

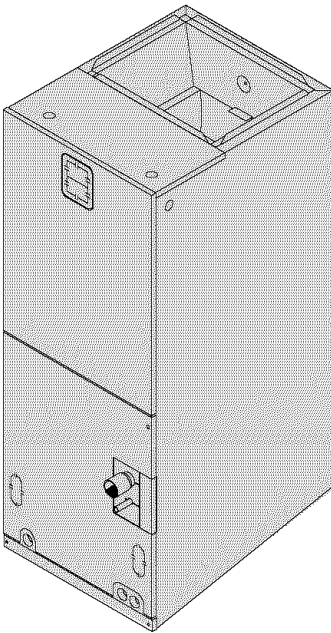
INSTALLATION INSTRUCTIONS

Models

FCP2400D	FCP2400C	FCX2400C	FCP2405C	FCP3610C
FCP3000D	FCP3000C		FCP2407C	FCP4205C
FCP3600D	FCP3600C	FCX3600C	FCP2410C	FCP4207C
FCP4200D	FCP4200C		FCP3005C	FCP4210C
FCP4800D	FCP4800C	FCX4800C	FCP3007C	FCP4807C
FCP6000D	FCP6000C	FCX6000C	FCP3010C	FCP4810C
			FCP3605C	FCP6010C
			FCP3607C	

Require
AMF001NHA
Accessory No Heat Kit

With
5, 7, 10KW Heater



Use ONLY factory listed electric heaters.

Fan Coils

Contents

General Information / Installation	2
Upflow Installations	3
Horizontal Installations	3
Ductwork Connections	3
Filter Installation	4
Condensate Drain	5
Refrigerant Orifice and Lines	5
Electrical Connections	6
Checks and Maintenance	7
Blower Performance	8
Sequence of Operation	9
Wiring Diagram	10
Replacement Parts	11

Safety Labeling and Signal Words

Danger, Warning and Caution

The signal words **DANGER**, **WARNING** and **CAUTION** are used to identify levels of hazard seriousness. The signal word **DANGER** is only used on product labels to signify an immediate hazard. The signal words **WARNING** and **CAUTION** will be used on product labels and throughout this manual and other manuals that may apply to the product.

DANGER - Immediate hazards which **WILL** result in severe personal injury or death.

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

CAUTION - Hazards or unsafe practices which **COULD** result in minor personal injury or product or property damage.

Signal Words in Manuals

The signal word **WARNING** is used throughout this manual in the following manner:

WARNING

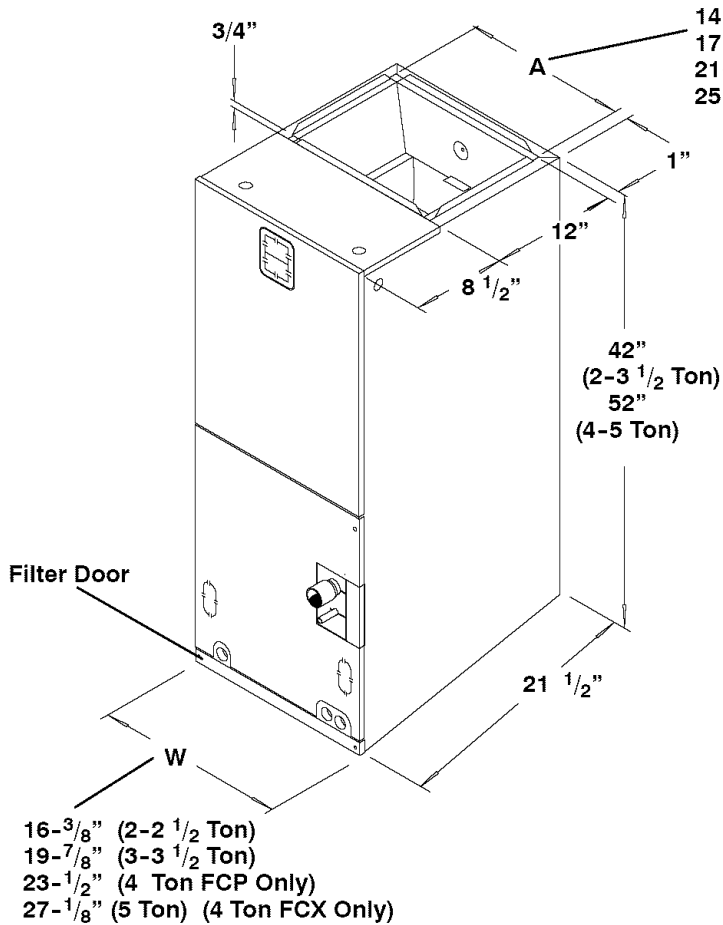
The signal word **CAUTION** is used throughout this manual in the following manner:

CAUTION

Product Labeling

Signal words are used in combination with colors and/or pictures on product labels.

Figure 1 Dimensions and Clearances



- 14-³/₈" (2-2 1/2 Ton)
- 17-⁷/₈" (3-3 1/2 Ton)
- 21-¹/₂" (4 Ton FCP Only)
- 25-¹/₈" (5 Ton) (4 Ton FCX Only)

CLEARANCES	
NO HEATERS	
All Sides	0"
From Supply Duct	0"
Recommended Service From Front	20"
(Service for blower, filter if installed)	
WITH HEATERS	
All Sides	0"
From First Three Feet of Supply Duct to Combustibles	1"
From Duct after Three Feet	0"
Recommended Service From Front	20"
(Service for blower, filter, heaters if installed)	

WARNING

Fire Hazard

When heaters are installed maintain clearances from combustible materials as specified on unit rating plate. Do not use plastic lined or combustible flexible ducting within 36 inches of the supply end of the air handler.

Failure to do so can result in fire, property damage, personal injury and/or death.

38-20-17

General Information

WARNING

Installation or repairs made by unqualified persons can result in hazards to you and others. Installation **MUST** conform with local building codes and with the National Electrical Code NFPA70 current edition.

The information contained in this manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.

Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

The blower cabinet may be used for cooling or heat pump operation with or without electric heat. Installations without electric heat, require a No Heat Kit. The cabinet can be installed in an up-flow or horizontal position (Figure 2, 3). Horizontal installations

require a horizontal kit. Some models are shipped with the horizontal kit already installed. These units are not shipped with air filters installed. Filter must be field supplied, either washable or disposal type. Washable filters are available as an accessory.

Location

Select the best position which suits the installation site conditions. The location should provide adequate structural support, space in the front of the unit for service access, clearance for return air and supply duct connections, space for refrigerant piping connections and condensate drain line connections. If heaters are being installed make sure adequate clearance is maintained from supply ductwork, See Clearances and Warning in Figure 1.

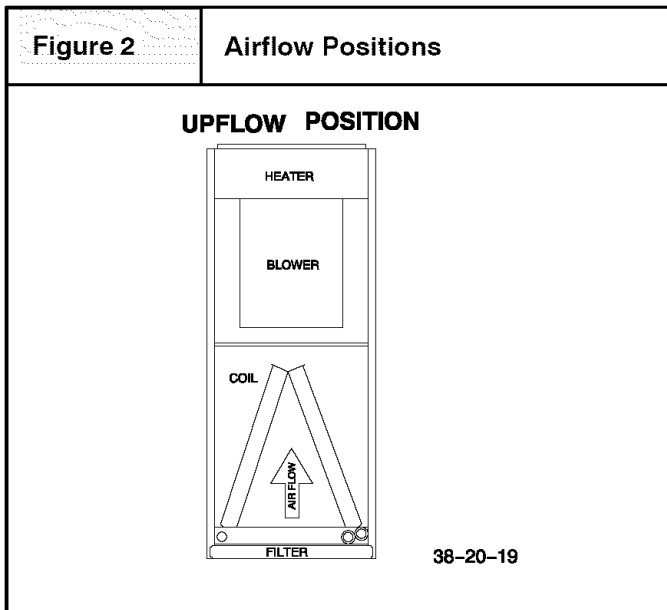
NOTE: Internal filter can be accessed from separate filter door. If the filter can **NOT** be easily accessed, a remote filter is recommended. Refer to ACCA Manual D for remote filter sizing.

If the unit is located in an area of high humidity, nuisance sweating of casing may occur. On these installations a wrap of 2" fiberglass insulation with a vapor barrier should be used.

