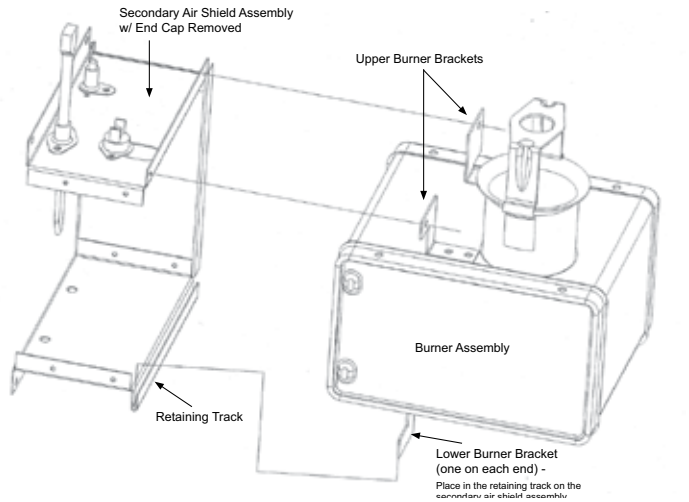
Inspect the Lower Portion of the Heat Exchanger (with burner assembly removed)

At the burner flame entrance of each tube, shine a bright light into each heat exchanger section. If any light is observed, replace the heat exchanger.

Instructions for Burner Installation

1. With lower burner brackets going inside the retaining track, set the fully assembled, clean burner in the unit.
2. Secure the upper burner brackets to the secondary air shield assembly.
3. Replace the secondary air shield end cap.
4. Attach and reconnect the pressure switch.
5. Reinstall the gas train and gas valve to the burner orifice bracket and side panel.
6. Turn on the electric and the gas. Operate the furnace. Check gas supply lines with a liquid leak detector or soap solution. After it has been determined that there are no gas leaks and the burner is operating satisfactorily, replace the cabinet panel and the burner/control compartment panel.

Figure 6B



Burner Orifice

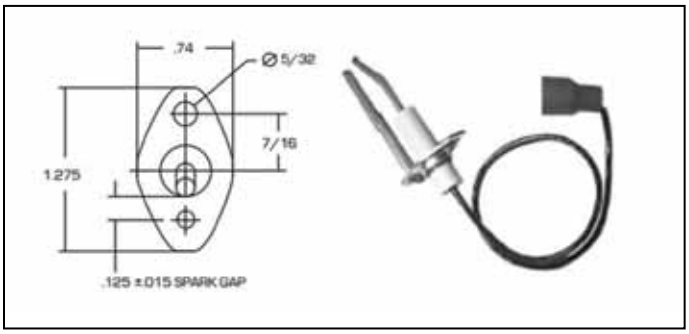
Burner orifice only needs to be replaced when a change in gas is made. When ordering a replacement orifice, give BTUH content and specific gravity of gas, as well as the model and serial number of the unit. To prevent dropping the orifice into the burner housing, block the venturi with something the size of a credit card when removing the burner orifice. Be careful not to damage the venturi tube and/or the bracket.

Ignition System

Igniter - Refer to Figure 6A and locate the igniter. Disconnect the wire; remove the screw and the igniter. Clean the igniter assembly with an emery cloth. Spark gap must be maintained to 1/8" (See Figure 7) below.

Flame Sensor - Refer to Figure 6A and locate the flame sensor. Disconnect the wire; remove the screw and the flame sensor. Clean with an emery cloth.

Figure 7



⚠ CAUTION

DUE TO HIGH VOLTAGE ON THE SPARK WIRE AND ELECTRODE, DO NOT TOUCH WHEN ENERGIZED. SEE HAZARD LEVELS, PAGE 5.

DSI Integrated Control Module - The module monitors the operation of the heater including ignition. The only replaceable component is the 3 amp fuse. If the fuse is blown, the problem is most likely an external overload. Correct the problem and replace the fuse. Do not attempt to disassemble the control module. However, each heating season check the lead wires for insulation deterioration and good connections.

Proper operation of the direct spark ignition system requires a minimum flame signal of 1.0 microamps as measured by a microammeter.

For further information and check out procedure on the direct spark ignition system, refer to the circuit board manufacturer's instructions supplied with the heater.

Venter Motor and Wheel Assembly

Remove dirt and grease from the motor casing. Venter motor bearings are permanently lubricated. The DSI Integrated Control Module controls and monitors operation of the venter motor. If the contacts fail to close the venter motor will not run. If the contacts fail to open, the venter motor will not shut off, preventing the combustion air pressure switch from opening.

Follow these instructions for replacement of the venter motor and wheel assembly. Keep all hardware removed to be used in reassembling and installing the replacement parts.

1. Turn off the gas and disconnect the electric power.
2. Open the burner/control compartment access panel.
3. Disconnect the three venter motor wires at their terminal block connections.
4. Holding the motor, remove the three screws that attach the venter motor mounting plate to the venter housing. Remove the motor and wheel assembly from the heater.
5. Re-assemble with the replacement venter motor and wheel assembly.
6. Follow the wiring diagram to connect the venter wires.
7. Restore power to the heater and turn on the gas. Light, following the instructions plate. Check for proper operation. Replace the access panel.

Limit Control

If it is determined that a limit control needs replacing, use only the factory-authorized replacement part that is designed for the size of heater. The limit control is accessible in the control compartment. For approximate limit control location (see Figure 1).

Gas Valve

The gas valve requires no field maintenance except careful removal of external dirt accumulation and checking of wiring connections. Instructions for testing pressure settings are in paragraph entitled “Gas Piping and Pressures.

⚠ CAUTION

THE OPERATING VALVE IS THE PRIMARY SAFETY SHUTOFF. ALL GAS SUPPLY LINES MUST BE FREE OF DIRT OR SCALE BEFORE CONNECTING TO THE UNIT TO ENSURE POSITIVE CLOSURES. SEE HAZARD INTENSITY LEVELS, PAGE 3.

Pressure Switch

If it is determined that the pressure switch needs replacing, use only the factory-authorized replacement part that is designed for this heater. For approximate location (see Figure 5).

NOTE: A unit operating above 6000 ft elevation requires a high altitude pressure switch, P/N 14208325 (see page 17).

Flame Rollout Switch

For approximate location (see Figure 6A). The cause of a flame rollout switch activating must be determined. Activation of the manually reset flame rollout switch could be caused by one or more of the following: • Restricted or plugged heat exchanger. • Pressurization of the heat exchanger. • Restricted combustion air inlet or exhaust outlet in combination with a defective pressure switch. • Electrical power interruption during operation. If a flame rollout switch trips, inspect the burner/control compartment for signs of excessive heat and burned wiring.

If the compartment appears normal, reset by depressing the red button on the switch. 15 to 20 minutes are required for the switch to cool sufficiently for resetting. A distinct click will be felt when the switch resets. Operate the furnace. If the flame rollout switch trips again, determine and correct the cause before resetting the switch.

If there is damage to the burner/control compartment, repairs must be made before resetting the switch.

If it is determined that the flame rollout switch needs replacing, use only the factory-authorized replacement part that is designed for that size of heater.

Vent System

Check at least once a year. Inspect all joints and seams. Replace any defective parts.

Troubleshooting

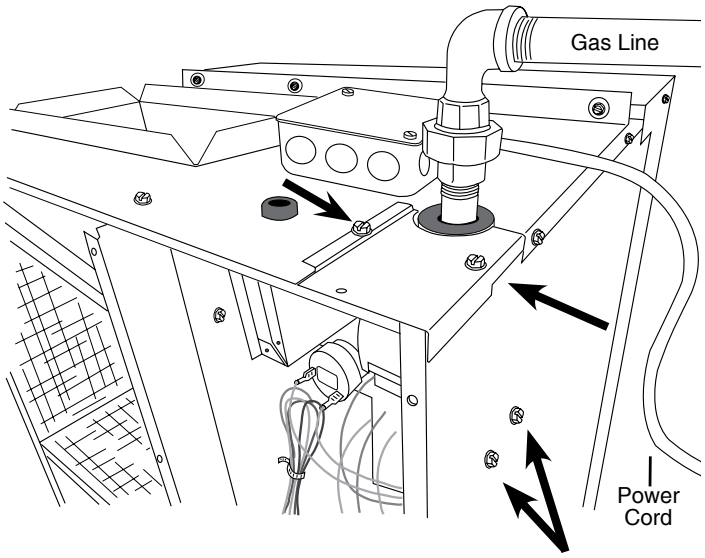
Check the DSI Integrated Control Module (Circuit Board) - The Integrated Circuit Board monitors the operation of the heater and includes an LED signal that indicates normal operation and various abnormal conditions. If the heater fails to operate properly, check this signal to determine the cause and/or to eliminate certain causes.

Do not attempt to repair the DSI integrated control module; the only field replaceable component is the fuse.

