

INSTALLATION INSTRUCTIONS

MODELS

18ECQ2, 24ECQ4, 30ECQ4, 31ECQI, 36ECQ5,
37ECQI, 42ECQI, 48ECQ2, 60ECQI

SPLIT AIR CONDITIONER
OUTDOOR SECTION

FOR USE WITH:
MATCHING INDOOR BLOWER
COIL UNITS AND MATCHING
ADD ON COIL UNITS ONLY

APPLICATION AND INSTALLATION INSTRUCTIONS

GENERAL

These instructions explain the recommended method to install the pre-charged air cooled remote type condensing unit, the inter-connecting pre-charged refrigerant tubing and the electrical wiring connections to the unit.

The condensing units are to be used in conjunction with the matching pre-charged evaporator coils or pre-charged evaporator blower units for comfort cooling 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 "Connecting Quick-Connect Couplings, Starting Procedure" and 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.

INSTALLATION

Size of unit for a proposed installation should be based on heat loss calculation made according to methods of National Warm Air Heating and Air Conditioning Association. 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. 50A, 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 (outdoor unit) must be located in an area having good air circulation and set where the hot discharge air from the unit will not be recirculated into the condensing coil. Figure 1 illustrates the recommended clearances for unrestricted airflow and service access.

MOUNTING UNIT OUTSIDE ON SLAB

A solid level base or platform, capable to support 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 the surrounding grade level. The required unit minimum installed clearances must be maintained as called out in Figure 1 when locating and setting the base.

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

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

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.

WIRING

All wiring must be installed in accordance with the National Electrical Code and local codes. 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 control circuit is a 24 volt circuit. "Typical" wiring diagrams illustrating some of the various circuits which could be encountered can be found later in the manual.

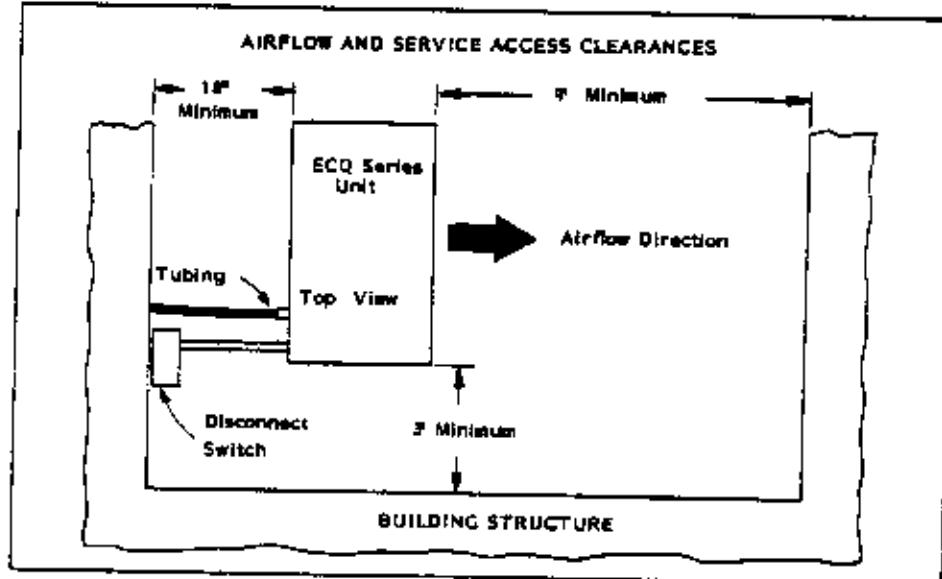


FIGURE 1.

The unit rating plate lists a "Maximum Time 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.

When matching with a B-model blower coil unit, refer to the installation instructions with that indoor unit for 24V wiring information.

PRESSURE SERVICE PORTS

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

The pressure service ports on the split system air conditioners are located on the inter-connecting tubing quick connect fittings.

CRANKCASE HEATERS

All units are provided with some form of compressor crankcase heat. Some single phase units utilize the compressor motor start winding in series with a portion of the run capacitor to generate heat within the compressor shell to prevent liquid refrigerant migration.

Some three phase units utilize a wraparound type of crankcase heater that warms the compressor oil from the outside.

Some single and three phase 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.

Some form of crankcase heat is essential to prevent liquid refrigerant from 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 following decal is affixed to all outdoor units detailing start-up procedure. This is very important. Please read carefully.

IMPORTANT

THERE 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 EXTERIOR DISCONNECT SWITCH (THE ENERGIZES THE COMPRESSOR HEATER WHICH EVAPORATES THE LIQUID REFRIGERANT IN THE CRANKCASE).

3. ALLOW 4 HOURS OR SO 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.

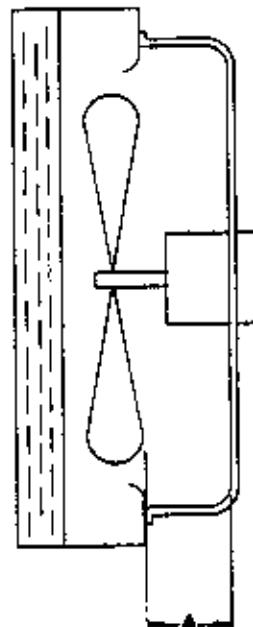
5. EXCEPT AS REQUIRED FOR SAFETY WHILE AIRFLOW IS 20% NOT OPEN SYSTEM PRESSURE CONTROL.

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FAN BLADE SETTING DIMENSIONS

Shown in the drawing below 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 below be checked and blade adjusted in or out on the motor shaft accordingly.



MODEL	DIM. A
All	1 1/2"

IMPORTANT INSTALLER NOTE:

For improved start-up performance, wash the indoor coil with a dishwasher detergent.

ELECTRICAL DATA							
Model	Electrical Rating	Operating Voltage Range	Total Unit ⁽¹⁾ Amps	Minimum Circuit Ampacity	Maximum ⁽²⁾ Overcurrent Protection	60°C Copper Wire Size	Copper Ground Wire Size
1MECQ2	230/208-60-1	197-253	11.6	15	20	#14	#14
2MECQ4	230/208-60-1	197-253	12.1	15	25	#16	#16
30ECQ4	230/208-60-1	207-253	16	22	35	#10	#10
31ECQ1	230/208-60-1	197-253	15	20	35	#12	#12
36ECQ5	230/208-60-1	197-253	22	29	50	#10	#10
37ECQ1	230/208-60-1 230/208-60-3 460-60-3	197-253 187-253 410-506	19 13 7.7	26 18 15	40 30 20	#10 #12 #14	#10
42ECQ1	230/208-60-1 230/208-60-3 460-60-3	197-253 187-253 410-506	24.3 16.8 9.4	30 21 15	50 30 20	#10 #10 #14	#10
48ECQ2	230/208-60-1 230/208-60-3 460-60-3	197-253 187-253 410-506	25.8 19.3 11.4	32 26 16	50 35 25	#8 #10 #12	#10
50ECQ1	230/208-60-1 230/208-60-3 460-60-3	197-253 187-253 410-506	31.6 22.8 9.2	39 28 15	60 45 15	#8 #10 #14	#10

⁽¹⁾ Compressor and outdoor motor.