Upflow Installations

The unit is ready to install in the upflow position without modifications.

The unit **MUST** be supported on the bottom **ONLY** and set on a supporting frame or shelf. Use screws through the bottom to anchor to supporting frame.



Non-Ducted Return Air Closet Installation

The cabinet can be installed in a closet with a false bottom to form a return air plenum, or mounted on an open platform inside the closet. Platform should be high enough to provide a free (open) area for adequate return airflow into the bottom of the cabinet. The open area can be on the front side or a combination of front and sides, providing there is clearance on the sides between cabinet and closet. **Refer to ACCA Manual D for sizing and free area recommendations.**

NOTE: Local codes may limit application of systems without a ducted return to single story dwellings.

Horizontal Left and Right Installations

Units that are shipped with the horizontal drain pan installed are set up for horizontal left hand airflow. They must have the drain pan repositioned for right hand airflow. All other units must have the horizontal drain pan kit installed for either left or right hand applications. For installation of the drain pan, refer to the installation instructions included with the horizontal drain pan kit, and the following.

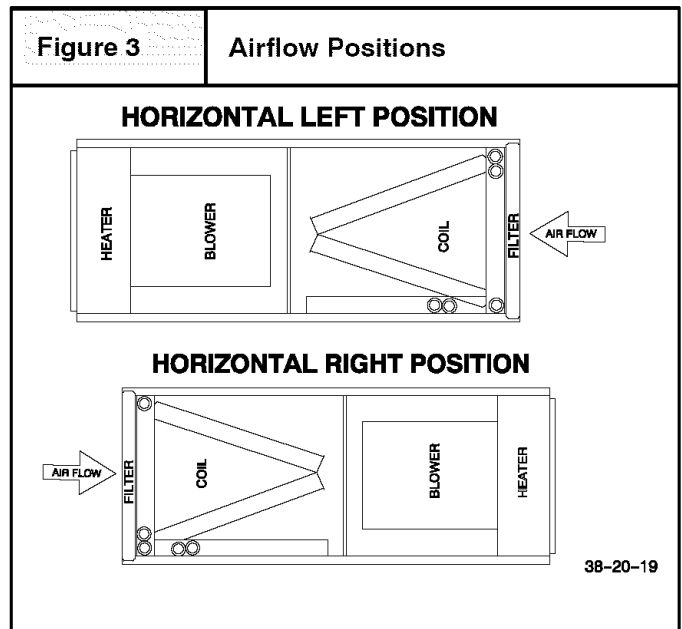
CAUTION

A field-fabricated auxiliary drain pan, with a separate drain is REQUIRED for all installations over a finished living space or in any area that may be damaged by overflow from the main drain pan. In some localities, local codes require an auxiliary drain pan for ANY horizontal installation.

Drain Pan Installation / Conversion for Right Hand Airflow

See Figure 4

1. Remove coil access panel and carefully pull Coil/Horizontal Drain Pan Assembly out.
2. Separate horizontal drain pan from coil drain pan. The coil drain pan fits snugly inside the horizontal pan.



3. Position side of coil drain pan into horizontal drain pan trough on deep end of pan on right side of coil.
4. Remove coil drip flanges from A-coil and reinstall on right side of coil (same side as horizontal drain pan).
5. Remove the coil support bracket from the left side of the cabinet and reinstall bracket on the right side of the cabinet.
6. Install drain plugs as required in back side of horizontal drain pan. Install plugs in A coil drain pan to prevent air leaks.
7. Slide coil assembly into cabinet being careful not to tear insulation.

NOTE: Be sure A coil pan fits into the support bracket on the back side of the cabinet and that pan is under the flange of the bracket on the right side. The brackets fit over the top edge of the A coil drain pan to hold it when it's put into the horizontal position.

8. Refer to Restrictor Orifice Selection and change restrictor if necessary, then install coil access panel.

Cabinet can now be placed on it's side for horizontal airflow.

Suspended Cabinet Installation

1. The cabinet may be supported on a frame or shelf, or it may be suspended.
2. Use metal strapping or threaded rod with angle iron supports under the auxiliary drain pan to suspend cabinet. These supports **MUST** run parallel with the length of the cabinet (Figure 5).
3. Ensure that there is adequate room to remove service and access panels after installing supporting brackets.
4. Place Styrofoam blocks in auxiliary drain pan to support cabinet.

Duct Connections

Supply Duct

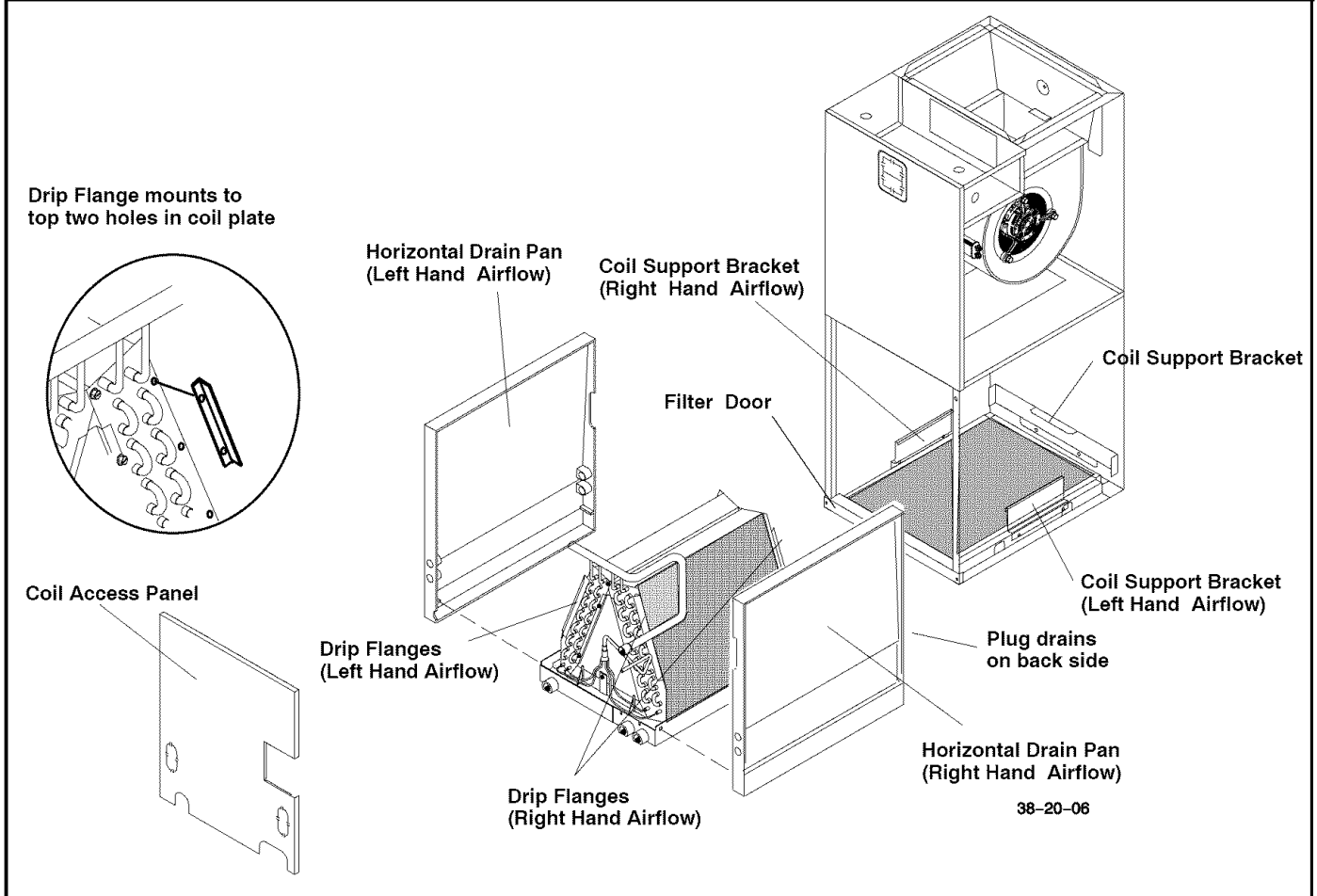
Supply duct must be attached to the outside of flange on outlet end of unit. Flexible connectors may be used if desired. Maintain clearances from supply duct to combustibles when heaters are installed. See Figure 1 and unit rating plate.