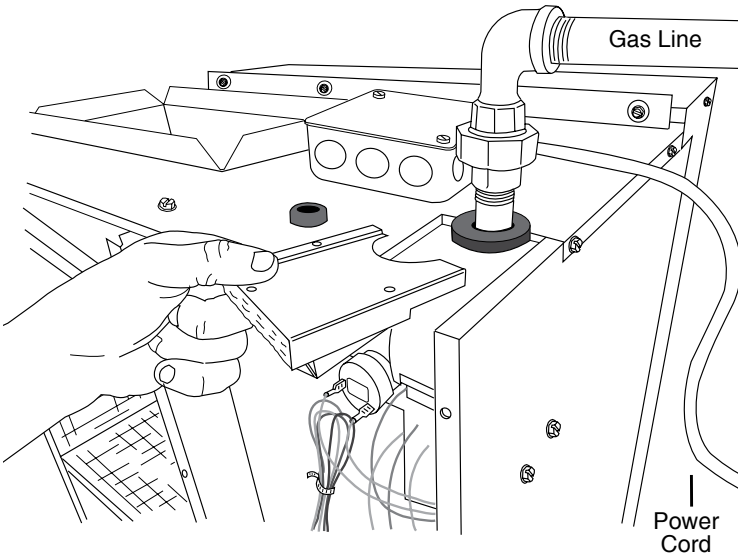
CONTROL STATUS	GREEN LED
STEADY ON	Normal operation, no call for heat
FAST FLASH	Normal operation, call for heat
1 FLASH	In lockout from failed ignition or flame loss
2 FLASH	Pressure switch does not close for 30 seconds
3 FLASH	Limit switch or rollout switch open
4 FLASH	Limit switch is closed before venter is energized
STEADY OFF	Internal control fault or no power
FLAME STATUS	**YELLOW LED**
STEADY ON	Flame sensed
SLOW FLASH	Weak flame (current below 1.0 microamps = +/-50%)
FAST FLASH	Undesired flame (valve open and no call for heat)

Directions to Slide Out the Furnace
(After removing front panels)

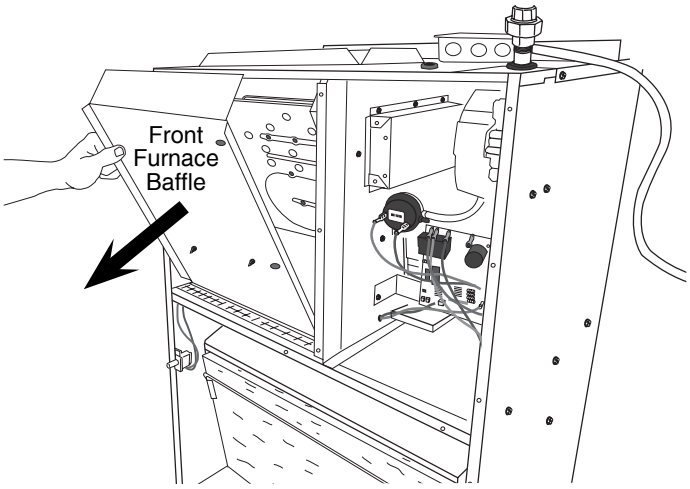
1. Remove the (4) screws indicated at the right

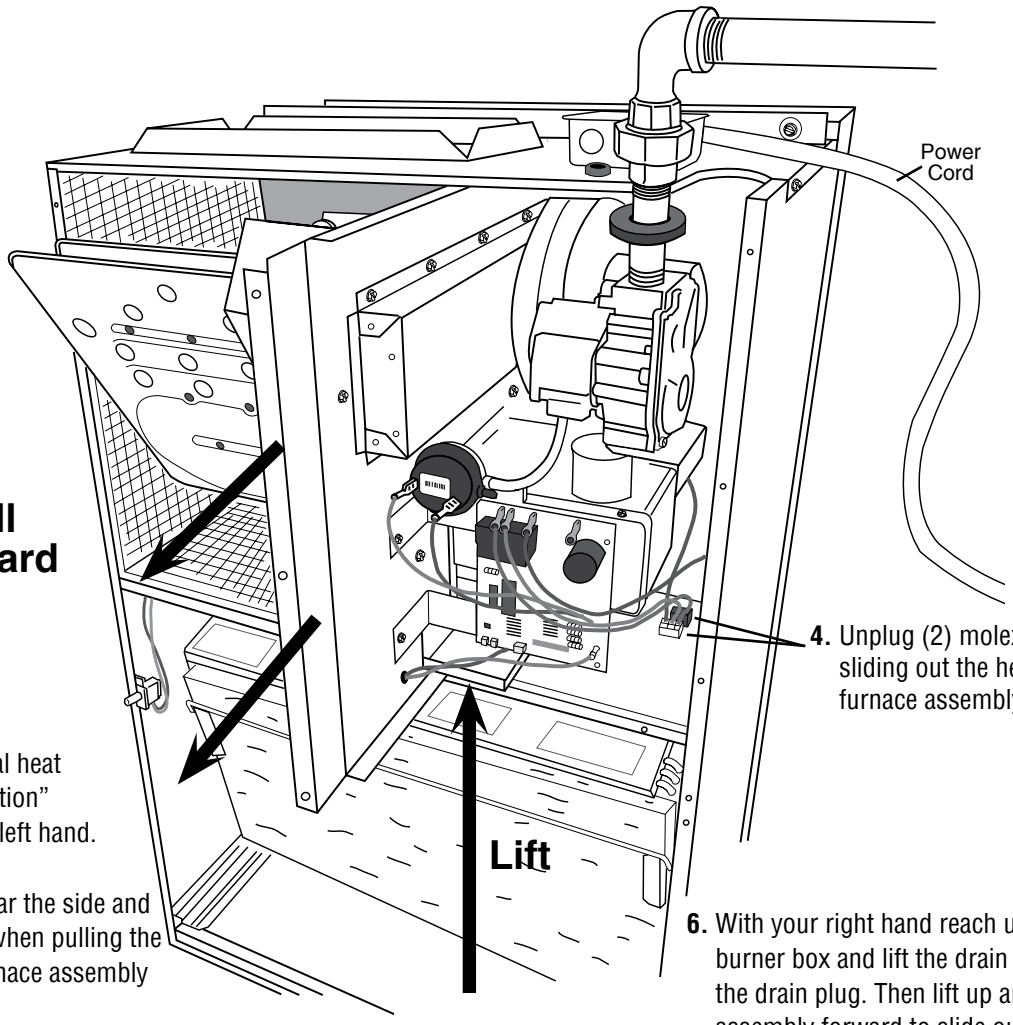


2. Remove the patch plate



3. Remove (2) right side screws and remove the front furnace baffle.





4. Unplug (2) molex plugs before sliding out the heat exchanger/ furnace assembly.

5. Grasp the vertical heat exchanger "partition" firmly with your left hand.

Be careful not to tear the side and bottom insulation when pulling the heat exchanger/furnace assembly forward.

6. With your right hand reach under the burner box and lift the drain pan to release the drain plug. Then lift up and pull the assembly forward to slide out the heat exchanger/furnace assembly.

