INSTALLATION INSTRUCTIONS

SPLIT AIR CONDITIONER
OUTDOOR SECTION

MODELS

18UACSA	18UACSB
24UACSB	24UACSC
30UACSA	36UACSA
36UACSA-B	42UACSB
42UACSB-B	48UACSB
48UACSB-B	60UACSB

60UASCB-B

For Use With:
Matching Indoor Blower coil Units and Matching Add On Coil Units Only

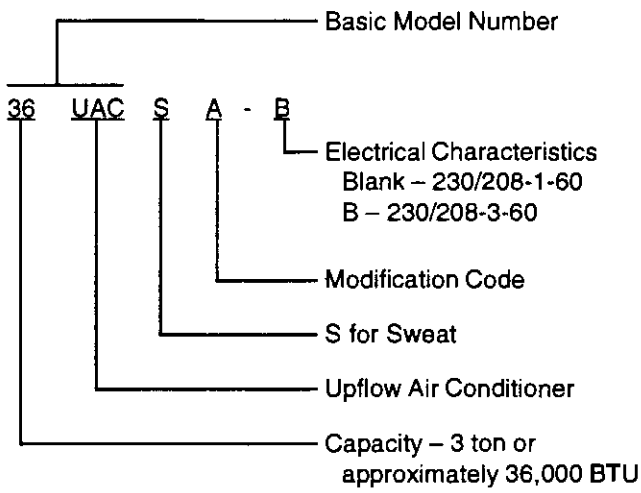
Bard Manufacturing Company
Bryan, Ohio 43506

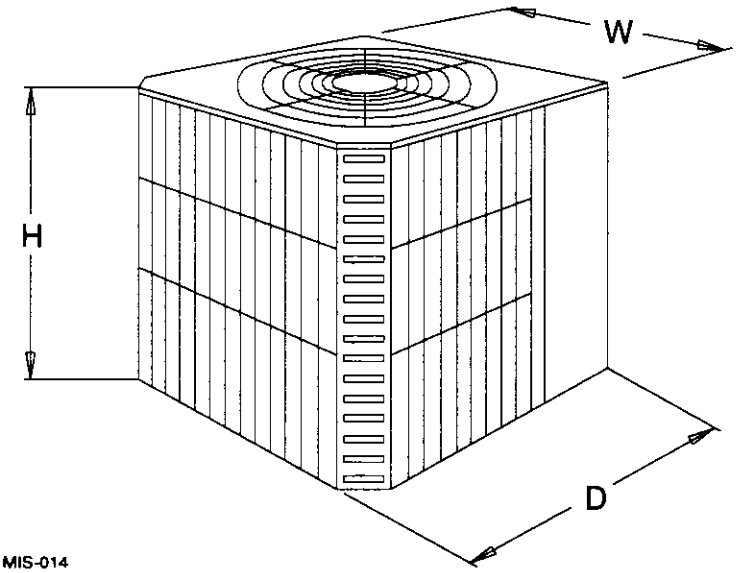
Since 1914...Moving ahead, just as planned.

Manual : 2100-161M
Rev: N
File: Volume I Tab 4
Date: 02-25w-98

Contents

FIGURE 1 – NOMENCLATURE EXPLANATION





MIS-014

TABLE 1

DIMENSIONS			
Basic Model No.	**"W" Width**	**"D" Depth**	**"H" Height**
18UAC 24UAC 30UAC 36UAC 42UAC 48UAC 60UAC	32-1/2"	32-1/2"	26"

TABLE 2
RATED CFM AND AIR FLOW DATA (WET COIL – COOLING)

Condensing Model Number	Evaporator Model Number	Rated Airflow CFM	Rated Airflow Pressure Drop H_2O (1)	Rated E.S.P. (2)	Motor Speed Tap	Recommended Air Flow Range	System Orifice Required
18UACSA	A30AS-A	650	.15			550 - 715	.055 *
	BC24C	650		.50	Med.	550 - 715	.055 *
18UACSB	A30AS-A	650	.15			550 - 715	.055 *
	BC24C	650		.50	Med.	550 - 715	.055 *
24UACSB	A30AS-A	825	.15			700 - 910	.059 *
	BC24C	800		.35	High	700 - 910	.059
24UACSC	A30AS-A	825	.15			700 - 910	.059 *
	BC24C	800		.35	High	700 - 910	.059
30UACSA	A30AS-A	1000	.20			850 - 1100	.063
	BC36C	1050		.35	Low		.063 *
36UACSA 36UACSA-B	A36AS-A	1200	.30			1020 - 1320	.069 *
	BC36C	1200		.30	High	1020 - 1320	.072 .
42UACSB 42UACSB-B	A42AS-A	1325	.30			1125 - 1450	.078
	BC48C	1550		.30	Low	1300 - 1675	.078
48UACSB 48UACSB-B	A48AS-A	1490	.30			1300 - 1675	.081
	BC48C	1700		.25	High	1450 - 1875	.078
	BC60C	1700		.30	High	1450 - 1875	.078 *
60UACSB 60UACSB-B	A61XS-A	1780	.30			1550 - 1950	TXV
	BC60CX	1800		.30	High	1525 - 1975	TXV

(1) Measured across the evaporator coil assembly, including drain pan.

(2) External static pressure available for the duct system – supply and return. All blower coils have multi- speed motors, and value shown is at the recommended rated speed. Consult specification air flow charts with the blower coil units for complete information at other speeds.

* IMPORTANT

Proper sized orifice is not factory installed in indoor section. Proper orifice size is shipped with outdoor unit packaged with its installation instructions for indoor sections listed above. The orifice must be replaced with the proper system orifice shown above in Table 2.

For other evaporator coil models not listed, see indoor coil installation instructions for proper orifice information.

TABLE 3A
ELECTRICAL DATA

MODEL	18UACSA	18UACSB	24UACSB	24UACSC	30UACSA	36UACSA	36UACSA-B
Electrical Rating (60HZ/V/PH)	203/208-1						203/208-3
Operating Voltage Range	197 - 253						187 - 253
Minimum Circuit Ampacity	12	15	13	15	19	22	15
+ *Field Wire Size*	#14	#14	#14	#14	#12	#10	#14
++ Delay Fuse Max. or Ckt. Bkr.	20	20	20	20	30	35	25
Total Unit Amps 230/208	8.6 / 9.6	7.6 / 8.6	9.1 / 10.6	10.2 / 11.3	11.6 / 12.6	15.6 / 17.6	10.4 / 11.7
Compressor							
Rated Load Amps 230/208	7.5 / 8.5	6.5 / 7.5	8.1 / 9.5	9.1 / 10.2	10.5 / 11.7	14.5 / 16.5	8.9 / 10.3
Branch Ckt. Selection Current	8.5	9.0	9.5	10.2	14.1	16.5	10.8
Lock Rotor Amps 230/208	49 / 49	49 / 49	49 / 49	56 / 56	66 / 66	75.8 / 75.8	65 / 65
Fan Motor & Condenser							
Fan Motor HP/RPM	1/6 - 825						
Fan Motor Amps	1.1						
Fan DIA/CFM	24" - 3000						

+ 75 deg. C copper wire size

++ Maximum time delay fuse or HACR type circuit breaker

TABLE 3B
ELECTRICAL DATA

MODEL	42UACSB	42UACSB-B	48UACSB	48UACSB-B	60UACSB	60UACSB-B
Electrical Rating (60HZ/V/PH)	203/208-1	203-208-3	203/208/1	203-208-3	203/208/1	203-208-3
Operating Voltage Range	*197 - 253*	*187 - 253*	*197 - 253*	*187 - 253*	*197 - 253*	*187 - 253*
Minimum Circuit Ampacity	24	16	26	19	36	21.9
+ Field Wire Size	#10	#14	#10	#12	#8	#10
++ Delay Fuse Max. or Ckt. Bkr.	40	25	45	30	60	35
Total Unit Amps 230/208	18.5 / 19	12 / 12.5	19 / 21	13.5 / 15	21.5 / 25	15.6 / 17.8
Compressor						
Rated Load Amps 230/208	17 / 17.5	10.5 / 11	17.5 / 19.5	12 / 13.5	20 / 23.5	14.1 / 16.3
Branch Ckt. Selection Current	17.5	11.0	19.5	13.5	27	16.3
Lock Rotor Amps 230/208	105 / 105	85 / 85	102 / 102	91 / 91	135 / 135	137 / 137
Fan Motor & Condenser						
Fan Motor HP/RPM	1/4 - 825					
Fan Motor Amps	1.5					
Fan DIA/CFM	24" - 3100					

+ 75 deg. C copper wire size

++ Maximum time delay fuse or HACR type circuit breaker

APPLICATION AND LOCATION

GENERAL

These instructions explain the recommended method to install the air cooled remote type condensing unit, the interconnecting refrigerant tubing, and the electrical wiring connections to the unit.

The condensing units are to be used in conjunction with the matching evaporator coils or evaporator blower units for comfort cooing applications as shown in the specification sheet.

These instructions and any instructions packaged with any separate equipment required to make up the entire air conditioning system should be carefully read before beginning the installation. Note particularly any tags and/or labels attached to the equipment.

While these instructions are intended as a general recommended guide, they do not supersede any national and/ or local codes in any way. Authorities having jurisdiction should be consulted before the installation is made.

SHIPPING DAMAGE

Upon receipt of equipment, the carton should be checked for external signs of shipping damage. If damage is found, the receiving party must contact the last carrier immediately, preferably in writing, requesting inspection by the carrier's agent.