Return Duct

Return duct should be attached to bottom of unit using sheet metal screws or other fasteners.

Figure 4

Horizontal Drain Pan



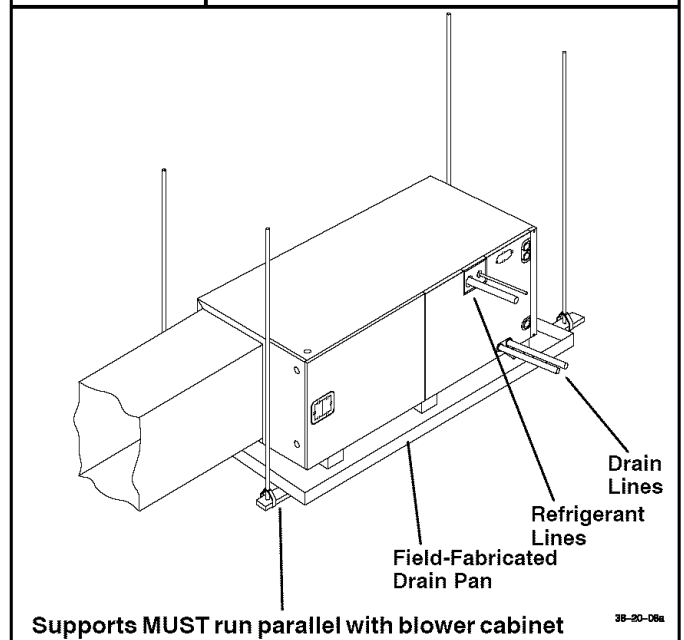
Filter Installation

Filters must be field supplied. The blower cabinet is set up for an internal filter or a remote filter grille or other means may be provided. Refer to ACCA Manual D for remote filter sizing.

To install an internal filter, remove screw securing filter door and slide filter into unit. Some filters are marked for airflow direction, make sure arrow points towards blower if marked. Washable filters are offered as an accessory. Disposable filter sizes are listed in Filter Static Pressure Drop Table.

Figure 5

Horizontal Installation



Condensate Drain Connections

The unit is provided with 3/4" National Pipe Thread (NPT) condensate drains. (Figure 1). Any drain can be used as a primary or secondary drain. Condensate drain lines should be installed in a manner that does not obstruct access to the filter.

There is a secondary drain fitting supplied with the unit that will convert any of the primary condensate drain connections into a secondary drain connection. This fitting should be installed in any of the primary drain connections to convert it to a secondary drain.

1. Connect the drain lines to the appropriate drain fittings. 3/4" PVC or other type of drain line may be used. The drain line must not be smaller than the drain fitting.
2. Install a trap in the drain line below the bottom of the drain pan and pitch the drain lines down from the coil at least 1/4" per foot of run. Horizontal runs over 15 feet long must also have an anti-siphon air vent (stand pipe), installed ahead of the horizontal run. An extremely long horizontal run may require an oversized drain line to eliminate air trapping.
3. Route to the outside or to a floor drain, laundry tray or waste line (sewer). Check local codes before connecting to a sewer line.
4. Insulate drain lines where sweating could cause water damage.

Restrictor Orifice Selection

A restrictor orifice is located in a fitting at the distributor. The factory installed restrictor orifice is identified on the unit rating plate.

The restrictor orifice may require changing to obtain best performance. Refer to the restrictor charts furnished with the outdoor unit.

Changing Restrictor Orifice

1. Remove the liquid line fitting and replace restrictor orifice. (STANDARD RIGHT HAND THREAD)
2. Make sure the restrictor is installed with the rounded end toward the feeder tubes. See Figure 7.

Refrigerant Line Connections

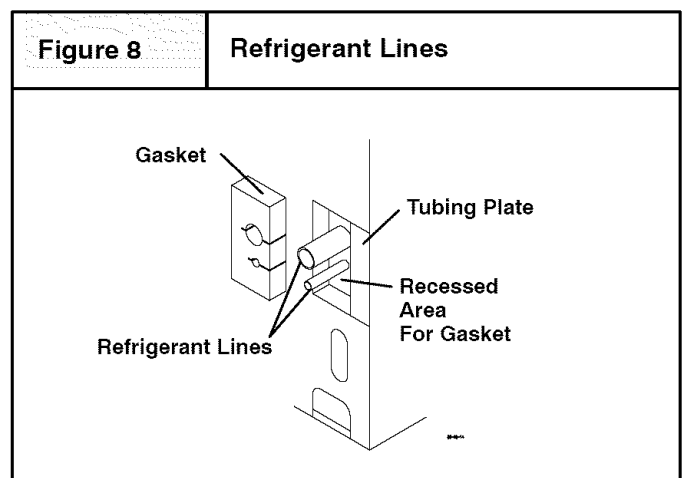
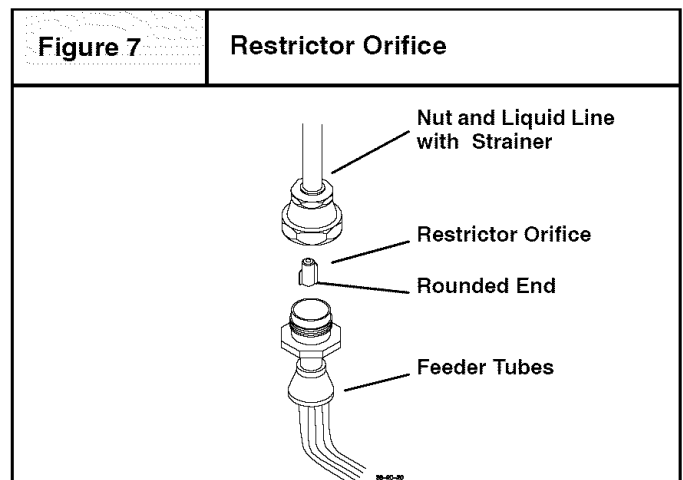
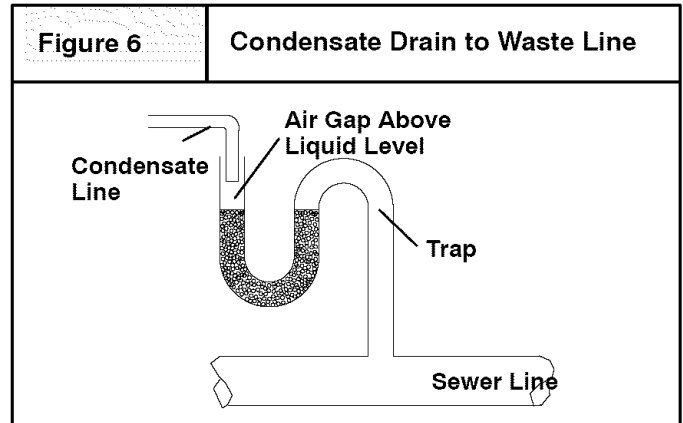
Size refrigerant lines according to information provided with outdoor condensing unit. Route the refrigerant lines to the coil in a manner that will not obstruct service access to the unit or removal of the filter.

1. Remove rubber plugs from refrigerant connections using a pulling and twisting motion. Hold refrigerant lines to avoid bending or distorting.
2. Remove the coil door before brazing refrigerant connections to prevent damage to paint finish.
3. Fit refrigerant lines into coil connections and remove the tubing plate and slide plate over the refrigerant lines to assure sufficient room for brazing.
4. Reinstall tubing plate and door and install the gasket, provided with the unit, over the suction and liquid lines into the tubing plate recess to ensure an air seal around the coil. See Figure 8.

5. If a gravity drain cannot be used, install a condensate pump. Install the pump as close to the indoor section as possible.

Waste Line Connection

If the condensate line is to be connected to a waste line, an open trap must be installed ahead of the waste line to prevent escape of sewer gases. NEVER CONNECT THE DRAIN LINE DIRECTLY TO A WASTE LINE. ALWAYS INCLUDE AN AIR GAP AND TRAP, (Figure 6). Be sure to keep the trap filled with water during the winter or off season.



Electrical Connections

WARNING

Electrical shock hazard.

Turn OFF electric power at fuse box or service panel before making any electrical connections and ensure a proper ground connection is made before connecting line voltage.

Failure to do so can result in property damage, personal injury and/or death.