⁽²⁾ Time Delay Fuse or HACR Type Circuit Breaker.

REFRIGERANT CHARGE

To obtain maximum rated capacity and efficiency, the system charge may have to be adjusted at installation to obtain a suction line temperature (6° from compressor) as shown in the following table.

Outdoor Unit Model	Indoor Coil Model	Rated CFM	Pressure Drop In H ₂ O	Rated E.S.P. (1)	Recommended Air Flow Range	Outdoor Unit	Indoor Unit	95°F O.D. Temp.	82°F O.D. Temp.
18ECQ2	18QS3 2ACQ1 B18EHQ1 B2NEHQ1	680 640 650 650	.39 .20 .30 .30	.30 .30 .30 .30	540 - 660 575 - 705 585 - 715 585 - 715	18CQ2 18CQ3 2ACQ1 B18EHQ1 B2NEHQ1	18CQ2 18CQ3 2ACQ1 B18EHQ1 B2NEHQ1	55 - 57 48 - 50 58 - 60 58 - 60	65 - 67 57 - 59 63 - 65 62 - 64
24ECQ4	24QS1 2ACQ1 B2NEHQ1 B18EHQ1	870 870 800 800	.30 .30 .10 .10	.30 .30 .10 .10	710 - 940 740 - 940 720 - 840 720 - 880	2NECQ4 2NECQ1 2ACQ1 B2NEHQ1 B18EHQ1	2NECQ4 2NECQ1 2ACQ1 B2NEHQ1 B18EHQ1	50 - 52 50 - 52 50 - 52 50 - 52	56 - 59 50 - 52 56 - 58 56 - 58
30ECQ4	JACQ3 3HCQ1 B36EHQ1 B3DEHQ	1160 1035 1050 800	.26 .25 .30 .30	.26 .25 .30 .30	990 - 1210 890 - 1150 945 - 1155 720 - 840	30ECQ4 3ACQ3 3HCQ1 B36EHQ1 B3DEHQ	30ECQ4 3ACQ3 3HCQ1 B36EHQ1 B3DEHQ	58 - 59 52 - 54 52 - 54 54 - 56	60 - 62 64 - 66 63 - 65 58 - 60
31ECQ1	JACQ3 3HCQ1 B36EHQ1 B3DEHQ	1050 1035 1000 800	.25 .25 .30 .30	.25 .25 .30 .30	900 - 1160 900 - 1150 900 - 1150 720 - 880	31ECQ1 3ACQ3 3HCQ1 B36EHQ1 B3DEHQ	31ECQ1 3ACQ3 3HCQ1 B36EHQ1 B3DEHQ	48 - 50 54 - 56 50 - 52 54 - 56	52 - 54 67 - 69 61 - 63 57 - 59
36ECQ5	JACQ3 3HCQ1 B36EHQ1	1180 1000 1275	.30 .30 .40	.30 .30 .40	1060 - 1200 900 - 1100 1150 - 1300	36ECQ5 3ACQ3 3HCQ1 B36EHQ1	36ECQ5 3ACQ3 3HCQ1 B36EHQ1	52 - 54 56 - 58 52 - 54	60 - 62 63 - 65 63 - 65
37ECQ4	JACQ3 3HCQ1 B36EHQ1	1180 1000 1200	.30 .30 .50	.30 .30 .50	1060 - 1300 900 - 1100 1080 - 1325	37ECQ1 3ACQ3 3HCQ1 B36EHQ1	37ECQ1 3ACQ3 3HCQ1 B36EHQ1	48 - 50 55 - 57 52 - 54	52 - 54 65 - 67 63 - 65
41ECQ1	4ACQ2 5ACQ1 4HCQ BC4BA	1450 1600 1500 1575	.25 .14 .30 .30	.25 .14 .30 .30	1300 - 1600 1440 - 1760 1350 - 1650 1420 - 1730	41ECQ1 4ACQ2 5ACQ1 4HCQ BC4BA	41ECQ1 4ACQ2 5ACQ1 4HCQ BC4BA	47 - 49 50 - 52 55 - 57 51 - 53	55 - 57 53 - 55 63 - 65 55 - 57
48ECQ2	4ACQ2 5ACQ1 4HCQ BC4BA	1690 1800 1600 1725	.30 .18 .30 .30	.30 .18 .30 .30	1520 - 1840 1620 - 1980 1440 - 1760 1550 - 1800	48ECQ2 5ACQ1 5HCQ BC4BA	48ECQ2 5ACQ1 5HCQ BC4BA	52 - 54 50 - 52 56 - 58 53 - 55	62 - 64 52 - 54 66 - 68 60 - 62
60ECQ1	SACQ1 5HCQ BC4BA BC60A	1940 1650 1625 1800	.28 .30 .30 .30	.28 .30 .30 .30	1790 - 2190 1485 - 1815 1460 - 1790 1590 - 1850	60ECQ1 SACQ1 5HCQ BC4BA BC60A	60ECQ1 SACQ1 5HCQ BC4BA BC60A	50 - 52 49 - 51 55 - 57 48 - 50	59 - 61 58 - 60 63 - 65 58 - 60

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

(2) External static pressure available for the duct system—supply and return. All blower coil models have multi-speed motors, and value shown is at recommended speed. Consult specification airflow charts for complete information as to other speeds available.

(3) Rated external static pressure on low speed.

The above suction line temperatures are based upon 80°F dry bulb/67° wet bulb (50° R.H.) temperature and rated airflow across the evaporator during cooling cycle.