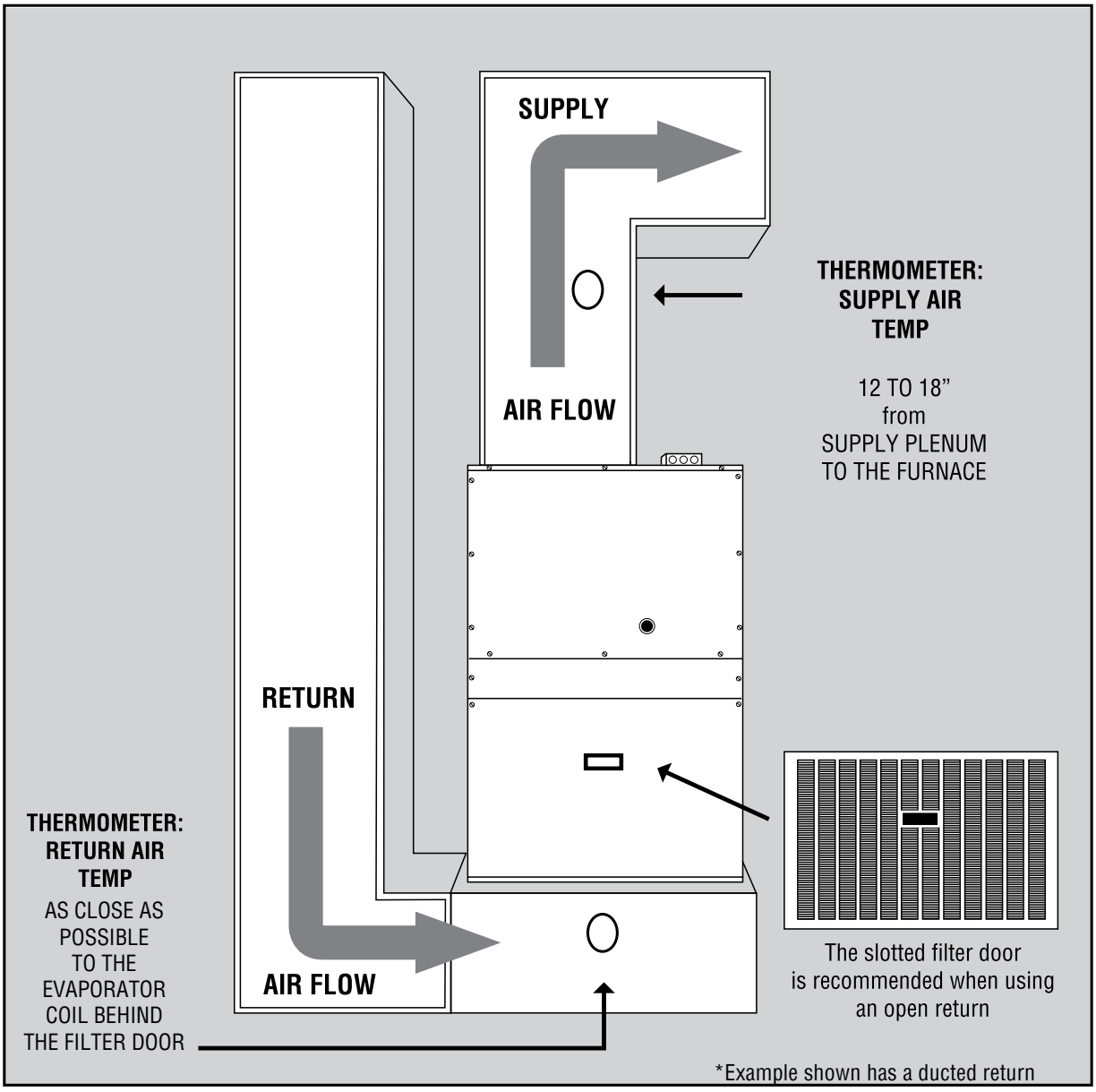
Electrical Data											
Models	Voltage	Compressor		Outdoor Fan Motor			Indoor Blower Motor		Total Amps	Minimum Circuit Amps	Maximum Overcurrent Protector
		RLA	LRA	HP	FLA	LRA	HP	FLA			
CPG41228-U	208-230/60/1	5.1	29.5	1/4	1.8	3.6	1/3	3.0	9.9	11.2	15
CPG41238-U	208-230/60/1	5.1	29.5	1/4	1.8	3.6	1/3	3.0	9.9	11.2	15
CPG41828-U	208-230/60/1	8.0	43.5	1/4	1.8	3.6	1/3	3.0	12.8	14.8	20
CPG41838-U	208-230/60/1	8.0	43.5	1/4	1.8	3.6	1/3	3.0	12.8	14.8	20
CPG41851-U	208-230/60/1	8.0	43.5	1/4	1.8	3.6	1/3	3.0	12.8	14.8	20
CPG41864-U	208-230/60/1	8.0	43.5	1/4	1.8	3.6	1/3	3.0	12.8	14.8	20
CPG42428-U	208-230/60/1	10.9	61.6	1/4	1.8	3.6	1/2	3.9	16.6	19.3	30
CPG42438-U	208-230/60/1	10.9	61.6	1/4	1.8	3.6	1/2	3.9	16.6	19.3	30
CPG42451-U	208-230/60/1	10.9	61.6	1/4	1.8	3.6	1/2	3.9	16.6	19.3	30
CPG42464-U	208-230/60/1	10.9	61.6	1/4	1.8	3.6	1/2	3.9	16.6	19.3	30
CPG43028-U	208-230/60/1	14.3	72.2	1/4	2.4	-	1/2	3.9	20.6	24.2	35
CPG43038-U	208-230/60/1	14.3	72.2	1/4	2.4	-	1/2	3.9	20.6	24.2	35
CPG43051-U	208-230/60/1	14.3	72.2	1/4	2.4	-	1/2	3.9	20.6	24.2	35
CPG43064-U	208-230/60/1	14.3	72.2	1/4	2.4	-	1/2	3.9	20.6	24.2	35

Performance Data - All Units 9.2 EER and 80% Thermal Efficiency with 409 SS.HX						
Models	Nominal Cooling Tons	Cooling BTU	EER	Heating BTU Input	Heating BTU Output	Shipping Weight
CPG41228-U	1	12,000	9.2	28,000	22,400	315
CPG41238-U	1	12,000	9.2	38,000	30,400	315
CPG41828-U	1.5	18,000	9.2	28,000	22,400	325
CPG41838-U	1.5	18,000	9.2	38,000	30,400	325
CPG41851-U	1.5	18,000	9.2	51,000	40,800	325
CPG41864-U	1.5	18,000	9.2	64,000	51,200	325
CPG42428-U	2	22,400	9.2	28,000	22,400	350
CPG42438-U	2	22,400	9.2	38,000	30,400	350
CPG42451-U	2	22,400	9.2	51,000	40,800	350
CPG42464-U	2	22,400	9.2	64,000	51,200	350
CPG43028-U	2.5	27,000	9.2	28,000	22,400	360
CPG43038-U	2.5	27,000	9.2	38,000	30,400	360
CPG43051-U	2.5	27,000	9.2	51,000	40,800	360
CPG43064-U	2.5	27,000	9.2	64,000	51,200	360

Optional Accessories			
CPWSA	Wall Sleeve Adapter (Unassembled)	**A**	Omit Stamped Grilles
CPLG	Architectural Louver Grille	**B**	Slotted Filter Door
CPLG-S	Architectural Louver Grille for Sleeve	**C**	Combination of both A & B
CPLG-P	Architectural Louver Grille Painted	**14208343**	LP Kit (38 MBTU)
CPLG-SP	Architectural Louver Grille for Sleeve Painted	**14208344**	LP Kit (51 MBTU)
CPSG-P	Stamped Grille Painted	**14208345**	LP Kit (64 MBTU)

National Comfort Products offers Architectural Louver Grilles for all models. Outdoor grilles provided by others must be approved by National Comfort Products to maintain unit performance and warranty coverage. See Architectural Louvered Grilles Specification Sheet for more details.

Check Your Temperature Rise



The temperature rise should be as follows

28MBTU = 52.5°F Nominal (45°F to 60°F)
38MBTU = 52.5°F Nominal (45°F to 60°F)
51MBTU = 55°F Nominal (45°F to 65°F)
64MBTU = 67°F Nominal (60°F to 80°F)

In order to calculate CFM use the formula
CFM = BTU Output / (1.08 x Temp. Rise)

See next page for airflow data.

Comfort Pack Gas CFM and Temperature Rise 28,000 BTU Input												
UNIT SIZE	**COLOR**	**SPEED**	**.1" w.c.**	**TD**	**.2" w.c.**	**TD**	**.3" w.c.**	**TD**	**.4" w.c.**	**TD**	**.5" w.c.**	**TD**
CPG41228	Red	1										
	Yellow	2										
	Blue	3					520	39.9	450	46.1	380	54.6
	Black	4			500	41.5	430	48.2	340	61.0		
	Orange	5	415	50.0	325	63.8						
CPG41828	Red	1										
	Yellow	2										
	Blue	3					520	39.9	450	46.1	380	54.6
	Black	4			500	41.5	430	48.2	340	61.0		
	Orange	5	415	50.0	325	63.8						
CPG42428	Red	1										
	Yellow	2										
	Blue	3										
	Black	4			533	38.9	510	40.7	493	42.1	475	43.7
	Orange	5	405	51.2	378	54.9	350	59.3	328	63.2		
CPG43028	Red	1										
	Yellow	2										
	Blue	3										
	Black	4			533	38.9	510	40.7	493	42.1	475	43.7
	Orange	5	405	51.2	378	54.9	350	59.3	328	63.2		

Comfort Pack Gas CFM and Temperature Rise 38,000 BTU Input												
UNIT SIZE	**COLOR**	**SPEED**	**.1" w.c.**	**TD**	**.2" w.c.**	**TD**	**.3" w.c.**	**TD**	**.4" w.c.**	**TD**	**.5" w.c.**	**TD**
CPG41238	Red	1							725	38.8	680	41.4
	Yellow	2	715	39.4	690	40.8	660	42.6	620	45.4	560	50.3
	Blue	3	620	45.4	580	48.5	520	54.1	450	62.6		
	Black	4	550	51.2	500	56.3	430	65.5				
	Orange	5										
CPG41838	Red	1							725	38.8	680	41.4
	Yellow	2	715	39.4	690	40.8	660	42.6	620	45.4	560	50.3
	Blue	3	620	45.4	580	48.5	520	54.1	450	62.6		
	Black	4	550	51.2	500	56.3	430	65.5				
	Orange	5										
CPG42438	Red	1										
	Yellow	2					710	39.6	698	40.3	685	41.1
	Blue	3	635	44.3	613	45.9	590	47.7	576	48.9	562	50.1
	Black	4	555	50.7	533	52.8	510	55.2	493	57.1	475	59.3
	Orange	5										
CPG43038	Red	1										
	Yellow	2					710	39.6	698	40.3	685	41.1
	Blue	3	635	44.3	613	45.9	590	47.7	576	48.9	562	50.1
	Black	4	555	50.7	533	52.8	510	55.2	493	57.1	475	59.3
	Orange	5										

*FACTORY SETTING | *OUTSIDE OF SYSTEM OPERATING CONDITIONS | *BORDERLINE OPERATING CONDITION

* ALL DATA IS APPROXIMATE, OPERATE UNIT WITHIN APPROPRIATE TEMPERATE RISE LOCATED ON PAGE 32

Comfort Pack Gas CFM and Temperature Rise 51,000 BTU Input												
UNIT SIZE	**COLOR**	**SPEED**	**.1" w.c.**	**TD**	**.2" w.c.**	**TD**	**.3" w.c.**	**TD**	**.4" w.c.**	**TD**	**.5" w.c.**	**TD**
CPG41851	Red	1	780	48.4	770	49.1	760	49.7	725	52.1	680	55.6
	Yellow	2	715	52.8	690	54.8	660	57.2	620	60.9	560	67.5
	Blue	3	620	60.9	580	65.1						
	Black	4	550	68.7								
	Orange	5										
CPG42451	Red	1	850	44.4	833	45.4	815	46.4	803	47.0	790	47.8
	Yellow	2	750	50.4	730	51.8	710	53.2	698	54.1	685	55.2
	Blue	3	635	59.5	613	61.6	590	64.0	576	65.6	562	67.2
	Black	4	555	68.1								
	Orange	5										
CPG43051	Red	1	850	44.4	833	45.4	815	46.4	803	47.0	790	47.8
	Yellow	2	750	50.4	730	51.8	710	53.2	698	54.1	685	55.2
	Blue	3	635	59.5	613	61.6	590	64.0	576	65.6	562	67.2
	Black	4	555	68.1								
	Orange	5										