All electrical work MUST conform with the requirements of local codes and ordinances and the National Electrical Code NFPA 70 current edition.

The low voltage transformer and the fan control are standard on all models and are prewired at the factory. Line voltage connections are made to the heater accessory or the wire pigtails in the unit.

Low Voltage Control Connections

The 24 volt power supply is provided by an internally wired low voltage transformer which is standard on all models. If power supply is 208 volt, the low voltage transformer must be rewired to the 208 volt tap. See the unit wiring label.

Field supplied low voltage wiring can enter the unit on the top left hand corner or the left hand side panel. When using the left hand side panel entrance, the low voltage wiring must be fed through the entrance hole in the bottom of the control box.

Install the strain relief bushing (supplied with unit) in the selected hole and a hole plug (supplied with unit) in the unused hole.

Connect the field wiring at the screw terminals of the control board. Refer to **Figures 9, 10**.

Keep the low voltage wiring as short as possible inside the control box.

Complete connections between indoor blower, outdoor section, indoor thermostat and electronic outdoor thermostat (accessory) according to instruction provided with the Condenser Installation Instructions or those provided with the accessory and refer to **Figures 11&12**.

Overcurrent Protection

The power supply wiring to the unit **MUST** be provided with overcurrent protection. Governing codes may require this to be fuses **ONLY** or circuit breakers.

For blower cabinets without heaters, a 15 amp circuit may be used.

Line Voltage Connections

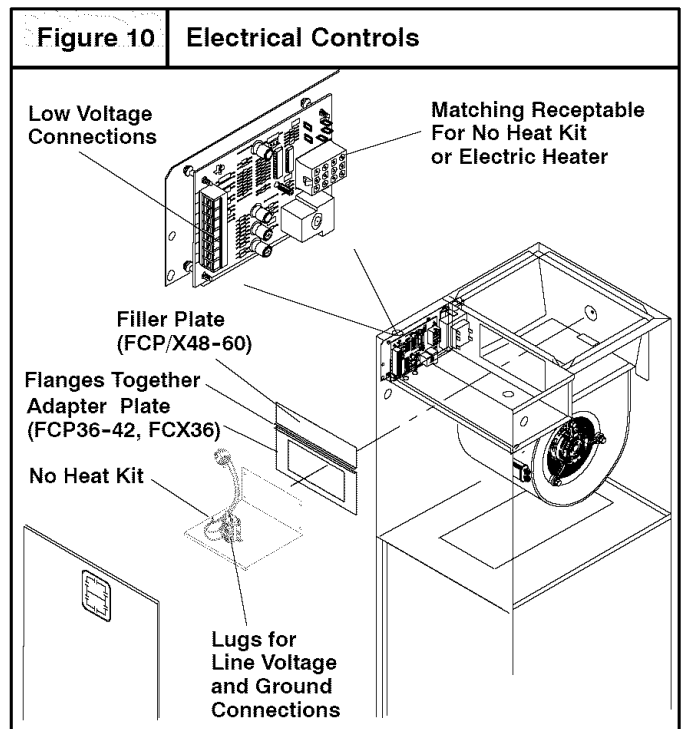
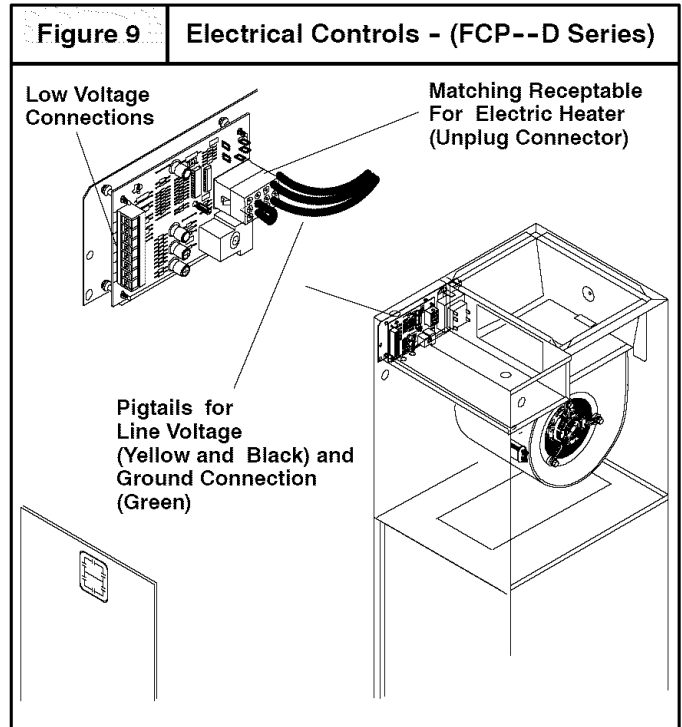
Line voltage wiring may be brought into the unit through the top right-hand corner or the right-hand side panel. The correct hole size required by the conduit fitting must be punched at the pilot hole location. Plug the unused pilot hole with a hole plug (supplied with unit).

Connect field wiring to appropriate terminals on electric heater or the wire pigtails. All line voltage connections must be made with copper wire.

Line Voltage Connection

1. Provide line voltage power supply (208V-240V) from a separate circuit(s). Size per table or table in heater manual.

2. Connect line voltage to the lugs with the Black and Yellow wires, or to circuit breakers or wire leads from heaters. Refer to **Figure 9** for FCP--D Series and **Figure 10** for FCP--C and FCX and wiring diagram.



No Heat Kit Installation (FCP --C and FCX)

If electric heat is not used, install accessory No Heat Kit.

1. Locate adapter and filler plates, with screws inside package.
2. Attach adapter plate and filler plate to bracket if required to match cabinet, Refer to **Figure 10**.
3. Secure the electric heat accessory with four screws.
4. Connect the plug from No Heat Kit wiring into the receptacle on the control board on the side of the cabinet.

CAUTION

Do not attempt to force plug as it only fits one way.

Grounding Connection

Use a copper conductor(s) from the Green ground wire on the unit or ground lugs on the electric heater to a grounded connection in the electric service panel or a properly installed grounding rod.

Figure 12 Typical Low Voltage Schematic

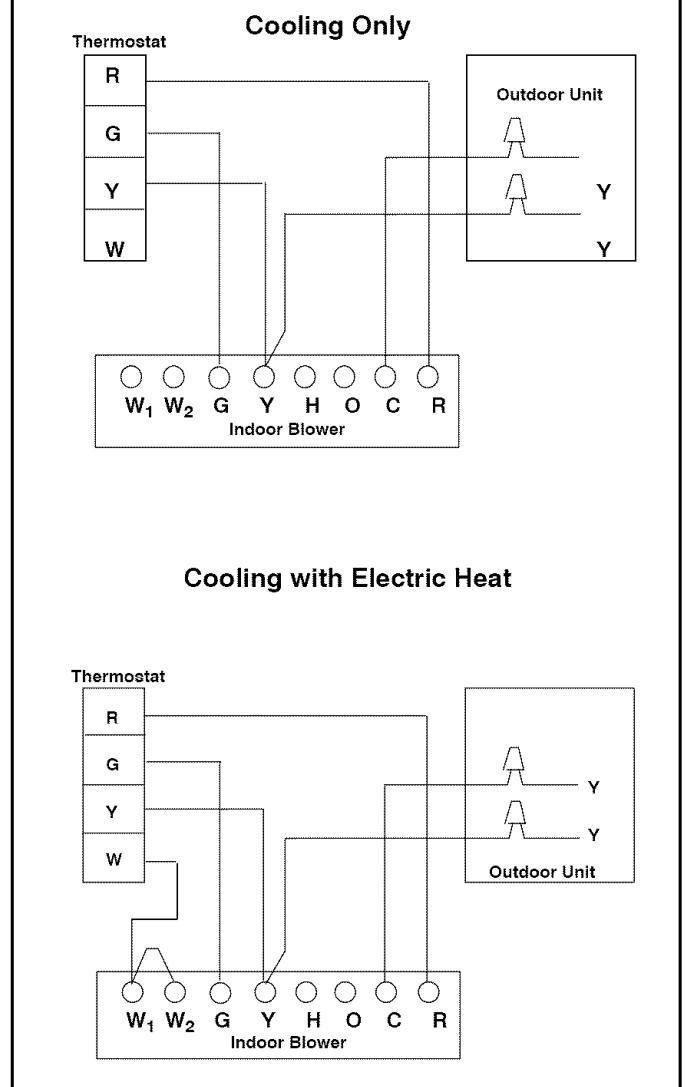
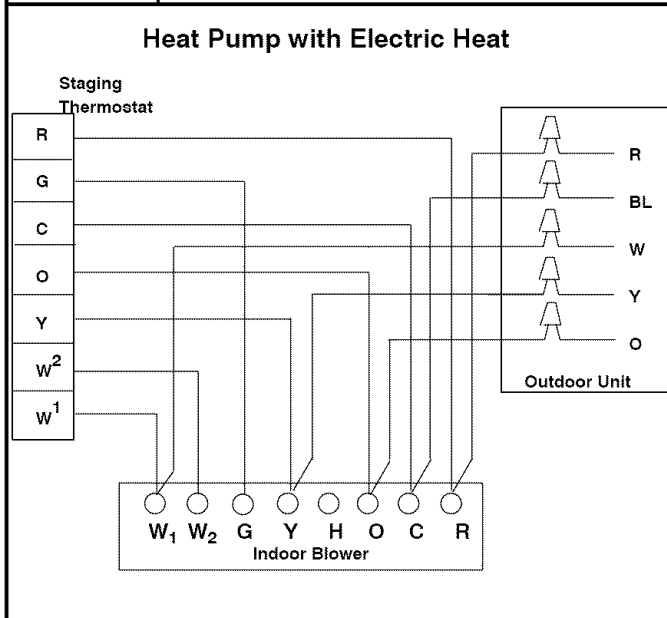