Outdoor Unit Model	Indoor Coil Model	Rated CFM	Pressure Drop In H ₂ O	Rated E.S.P. (1)	Recommended Air Flow Range	Outdoor Unit	Indoor Unit	95°F O.D. Temp.	82°F O.D. Temp.
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30ECQ4	JACQ3 3HCQ1 B36EHQ1 B3DEHQ	1160 1035 1050 800	.26 .25 .30 .30	.26 .25 .30 .30	990 - 1210 890 - 1150 945 - 1155 720 - 840	30ECQ4 3ACQ3 3HCQ1 B36EHQ1 B3DEHQ	30ECQ4 3ACQ3 3HCQ1 B36EHQ1 B3DEHQ	58 - 59 52 - 54 52 - 54 54 - 56	60 - 62 64 - 66 63 - 65 58 - 60
31ECQ1	JACQ3 3HCQ1 B36EHQ1 B3DEHQ	1050 1035 1000 800	.25 .25 .30 .30	.25 .25 .30 .30	900 - 1160 900 - 1150 900 - 1150 720 - 880	31ECQ1 3ACQ3 3HCQ1 B36EHQ1 B3DEHQ	31ECQ1 3ACQ3 3HCQ1 B36EHQ1 B3DEHQ	48 - 50 54 - 56 50 - 52 54 - 56	52 - 54 67 - 69 61 - 63 57 - 59
36ECQ5	JACQ3 3HCQ1 B36EHQ1	1180 1000 1275	.30 .30 .40	.30 .30 .40	1060 - 1200 900 - 1100 1150 - 1300	36ECQ5 3ACQ3 3HCQ1 B36EHQ1	36ECQ5 3ACQ3 3HCQ1 B36EHQ1	52 - 54 56 - 58 52 - 54	60 - 62 63 - 65 63 - 65
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41ECQ1	4ACQ2 5ACQ1 4HCQ BC4BA	1450 1600 1500 1575	.25 .14 .30 .30	.25 .14 .30 .30	1300 - 1600 1440 - 1760 1350 - 1650 1420 - 1730	41ECQ1 4ACQ2 5ACQ1 4HCQ BC4BA	41ECQ1 4ACQ2 5ACQ1 4HCQ BC4BA	47 - 49 50 - 52 55 - 57 51 - 53	55 - 57 53 - 55 63 - 65 55 - 57
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60ECQ1	SACQ1 5HCQ BC4BA BC60A	1940 1650 1625 1800	.28 .30 .30 .30	.28 .30 .30 .30	1790 - 2190 1485 - 1815 1460 - 1790 1590 - 1850	60ECQ1 SACQ1 5HCQ BC4BA BC60A	60ECQ1 SACQ1 5HCQ BC4BA BC60A	50 - 52 49 - 51 55 - 57 48 - 50	59 - 61 58 - 60 63 - 65 58 - 60

TYPICAL APPLICATION — GAS FURNACE WITH SINGLE SPEED MOTOR

Combination Fan/Limit Control

BLOWER MOTOR

Capacitor

Gas Valve

SPST Fan Control
Center with 40VA
Transformer

24V Connections

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Neut.

Green (Ground)

Junction Box

24V Connections

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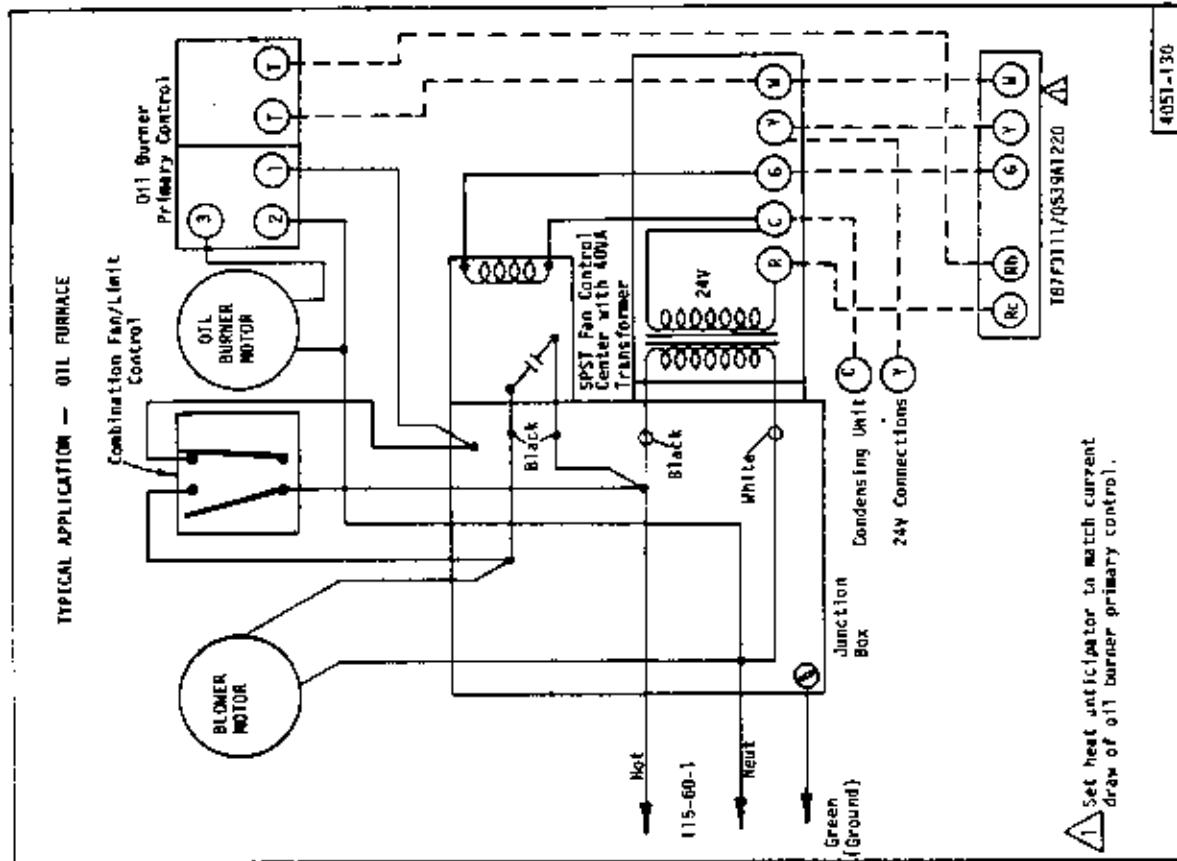
Green (Ground)