Comfort Pack Gas CFM and Temperature Rise 64,000 BTU Input												
UNIT SIZE	**COLOR**	**SPEED**	**.1" w.c.**	**TD**	**.2" w.c.**	**TD**	**.3" w.c.**	**TD**	**.4" w.c.**	**TD**	**.5" w.c.**	**TD**
CPG41864	Red	1	780	60.8	770	61.6	760	62.4	725	65.4	680	69.7
	Yellow	2	715	66.3	690	68.7	660	71.8	620	76.5		
	Blue	3	620	76.5								
	Black	4										
	Orange	5										
CPG42464	Red	1	850	55.8	833	56.9	815	58.2	803	59.0	790	60.0
	Yellow	2	750	63.2	730	64.9	710	66.8	698	67.9	685	69.2
	Blue	3	635	74.7	613	77.3	590	80.4				
	Black	4										
	Orange	5										
CPG43064	Red	1	850	55.8	833	56.9	815	58.2	803	59.0	790	60.0
	Yellow	2	750	63.2	730	64.9	710	66.8	698	67.9	685	69.2
	Blue	3	635	74.7	613	77.3	590	80.4				
	Black	4										
	Orange	5										

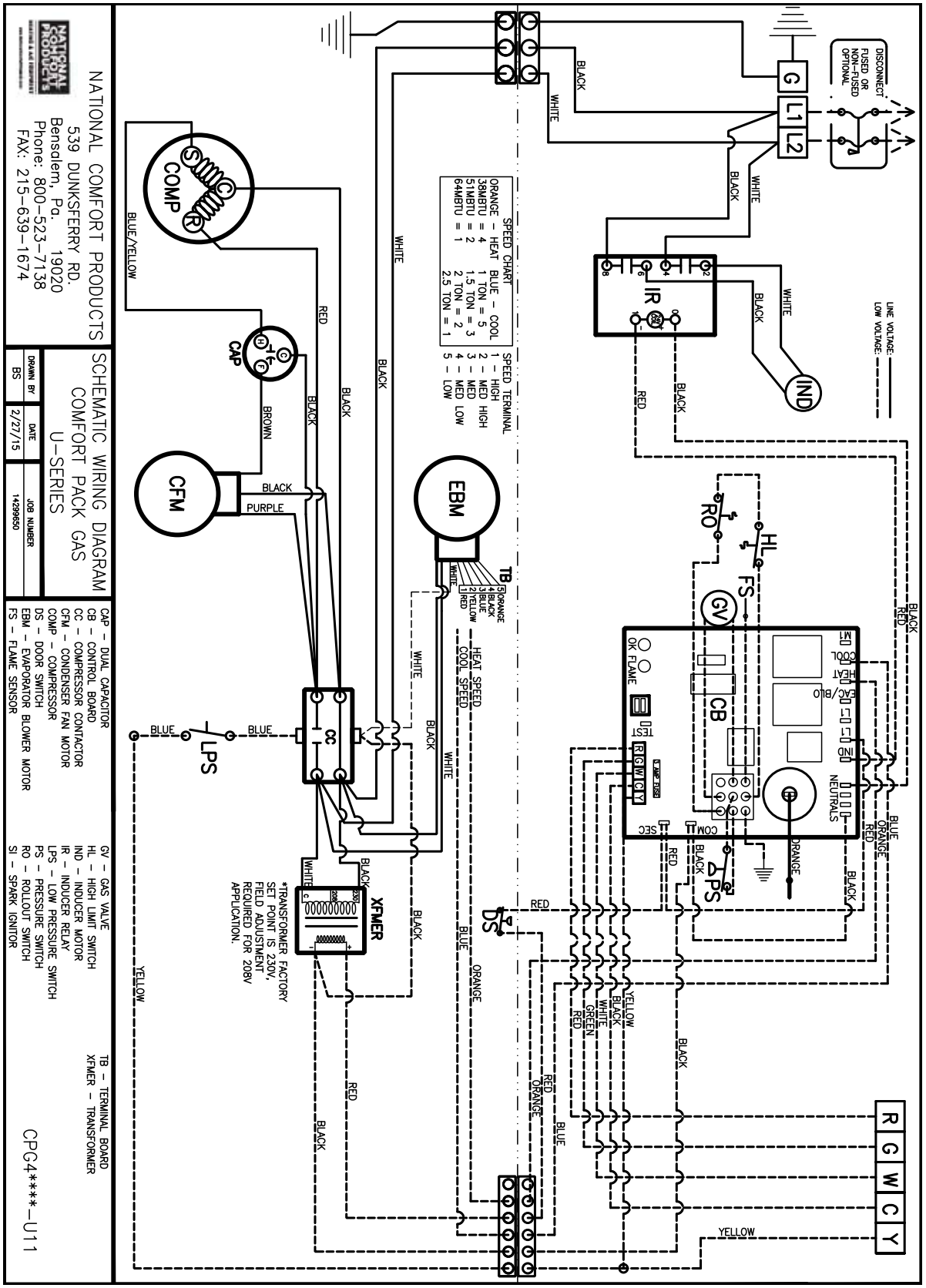
*FACTORY SETTING

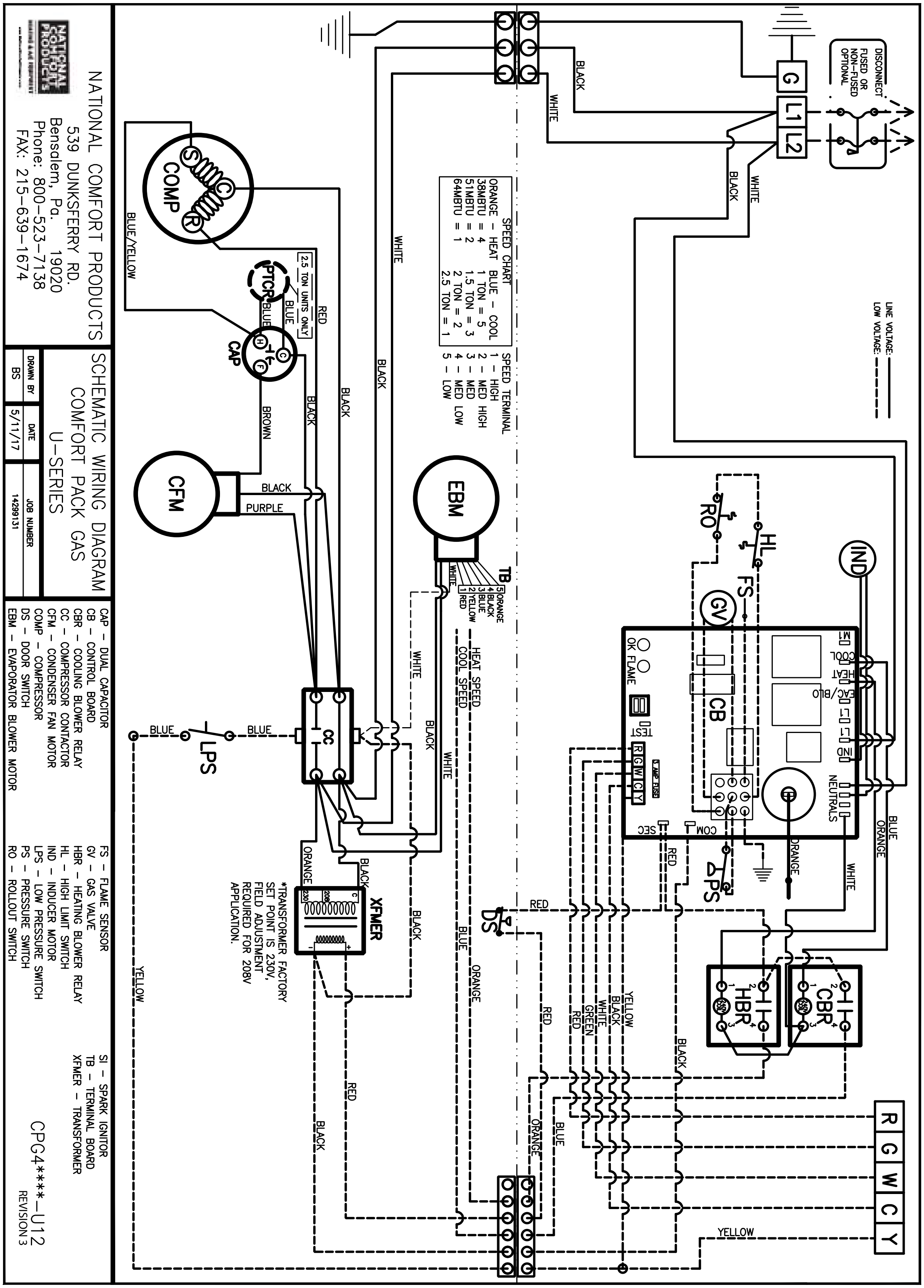
*OUTSIDE OF SYSTEM OPERATING CONDITIONS

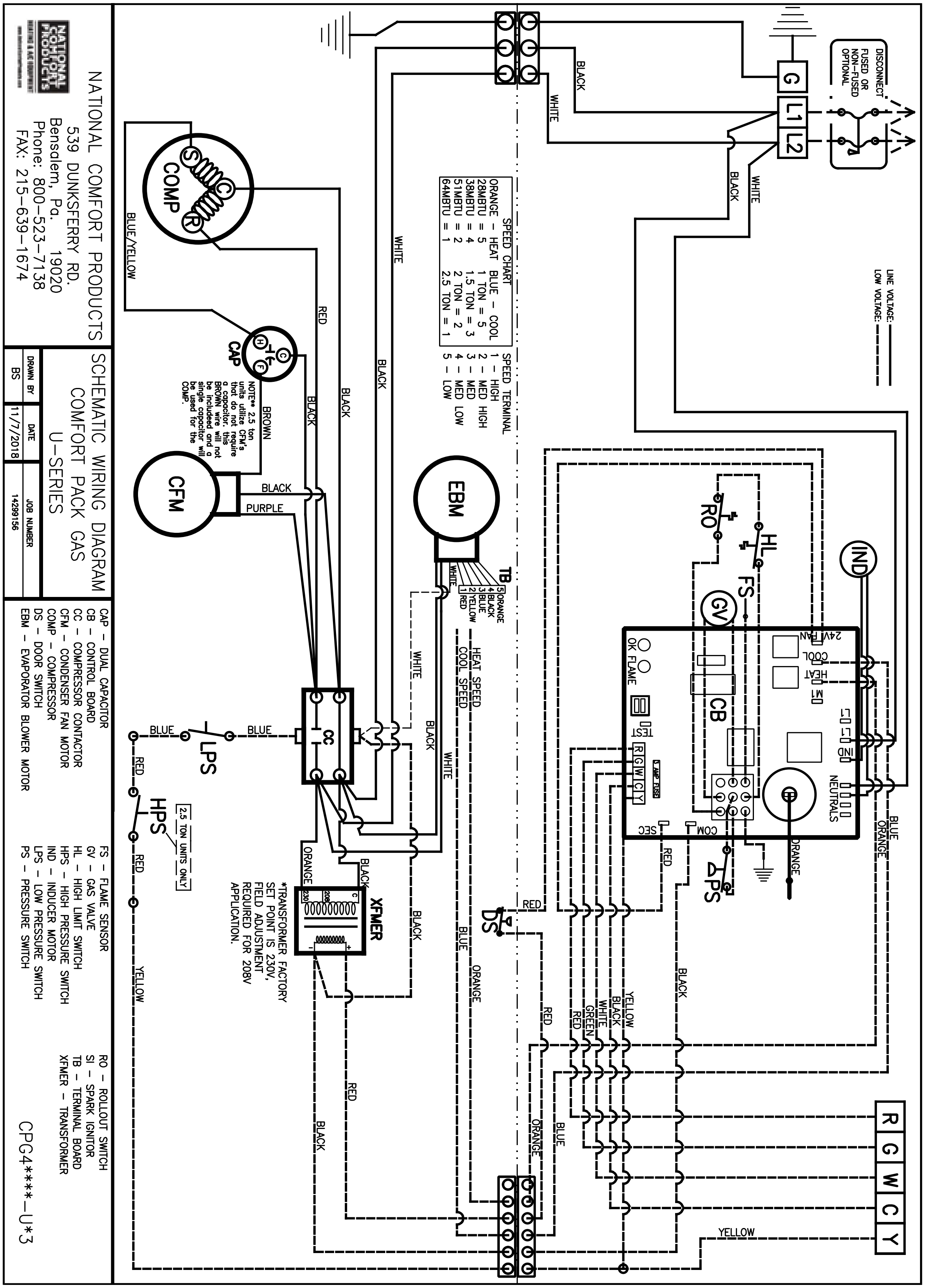
*BORDERLINE OPERATING CONDITION

* ALL DATA IS APPROXIMATE, OPERATE UNIT WITHIN APPROPRIATE TEMPERATE RISE LOCATED ON PAGE 32

Comfort Pack Gas 80% Air Flow Data							
Models	**Color**	**Speed Tap**	**ESP (in. wc) / CFM**				
			0.1	**0.2**	**0.3**	**0.4**	**0.5**
CPG412	Red	1	780	770	760	725	680
	Yellow	2	715	690	660	620	560
	Blue	3	620	580	520	450	380
	Black	4	550	500	430	340	240
	Orange	5	415	325	225	X	X
CPG418	Red	1	780	770	760	725	680
	Yellow	2	715	690	660	620	560
	Blue	3	620	580	520	450	380
	Black	4	550	500	430	340	240
	Orange	5	415	325	225	X	X
CPG424	Red	1	850	833	815	803	790
	Yellow	2	750	730	710	698	685
	Blue	3	635	613	590	576	562
	Black	4	555	533	510	493	475
	Orange	5	405	378	350	328	305
CPG430	Red	1	850	833	815	803	790
	Yellow	2	750	730	710	698	685
	Blue	3	635	613	590	576	562
	Black	4	555	533	510	493	475
	Orange	5	405	378	350	328	305


NATIONAL COMFORT PRODUCTS
539 DUNKSFERRY RD.
Bensalem, Pa. 19020
Phone: 800-523-7138