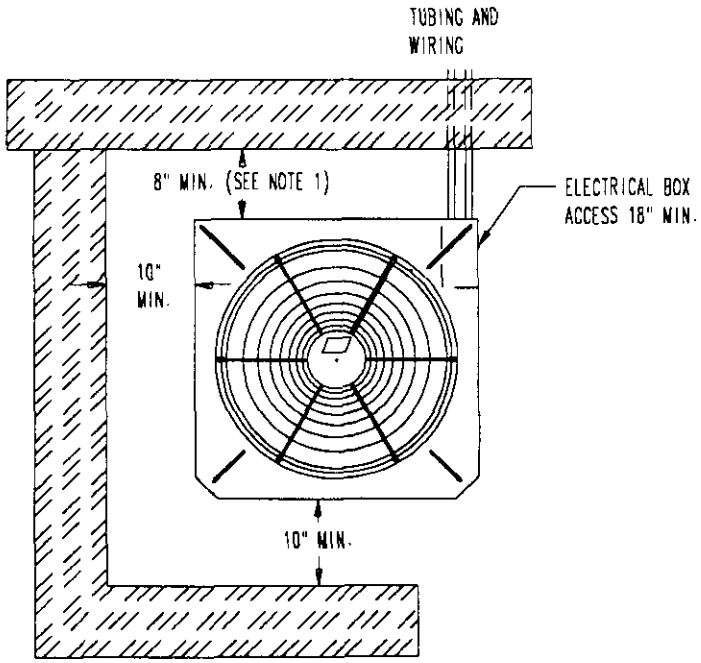
APPLICATION

Size of unit for a proposed installation should be based on heat loss calculation made according to methods of Air Conditioning Contractors of America. The air duct should be installed in accordance with the Standards of the National Fire Protection Association for the Installation of Air Conditioning and Ventilating Systems of Other Than Residence Type, NFPA No. 90A, and Residence Type Warm Air Heating and Air Conditioning Systems, NFPA No. 90B. Where local regulations are at a variance with instructions installer should adhere to local codes.

LOCATION

The condensing unit is designed to be located outside with free and unobstructed condenser air inlet and discharge. It must also permit access for service and installation. Condenser air enters the coil on three sides and discharges upward from the top. Refrigerant and electrical connections are made from the rear of the units as shown in Figure 2 with electrical service assess on the right side. The unit can be installed with the rear of the unit "close to the wall"; however, additional service clearance at the back of the unit would be desirable if practical for unit service. The compressor can be serviced through the top.

FIGURE 2
INSTALLATION CLEARANCES



MIS-1095

NOTES: 1. MINIMUM 8"
RECOMMENDED 18" FOR EASE OF SERVICE
2. CLEARANCE REQUIRED ON TOP OF UNIT - 48"

MOUNTING UNIT OUTSIDE ON SLAB

A solid level base or platform, capable of supporting the unit's weight, must be set at the outdoor unit predetermined location. The base should be at least two inches larger than the base dimensions of the unit and at least two inches higher than surrounding grade level. The required unit minimum installed clearances must be maintained as called out in Figure 2 when locating and setting the base.

Remove the unit from its shipping carton and position the unit on the prepared base or platform.

Don not attach the unit or its base to the building structure to avoid the transmission of noise into the occupied area.

NOTE: These units employ internally sprung compressors; therefore, it is not necessary to remove or loosen the base mounting bolts on the compressor prior to operation.

Consideration should be given to the electrical and tubing connections when placing the unit to avoid unnecessary bends or length of material.

IMPORTANT INSTALLER NOTE

For improved start-up performance, wash the indoor coil with dish washing detergent.

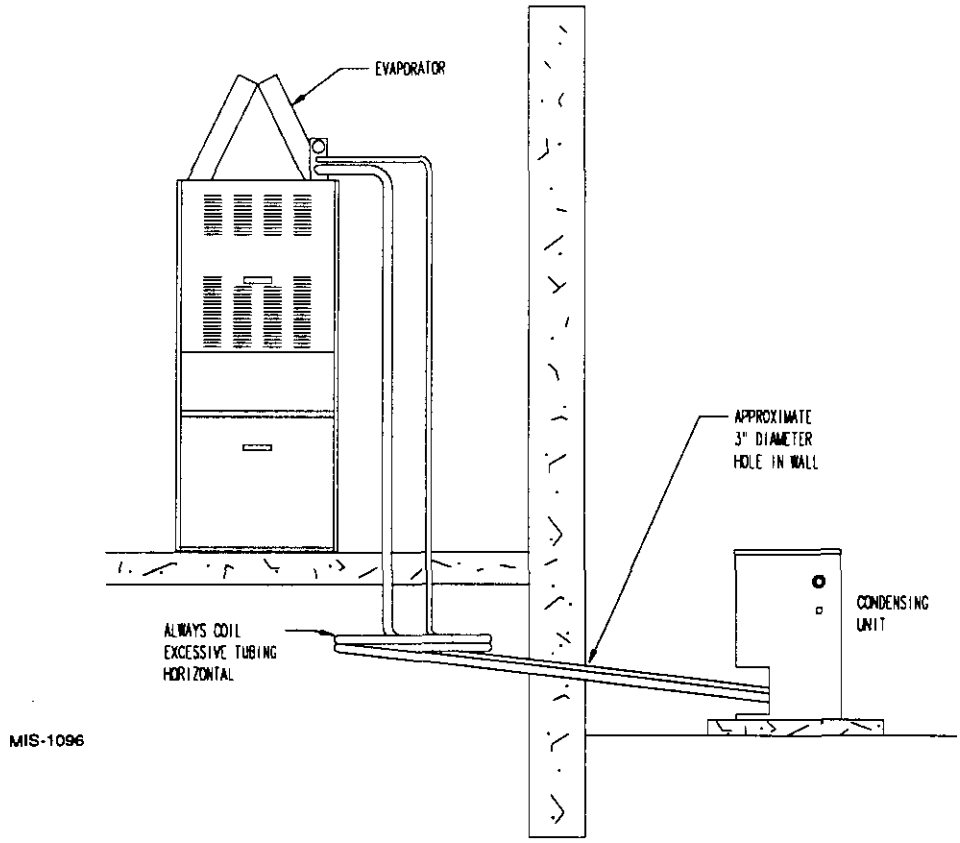
INSTALLING REFRIGERANT TUBING

The information that follows on installing refrigerant tubing and for changing the system orifice (if required) covers applications listed in the front of this installation instruction only. Although other indoor units may be of similar construction, the installation instructions for these units should be consulted for proper installation of those units prior to installation.

This information is provided for the field service personnel to install refrigerant tubing in compliance with Section 608 of Title VI National Recycling and Emission Reduction Program for the U.S. Clean Air Act effective July 1, 1992.

Consult manual 2100-002 on procedure for leak test – evacuation – charging before installing refrigerant tubing that requires any refrigerant recovery or system evacuation. Manual 2100-002 is included with the unit installation instruction package when shipped from the factory.

FIGURE 3



SWEAT STYLE TUBING CONNECTIONS: SWEAT INDOOR UNIT AND SWEAT OUTDOOR UNIT

Use only refrigeration grade (dehydrated and sealed) copper tubing. Care must be taken to insure that the tubing is kept clean and dry before and during installation. Do not remove the plugs from the tubing ends, coil connections or base valves until the connection is ready to be brazed.

The suction line must be insulated with a minimum of 3/8" Armaflex or equivalent before cutting and making connections.

1. Being careful not to kink, route both the suction line and liquid line between the indoor unit and outdoor unit. Use a tubing bender to make any necessary bends in tubing. When necessary to bend the insulated tube suction line, cut the insulation around its circumference at a distance far enough beyond the point of the bend so as to clear the tubing bender. Slip the insulation back together and vapor seal the joint with tape. Coil any excess tubing in a horizontal place with the slope of the tubing toward the condensing unit. (See Figure 3.)

⚠ CAUTION

1. Be careful not to tear the insulation when pushing it through hole in masonry or frame walls. 2. When sealing the tube opening in house wall, use a soft material to prevent tube damage and vibration transmission. 3. Avoid excessive bending in any one place to avoid kinking.

2. The tubing ends should be cut square. Make sure it is round and free of burrs at the connecting ends. Clean the tubing to prevent contaminants from entering the system.

   NOTE: DO NOT BRAZE LINE TO UNITS! If orifice needs to be changed, change out orifice first.

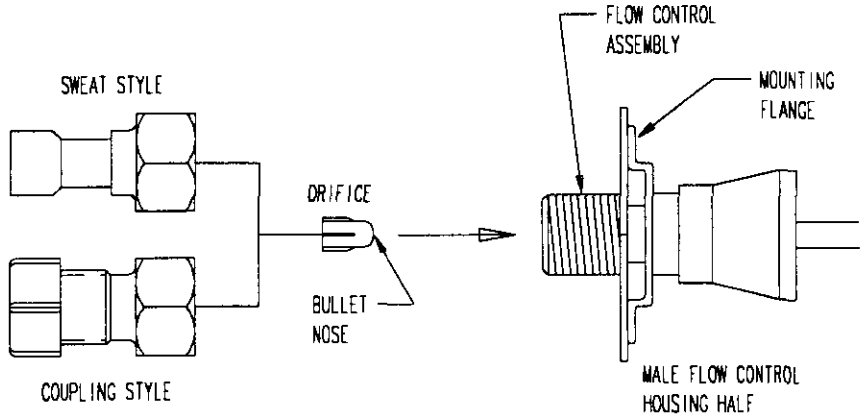
   If the orifice does not have to be changed, skip the instructions outlined further in Step 3 and proceed to Step 8.