Junction Box

24V Connections

PARTS LIST SPLIT SYSTEM CONDENSING UNITS

Part No.	Description
8552-041	Capacitor 15/10-370V
8552-061	Capacitor 20/15-370V
8552-034	Capacitor 40/1440V
8552-035	Capacitor 70/1780V
8552-031	Capacitor 45/1440V
8552-026	Capacitor 15/1370V
8552-002	Capacitor 5/170V
8552-051	Compressor RES-L-6175-PFV
8080-071	Compressor AB233HT
8080-080	Compressor AB233FT
8080-070	Compressor AV18ET
8080-072	Compressor AV13ET
8080-058	Compressor CRK1-0320-TF5
8080-063	Compressor CRK1-0323-PFV
8080-065	Compressor CRK1-0311-TF5
8080-067	Compressor AG112ET
8080-030	Compressor AG111RT
8080-027	Compressor AG122ET
8080-031	Compressor AG122RT
8080-069	Compressor CFJ1-0340-TFD
8080-065	Compressor CRX1-0345-TFD
8080-047	Compressor AG111UT
8080-048	Compressor AG122UT
5081-011	Condenser Coil
5081-013	Condenser Coil
5081-031	Condenser Coil
5081-033	Condenser Coil
5081-019	Condenser Coil
5081-024	Condenser Coil
5081-020	Condenser Coil
8401-083	Conductor - Comp. 30A
8401-082	Conductor - Comp. 25A
8401-016	Conductor - Comp. 35A
8401-007	Conductor - Comp. 25A
5151-001	Fan Blade TF1839
5151-004	Fan Blade FA2434-4B
5151-017	Fan Motor - Fan
8193-004	Motor - Fan 1/5 hp
8193-003	Motor - Fan 1/5 hp
8193-011	Motor - Fan 1/3 hp
8193-001	Motor Mount - Fan
8700-004	Motor Mount - Fan
8697-002	Terminal Block 230V
8607-004	Transformer - Stepdown
7051-018	Wire Grill - Inlet
7051-009	Condenser Grill
7051-003	Wire Grill - Inlet
7051-001	Condenser Grill
7051-005	Wire Grill - Inlet
7051-005	Condenser Grill



Set heat anticipator to match current draw of oil burner primary control.

INSTALLING REFRIGERANT TUBING

PRE-CHARGED TUBING - Examine carefully the two lengths of pre-charged tubing furnished with the unit. The larger is the suction line. The smaller is the liquid line. The end of the tubing with the hex nut and gauge port is to be attached to the condensing unit.

Unroll the tubing, being careful not to kink, and install it between the condensing unit and the evaporator coil.

CAUTION: Be careful not to tear the insulation when pushing it through holes in masonry or frame walls.

When sealing tube opening in house wall use a soft material to prevent tube damage and vibration transmission.

Before fastening either end, use a tubing bender to make any necessary bends in the tubing. **AVOID EXCESSIVE BENDING IN ANY ONE PLACE TO AVOID KINKING.**

Start connecting the tubing at the evaporator coil end. First remove the protective caps and plugs from the quick-connect fittings on the evaporator coil and the pre-charged tubing. Inspect fittings and clean if necessary, making sure they are clear of foreign materials. If you clean the fittings, lubricate them with refrigeration oil. Connect both tubes to the fittings on the coil and draw up by hand.

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.

NOTE: The maximum distance for pre-charge tubing between the condenser and the evaporator is 45 feet.

CAUTION: Prior to connecting the pre-charged tubing to the evaporator coil or condensing unit, be sure all bends have been made, then coil any excess tubing in a horizontal plane, with the slope of the tubing toward the condensing unit.

CAUTION: 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.

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

For connecting the tubing at the condensing unit end, first remove the protective caps and plugs from the quick-connect fittings on the condensing unit and the pre-charged tubing. Inspect fittings and clean if necessary, making sure they are clear of foreign materials. If you clean the fittings, lubricate them with refrigeration oil. Connect both tubes to the fittings on the coil and draw up by hand.

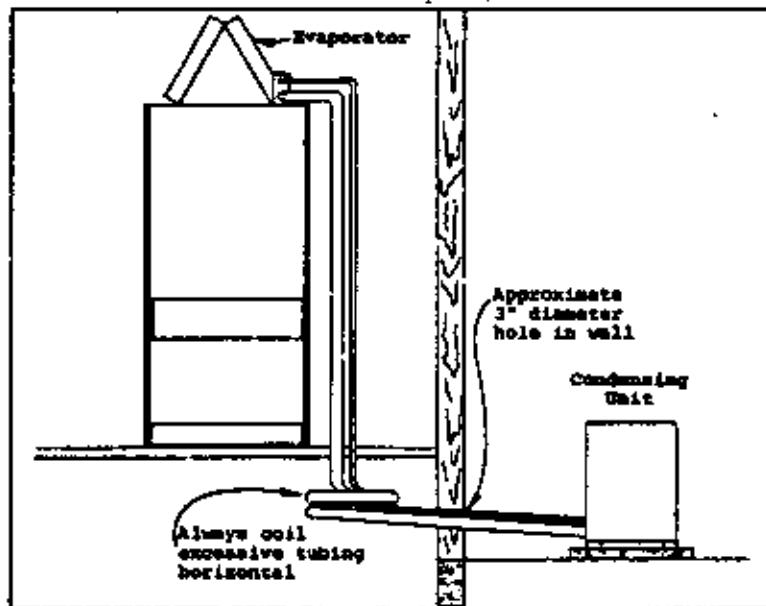
Locate the gauge port in a 45° angle from a vertical up position so as to be accessible for gauge connections.

Use a wrench on the hex nut of the female fitting backing up the fitting with another wrench to keep tube from turning. Tighten the fittings together until they bottom out then tighten for an additional 1/4 turn so that coupling will seat properly.

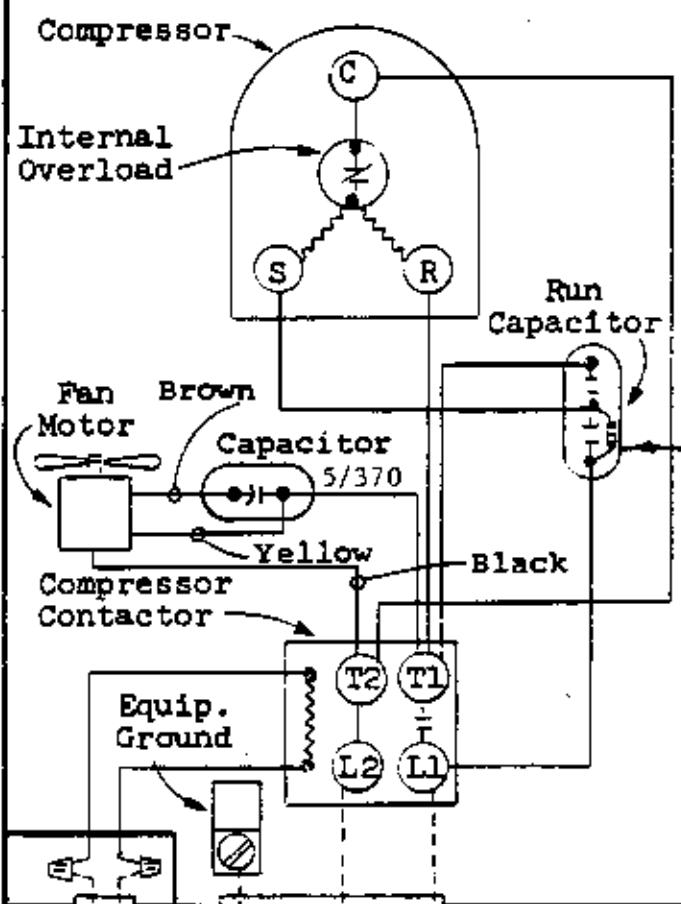
Check the gauge port cap to make sure it is tight. If loose, tighten, being careful not to tighten too much as it will damage the valve in the gauge port.