FAX: 215-639-1674
SCHEMATIC WIRING DIAGRAM
COMFORT PACK GAS
U-SERIES
DRAWN BY BS
DATE 2/27/15
JOB NUMBER 14299850
CAP - DUAL CAPACITOR
CB - CONTROL BOARD
CC - COMPRESSOR CONTACTOR
CFM - CONDENSER FAN MOTOR
COMP - COMPRESSOR
DS - DOOR SWITCH
EBM - EVAPORATOR BLOWER MOTOR
FS - FLAME SENSOR
GV - GAS VALVE
HL - HIGH LIMIT SWITCH
IND - INDUCER MOTOR
IR - INDUCER RELAY
LPS - LOW PRESSURE SWITCH
PS - PRESSURE SWITCH
RO - ROLLOUT SWITCH
SI - SPARK IGNITOR
TB - TERMINAL BOARD
XFMER - TRANSFORMER
CPG4****-U11
DISCONNECT FUSED OR NON-FUSED OPTIONAL
LINE VOLTAGE
LOW VOLTAGE
SPEED CHART
ORANGE - HEAT BLUE - COOL
38MBTU = 4 1 TON = 5
51MBTU = 2 1.5 TON = 3
64MBTU = 1 2 TON = 2
2.5 TON = 1
SPEED TERMINAL
1 - HIGH
2 - MED HIGH
3 - MED
4 - MED LOW
5 - LOW
*TRANSFORMER FACTORY SET POINT IS 230V, FIELD ADJUSTMENT REQUIRED FOR 208V APPLICATION.

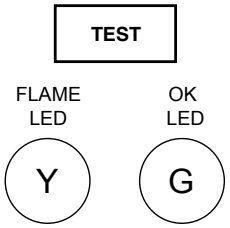

NATIONAL COMFORT PRODUCTS
539 DUNKSFERRY RD.
Bensalem, Pa. 19020
Phone: 800-523-7138
FAX: 215-639-1674
SCHEMATIC WIRING DIAGRAM
COMFORT PACK GAS
U-SERIES
DRAWN BY
BS
DATE
5/11/17
JOB NUMBER
14299131
CPG4***-U12
REVISION 3
CAP - DUAL CAPACITOR
CB - CONTROL BOARD
CBR - COOLING BLOWER RELAY
CC - COMPRESSOR CONTACTOR
CFM - CONDENSER FAN MOTOR
COMP - COMPRESSOR
DS - DOOR SWITCH
EBM - EVAPORATOR BLOWER MOTOR
FS - FLAME SENSOR
GV - GAS VALVE
HBR - HEATING BLOWER RELAY
HL - HIGH LIMIT SWITCH
IND - INDUCER MOTOR
LPS - LOW PRESSURE SWITCH
PS - PRESSURE SWITCH
RO - ROLLOUT SWITCH
SI - SPARK IGNITOR
TB - TERMINAL BOARD
XFMER - TRANSFORMER
SPEED CHART
ORANGE - HEAT BLUE - COOL
38MBTU = 4 1 TON = 5
51MBTU = 2 1.5 TON = 3
64MBTU = 1 2 TON = 2
2.5 TON = 1
SPEED TERMINAL
1 - HIGH
2 - MED HIGH
3 - MED
4 - MED LOW
5 - LOW
*TRANSFORMER FACTORY SET POINT IS 230V, FIELD ADJUSTMENT REQUIRED FOR 208V APPLICATION.
LINE VOLTAGE:
LOW VOLTAGE:
DISCONNECT FUSED OR NON-FUSED OPTIONAL
2.5 TON UNITS ONLY
HEAT SPEED
COOL SPEED
R G W C Y