Figure 11 Typical Low Voltage Schematic



Electrical Data

Supply Circuit			Supply Circuit No.	Maximum Motor AMPS.	Total AMPS.	Branch Circuit Ampacity	Maximum Overcurrent Protective Device (AMPS.)	Recommended				
								Supply Wire 75 ° C. Copper			Ground Wire	
Volts	Phase	Hertz						No.	Size	Max. Length (Ft)	No.	Size
240	1	60	Single	6.0	6.0	7.5	15	2	14	104	1	14
208	1	60	Single	6.0	6.0	7.5	15	2	14	90	1	14

Heater	Supply Voltage	Nomi-Heating BTUH	Heat-KW	KW Per Element	Supply Circuit No.	Heater KW Per Circuit	Heater AMPS.	Maxi-Motor AMPS.	Total AMP	Branch Circuit Ampacity	Maximum Overcurrent Protective Device (AMPS.)	Recommended				
												Supply Wire 75 ° C. Copper			Ground Wire	
												No.	Size	Max. Length (F)	No.	Size
1086081 05KW	240	16,832	4.8	4.8	Single	4.8	20.0	6.0	26.0	32.5	35	2	10	61	1	10
	208	12,287	3.6	3.6	Single	3.6	17.3	6.0	23.3	29.2	30	2	10	59	1	10
1086082 07KW	240	24,573	7.2	3.6	Single	7.2	30.0	6.0	36.0	45.0	45	2	8	70	1	10
	208	18,430	5.4	2.7	Single	5.4	26.0	6.0	32.0	40.0	40	2	8	68	1	10
1086083 10KW	240	32,765	9.6	4.8	Single	9.6	40.0	6.0	46.0	57.5	60	2	6	85	1	10
	208	24,574	7.2	3.6	Single	7.2	34.7	6.0	40.7	50.8	60	2	6	83	1	10

Adjusting Thermostat Anticipator

Set the heat anticipator of the thermostat to the proper value. See instructions provided with the thermostat before making this adjustment.

Heater Size - KW	Anticipator Setting
05	.24
07, 10	.32

Staging

The heater elements are turned on in increments. Refer to Staging Table. In addition on heaters larger than 5KW, the heat can be staged (1st & 2nd) either through an indoor thermostat or by using an outdoor thermostat. This satisfies staging requirements imposed by some electric utilities on heaters larger than 6 kilowatts.

A control signal (24V) from W1 on the Indoor T'stat to W1 on the control board energizes the 1st stage of heat. A control signal (24V) to W2 on the control board energizes the second stage of electric heat. To turn ON both stages at the same time, using one control signal, W1 and W2 are jumpered together.

If the indoor thermostat does not have staging capabilities, accessory electronic outdoor thermostats are available that will control two stages of electric heat.

HEATER STAGING

ELECTRIC HEATER	VOLTAGE	TOTAL HEAT		1st STAGE (W1)		2nd STAGE (W2)	
		208V	240V	208V	240V	208V	240V
05KW	208-240/1/60	3.6	4.8	3.6	4.8	-	-
07KW	208-240/1/60	5.4	7.2	2.7	3.6	2.7	3.6
10KW	208-240/1/60	7.2	9.6	3.6	4.8	3.6	4.8

ELECTRIC HEATER STATIC PRESSURE DROP - IN. WG.

CFM	5 KW	7.5 KW	10 KW
600	0.01	0.01	0.01
700	0.01	0.01	0.01
800	0.01	0.01	0.01
900	0.01	0.01	0.01
1000	0.01	0.01	0.01
1100	0.01	0.01	0.01
1200	0.01	0.01	0.01
1300	0.01	0.02	0.02
1400	0.01	0.02	0.02
1500	0.01	0.02	0.02
1600	0.01	0.02	0.02
1700	0.01	0.02	0.02
1800	0.01	0.02	0.02
1900	0.01	0.02	0.02
2000	0.01	0.02	0.02

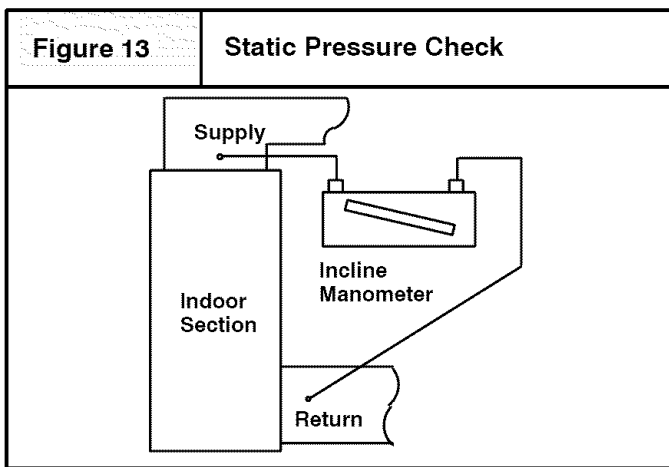
Changing Motor Speed

The blower motor comes from the factory wired for high or Med speed. To change the blower speed, disconnect the black wire at the blower motor terminal block and reconnect at the desired blower speed tap.

Air Flow Check

For proper system operation, the air flow through the indoor coil should be between 350 and 450 cfm per ton of cooling capacity. The air flow through the unit can be determined by measuring the external static pressure to the unit and selecting the motor speed tap that will most closely provide the required air flow.

1. Set up to measure external static pressure at the supply and return duct connections (**Figure 13**).
2. Drill holes in the ducts for pressure taps, pitot tubes, or other accurate pressure sensing devices.
3. Connect these taps to a level inclined manometer or draft gauge.
4. Ensure the coil and filter are clean, and all the registers are open.



5. Determine the external static pressure with the blower operating.
6. Refer to the Air Flow Data tables, page 9 to find the speed tap that will most closely provide the required air flow for the system.
7. Refer to Changing the Motor Speed in these instructions if the speed tap is to be changed.
8. Recheck the external static pressure with the new speed tap, and confirm speed tap selection.

Temperature Rise Check

Temperature rise is the difference between the supply and return air temperatures.

NOTE: The temperature rise can be adjusted by changing the heating speed tap at the unit's blower terminal block. Refer to the unit's *Installation Instructions* for airflow information.

A temperature rise greater than 60°F (33.3°C) is not recommended.

1. To check the temperature rise through the unit, place thermometers in the supply and return air ducts as close to the unit as possible.
 2. Open **ALL** registers and duct dampers.
 3. Set thermostat Heat-Cool selector to **HEAT**.
 4. Set the thermostat temperature setting as high as it will go.
 5. Turn electric power **ON**.
 6. Operate unit **AT LEAST** 5 minutes, then check temperature rise.
- NOTE:** The maximum outlet air temperature for all models is 200°F (93.3°C).
7. Set thermostat to normal temperature setting.
 8. Turn electric power **OFF**.
 9. Be sure to seal all holes in ducts if any were created during this process.