Leak test all connections using an Electronic Leak Detector or a Halide Torch.

When tubing is installed in attics or drop ceiling, insulate the quick connect fitting 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.



SPLIT SYSTEM AIR CONDITIONERS
18ECQ2 and 24ECQ4
230/208V 60 Hz 1-Ph



Model	Size
18ECQ2	15/10-370
24ECQ4	20/15-370

Use Minimum
Transformer
Rating of 40VA

C Y
24V

Factory Wiring

Field Wiring

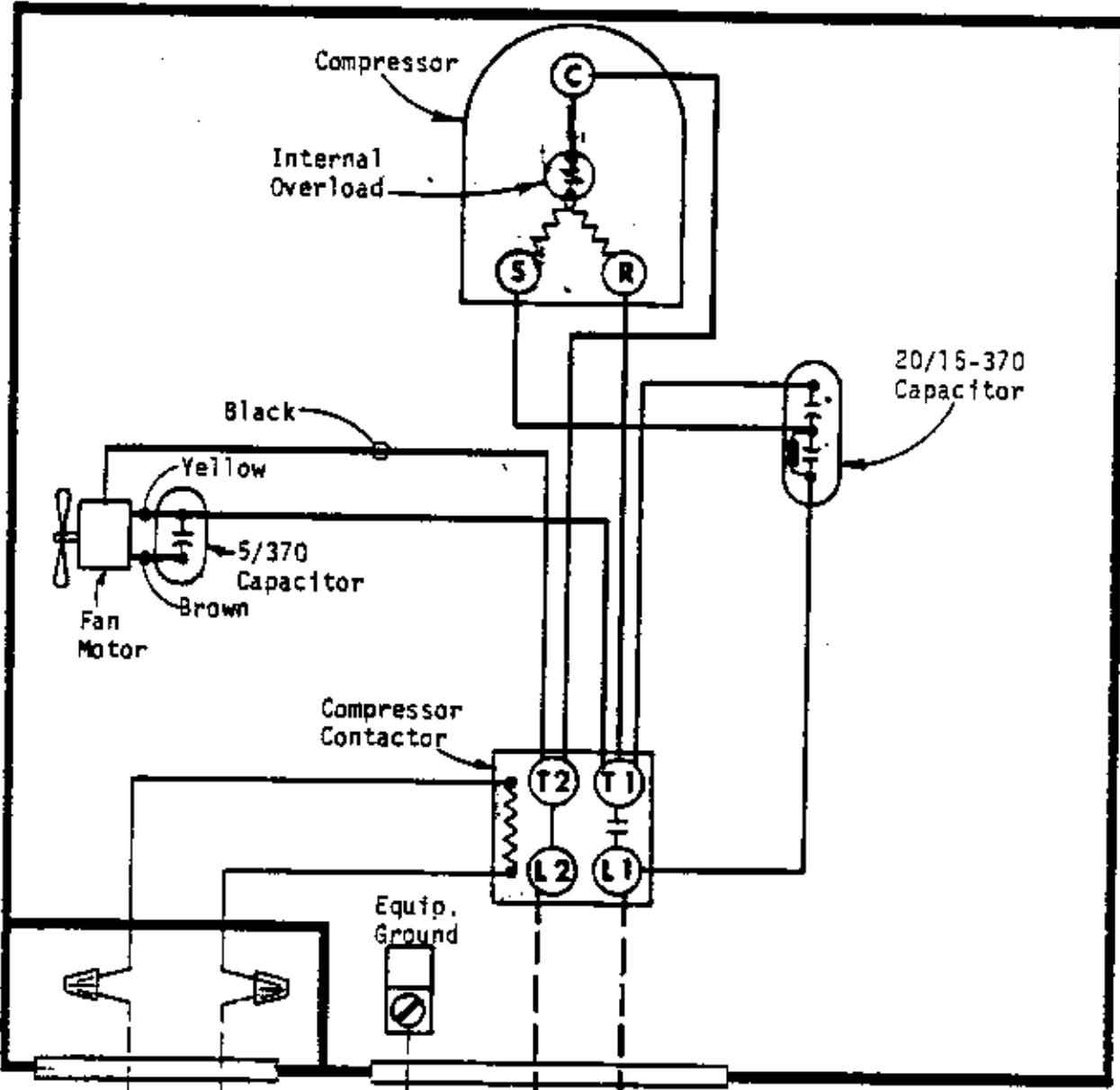
Use Copper
Conductors
Only

Fused
Disconnect
Switch

230/208-60-1

4021-110C

SPLIT SYSTEM AIR CONDITIONERS
30ECQ4, 31ECQ1
230/208V 60Hz 1-Ph



Use Copper Conductors Only

Fused Disconnect Switch

FACTORY WIRING

Low Voltage _____
High Voltage _____

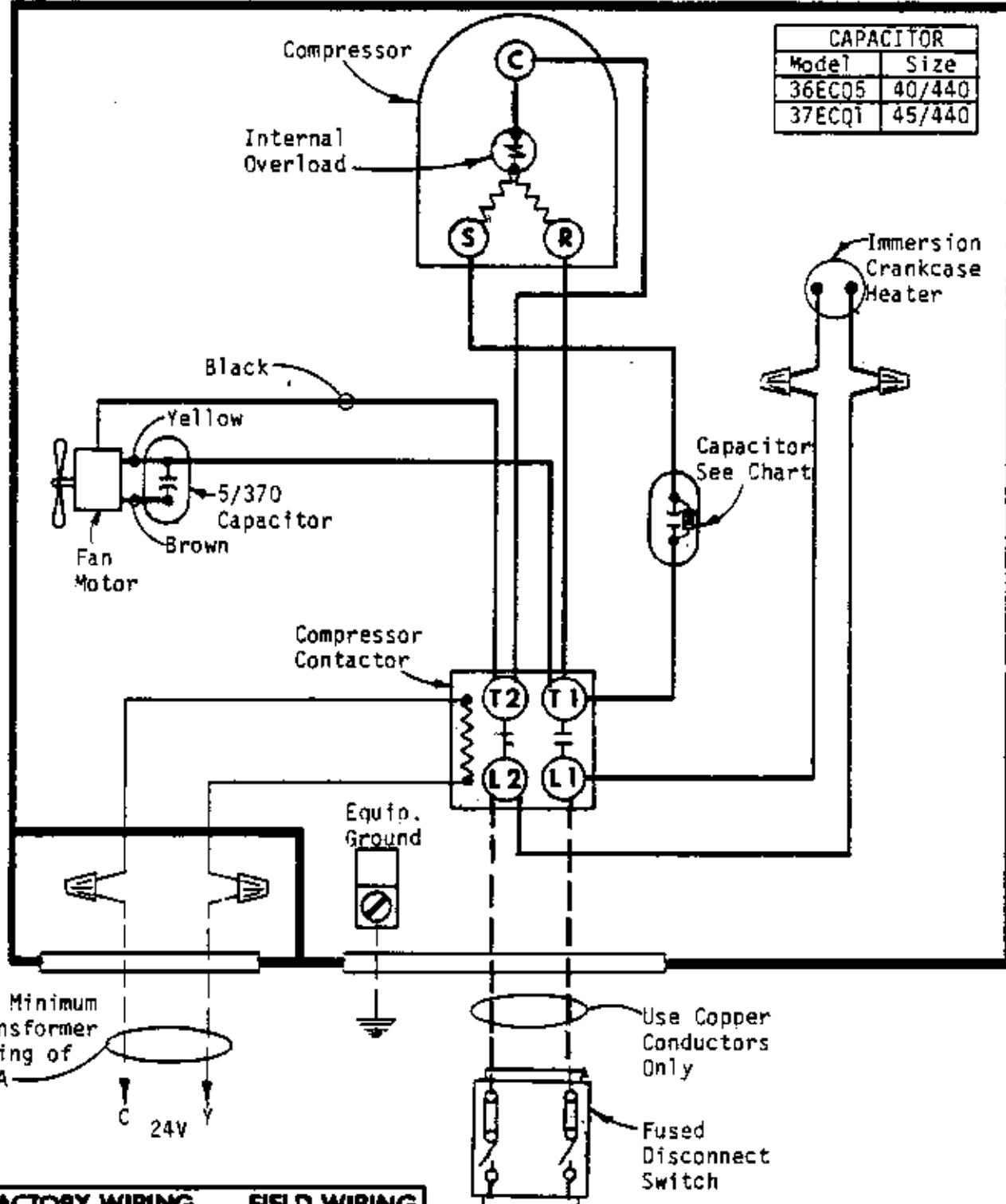