NATIONAL COMFORT PRODUCTS
539 DUNKSFERRY RD.
Bensalem, Pa. 19020
Phone: 800-523-7138
FAX: 215-639-1674
SCHEMATIC WIRING DIAGRAM
COMFORT PACK GAS
U-SERIES
DRAWN BY BS
DATE 11/7/2018
JOB NUMBER 14299156
CAP - DUAL CAPACITOR
CB - CONTROL BOARD
CC - COMPRESSOR CONTACTOR
CFM - CONDENSER FAN MOTOR
COMP - COMPRESSOR
DS - DOOR SWITCH
EBM - EVAPORATOR BLOWER MOTOR
FS - FLAME SENSOR
GV - GAS VALVE
HL - HIGH LIMIT SWITCH
HPS - HIGH PRESSURE SWITCH
IND - INDUCER MOTOR
LPS - LOW PRESSURE SWITCH
PS - PRESSURE SWITCH
RO - ROLLOUT SWITCH
SI - SPARK IGNITOR
TB - TERMINAL BOARD
XFMER - TRANSFORMER
CPG4****-U*3
SPEED CHART
ORANGE - HEAT BLUE - COOL
28MBTU = 5 1 TON = 5
38MBTU = 4 1.5 TON = 3
51MBTU = 2 2 TON = 2
64MBTU = 1 2.5 TON = 1
SPEED TERMINAL
1 - HIGH
2 - MED HIGH
3 - MED
4 - MED LOW
5 - LOW
DISCONNECT FUSED OR NON-FUSED OPTIONAL
LINE VOLTAGE
LOW VOLTAGE
NOTE** 2.5 ton units utilize CFM's that do not require a capacitor. this BROWN wire will not be included and a single capacitor will be used for the COMP.
*TRANSFORMER FACTORY SET POINT IS 230V, FIELD ADJUSTMENT REQUIRED FOR 208V APPLICATION.
2.5 TON UNITS ONLY
R G W C Y

DSI INTEGRATED CONTROL MODULE	
CONTROL STATUS	**GREEN LED**
STEADY ON	Normal operation, no call for heat
FAST FLASH	Normal operation, call for heat
1 FLASH	In lockout from failed ignition or flame loss
2 FLASH	Pressure switch does not close for 30 seconds
3 FLASH	Limit switch or rollout switch open
4 FLASH	Pressure switch is closed before venter is energized
STEADY OFF	Internal control fault or no power
FLAME STATUS	**YELLOW LED**
STEADY ON	Flame sensed
SLOW FLASH	Weak flame (current below 1.0 microamps = +/-50%)
FAST FLASH	Undesired flame (valve open and no call for heat)

FAN OFF DELAY		
TIME	**SWITCH**	
	1	**2**
90	OFF	ON
120	OFF	OFF
160	ON	OFF
45	ON	ON

FIELD CONTROL WIRING		
TOTAL WIRE LENGTH	DISTANCE FROM UNIT TO CONTROL	MIN. RECOMMENDED WIRE GAUGE
150’	75’	#18 GAUGE WIRE
250’	125’	#16 GAUGE WIRE
350’	175’	#14 GAUGE WIRE



Operation Sequence

1. Set thermostat at lowest setting.
2. Turn on manual gas valve.
3. Turn on power to unit.
4. Set thermostat at desired setting.
5. Thermostat calls for heat, energizing the venter motor.
6. Venter pressure switch closes, firing unit.
7. Burner flame is sensed, and in 20 seconds the fan motor is energized.
8. If the flame is extinguished during main burner operation, the integrated control system closes the main valve and must be reset by interrupting power to the control circuit (see lighting instructions).

Notes

1. The following control is a field-installed option: thermostat.
2. Dotted wiring installed by others.
3. Caution: if any of the original wiring as supplied with the appliance must be replaced, it must be replaced with wiring material having a temperature rating of at least 105°c except for sensor lead wire and limit wiring which must be 150°c.
4. Use 18 gauge wire for all low voltage wiring on the unit or follow chart above.
5. Line and fan motor branch wire sizes should be of a size to prevent voltage drops beyond 5% of supply line voltage. **(Use copper conductors only).**
6. Ground wire must be used.

TROUBLSHOOTING		
PROBLEM	**PROBABLE CAUSE**	**REMEDY**
Venter motor will not start	1. No power to unit 2. No 24 volt power to integrated circuit board. 3. Integrated circuit board fuse blown. 4. Integrated circuit board defective. 5. Defective motor.	1. Turn power, check supply fuses or circuit breaker 2. Turn up thermostat; check control transformer output 3. Correct cause. Replace fuse (type ATC, 24VAC, 3A) 4. Replace integrated circuit board 5. Replace motor
Burner will not light	1. Manual valve not open 2. Air in the gas line 3. Gas pressure too high or too low 4. No spark: a. Loose wire connections b. Transformer failure c. Incorrect spark gap. d. Spark cable shorted to ground e. Spark electrode shorted to ground f. Burner not grounded g. Circuit board not grounded h. Integrated circuit board fuse blown i. Faulty integrated circuit board 5. Lockout device interrupting control circuit by above causes 6. Faulty combustion air proving switch 7. Main valve not operating a. Defective valve b. Loose wire connections 8. Integrated circuit board does not power main valve a. Loose wire connections b. Flame sensor grounded c. Incorrect gas pressure d. Cracked ceramic at sensor	1. Open manual valve 2. Bleed gas line (initial startup only) 3. Correct supply pressure is 5” - 14” w.c. for natural gas or 11” - 14” w.c. for propane gas 4. a. Be certain all wire connections are solid b. Be sure 24 volts are available c. Maintain spark gap at ⅛” d. Replace worn or grounded spark cable e. Replace if ceramic spark electrode is cracked or grounded f. Make certain integrated circuit board is grounded to ignitor g. Make certain integrated circuit board is grounded to furnace chassis h. Correct cause; replace fuse (type ATC, 24VAC, 3A) i. If 24 volt is available to the integrated circuit board and all other causes have been eliminated, replace board 5. Reset lockout by interrupting control at the thermostat or main power 6. Replace combustion air proving switch 7. a. If 24 volt is measured at the valve connections and valve remains closes, replace valve b. Check and tighten all wiring connections 8. a. Check and tighten all wiring connections b. Be certain flame sensor lead is not grounded or insulation or ceramic is not cracked. Replace as required c. Correct supply pressure is 5” -14” w.c. for natural gas or 11” - 14” w.c. for propane gas d. Replace sensor
Burner cycle on and off	1. Gas pressure too high or too low 2. Burner not grounded 3. Circuit board not grounded 4. Faulty integrated circuit board 5. Faulty combustion air proving switch 6. Flame sensor grounded 7. Cracked ceramic at sensor	1. Correct supply pressure is 5” -14” w.c. for natural gas or 11” - 14” w.c. for propane gas 2. Make certain integrated circuit board is grounded to ignitor 3. Make certain integrated circuit board is grounded to furnace chassis 4. If 24 volt is available to the integrated circuit board and all other causes have been eliminated, replace board 5. Replace combustion air proving switch 6. Be certain flame sensor lead is not grounded or insulation or ceramic is not cracked; Replace as required 7. Replace sensor
No heat (heater operating)	1. Incorrect valve outlet pressure or orifice 2. Cycling on limit control 3. Improper thermostat location or adjustment	1. Check valve outlet pressure 2. Check air throughput 3. See thermostat manufacturer’s instructions
Cold air delivered	1. Incorrect valve outlet pressure	1. Check valve outlet pressure
Unit blower motor will not run	1. Circuit open 2. Defective Integrated circuit board 3. Defective motor	4. Check wiring and connections 5. Replace board 6. Replace motor
Unit blower motor turns on and off while burner is operating	1. Motor overload device cycling on and off	1. Check motor lead against motor rating plate; replace motor if needed
Unit blower motor cuts out on overload	1. Low or high voltage supply 2. Defective motor 3. Poor air flow 4. Defective bearing or lubrication	1. Correct electric supply 2. Replace motor 3. Clean motor, fan, fan guard, filter and coils 4. Lubricate bearings or replace motor

Replacement Parts Guide

To assure accuracy in providing the correct parts, please provide the unit model designation and serial number with the parts order. The model designation breakdown is shown below:

CABINET			
ITEM	DESCRIPTION	PART NO.	MODEL
1	**Top Mount Angle**	14256101	All
2	**Top Panel**	14256669	All
3	**Patch Plate**	14256668	All
4	**Upper Louvered Panel**	14256102	All
5	**Lower Intake Grille**	14256103	All
6	**Right Side Panel (U11)**	14256782	All
7	**Right Side Panel (U12)**	14256783	All
8	**Left Side Panel**	14256673	All
9	**Bottom Panel**	14256600	All
10	**Rail***	14256605	All
11	**Cabinet Air Divider -Horizontal**	14256670	All
12	**Cabinet Air Divider - Vertical**	14256671	All
13	**Cabinet Air Seal**	14256813	All
14	**Indoor Blower Cover**	14256812	All
15	**Blower Cover Mtg. Strap**	14256811	All
16	**Upper Front Left Panel**	14256026	All
17	**Upper Front Right Panel**	14256027	All
18	**Furnace Filler Plate**	14256028	All
19	**Lower Access Panel**	14256123-01	All
20	**Side Seal Retainer***	14256125	All
21	**Front Air Baffle**	14256665	All
22	**Front Baffle Strip**	14256674	All
23	**Rear Air Baffle**	14256666	All
24	**Rear Baffle Strip**	14256667	All
25	**Baffle Channel**	14256664	All
26	**Mfg. Bracket - Switch**	14256156	All
27	**Side Seal** (4.33' req'd)	14231012	All
28	**Air Seal Gasket** (3.50' req'd)	14231014	All
29	**Interlock Switch**	14265025	All
30	**Access Hinge Door***	14295022	All
31	**Power Connection Pin (M)**[3] (3 req'd)	14230027	All
32	**Control Connection Plug**[2]	14230025	All
33	**Furnace Channel***	14256663	All
34	**Gas Furnace 28 Mbh**[1]	14208378	28 Mbh
35	**Gas Furnace 38 Mbh**[1]	14208379	38 Mbh
36	**Gas Furnace 51 Mbh**[1]	14208380	51 Mbh
37	**Gas Furnace 64 Mbh**[1]	14208381	64 Mbh
38	**Relay Bracket (U11)**	14256781	All
39	**Relay Bracket (U12)**	14256782	All
40	**Inducer Relay (U11)**	14262096	All
41	**Blower Relay (U12)**	14262097	All
42	**2 Plate Deflector Long (38,000 Btu)***	14256675	38 Mbh
43	**2 Plate Deflector Short (38,000 Btu)***	14256676	38 Mbh
44	**3 Plate Deflector Long (51,000 Btu)***	14256677	51 Mbh
45	**2 Plate Deflector Short (51,000 Btu)***	14256678	51 Mbh

PARTS			
ITEM	DESCRIPTION	PART NO.	MODEL
1	**Natural Gas Orifice**	14208382	28 Mbh
2	**Natural Gas Orifice**	14208336	38 Mbh
3	**Natural Gas Orifice**	14208337	51 Mbh
4	**Natural Gas Orifice**	14208338	64 Mbh
5	**LP Gas Conversion Kit**	14208343	38 Mbh
6	**LP Gas Conversion Kit**	14208344	51 Mbh
7	**LP Gas Conversion Kit**	14208345	64 Mbh
8	**Heat Exchanger Assembly**	14208329	28 & 38 Mbh
9	**Heat Exchanger Assembly**	14208330	51 Mbh
10	**Heat Exchanger Assembly**	14208331	64 Mbh
11	**Full Burner Body**	14208332	28 & 38 Mbh
12	**Full Burner Body**	14208333	51 Mbh
13	**Full Burner Body**	14208334	64 Mbh
14	**LP Gas Orifice**	14208339	38 Mbh
15	**LP Gas Orifice**	14208340	51 Mbh
19	**LP Gas Orifice**	14208341	64 Mbh
20	**Flame Rollout Switch**	14208314	All
21	**Orifice Adapter**	14208315	All
22	**Orifice Adapter Lock Nut**	14208316	All
23	**DSI Electrode Assembly**	14208317	All
24	**Flame Sensor**	14208318	All
25	**Control Board**	14208607	All
26	**High Limit Control**	14208320	All
27	**Pressure Switch**	14208324	All
28	**High Altitude Pressure Switch**	14208325	All
29	**Combination Gas Valve**	14208326	All
30	**Ventor Tube Assembly**	14208327	All
31	**Ventor Blade**	14208347	All
32	**Ventor Blade & Motor Assembly**	14208328	All
33	**Control Plug Assembly (9 Wire)**	14208335	All
34	**Pressure Switch Tube**	14231030	All

* (2) required for each.

[1]Complete heat exchangers, gas valve, vent motor, and all wiring
[2]Cabinet side
[3]Chassis side

(Continued on next page)

Replacement Parts Guide (Continued)

CHASSIS			
ITEM	DESCRIPTION	PART NO.	MODEL
CP41.0-U1.0			
1	**Base**	14256642	12
2	**Indoor Coil**	14208305	12
3	**Outdoor Coil**	14208307	12
4	**Compressor**	14210235	12
5	**Dual Run Capacitor 40/5**	14225372	12
6	**TXV**	14275100	12
CP41.5-U1.0			
1	**Base**	14256642	18
2	**Indoor Coil**	14208305	18
3	**Outdoor Coil**	14208354	18
4	**Compressor**	14210225	18
5	**Low Pressure Switch**	14265026	18
6	**Dual Run Capacitor 40/5**	14225372	18
7	**TXV**	14275101	18
CP42.0-U1.0			
1	**Base**	14256613	24
2	**Indoor Coil**	14208301	24
3	**Outdoor Coil**	14208354	24
4	**Compressor**	14210236	24
5	**Low Pressure Switch**	14265026	24
6	**Dual Run Capacitor 40/5**	14225372	24
7	**TXV**	14275102	24
CP42.5-U1.0			
1	**Base**	14256641	30
2	**Indoor Coil**	14208304	30
3	**Outdoor Coil**	14208383	30
4	**Compressor**	14210248	30
5	**Low Pressure Switch**	14265026	30
6	**High Pressure Switch**	14265029	30
7	**Dual Run Capacitor 40/5**	14225372	30
8	**TXV**	14275103	30

CHASSIS			
ITEM	DESCRIPTION	PART NO.	MODEL
1	**Air Divider**	14256109D	All
2	**Outdoor Coil Mount**	14256113	All
3	**Indoor Coil Cover**	14256117	All
4	**Indoor Coil Drain Pan**	14256173	All
5	**Air Filter 16" x 25" x 1"**	14232002	All
6	**Outdoor Fan**	14214027	All
7	**Wire Harness Control Chassis**	14230024	All
8	**Power Connection Plug**	14230026	All
9	**Compressor Harness w/Plug (Rotary)**	14230045	1 & 1.5
10	**Compressor Harness w/Plug (Scroll)**	14230044	2 & 2.5
11	**Contactor**	14262082	All
12	**Transformer 208/240-24**	14262087	All
13	**5-Pole Terminal Board**	14263062	All
14	**Evaporator Blower Motor**	14270055	1 & 1.5
15	**Evaporator Blower Motor**	14270059	2 & 2.5
16	**Condenser Fan Motor**	14270044	1 &1.5 & 2
17	**Condenser Fan Motor**	14270056	2.5
18	**Outdoor Motor Mount**	14270101	All
19	**3/4" ID Drain Tube x 17"**	14275616	All
20	**Ground Lug**	14208228	All
21	**Drier**	14275947	All

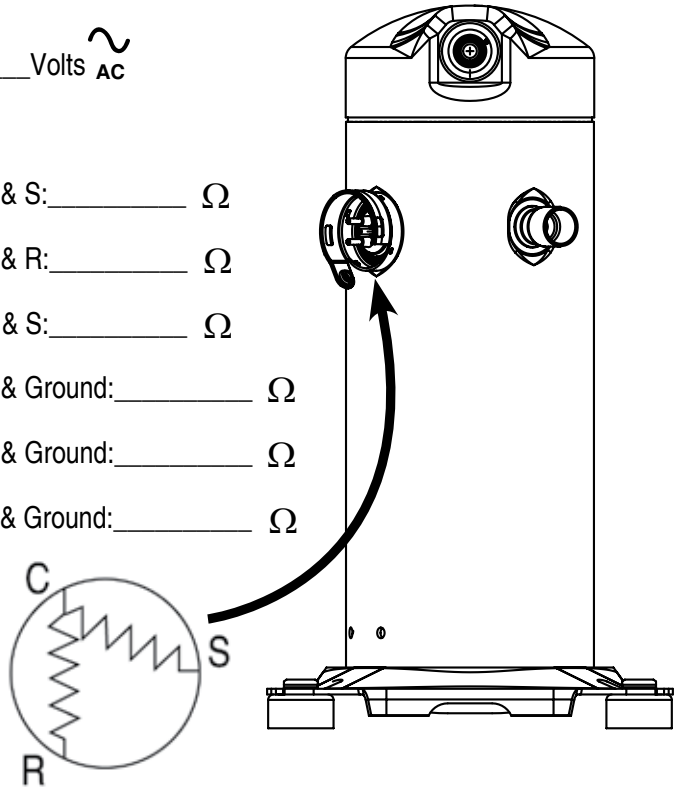
***Refer To The "Gas Furnace Instructions" For Individual Parts For The Gas Furnace.**

IMPORTANT!!!

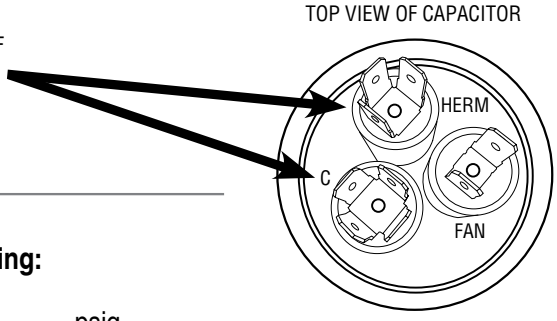
BEFORE REMOVING A WARRANTY COMPRESSOR, PLEASE FILL OUT THE FOLLOWING AND CALL (800) 523-7138.