Airflow 220V / 50 Hz Models Only

NOTES: Performance based on unit with horizontal drain pan installed, dry coil, no filter, Deduct Filter Static

AIRFLOW PERFORMANCE 220 - 1 -50 HZ							
MODEL	BLOWER SPEED	0.1	0.2	0.3	0.4	0.5	0.6
FCP2400D	HIGH	885	825	723	643	499	297
	MEDIUM	873	811	708	573	380	266
	LOW	775	728	645	558	416	188
FCP3000D	HIGH	1,225	1,175	1,067	1,031	891	794
	MEDIUM	1,160	1,115	1,014	980	847	747
	LOW	1,034	1,001	919	886	765	667
FCP3600D	HIGH	1,384	1,328	1,206	1,165	1,007	897
	MEDIUM	1,311	1,260	1,146	1,107	957	844
	LOW	1,168	1,131	1,038	1,002	865	754
FCP4200D	HIGH	1,578	1,527	1,399	1,338	1,143	964
	MEDIUM	1,446	1,402	1,288	1,224	1,037	876
	LOW	1,198	1,184	1,111	1,073	927	805
FCP4800D	HIGH	1,657	1,603	1,469	1,405	1,200	1,012
	MEDIUM	1,518	1,472	1,352	1,285	1,089	920
	LOW	1,258	1,244	1,167	1,126	973	845
FCP6000D	HIGH	1,960	1,902	1,748	1,702	1,485	1,317
	MEDIUM	1,869	1,815	1,670	1,626	1,419	1,252
	LOW	1,759	1,715	1,585	1,545	1,351	1,202

Airflow Based on dry coil, no filter, no electric heat. Deduct heater static shown in heater static table. Deduct filter static shown in filter static table. Deduct .05 for wet coil. Deduct .10 for Horizontal Kit (FCP) only.

FCP24		SP IN. WG.						
SPEED	VOLTAGE	0.1	0.2	0.3	0.4	0.5	0.6	0.7
LOW	230V	743	743	739	715	671	601	510
	208V	561	561	561	560	544	512	459
MED	230V	972	942	897	851	773	686	593
	208V	789	789	787	775	737	656	569
HIGH	230V	1108	1052	992	936	859	765	653
	208V	1027	1027	974	910	836	751	651

FCP60		SP IN. WG.						
SPEED	VOLTAGE	0.1	0.2	0.3	0.4	0.5	0.6	0.7
LOW	230V	1643	1671	1670	1650	1607	1549	1474
	208V	1337	1355	1369	1373	1360	1332	1282
MED	230V	2059	2023	1974	1910	1827	1739	1635
	208V	1735	1738	1728	1688	1636	1574	1483
HIGH	230V	2453	2369	2272	2165	2056	1933	1813
	208V	2339	2259	2167	2073	1971	1862	1741

FCP30		SP IN. WG.						
SPEED	VOLTAGE	0.1	0.2	0.3	0.4	0.5	0.6	0.7
LOW	230V	1104	1069	1028	976	926	851	784
	208V	940	908	870	832	780	723	666
MED	230V	1327	1277	1222	1161	1087	1022	940
	208V	1192	1153	1108	1049	989	930	834
HIGH	230V	1457	1396	1333	1267	1184	1107	1032
	208V	1378	1316	1260	1192	1117	1055	968

FCX24		SP IN. WG.						
SPEED	VOLTAGE	0.1	0.2	0.3	0.4	0.5	0.6	0.7
LOW	230V	737	723	682	627	559	475	333
	208V	586	571	549	514	466	394	280
MED	230V	943	896	832	752	668	560	443
	208V	798	778	731	672	598	510	388
HIGH	230V	1092	1023	946	849	753	632	515
	208V	1015	955	888	800	704	596	489

FCP36		SP IN. WG.						
SPEED	VOLTAGE	0.1	0.2	0.3	0.4	0.5	0.6	0.7
LOW	230V	1111	1089	1059	1027	985	927	860
	208V	924	908	877	851	801	748	698
MED	230V	1415	1382	1341	1291	1232	1170	1092
	208V	1209	1185	1154	1120	1069	1019	937
HIGH	230V	1668	1611	1556	1486	1410	1330	1237
	208V	1494	1456	1410	1352	1283	1209	1130

FCX36		SP IN. WG.						
SPEED	VOLTAGE	0.1	0.2	0.3	0.4	0.5	0.6	0.7
LOW	230V	1069	1039	1004	956	898	825	740
	208V	898	861	827	785	730	675	599
MED	230V	1347	1302	1249	1187	1121	1041	946
	208V	1170	1129	1095	1037	975	909	817
HIGH	230V	1572	1504	1437	1362	1279	1186	1076
	208V	1423	1368	1313	1246	1176	1075	986

FCP42		SP IN. WG.						
SPEED	VOLTAGE	0.1	0.2	0.3	0.4	0.5	0.6	0.7
LOW	230V	1132	1129	1128	1105	1072	1026	944
	208V	929	926	922	908	886	841	802
MED	230V	1520	1489	1449	1400	1338	1269	1192
	208V	1279	1272	1255	1228	1187	1135	1055
HIGH	230V	1769	1711	1645	1569	1490	1406	1313
	208V	1618	1575	1524	1465	1402	1325	1239

FCX48		SP IN. WG.						
SPEED	VOLTAGE	0.1	0.2	0.3	0.4	0.5	0.6	0.7
LOW	230V	1105	1093	1079	1066	1036	982	917
	208V	909	897	887	871	845	814	757
MED	230V	1501	1485	1456	1412	1358	1287	1196
	208V	1255	1243	1223	1206	1177	1127	1056
HIGH	230V	1870	1821	1758	1694	1598	1502	1390
	208V	1615	1597	1555	1509	1462	1386	1270

FCP48		SP IN. WG.						
SPEED	VOLTAGE	0.1	0.2	0.3	0.4	0.5	0.6	0.7
LOW	230V	1120	1113	1107	1094	1076	1045	1004
	208V	913	903	889	876	865	845	810
MED	230V	1538	1531	1511	1479	1435	1380	1301
	208V	1257	1266	1256	1242	1215	1174	1122
HIGH	230V	1922	1877	1818	1751	1679	1590	1481
	208V	1653	1643	1617	1571	1517	1444	1366

FCX60		SP IN. WG.						
SPEED	VOLTAGE	0.1	0.2	0.3	0.4	0.5	0.6	0.7
LOW	230V	1658	1642	1605	1543	1474	1393	1291
	208V	1370	1371	1358	1337	1291	1236	1150
MED	230V	1966	1905	1829	1740	1641	1527	1405
	208V	1733	1696	1645	1581	1502	1414	1310
HIGH	230V	2239	2137	2029	1916	1806	1683	1543
	208V	2141	2047	1952	1849	1739	1620	1495

FILTER STATIC PRESSURE DROP*										
MODEL	*WASHABLE FILTER SIZE	DISPOSABLE FILTER SIZE	CFM							
			600	800	1000	1200	1400	1600	1800	2000
FCP24 / FCX24 / FCP30	14 1/4 X 20 1/4	14 X 20	0.05	0.09	0.13	0.19	---	---	---	---
FCP36 / FCX36 / FCP42	17 3/4 X 20 1/4	18 X 20	----	---	0.09	0.12	0.17	0.22	---	---
FCP48	21 1/4 X 20 1/4	20 X 20	----	---	---	---	0.12	0.15	0.19	---
FCX48 / FCP60 / FCX60	24 3/4 X 20 1/4	25 X 20	----	---	---	---	0.09	0.11	0.14	0.18