FIELD WIRING

230/208-60-1

4062-110

SPLIT SYSTEM AIR CONDITIONERS
36ECQ5, 37ECQ1
230/208V 60Hz 1-Ph

CAPACITOR	
Model	Size
36ECQ5	40/440
37ECQ1	45/440



FACTORY WIRING

Low Voltage _____
High Voltage _____

FIELD WIRING

230/208-60-1

4062-111

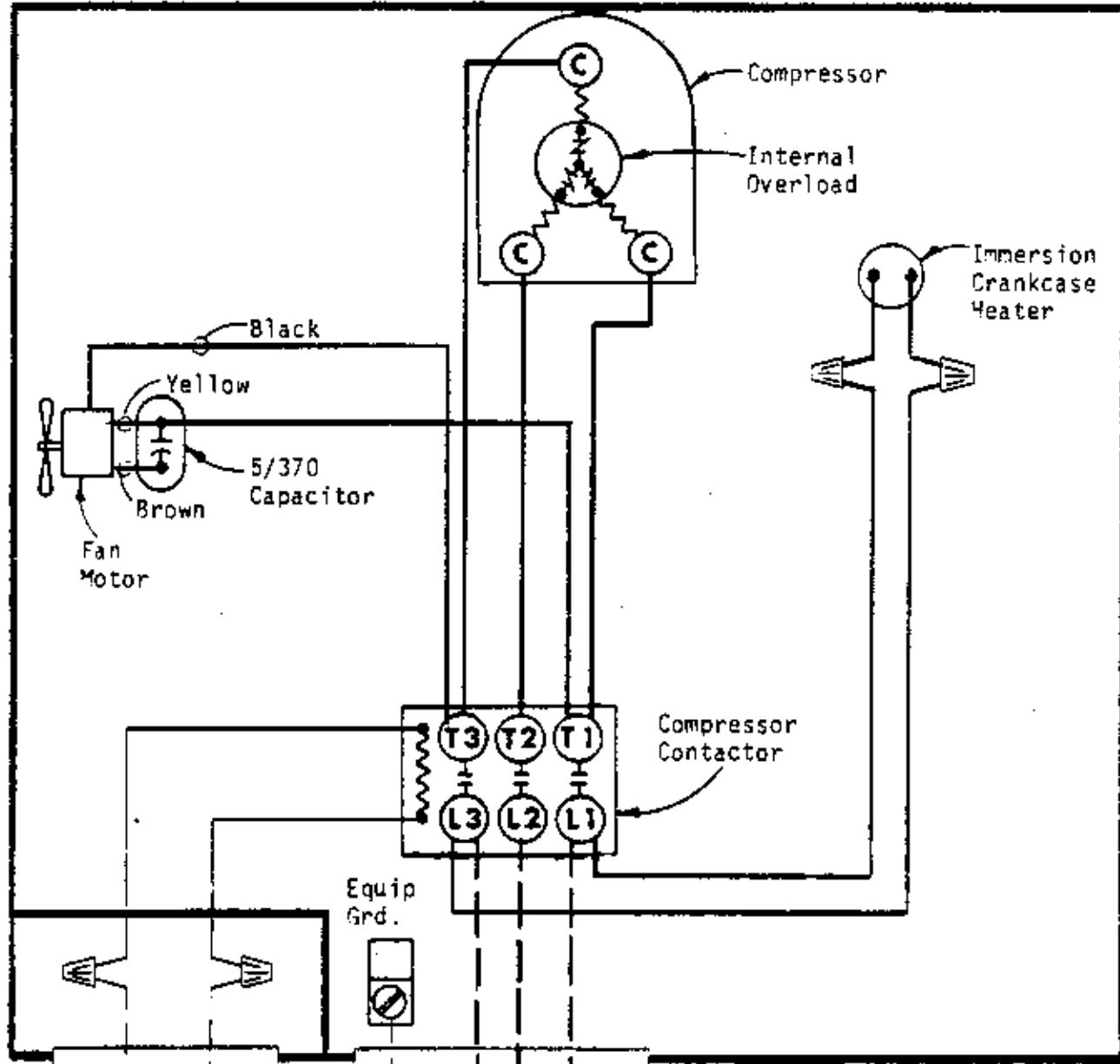
SPLIT SYSTEM AIR CONDITIONERS

37EC01

230/208

60Hz

3Ph