3. Disassemble Flow Control Assembly by turning body hex.
4. If existing orifice has not dropped out of the body when disassembled, remove by using a pin or paper clip. Discard this original orifice.
5. Insert proper sized orifice fully into the flow control body with rounded "bullet" nose towards the unit as shown in Figure 4. Insure the orifice stays inserted in body before connecting mating half. See chart in the outdoor unit installation instructions for proper size.

⚠ CAUTION

Be sure there is no dirt introduced into the flow control – orifice assembly. Be sure and install the orifice with the bullet nose pointing in the proper direction as shown in Figure 4. Failure to do so will result in improper operation.

FIGURE 4
FLOW CONTROL ASSEMBLY
FIELD ORIFICE REPLACEMENT INSTRUCTIONS



MIS-1098

6. Thread assembly halves together by hand to insure proper mating of threads and tighten until bodies "bottom" or a definite resistance is felt.

7. Using a marker pen or ink pen, mark a line lengthwise from the union nut to the bulkhead. Then tighten an additional 1/6 turn (or 1 hex flat). The misalignment of the line will show the amount the assembly has been tightened. This final 1/6 turn is necessary to insure the formation of the leakproof joint.

8. Wrap a wet rag around the copper stub before brazing.

9. Flux the copper tube and insert into the stub. Braze the joint using an alloy of silver or copper and phosphorus with a melting temperature above 1100°F for copper to copper joints. The phosphorus will act as a flux, therefore, no flux will be required.

   A copper-silver alloy with a high silver content should be used when iron or steel material is involved in the joint. These alloys require the use of silver solder flux. Alloys containing phosphorus should not be used with iron or steel. Phosphorus reacts with the iron forming iron phosphate which is extremely brittle.

⚠ CAUTION

1. Brazing alloys with a melting temperature below 700° F should not be used. 2. Lead-tin or tin-antimony solders should not be used due to their low melting point and necessity of corrosive fluxes.

To further prevent the formation of copper oxide inside the tubing, dry nitrogen may be purged through the refrigerant system during brazing.

⚠ WARNING

Never purge or pressurize a system with oxygen. An explosion and fire will result causing property damage, personal injury and possibly loss of life.

10. After brazing, quench with wet rag to cool the joint and remove any flux residue.

11. Leak test all connections using an electronic leak detector or a halide torch.

12. Evacuate suction line, liquid line, and indoor unit through outdoor unit base valves.

13. Open both the suction and liquid base valves to the fully open position. Refer to section later in installation instructions for details on setting proper system charge.

FIELD FABRICATED TUBING CONNECTIONS: QUICK CONNECT INDOOR UNIT AND SWEAT OUTDOOR UNIT USING CTO KIT

Use only refrigeration grade (dehydrated and sealed) copper tubing. Care must be taken to insure that the tubing is kept clean and dry before and during installation. Do not remove the plugs from the tubing ends, coil connections or base valves until the connection is ready to be brazed.

The suction line must be insulated with a minimum or 3/8" Armaflex or equivalent before cutting and making connections

1. Being careful not to kink, route both the suction line and liquid line between the indoor unit and outdoor unit. Use a tubing bender to make any necessary bends in tubing. When necessary to bend the insulated tube

TABLE 4
SWEAT STYLE TUBING CONNECTIONS

Condensing Unit Model	Refrigerant Line Length (Ft.)		
	0 - 20	21 - 60	61 - 100
	Liquid & Suction	Liquid & Suction	Liquid & Suction
18UAC	3/8 & 5/8	3/8 & 3/4	3/8 & 3/4
24UAC	3/8 & 5/8	3/8 & 3/4	3/8 & 3/4
30UAC	3/8 & 5/8	3/8 & 3/4	3/8 & 3/4
36UAC	3/8 & 5/8	3/8 & 3/4	1/2 & 7/8
42UAC	3/8 & 3/4	3/8 & 7/8	1/2 & 7/8
48UAC	3/8 & 7/8	3/8 & 7/8	1/2 & 1-1/8
60UAC	3/8 & 7/8	3/8 & 7/8	1/2 & 1-1/8

suction line, cut the insulation around its circumference at a distance far enough beyond the point of the bend so as to clear the tubing bender. Slip the insulation back together and vapor seal the joint with tape. Coil any excess tubing in a horizontal place with the slope of the tubing toward the condensing unit. (See Figure 3.)

⚠CAUTION

1. Be careful not to tear the insulation when pushing it through hole in masonry or frame walls. 2. When sealing the tube opening in house wall, use a soft material to prevent tube damage and vibration transmission. 3. Avoid excessive bending in any one place to avoid kinking.

2. The tubing ends should be cut square. Make sure it is round and free of burrs at the connecting ends. Clean the tubing to prevent contaminants from entering the system.

   NOTE: DO NOT make any tubing connection at indoor unit at this time. Make all brazing of joints and evacuate both suction and liquid line first.

3. Wrap a wet rag around the copper stub before brazing.

4. Flux the copper tube and insert into the stub. Braze the joint using an alloy of silver or copper and phosphorus with a melting temperature above 1100°F for copper to copper joints. The phosphorus will act as a flux, therefore, no flux will be required.

   A copper-silver alloy with a high silver content should be used when iron or steel material is involved in the joint. These alloys require the use of silver solder flux. Alloys containing phosphorus should not be used with iron or steel. Phosphorus reacts with the iron forming iron phosphate which is extremely brittle.

⚠CAUTION

1. Brazing alloys with a melting temperature below 700° F should not be used. 2. Lead-tin or tin-antimony solders should not be used due to their low melting point and necessity of corrosive fluxes.

To further prevent the formation of copper oxide inside the tubing, dry nitrogen may be purged through the refrigerant system during brazing.

⚠WARNING

Never purge or pressurize a system with oxygen. An explosion and fire will result causing property damage, personal injury and possibly loss of life.

5. After brazing, quench with wet rag to cool the joint and remove any flux residue.

6. Leak test all connections using an electronic leak detector or a halide torch.

7. Evacuate suction line and liquid line through outdoor unit base valves.

   If orifice does not have to be changed, skip the instructions outline further in Step 8 and proceed to Step 15.

8. Recover charge from the indoor unit.
   A. Connect the suction line only to the indoor unit as outlined in Steps 15, 16 and 17.
   B. Recover indoor unit and suction line unit charge through service port located on outdoor unit base valve.

9. Disassemble flow control assembly by turning body hex.

10. If existing orifice has not dropped out of the body when disassembled, remove by using a pin or paper clip. Discard this original orifice.

11. Insert proper sized orifice fully into the flow control body with rounded "bullet" nose towards the unit as shown on Figure 4. Insure the orifice stays inserted in body before connecting mating half. See chart in the outdoor unit installation instructions for proper size.

⚠CAUTION

Be sure there is no dirt introduced into the flow control – orifice assembly. Be sure and install the orifice with the bullet nose pointing in the proper direction as shown in Figure 4. Failure to do so will result in improper operation.

12. Thread assembly halves together by hand to insure proper mating of threads and tighten until bodies "bottom" or a definite resistance is felt.

13. Using a marker pen or ink pen, mark a line lengthwise from the union nut to the bulkhead. Then tighten an additional 1/6 turn (or 1 hex flat). The misalignment of the line will show the amount the assembly has been tightened. This final 1/6 turn is necessary to insure the formation of the leakproof joint.

14. Evacuate the suction line and indoor unit through the outdoor unit base valve before connecting all other tubing. Refer to section later in installation instructions for details on setting the proper refrigerant charge.

15. Remove remaining protector caps and plugs (if orifice was changed). Inspect fittings, and if necessary carefully wipe coupling seats and threaded surfaces with a clean cloth to prevent the inclusion of dirt or any foreign material in the system.

16. Lubricate male half diaphragm and synthetic rubber seal with refrigerant oil. Thread coupling halves together by hand to insure proper mating of threads. Be sure to hold the coupling firmly to prevent movement of the coupling and tubing. Failure to do so could tear out the diaphragm causing a blockage of the system. Use proper size wrenches (on coupling body hex and on union nut) and tighten until coupling bodies "bottom" or a definite resistance is felt.

⚠CAUTION

After starting to tighten up the fitting, never try to back it off or take it apart.

17. Using a marker or ink pen, mark a line lengthwise from the coupling union nut to the bulkhead. Then tighten an additional 1/4 turn. The misalignment of the line will show the amount the coupling has been tightened. This final 1/4 turn is necessary to insure the formation of the leakproof joint. If a torque wrench is used, the torque values in Table 5 are recommended:

TABLE 5

Coupling Size	Ft. Lbs.
-6	10 - 12
-10	35 - 45
-11	35 - 45
-12	50 - 65

18. Leak test all connections using an electronic leak detector or a halide torch.

19. When tubing is installed in attics or drop ceilings, insulate the couplings on the larger tube thoroughly with 3/8" wall thickness, closed cell sponge tube insulation or equivalent. Failure to insulate will result in water damage to ceiling since the fitting will "sweat" and drop water on the ceiling.

20. Open both the suction and liquid base valves to the fully open position. Refer to section later in installation instructions for details on setting proper system charge.

WIRING INSTRUCTIONS

GENERAL

All wiring must be installed in accordance with the National Electrical Code and local codes. In Canada, all wiring must be installed in accordance with the Canadian Electrical Code and in accordance with the regulations of the authorities having jurisdiction. Power supply voltage must conform to the voltage shown on the unit serial plate. A wiring diagram of the unit is attached to the inside of the electrical cover. The power supply shall be sized and fused according to the specifications supplied. A ground lug is supplied in the control compartment for equipment ground.