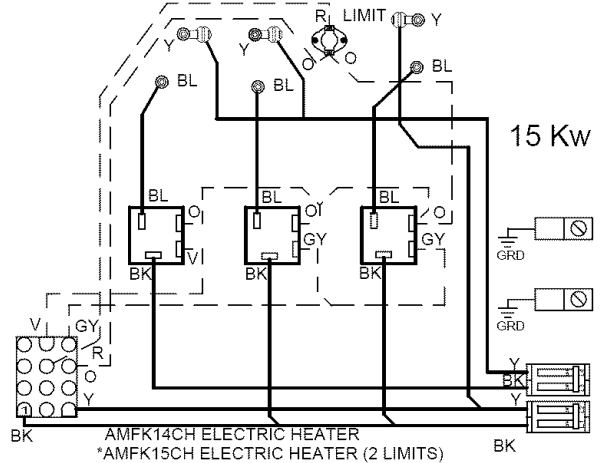
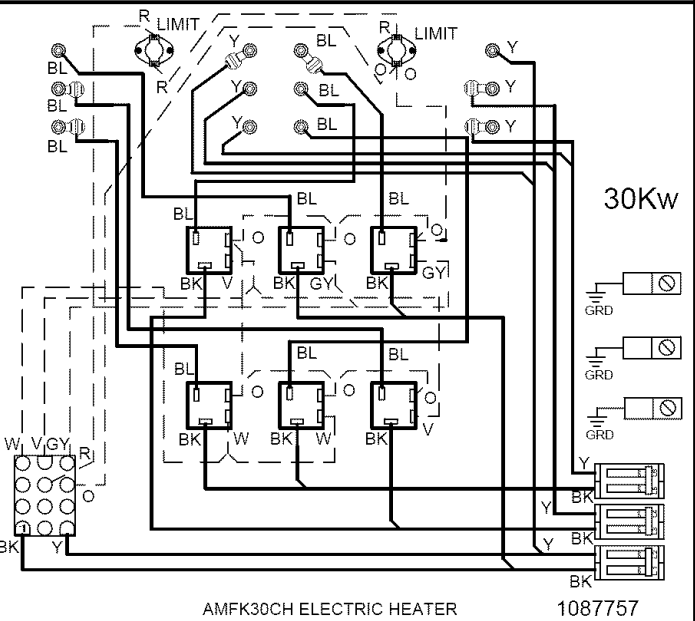
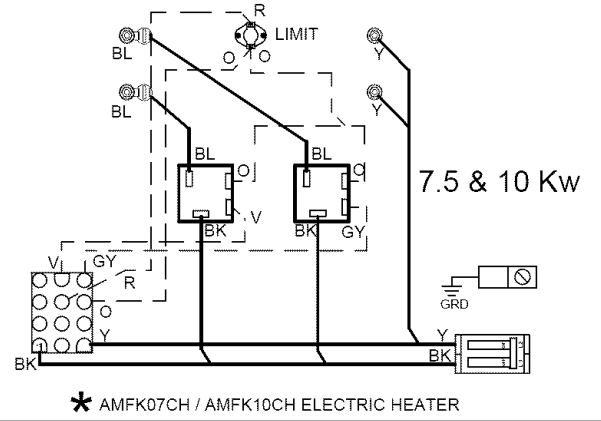
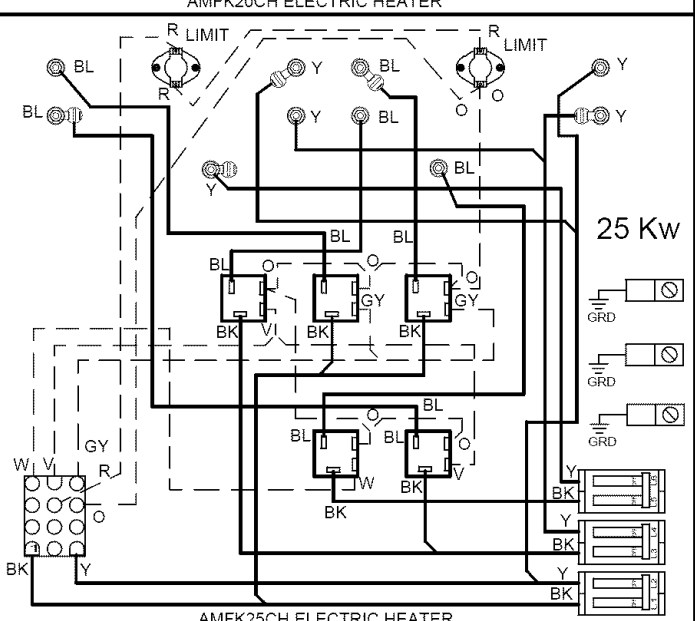
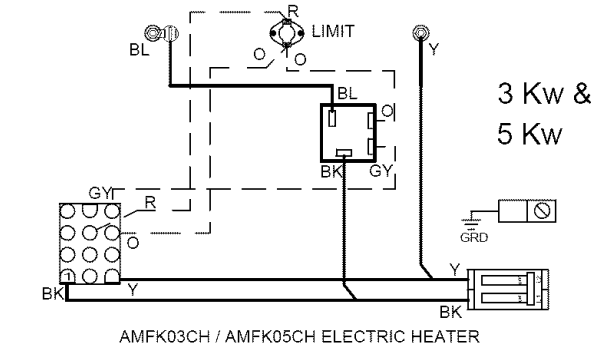
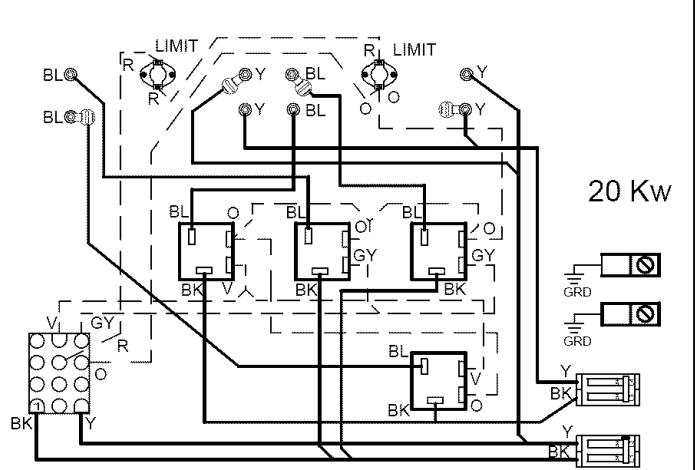
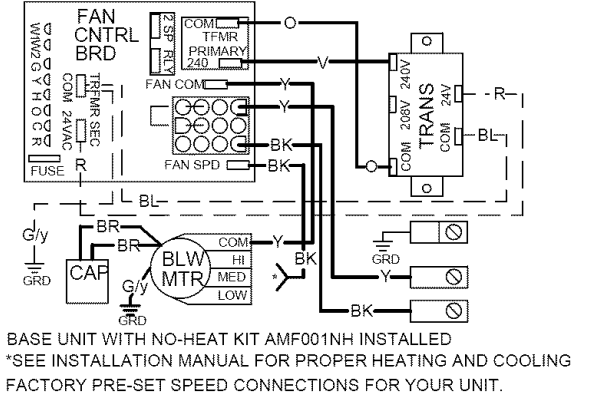
Sequence Of Operation			
Mode	Thermostat to Control Board 24 volt	Control State	Control Function
Cooling Only Unit With Electric Heat			
Constant Blower (Fan Switch ON)	G	On	Fan On.
		Off	Fan Off.
Cooling Only Unit (Thermostat calls for Cooling)	Y & G	On	Compressor On, Fan On.
		Off	Compressor Off, 60 Second Delay - Then Fan Off.
Cooling Only Unit (Thermostat calls for Heat)	G & W1 & W2	On	Fan On, 1st Stage Of Heat On, then 2nd Stage Of Heat On.
		Off	2nd then 1st Stage Of Heat Off. 6 sec delay, then Fan Off.
Heat Pump With Electric Heat			
Heat Pump (Thermostat calls for Cooling)	Y & G & O	On	Compressor On, Reversing Valve Energized, Fan On.
		Off	Compressor Off, 60 Second Delay And Then Fan Off.
Heat Pump (Thermostat calls for Heat)	Y & G	On	Compressor On, Fan On
Heat Pump cannot maintain proper temp.	Y & G & W1 & W2	On	1st Stage Of Heat On, then 2nd Stage Of Heat On
Electric Heat Temperature satisfied		Off	2nd then 1st Stage Of Heat Off
Heat Pump (Goes into Defrost Mode)	Y & G & O & W1 & W2	On	Reversing valve switches unit to cooling, 1st Stage Of Heat On, then 2nd Stage Of Heat On
		Off	Reversing valve switches back to heating, 2nd then 1st Stage Of Heat Off
Heat Pump (Room temp. satisfied)	Y & G	Off	Compressor Off, 60 Second Delay And Then Fan Off.
Heat Pump (Emergency Heat)	G & W1 & W2	On	Fan On, 1st Stage Of Heat On, then 2nd Stage Of Heat On.
		Off	2nd then 1st Stage Of Heat Off. 6 sec delay, then Fan Off.