REMOVAL OF COMPRESSOR WITHOUT FACTORY VERIFICATION CAN LEAD TO WARRANTY CREDIT BEING DENIED

1. Incoming Voltage to Compressor at Contactor is:_____Volts AC
2. Compressor Starting AMP Draw:_____
3. Compressor Winding OHM Reading between Terminals C & S:_____ Ω
4. Compressor Winding OHM Reading between Terminals C & R:_____ Ω
5. Compressor Winding OHM Reading between Terminals R & S:_____ Ω
6. Compressor Winding OHM Reading between Terminals C & Ground:_____ Ω
7. Compressor Winding OHM Reading between Terminals R & Ground:_____ Ω
8. Compressor Winding OHM Reading between Terminals S & Ground:_____ Ω



9. Run Capacitor Reading from HERM to COM:_____ µF
10. Start Capacitor Reading if Used:_____ µF



11. If the Compressor is Operating Please Indicate the Following:

Suction Pressure:_____psig Discharge Pressure:_____psig

Super Heat:_____F Subcooling:_____F

NATIONAL® COMFORT PRODUCTS
HEATING & A/C EQUIPMENT

A Division of National Refrigeration & Air Conditioning Products, Inc.

539 Dunksferry Road | Bensalem, PA 19020 | 215-244-1400 | 1-800-523-7138 | Fax: 215-639-1674

COMFORT PACK
LIMITED WARRANTY

1. National Comfort Products warrants to its customers that its product shall be free from defects in material and workmanship under normal use and regular service and maintenance as follows:

HEAT EXCHANGERS (Gas units only): for ten years from the date of original installation.

ALL OTHER PARTS: For all other parts except the Heat Exchanger, for five years from the date of original installation.
Customer must register the product within 60 days of purchase. If Customer cannot adequately document date of installation, then, for purposes of determining the warranty period, the date of installation shall be 60 days from the date of purchase.

2. This warranty does not extend to any damages or losses due to misuse, accident, abuse, neglect, normal wear and tear, negligence (other than National Comfort's), unauthorized modification or alteration; use beyond rated capacity; unsuitable power sources or environmental conditions; improper installation, repair, handling, maintenance or application; damage as a result of fire, wind, floods, lightning, or corrosive conditions; or any other cause not the fault of National Comfort. By way of example and without limitation, the following do not constitute a defect in workmanship and materials and are not covered by this warranty: slugging of liquid refrigerant or oil, unstable line voltage, lightning, operating without proper lubrication, and operating without factory provided safeties. Any installation that impairs or impedes air flow negatively impacts performance and causes premature equipment failure that voids this warranty. For example, installation behind a brick façade or the addition of a brick pattern façade, i.e. pigeon holes impedes air flow and shall void this warranty. No warranty will apply if the input section exceeds the rated input as indicated on the nameplate by more than 5%, or if the heat section in the judgement of the manufacture has been subject to misuse, negligence, accident, corrosive atmospheres, atmospheres contacting any contaminant (silicone, aluminum oxide, etc.), excessive thermal shock, physical damage, impact, abrasion, unauthorized alterations, or operation contrary to the manufacture's printed instructions, or if the serial number has been altered, defaced, or removed.

3. SOLE WARRANTY
The warranties identified herein constitute National Comfort's sole and exclusive warranties with respect to the goods and are in lieu of and exclude all other warranties, express or implied, arising by operation of law or otherwise, including without limitation, merchantability and fitness for a particular purpose whether or not the purpose or use has been disclosed to National Comfort in specifications, drawings or otherwise, and whether or not National Comfort's goods are specifically designed and/or manufactured by National Comfort for Customer's use or purpose.

4. LIMITATION OF REMEDY
The sole and exclusive remedy for breach of any warranty hereunder (other than the warranty provided herein) shall be limited to repair, replacement, credit or refund of the purchase price to distribution as set forth herein.
National Comfort is not responsible for any other item including but not limited to local transportation, freight, removal of any compressor or part, any labor associated therewith, service or diagnosis calls, refrigerant, or costs for returning any defective compressor or part.

5. LIMITATION OF WARRANTY
NATIONAL COMFORT MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ORAL OR WRITTEN, RELATED TO THE GOODS, INCLUDING ANY WARRANTY OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE EXPRESSLY DISCLAIMED. NATIONAL COMFORT SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OR LOSSES FROM ANY CAUSE WHATSOEVER, INCLUDING, WITHOUT LIMITATION, LOSS OF USE, COMMERCIAL PROFITS, OR CUSTOMER GOODWILL, AND ANY OTHER CLAIMS BASED ON CONTRACT OR TORT, WHETHER OR NOT ARISING FROM NATIONAL COMFORT'S NEGLIGENCE.
National Comfort shall not be liable for damages caused by delay in performance and the remedies of Customer set forth in this agreement are exclusive. In no event, regardless of the form of the claim or cause of action (whether based in contract, infringement, negligence, strict liability, other tort or otherwise) shall National Comfort's liability to Customer and/or its customers exceed the price paid by Customer for the specific goods or portion of the goods provided by National Comfort giving rise to the claim or cause of action, and Customer shall indemnify and hold harmless National Comfort for any damages incurred by National Comfort in excess thereof. Customer agrees that in no event shall National Comfort's liability to Customer and/or its customers extend to include incidental, consequential, or punitive damages.

Continued on next page

The term “consequential damages” shall include, but not be limited to, loss of anticipated profits, business interruption, loss of use, revenue, reputation and data, costs incurred, including without limitation, for capital, fuel, power and loss or damage to capital or equipment. Customer agrees that all instructions and warnings supplied by National Comfort will be passed on to those persons who use the Goods. National Comfort’s Goods are to be used in their recommended applications and all warning labels adhered to the Goods by National Comfort are to be left intact.

It is expressly understood that any technical advice furnished by National Comfort before or after delivery in regard to the use or application of the Goods is furnished without charge, and National Comfort assumes no obligation or liability for the advice given or results obtained, all advice being given and accepted at Customer’s sole risk.

6. WARRANTY PROCEDURE

For All Warranty Claims. Customer must register the product with National Comfort within 60 days from purchase. Failure to timely register the product may void the warranty. Any claim for warranty shall be made within thirty days of discovery and in any event, within thirty days from removal of the compressor or part from the unit. Failure to make a timely claim shall void the warranty. Prior authorization from National Comfort is required for all warranty claims. Any claim for warranty must be first reported to National Comfort in writing specifying the unit, serial number, date of purchase and date of original installation. Customer shall also request a Return Material Authorization (“RMA”) from National Comfort to initiate the warranty claim process. Issuance of an RMA by National Comfort is not an acknowledgment that the defect is covered by this Warranty. Any replacement compressor or part is warranted for the original product warranty, or for one year from the date of shipment of the replacement compressor/part, whichever is later.

A. Heat Exchangers. In addition to the above-reference requirements, customer is also required to purchase a replacement heat exchanger and return the original heat exchanger to National Comfort at National’s discretion, freight prepaid. If National Comfort determines that there is a defect in material or workmanship in the heat exchanger that is covered by this Warranty, then National Comfort shall credit Customer for the cost of the new replacement heat exchanger. If National Comfort determines that the defect in material or workmanship is not covered by this Warranty, then no credit shall be issued. A copy of the invoice of the replacement heat exchanger and completed RMA must accompany the original heat exchanger for which warranty is claimed. National Comfort reserves the right to request additional documentation. The failure to follow this procedure shall render the warranty void. .

B. Compressors. In addition to the above-referenced requirements, Customer is also required to purchase a replacement compressor and return the original compressor to National Comfort at National’s discretion. If the defect is reported to National Comfort within one year from the date of original installation or within 20 months from the date of manufacture of the compressor (as determined by the compressor serial number), whichever occurs first, then Customer may take the compressor to any Authorized Copeland Distributor for replacement of said compressor. If the defect is reported to National Comfort after one year from the date of installation or after 20 months from the date of manufacture of the compressor (as determined by the compressor serial number), whichever occurs first, but before the expiration of five years from the date of installation, then the compressor should be returned to National Comfort at National’s discretion and Customer shall purchase a new compressor. If National Comfort determines that there is a defect in material or workmanship that is covered by this Warranty, then National shall credit Customer for the cost of the new replacement compressor. If National Comfort determines that the defect in material or workmanship is not covered by this Warranty, then no credit shall be issued. A copy of the invoice of the replacement compressor and completed RMA must accompany the compressor. National Comfort, at its sole discretion, may also require Customer to supply the compressor tag. The failure to follow this procedure shall render the warranty void.

B. Other Parts. In addition to the above-referenced requirements, Customer is required to purchase a replacement part for the original part for which Customer is making a warranty claim. The original part for which warranty is claimed is to be returned to National Comfort at National’s discretion, freight prepaid. If National Comfort determines that there is a defect in material or workmanship in the part that is covered by this Warranty, then National Comfort shall credit Customer for the cost of the new replacement part. If National Comfort determines that the defect in material or workmanship is not covered by this Warranty, then no credit shall be issued. A copy of the invoice of the replacement part and completed RMA must accompany the original part for which warranty is claimed. National Comfort reserves the right to request additional documentation. The failure to follow this procedure shall render the warranty void.

7. SHIPPING INSTRUCTIONS

A. Compressors. Returned compressors must be totally secured by use of shipping lugs taken from the replacements compressors and clearly marked with the RMA number. Do not use tape, rags or putty to seal the compressor. Line connections should be sealed with rubber plugs. All scroll compressors must be securely bolted, banded, and stretch wrapped to a skid in the upright position.

B. **Parts.** All other returned parts must be securely packaged and clearly marked with its corresponding RMA number provided from NCP.