The unit rating plate lists a "Maximum Ttime Delay Fuse" or "HACR Type" circuit breaker that is to be used with the equipment. The correct size must be used for proper circuit protection and also to assure that there will be no nuisance tripping due to the momentary high starting current of the compressor motor.

CONTROL CIRCUIT WIRING

For split systems, the minimum control circuit wiring gauge needed to insure proper operation of all controls in both indoor and outdoor units will depend on two factors.

1. The rated VA of the control circuit transformer.
2. The maximum total distance of the control circuit wiring. (This is the distance between the wall thermostat to the indoor unit plus the distance between the indoor unit to the outdoor unit.)

Table 6 should be used to determine proper gauge of control circuit wiring required.

TABLE 6

Rated VA of Control Circuit Transformer	Transformer FLA @ 24V	Maximum Total Distance of Control Circuit Wiring In Feet
40	1.6	20 gauge - 65 18 guage - 90 16 gauge - 145 14 gauge - 230
50	2.1	20 gauge - 45 18 gauge - 60 16 gauge - 100 14 gauge - 160 12 gauge - 250
65	2.7	20 gauge - 40 18 gauge - 55 16 gauge - 85 14 gauge - 135 12 gauge - 210

Example: 1. Control circuit transformer rated at 40VA.
2. Maximum total distance of control circuit wiring 85 feet.

From Table 6, minimum of 18 gauge wire should be used in the control circuit wiring.

For control circuit transformer rated other than those listed, use the next lower rated transformer listed.

Example: 1. Control circuit transformer rated at 55VA

From Table 6 use 50VA transformer

There are two (2) separate control diagrams for fossil fuel furnaces with air conditioners.

Control diagrams for the various circuits which could be encountered with blower coils can be found in the installation instructions of the blower coil.

TABLE 7

System	Gas Furnace Control Diagram	Oil Furnace Control Diagram
All Models	4091-100	4091-101

See Control Diagrams on Pages 12 and 13.

CRANKCASE HEATERS

All models have an insertion well-type heater located in the lower section of the compressor housing. This is a self-regulating type heater that draws only enough power to maintain the compressor at a safe temperature.

Come form of crankcase heat is essential to prevent liquid refrigerant migrating to the compressor causing oil pump out on compressor start-up and possible valve failure due to compressing a liquid.

Refer to unit wiring diagram to find exact type of crankcase heater used.

The decal in Figure 5 on Page 11 is affixed to all outdoor units detailing start-up procedure. This is *very important. Please read carefully.*

WALL THERMOSTATS

The wall thermostats and subbases shown in Table 8 on Page 11 should be used as indicated depending on the application.

FIGURE 5

IMPORTANT

THESE PROCEDURES MUST BE FOLLOWED AT INITIAL START-UP AND AT ANY TIME POWER HAS *BEEN REMOVED FOR 12 HOURS* OR LONGER

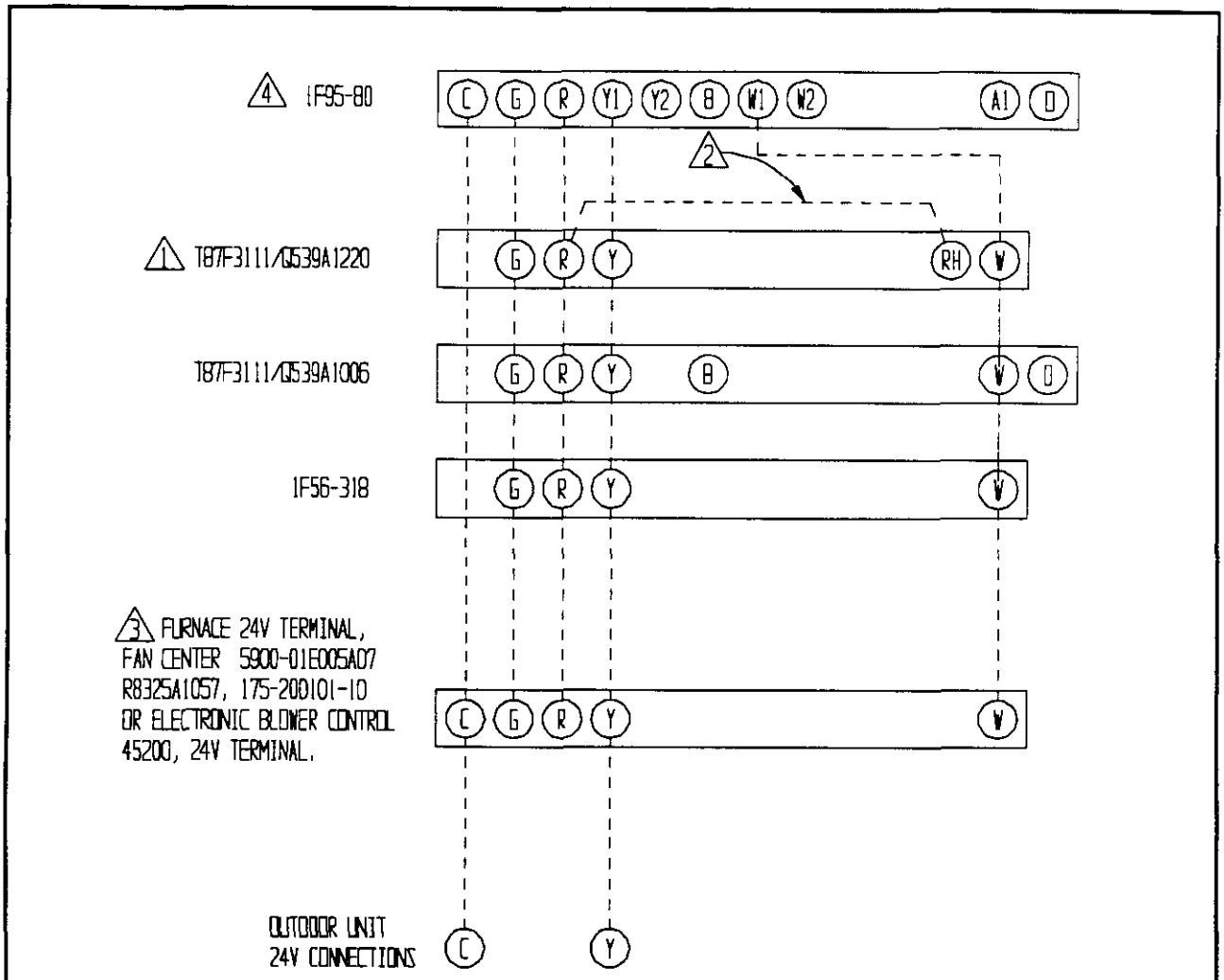
TO PREVENT COMPRESSOR DAMAGE WHICH MAY RESULT FROM THE PRESENCE OF LIQUID REFRIGERANT IN THE COMPRESSOR CRANKCASE

1. MAKE CERTAIN THE ROOM THERMOSTAT IS IN THE OFF POSITION. (THE COMPRESSOR IS NOT TO OPERATE.)
2. APPLY POWER BY CLOSING THE SYSTEM DISCONNECT SWITCH. THIS ENERGIZES THE COMPRESSOR HEATER WHICH EVAPORATES THE LIQUID REFRIGERANT IN THE CRANKCASE.
3. ALLOW 4 HOURS OR 60 MINUTES PER POUND OF REFRIGERANT IN THE SYSTEM AS NOTED ON THE UNIT RATING PLATE WHICHEVER IS GREATER.
4. AFTER PROPERLY ELAPSED TIME THE THERMOSTAT MAY BE SET TO OPERATE THE COMPRESSOR.
5. EXCEPT AS REQUIRED FOR SAFETY WHILE SERVICING – DO NOT OPEN SYSTEM DISCONNECT SWITCH.

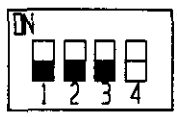
7961-061

TABLE 8
AIR CONDITIONING THERMOSTATS

MODEL NO.	Description	
T87F3111	THERMOSTAT	1 stage heat, adj. heater, Mercury
Q539A1220	SUBBASE	System: Heat-Off-Cool Fan: On-Auto
ID51-605	THERMOSTAT	1 stage cool System: w/Off Switch Snap Action Fan: Auto-On
IF56-318	THERMOSTAT	1 stage cool, 1 stage heat, adj. heater, Mercury System: Heat-Off-Cool Fan: Auto-On
T874C1000	THERMOSTAT	1 stage cool, 2 stage heat, adj. heater, Mercury
Q674A1001	SUBBASE	System: Heat-Auto-Cool Fan: Auto-On



1. SET ADJUST HEAT ANTICIPATOR (SEE FURNACE INSTALLATION INSTRUCTIONS)
2. INSTALL JUMPER R-RH
3. IF THE FURNACE IS NOT INTERNALLY WIRED FOR ADD ON AIR CONDITIONING, A FAN CENTER WILL NEED TO BE ADDED.
4. OPTION SWITCH SETTING