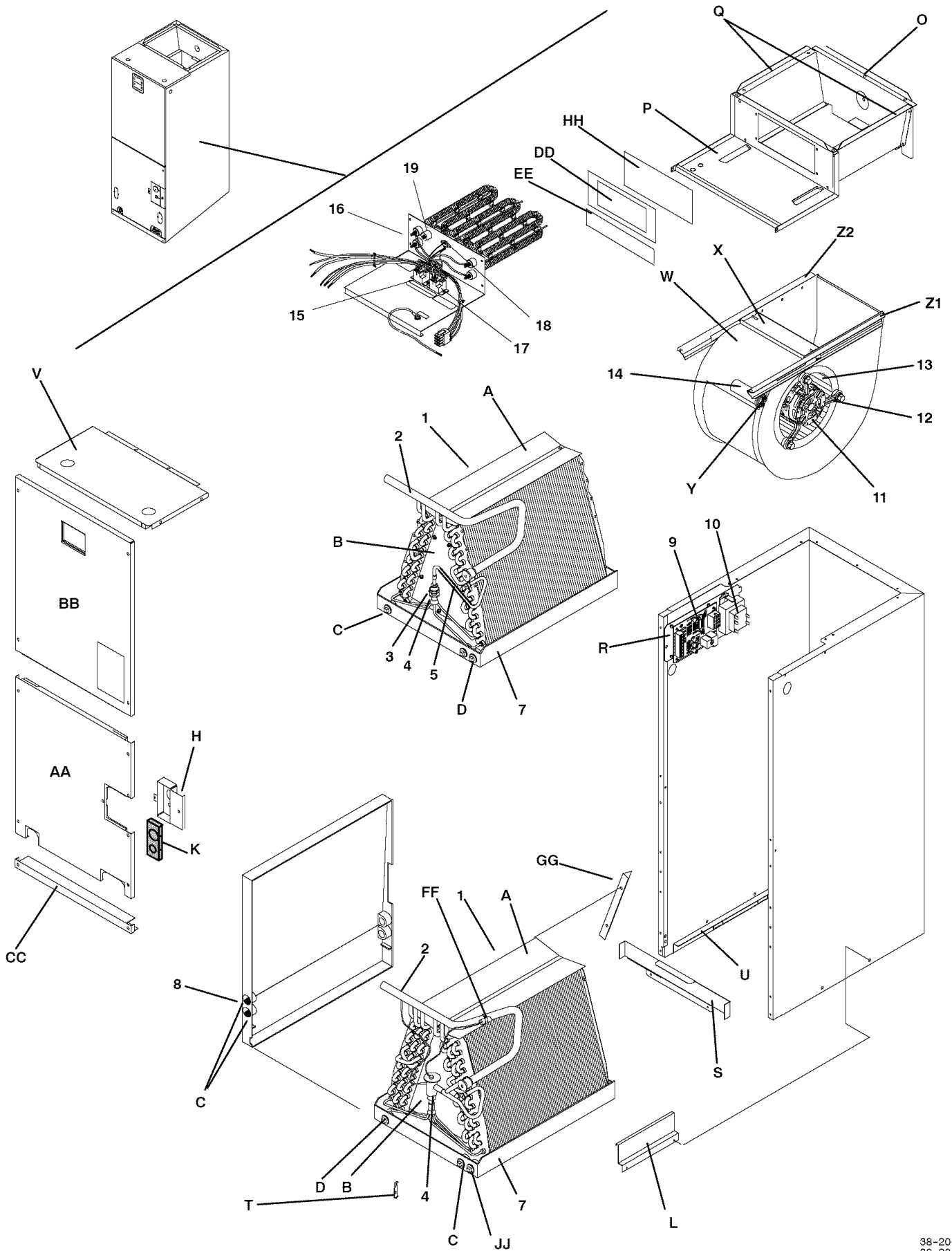
NOTE: Electric Heat Elements are controlled by relays with a delay sequence from the logic board to provide sequencing between elements.

Limit Operation

The temperature limit responds to over-temperature conditions in the air duct. If the temperature limit trips, the electric heater relays will be de-energized and the fan relay will be energized. Once the limit resets, the control will resume normal operation. If the limit trips four times during a single call for heat, the control will go into a 1 hour soft lockout. During the soft lockout, the fan relay will respond to thermostat inputs but the heater relays are disabled. If the control detects a limit trip during the soft lockout, the control will go into a hard lockout. Once in a hard lockout, the fan relay is locked on and the heater relays are disabled. Turning the power to the unit off and then on will clear this state.

POWER SUPPLY: 208/230-1-60 USE COPPER CONDUCTORS ONLY.
 KEY: ——— HIGH VOLT; - - - - - LOW VOLT.





KEY NO.	DESCRIPTION	PART NUMBER	FCP2400C2	FCP2400D2	FCP2405C2	FCP2407C2	FCP2410C2	FCP3000C2	FCP3000D2	FCP3005C2	FCP3007C2	FCP3010C2	FCP3600C2	FCP3600D2	FCP3605C2	FCP3607C2	FCP3610C2	FCP4200C2	FCP4200D2	FCP4205C2	FCP4207C2	FCP4210C2	FCP4800C2	FCP4800D2	FCP4807C2	FCP4810C2	FCP6000C2	FCP6000D2	FCP6010C2	FCX2400C2	FCX3600C2	FCX4800C2	FCX6000C2	
			1	Coil, Evaporator	Not Stocked	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Manifold, Evaporator	1082961	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2		1085679	-	-	-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2		1082914	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2		1082963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2		1082964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-
2		1082984	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-
2		1087520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
2		1083253	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
2		1083310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
2		1083258	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
3	Housing, Flow Control	1082972	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3		1082973	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
3	Distributor	1062727	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-
4	Restrictor, .057	1085975	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	.065	1093424	-	-	-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	.073	1054027	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	.078	1053112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
4	.079	1053661	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-
4	.092	1053712	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-
4	Valve, Expansion	1082871	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
4		1082873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
4		1087340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
5	Adapter, Flow Control	1082860	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	with Liquid Tube	1082864	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5		1082862	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
5		1082857	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-
5		1082966	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-
6	Distributor Assembly	Not Stocked	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Pan, Drain, 15"	1082775	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
7	19"	1082776	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	1	-	-	-
7	22"	1082777	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-
7	26"	1085353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	1	1	-	1
8	Pan, Drain Horizontal	1082619	-	1	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
8		1082621	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1	-	-	-
9	Control, Fan Timer	1085914	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	Transformer	1082611	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	Motor, Blower	1087048	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
11		1083044	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
11		1083045	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	1	-
11		1083046	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	1	-
12	Mount, Blower Motor	1050254	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
12		1002801	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	1	1	-
12		609227	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	1
13	Wheel, Blower	600585	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13		600586	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13		600587	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	1	-	-	-
13		96839	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	-	-	1	1
14	Capacitor, 5MFD, 370V	1094954	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
14	10MFD, 370V	1094956	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1	-
14	15MFD, 370V	1094959	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	1
15	Block, Terminal	1087753	-	-	1	1	1	-	-	1	1	1	-	-	1	1	1	-	-	1	1	1	-	-	1	1	1	1	1	1	1	1	1	1
16	Heater, 5KW, W/ Term. Bk	1087682	-	-	1	-	-	-	1	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	7KW, W/ Term. Bk	1087683	-	-	-	1	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-
16	10KW, W/ Term. Bk	1087684	-	-	-	-	1	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-
17	Relay	1084529	-	-	1	2	2	-	-	1	2	2	-	-	1	2	2	-	-	1	2	2	-	-	2	2	-	-	2	2	-	-	-	-
18	Switch, Limit	1084734	-	-	1	1	1	-	-	1	1	1	-	-	1	1	1	-	-	1	1	1	-	-	1	1	-	-	1	-	-	-	-	-
19	Fuse Link	1087811	-	-	1	2	2	-	-	1	2	2	-	-	1	2	2	-	-	1	2	2	-	-	2									