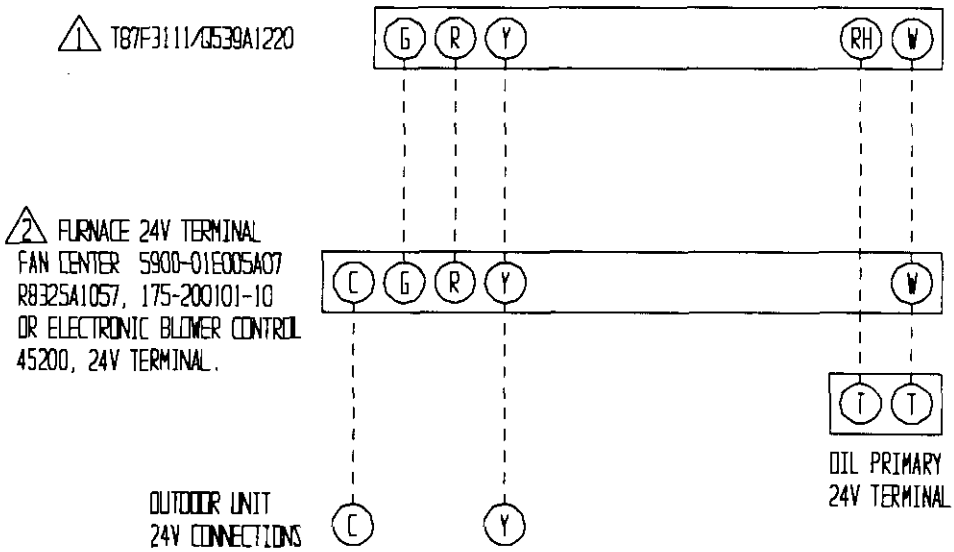


SWITCH #1 "OFF"
SWITCH #2 "OFF"
SWITCH #3 "OFF"
SWITCH #4 SEE THERMOSTAT INSTALLATION INSTRUCTIONS

	FACTORY WIRING	FIELD WIRING
LOW VOLTAGE	———	- - - - -
HIGH VOLTAGE	———	- - - - -

AIR CONDITIONER W/GAS FURNACE

4091-100 B



	FACTORY WIRING	FIELD WIRING
LOW VOLTAGE	———	- - - - -
HIGH VOLTAGE	———	- - - - -

1. SET ADJUST HEAT ANTICIPATOR (SEE FURNACE INSTALLATION INSTRUCTIONS)
2. IF THE FURNACE IS NOT INTERNALLY WIRED FOR ADD ON AIR CONDITIONING, A FAN CENTER WILL NEED TO BE ADDED.

AIR CONDITIONER W/OIL FURNACE

4091-101 A

CHARGING INSTRUCTIONS

PRESSURE SERVICE PORTS

High and low pressure service ports are installed on all units so that the system operating pressures can be observed. Pressure tables can be found later in the manual covering all models. It is imperative to match the correct pressure table to the unit by model number

SYSTEM START UP (INDOOR UNITS WITHOUT EXPANSION VALVES)

1. Close disconnect switch(es) and set the thermostat to cool and the temperature to the highest setting.
2. Check for proper airflow across the indoor coil by referring to indoor unit installation instructions.
3. Connect the service gauges and allow the unit to run for at least 10 minutes or until pressures are stable. Check pressures to the system pressure table attached to the outdoor unit service panel. For optimum system performance, go to Step 4.
4. Install a thermometer on the suction line approximately 6" to 10" from the compressor. Optimum system performance will occur with a refrigerant charge resulting in a suction line superheat as determined from the following calculations.

   A. Measure indoor air wet bulb temperature _____ F°

   B. Measure outdoor air dry bulb temperature _____ F°

   C. Measure suction pressure _____ PSIG

   D. Measure suction line temperature _____ F°

   E. Determine optimum system superheat from Table 10 using outdoor air dry bulb (Step B) and indoor air wet bulb (Step A) _____ F°

   F. Determine saturated suction temperature from suction pressure using Table 9 _____ F°

   G. Determine system superheat:

   Suction line temperature (Step D) _____ F°

   – Saturated suction temperature (Step F) – _____ F°

   – System superheat – _____ F°

   H. Adjust the system superheat (Step G) to the optimum system superheat (Step E) by adding charge to lower the superheat or removing charge to raise the superheat.

   I. Check final system operating pressures to the system pressure tables as was done in Step 3.

TABLE 9
SATURATED SUCTION TEMPERATURE (R-22)

Suction Pressure PSIG	Saturated Suction Temperature (Deg. F)
50	26
53	28
55	30
58	32
61	34
63	36
65	38
67	39
70	41
73	43
76	45
79	47
82	49
86	51

TABLE 10
SYSTEM SUPERHEAT

Outdoor Amtient Temperature (Deg. F Dry Bulb)	Return Air Temperature (Deg. F Wet Bulb)			
	59	63	67	71
105	1	1	5	
95	1	3	(8)	20
90	1	7	14	26
85	3	9	19	33
80	8	14	25	39
75	10	20	30	42

SYSTEM START UP (INDOOR UNITS WITH EXPANSION VALVES)

1. Close disconnect switch(es) and set the thermostat to cool and the temperature to the highest setting.
2. Check for proper airflow across the indoor coil by referring to indoor unit installation instructions.
3. Connect the service gauges and allow the unit to run for at least 10 minutes or until pressures are stable. Check pressures to the system pressure table attached to the outdoor unit service panel. For optimum system performance, go to Step 4.

NOTE: Use a digital thermometer for all temperature measurements.

4. Install a thermometer on the liquid line approximately 4" to 6" from the base valve on the outside of the unit. Optimum system performance will occur with a refrigerant charge resulting in a liquid line subcooling as determined from the following calculations.

   A. Measure liquid pressure _____ PSIG

   B. Measure liquid line temperature _____ F°

   C. Determine optimum system subcooling from Table 11 _____ F°

   D. Determine saturated liquid temperature from liquid pressure using Table 12 _____ F°

   E. Determine system subcooling:
   Saturated liquid temperature (Step D) _____ F°
   – Liquid line temperature (Step B) – _____ F°
   – System subcooling – _____ F°

   F. Adjust the system subcooling by adding charge to increase the subcooling or removing charge to decrease the subcooling. (Allow tolerance of ±3 F)

TABLE 11
REQUIRED SYSTEM SUBCOOLING

Outdoor Section	Indoor Section	Optimum Subcooling
60UACSB 60UACSB-B	A61XS-A	18°
60UACSB 60UACSB-B	BC60CX	16°

TABLE 12
SATURATED LIQUID TEMPERATURE

Liquid Pressure	Saturated Liquid Temperature (Degree F)	Liquid Pressure	Saturated Liquid Temperature (Degree F)
182	95	253	118
185	96	256	119
187	97	260	120
190	98	263	121
193	99	267	122
196	100	271	123
199	101	274	124
202	102	278	125
205	103	282	126
208	104	285	127
211	105	289	128
214	106	293	129
217	107	297	130
220	108	301	131
223	109	305	132
226	110	309	133
230	111	313	134
233	112	317	135
236	113	321	136
239	114	325	137
243	115	329	138
246	116	333	139
250	117	337	140

TABLE 13

TOTAL SYSTEM OPERATING CHARGE (Includes charge for the basic outdoor unit, indoor coil, and 25' of interconnecting tubing)		
Outdoor Section	**Indoor Section**	**Total R-22 Charge (Oz.)**
18UACSA	A30AS-A BC24C	72 83
18UACSB	A30AS-A BC24C	74 80
24UACSB	A30AS-A BC24C	73 76
24UACSC	A30AS-A BC24C	79 84
30UACSA	A30AS-A BC36C	88 104
36UACSA 36UACSA-B	A36AS-A BC36C	96 106
42UACSB 42UACSB-B	A42AS-A BC48C	117 145
48UACSB 48UACSB-B	A48AS-A BC48C BC60C	150 203 220
60UACSB 60UACSB-B	A61XS-B BC60CX	203 203

The above includes 25' of 3/8" diameter liquid line. For other than 25' and other tube sizes, adjust the total charge according to the following schedule.

Liquid Line Diameter	***Oz., R-22 Per Ft.***
3/8"	.6
1/2"	1.2

INSTALLER NOTE: Stamp or mark the final system charge determined above on the outdoor unit serial plate.

7960-150D

SERVICE HINTS

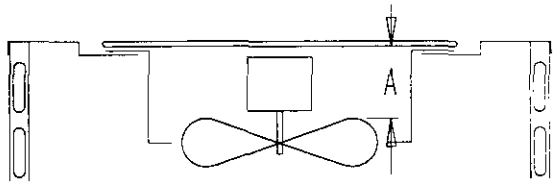
1. Caution homeowner to maintain clean air filters at all times. Also, not to needlessly close off supply and return air registers. This reduces air flow through the system which shortens equipment service life as well as increasing operating costs.
2. Check all power fuses or circuit breakers to be sure that they are the correct rating.
3. Periodic cleaning of the outdoor coil to permit full and unrestricted air flow circulation is essential.

FAN BLADE SETTING DIMENSIONS

Shown in Figure 6 and Table 14 are the correct fan blade setting dimensions for proper air delivery across the outdoor coil.

Any service work requiring removal or adjustment in the fan and/or motor area will require that the dimensions following be checked, and blade adjusted in or out on the motor shaft accordingly.

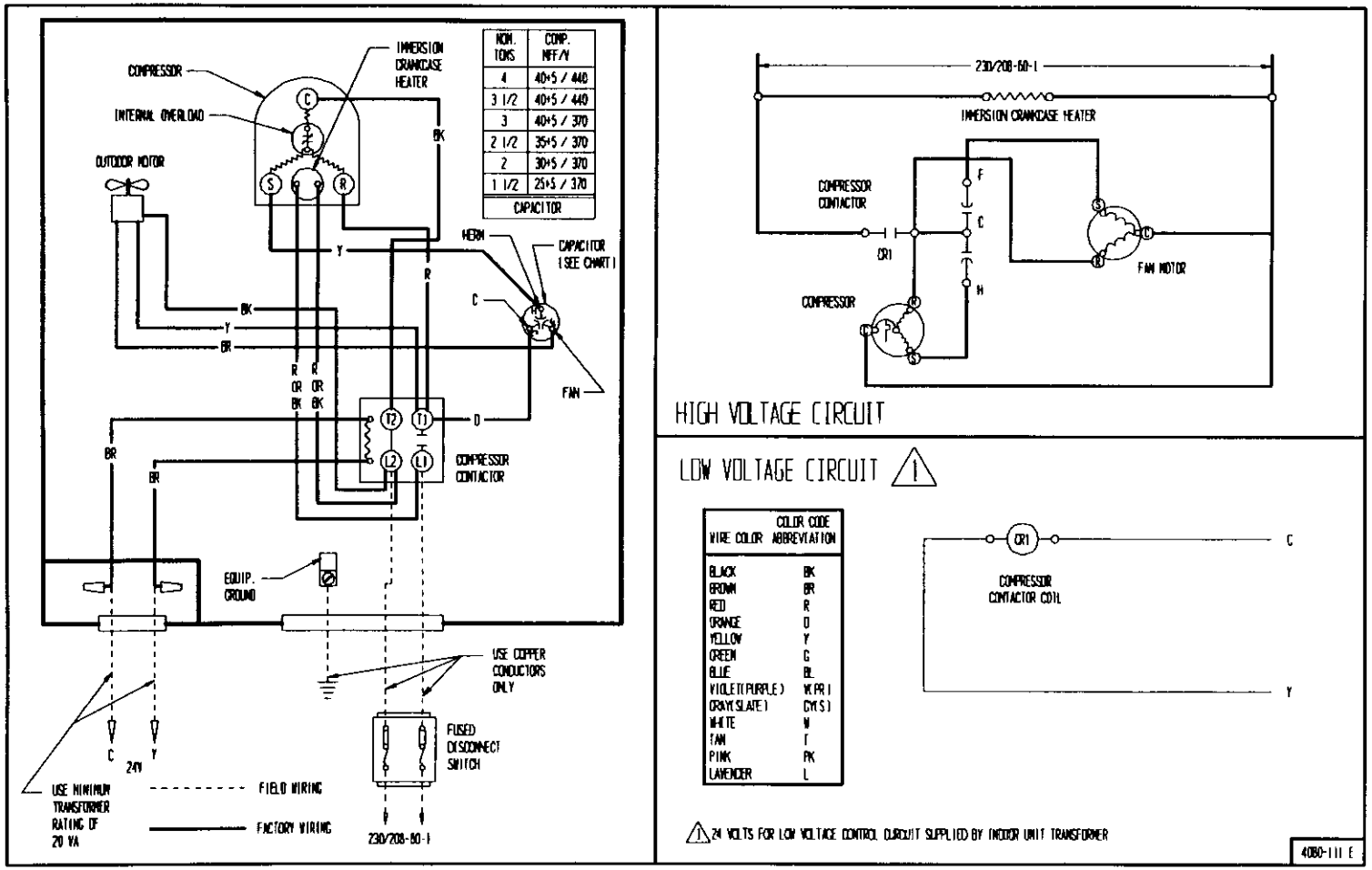
FIGURE 6

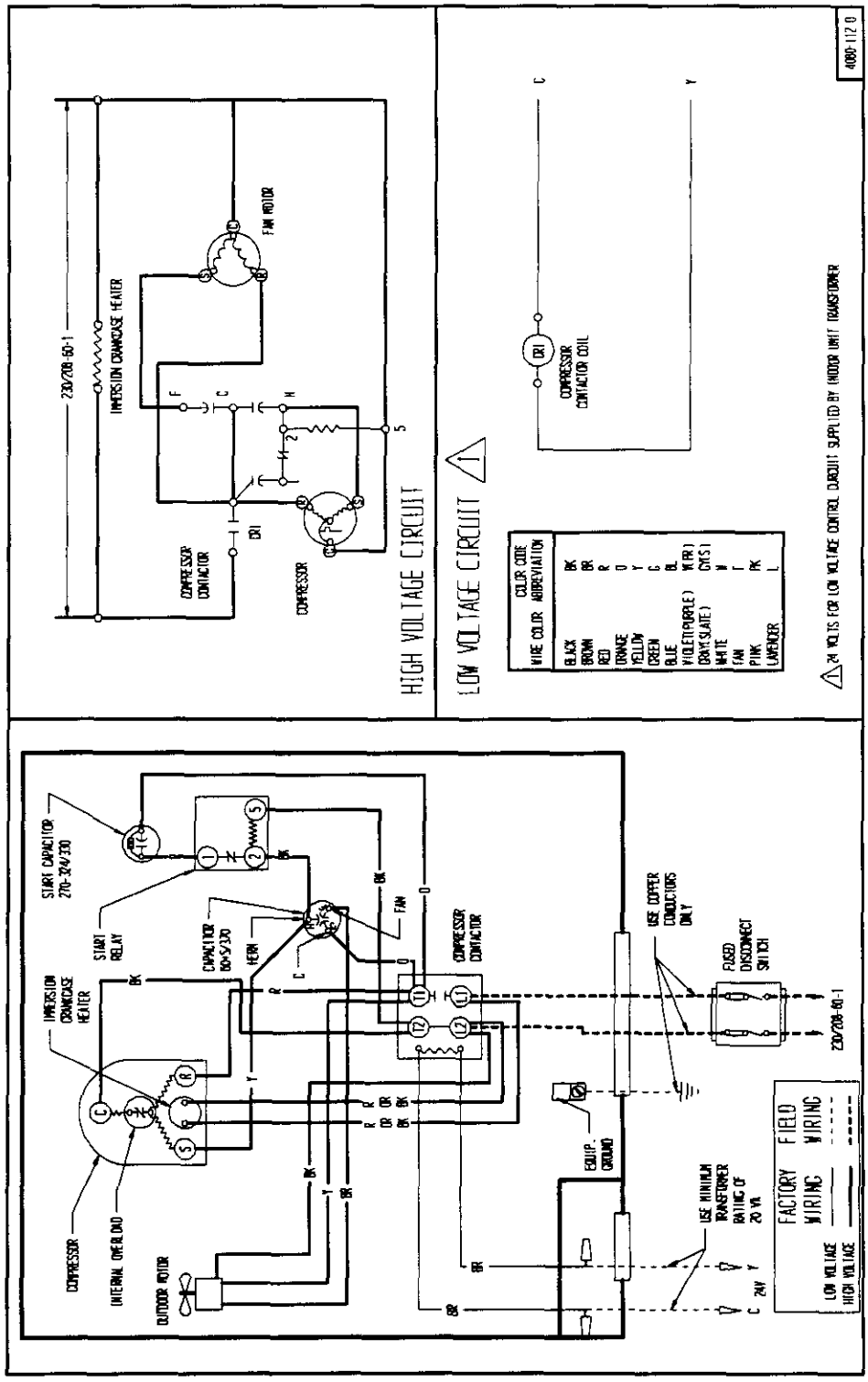


MIS-1097

TABLE 14

Model	Dimension A
18,24,30, 36, 60UAC	3-1/2
42, 48UAC	4


COMPRESSOR
INTERNAL OVERLOAD
OUTDOOR MOTOR
IMMERSION CRANKCASE HEATER
NOM. TONS
COMP. WFF/V
4
40+5 / 440
3 1/2
40+5 / 440
3
40+5 / 370
2 1/2
35+5 / 370
2
30+5 / 370
1 1/2
25+5 / 370
CAPACITOR
HERM
CAPACITOR (SEE CHART)
FAN
COMPRESSOR CONTACTOR
EQUIP. GROUND
USE COPPER CONDUCTORS ONLY
FUSED DISCONNECT SWITCH
USE MINIMUM TRANSFORMER RATING OF 20 VA
FIELD WIRING
FACTORY WIRING
230/208-60-1
230/208-60-1
IMMERSION CRANKCASE HEATER
COMPRESSOR CONTACTOR
CR1
FAN MOTOR
COMPRESSOR
HIGH VOLTAGE CIRCUIT
LOW VOLTAGE CIRCUIT
COLOR CODE
WIRE COLOR ABBREVIATION
BLACK BK
BROWN BR
RED R
ORANGE O
YELLOW Y
GREEN G
BLUE BL
VIOLET(PURPLE) V(PR)
GRAY(SLATE) GY(S)
WHITE W
TAN T
PINK PK
LAVENDER L
COMPRESSOR CONTACTOR COIL
24 VOLTS FOR LOW VOLTAGE CONTROL CIRCUIT SUPPLIED BY INDOOR UNIT TRANSFORMER
4080-111 E


HIGH VOLTAGE CIRCUIT
LOW VOLTAGE CIRCUIT
230/208-60-1
INVERSION DRAINCASE HEATER
FAN MOTOR
COMPRESSOR CONTACTOR
COMPRESSOR
DR1
COMPRESSOR CONTACTOR COIL
WIRE COLOR ABBREVIATION
BLACK BK
BROWN BR
RED R
ORANGE O
YELLOW Y
GREEN G
BLUE BL
VIOLET(PURPLE) V(PR)
GRAY(SLATE) GY(SL)
WHITE W
TAN T
PINK PK
LAVENDER L
24 VOLTS FOR LOW VOLTAGE CONTROL CIRCUIT SUPPLIED BY INDOOR UNIT TRANSFORMER
4080-112 D
START CAPACITOR 270-324/330
START RELAY
CAPACITOR 80+5/330
FAN
COMPRESSOR CONTACTOR
INVERSION DRAINCASE HEATER
USE COPPER CONDUCTORS ONLY
FUSED DISCONNECT SWITCH
230/208-60-1
COMPRESSOR
INTERNAL OVERLOAD
OUTDOOR MOTOR
EQUIP. GROUND
USE MINIMUM TRANSFORMER RATING OF 20 VA
24V
FACTORY WIRING
FIELD WIRING
LOW VOLTAGE
HIGH VOLTAGE

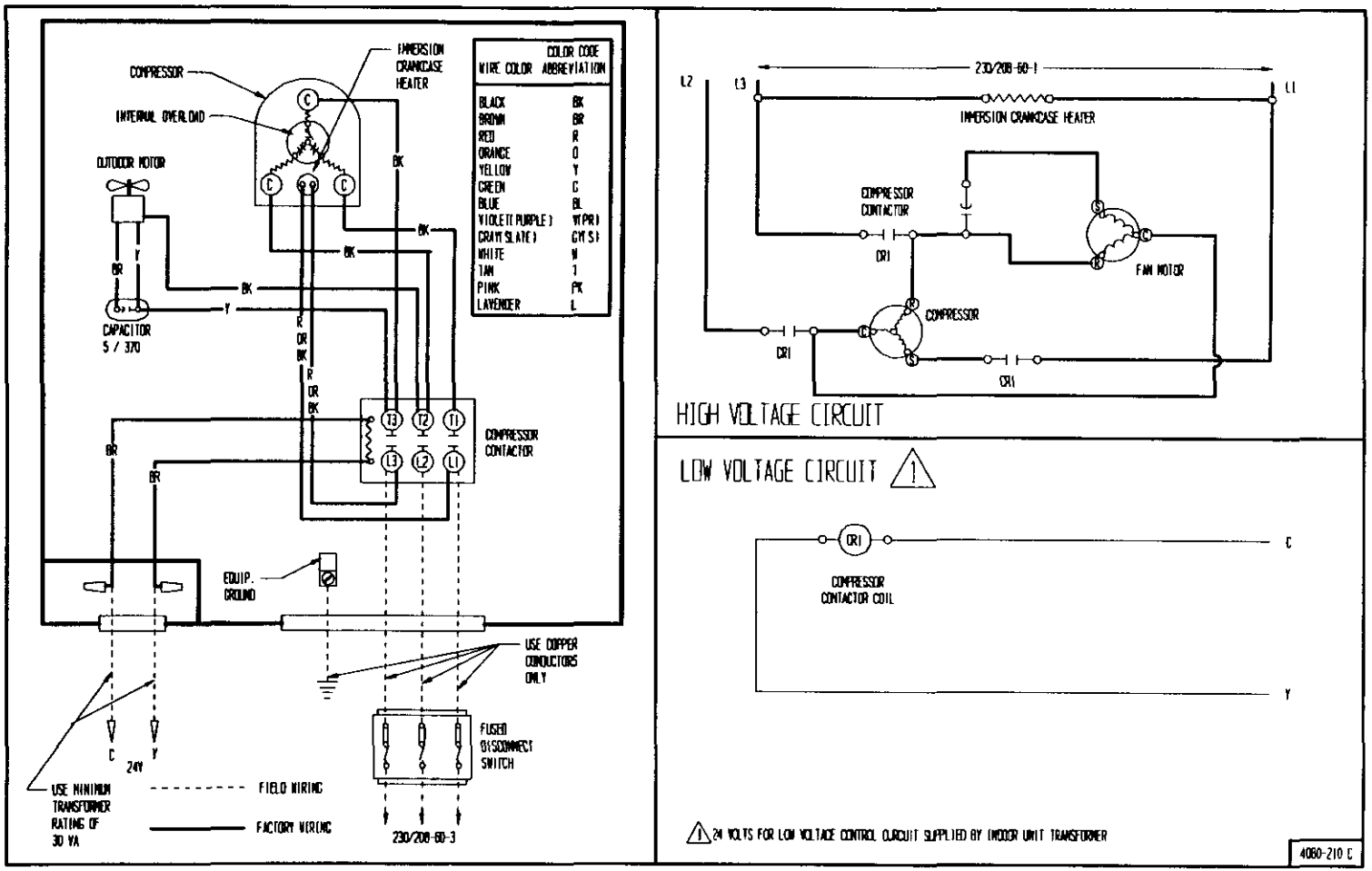

COMPRESSOR
INTERNAL OVERLOAD
IMMERSION CRANKCASE HEATER
OUTDOOR MOTOR
CAPACITOR
5 / 370
COMPRESSOR CONTACTOR
EQUIP. GROUND
USE COPPER CONDUCTORS ONLY
FUSED DISCONNECT SWITCH
USE MINIMUM TRANSFORMER RATING OF 30 VA
FIELD WIRING
FACTORY WIRING
230/208-60-3
COLOR CODE
WIRE COLOR ABBREVIATION
BLACK BK
BROWN BR
RED R
ORANGE O
YELLOW Y
GREEN G
BLUE BL
VIOLET (PURPLE) V(PR)
GRAY (SLATE) GY(SL)
WHITE W
TAN T
PINK PK
LAVENDER L
230/208-60-1
IMMERSION CRANKCASE HEATER
COMPRESSOR CONTACTOR
FAN MOTOR
COMPRESSOR
HIGH VOLTAGE CIRCUIT
LOW VOLTAGE CIRCUIT
COMPRESSOR CONTACTOR COIL
24 VOLTS FOR LOW VOLTAGE CONTROL CIRCUIT SUPPLIED BY INDOOR UNIT TRANSFORMER
4060-210 C

TABLE 15
PRESSURE TABLE

18UACSA

COOLING **All Temperature Entering Outdoor Coil Degree F**

Model	Return Air Temperature	Pressure	75	80	85	90	95	100	105	110	115
A30AS-A	75 deg. DB 62 deg. WB	Low Side High Side	70 168	72 178	74 191	76 204	78 220	80 237	82 256	83 277	85 299
	80 deg. DB 67 deg. WB	Low Side High Side	74 172	77 183	79 196	82 210	84 226	86 244	88 263	90 284	91 307
	85 deg. DB 72 deg. WB	Low Side High Side	80 180	83 190	85 203	88 217	90 233	92 251	94 271	96 293	97 317
BC24C	75 deg. DB 62 deg. WB	Low Side High Side	72 169	74 183	76 198	78 213	80 228	82 244	84 260	85 276	87 293
	80 deg. DB 67 deg. WB	Low Side High Side	76 174	79 188	81 203	84 218	86 234	88 250	90 267	92 284	93 301
	85 deg. DB 72 deg. WB	Low Side High Side	82 178	85 194	87 209	90 226	92 242	94 259	96 276	98 293	99 311

Low side pressure ± 2 PSIG (suction line @ outdoor unit base valve)

High side pressure ± 5 PSIG (liquid line @ outdoor unit base valve)

Tables are based upon rated CFM (airflow) across the evaporator coil and should be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged to serial plate instructions.

7960-275A

TABLE 16
PRESSURE TABLE

18UACSB

COOLING **All Temperature Entering Outdoor Coil Degree F**

Model	Return Air Temperature	Pressure	75	80	85	90	95	100	105	110	115
A30AS-A	75 deg. DB 62 deg. WB	Low Side High Side	72 168	74 182	76 197	78 211	80 226	82 240	84 255	86 270	88 284
	80 deg. DB 67 deg. WB	Low Side High Side	77 172	79 187	81 202	83 217	86 232	88 247	91 262	93 277	95 292
	85 deg. DB 72 deg. WB	Low Side High Side	83 178	85 194	87 210	90 224	92 240	94 255	97 271	99 286	101 301
BC24C	75 deg. DB 62 deg. WB	Low Side High Side	73 168	75 182	77 197	79 211	81 226	83 240	85 255	87 270	89 284
	80 deg. DB 67 deg. WB	Low Side High Side	78 172	80 187	82 202	84 217	87 232	89 247	92 262	94 277	96 292
	85 deg. DB 72 deg. WB	Low Side High Side	84 178	86 194	88 210	91 224	93 240	95 255	98 271	100 286	102 301

Low side pressure ± 2 PSIG (suction line @ outdoor unit base valve)

High side pressure ± 5 PSIG (liquid line @ outdoor unit base valve)

Tables are based upon rated CFM (airflow) across the evaporator coil and should be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged to serial plate instructions.

7960-413

TABLE 17
PRESSURE TABLE

24UACSB

COOLING **All Temperature Entering Outdoor Coil Degree F**

Model	Return Air Temperature	Pressure	75	80	85	90	95	100	105	110	115
A30AS-A	75 deg. DB 62 deg. WB	Low Side High Side	69 176	72 189	74 203	76 217	78 233	79 248	80 265	82 282	83 301
	80 deg. DB 67 deg. WB	Low Side High Side	73 181	76 194	79 208	81 223	84 239	85 255	87 272	88 290	89 309
	85 deg. DB 72 deg. WB	Low Side High Side	80 187	82 201	85 215	87 230	90 247	91 263	93 281	94 300	95 320
BC24C	75 deg. DB 62 deg. WB	Low Side High Side	73 175	75 188	77 202	78 216	80 232	81 247	82 263	83 280	84 298
	80 deg. DB 67 deg. WB	Low Side High Side	77 179	80 193	82 207	84 222	86 238	87 237	88 254	89 270	90 306
	85 deg. DB 72 deg. WB	Low Side High Side	83 186	86 200	88 214	90 230	92 246	93 262	94 280	96 298	97 317

Low side pressure ± 2 PSIG (suction line @ outdoor unit base valve)

High side pressure ± 5 PSIG (liquid line @ outdoor unit base valve)

Tables are based upon rated CFM (airflow) across the evaporator coil and should be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged to serial plate instructions.

7960-149B

TABLE 18
PRESSURE TABLE

24UACSC

COOLING **All Temperature Entering Outdoor Coil Degree F**

Model	Return Air Temperature	Pressure	75	80	85	90	95	100	105	110	115
A30AS-A	75 deg. DB 62 deg. WB	Low Side High Side	69 176	71 191	73 206	75 221	77 237	78 253	80 269	81 285	82 302
	80 deg. DB 67 deg. WB	Low Side High Side	74 181	76 196	78 211	80 227	82 243	84 259	85 276	87 293	88 310
	85 deg. DB 72 deg. WB	Low Side High Side	80 187	82 203	84 218	86 234	88 251	90 268	92 285	93 302	95 320
BC24C	75 deg. DB 62 deg. WB	Low Side High Side	70 178	72 193	74 208	76 223	78 239	79 255	81 271	82 287	83 303
	80 deg. DB 67 deg. WB	Low Side High Side	75 183	77 198	79 213	81 229	83 245	85 261	86 278	88 295	89 311
	85 deg. DB 72 deg. WB	Low Side High Side	81 189	83 205	85 220	87 236	89 254	91 270	93 287	94 304	96 322

Low side pressure ± 2 PSIG (suction line @ outdoor unit base valve)

High side pressure ± 5 PSIG (liquid line @ outdoor unit base valve)

Tables are based upon rated CFM (airflow) across the evaporator coil and should be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged to serial plate instructions.

7960-414

TABLE 19
PRESSURE TABLE

30UACSA

COOLING **All Temperature Entering Outdoor Coil Degree F**

Model	Return Air Temperature	Pressure	75	80	85	90	95	100	105	110	115
A30AS-A	75 deg. DB 62 deg. WB	Low Side High Side	66 182	68 197	70 212	72 227	74 242	75 257	78 272	80 287	82 302
	80 deg. DB 67 deg. WB	Low Side High Side	71 186	73 202	75 217	77 233	79 248	81 263	83 279	85 294	87 310
	85 deg. DB 72 deg. WB	Low Side High Side	77 192	79 209	81 225	83 241	85 257	87 273	89 289	91 305	93 322
BC30C	75 deg. DB 62 deg. WB	Low Side High Side	64 185	67 198	70 213	72 227	74 243	76 259	77 276	78 294	79 312
	80 deg. DB 67 deg. WB	Low Side High Side	69 188	72 203	75 218	77 250	79 250	81 267	82 284	84 302	85 320
	85 deg. DB 72 deg. WB	Low Side High Side	73 194	77 210	80 226	83 242	85 259	87 276	89 294	90 312	91 331
BC36C	75 deg. DB 62 deg. WB	Low Side High Side	69 186	71 201	73 216	75 231	77 247	79 263	80 279	82 296	83 313
	80 deg. DB 67 deg. WB	Low Side High Side	74 190	76 222	78 238	80 238	82 254	84 271	86 287	87 305	89 322
	85 deg. DB 72 deg. WB	Low Side High Side	80 196	82 212	84 229	86 246	88 263	90 280	92 298	94 315	96 333

Low side pressure ± 2 PSIG (suction line @ outdoor unit base valve)

High side pressure ± 5 PSIG (liquid line @ outdoor unit base valve)

Tables are based upon rated CFM (airflow) across the evaporator coil and should be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged to serial plate instructions.

7960-118C

TABLE 20
PRESSURE TABLE

36UACSA
36UACSA-B

COOLING **All Temperature Entering Outdoor Coil Degree F**

Model	Return Air Temperature	Pressure	75	80	85	90	95	100	105	110	115
A36AS-A	75 deg. DB 62 deg. WB	Low Side High Side	64 177	66 194	68 210	71 226	73 242	75 258	78 274	80 290	82 307
	80 deg. DB 67 deg. WB	Low Side High Side	69 183	71 200	73 216	76 232	78 248	80 264	83 280	85 296	87 313
	85 deg. DB 72 deg. WB	Low Side High Side	73 190	76 206	79 223	81 239	84 256	87 273	89 289	92 306	95 322
BC36C	75 deg. DB 62 deg. WB	Low Side High Side	63 175	65 189	67 200	70 218	72 233	74 248	77 262	79 277	81 291
	80 deg. DB 67 deg. WB	Low Side High Side	68 179	70 194	72 209	75 224	77 239	79 254	82 269	84 284	86 299
	85 deg. DB 72 deg. WB	Low Side High Side	72 185	75 201	78 216	80 232	83 247	86 262	88 278	91 293	94 309

Low side pressure ± 2 PSIG (suction line @ outdoor unit base valve)

High side pressure ± 5 PSIG (liquid line @ outdoor unit base valve)

Tables are based upon rated CFM (airflow) across the evaporator coil and should be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged to serial plate instructions.

7960-119C

TABLE 21
PRESSURE TABLE

42UACSB
42UACSB-B

COOLING **All Temperature Entering Outdoor Coil Degree F**

Model	Return Air Temperature	Pressure	75	80	85	90	95	100	105	110	115
A42AS-A	75 deg. DB 62 deg. WB	Low Side High Side	63 174	66 189	69 204	71 220	73 236	75 252	76 269	77 286	78 304
	80 deg. DB 67 deg. WB	Low Side High Side	68 177	71 194	74 210	76 226	78 243	80 260	81 277	83 294	84 312
	85 deg. DB 72 deg. WB	Low Side High Side	72 184	76 200	79 217	82 234	84 251	86 269	88 286	89 305	90 323
BC48C	75 deg. DB 62 deg. WB	Low Side High Side	64 175	69 193	72 210	75 226	77 243	78 259	79 274	79 288	79 302
	80 deg. DB 67 deg. WB	Low Side High Side	70 180	74 198	77 215	80 232	82 249	84 265	85 281	85 296	85 310
	85 deg. DB 72 deg. WB	Low Side High Side	76 186	80 205	83 223	86 241	88 258	90 275	91 291	91 306	91 321

Low side pressure ± 2 PSIG (suction line @ outdoor unit base valve)

High side pressure ± 5 PSIG (liquid line @ outdoor unit base valve)

Tables are based upon rated CFM (airflow) across the evaporator coil and should be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged to serial plate instructions.

7960-120C

TABLE 22
PRESSURE TABLE

48UACSB
48UACSB-B

COOLING **All Temperature Entering Outdoor Coil Degree F**

Model	Return Air Temperature	Pressure	75	80	85	90	95	100	105	110	115
A48AS-A	75 deg. DB 62 deg. WB	Low Side High Side	67 182	70 198	73 213	75 229	77 244	79 259	80 274	81 289	81 303
	80 deg. DB 67 deg. WB	Low Side High Side	72 186	75 203	78 219	80 234	82 250	84 265	85 281	86 296	87 311
	85 deg. DB 72 deg. WB	Low Side High Side	78 193	81 210	84 226	86 242	88 258	90 274	91 290	92 306	93 322
BC48C	75 deg. DB 62 deg. WB	Low Side High Side	65 179	68 198	71 216	73 233	75 249	77 265	78 280	79 294	79 308
	80 deg. DB 67 deg. WB	Low Side High Side	70 186	73 204	76 221	78 238	80 255	82 271	83 287	84 302	85 316
	85 deg. DB 72 deg. WB	Low Side High Side	74 192	78 211	81 229	84 247	86 264	88 281	89 297	90 312	91 327
BC60C	75 deg. DB 62 deg. WB	Low Side High Side	73 187	74 204	76 221	78 238	79 254	80 270	82 285	83 300	84 314
	80 deg. DB 67 deg. WB	Low Side High Side	77 192	79 210	81 227	83 244	85 261	87 277	88 293	89 308	90 322
	85 deg. DB 72 deg. WB	Low Side High Side	83 199	85 218	87 236	89 253	91 270	93 286	94 302	95 318	96 333

Low side pressure ± 2 PSIG (suction line @ outdoor unit base valve)

High side pressure ± 5 PSIG (liquid line @ outdoor unit base valve)

Tables are based upon rated CFM (airflow) across the evaporator coil and should be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged to serial plate instructions.

7960-121B

TABLE 23
PRESSURE TABLE

60UACSB
60UACSB-B

COOLING **All Temperature Entering Outdoor Coil Degree F**

Model	Return Air Temperature	Pressure	75	80	85	90	95	100	105	110	115
A61XS-A	75 deg. DB 62 deg. WB	Low Side High Side	76 197	77 212	79 227	80 243	81 260	82 277	83 295	83 313	84 331
	80 deg. DB 67 deg. WB	Low Side High Side	81 202	83 218	84 234	85 250	86 267	87 284	88 302	89 321	90 340
	85 deg. DB 72 deg. WB	Low Side High Side	86 210	88 226	90 242	92 259	93 276	94 294	95 313	96 332	97 352
BC60CX	75 deg. DB 62 deg. WB	Low Side High Side	77 193	78 207	78 222	79 239	80 256	81 275	82 294	83 315	84 337
	80 deg. DB 67 deg. WB	Low Side High Side	81 199	83 213	84 228	85 245	86 263	87 282	88 302	89 324	90 346
	85 deg. DB 72 deg. WB	Low Side High Side	87 206	89 221	89 237	91 254	92 272	93 292	94 312	96 335	97 358

Low side pressure ± 2 PSIG (suction line @ outdoor unit base valve)

High side pressure ± 5 PSIG (liquid line @ outdoor unit base valve)

Tables are based upon rated CFM (airflow) across the evaporator coil and should be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged to serial plate instructions.

7960-122B