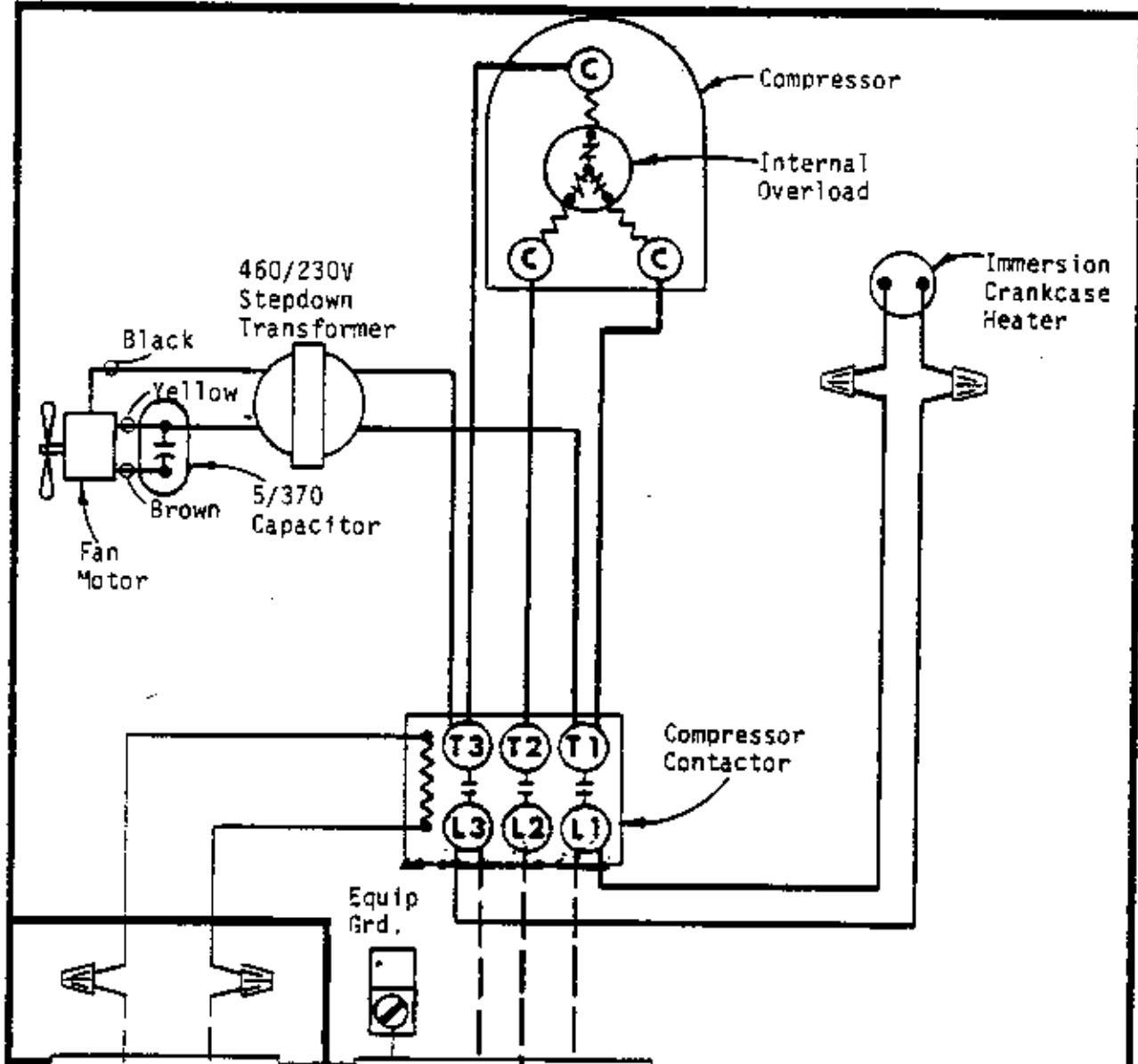


FACTORY WIRING **FIELD WIRING**

Low Voltage _____

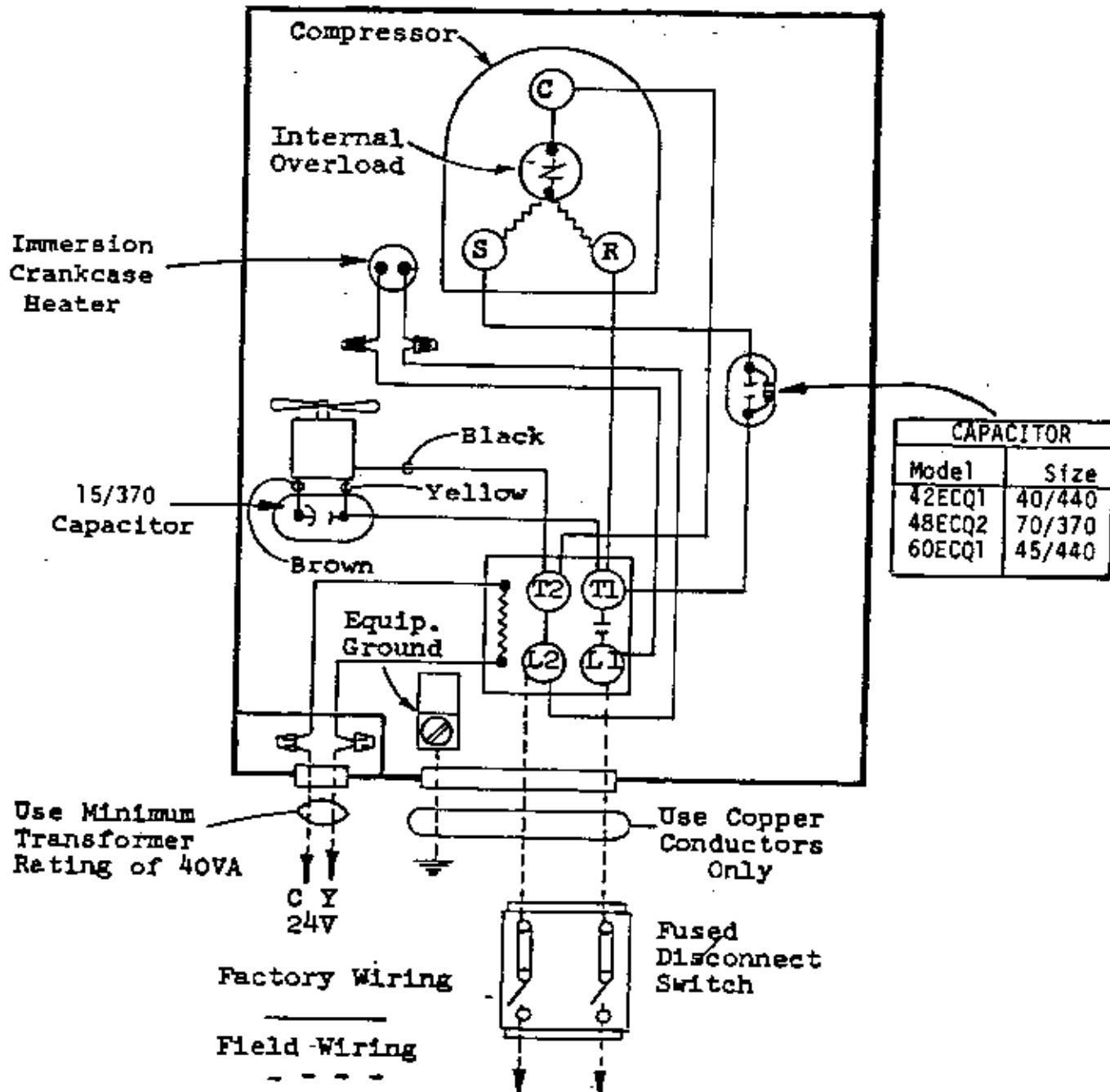
High Voltage _____

SPLIT SYSTEM AIR CONDITIONERS
37ECQ1
460V 60HZ 3Ph



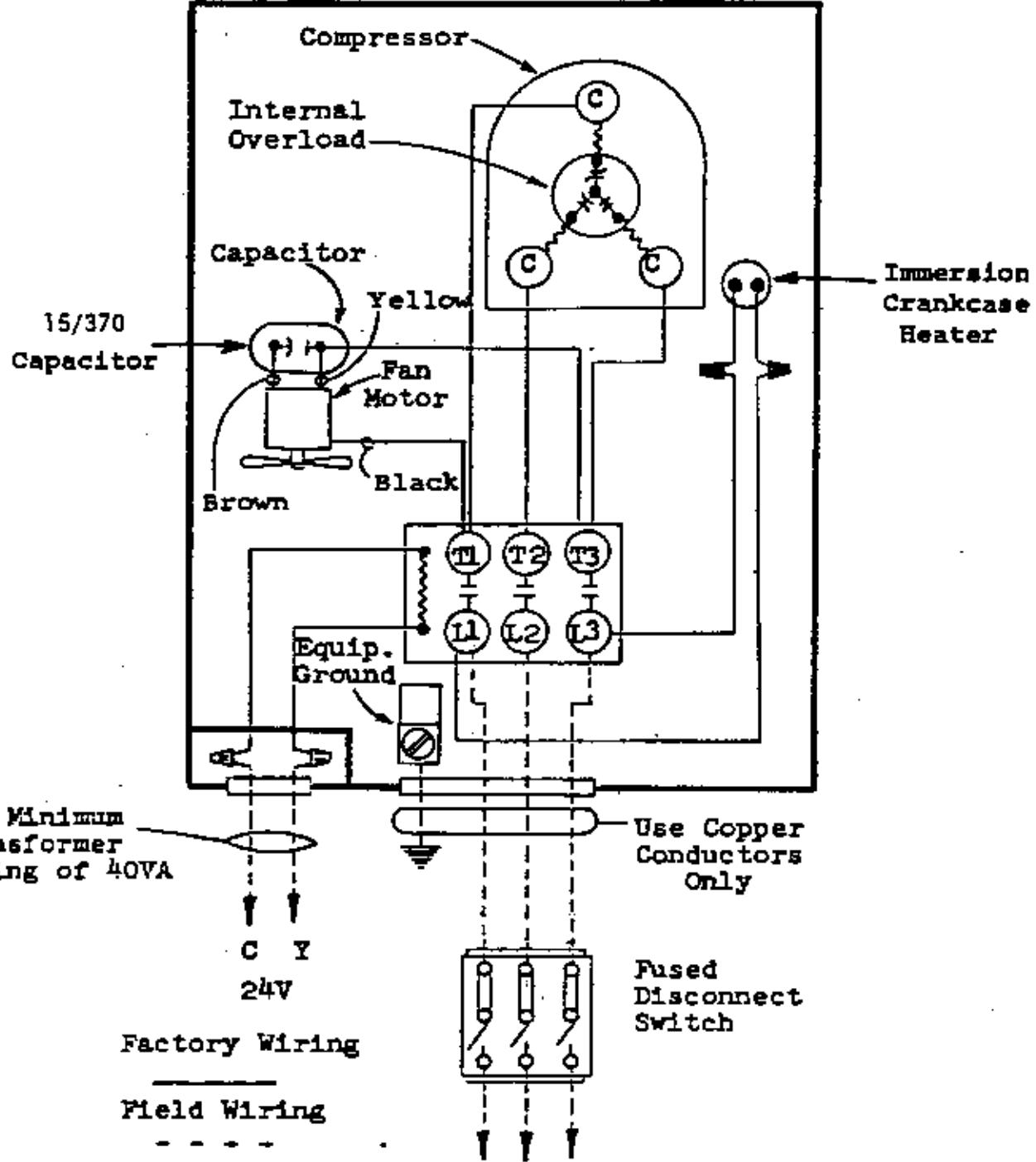
FACTORY WIRING	FIELD WIRING
Low Voltage	— — — —
High Voltage	— — — —

SPLIT SYSTEM AIR CONDITIONERS
42ECQ1, 48ECQ2, 60ECQ1
230/208V 60 Hz 1-Ph

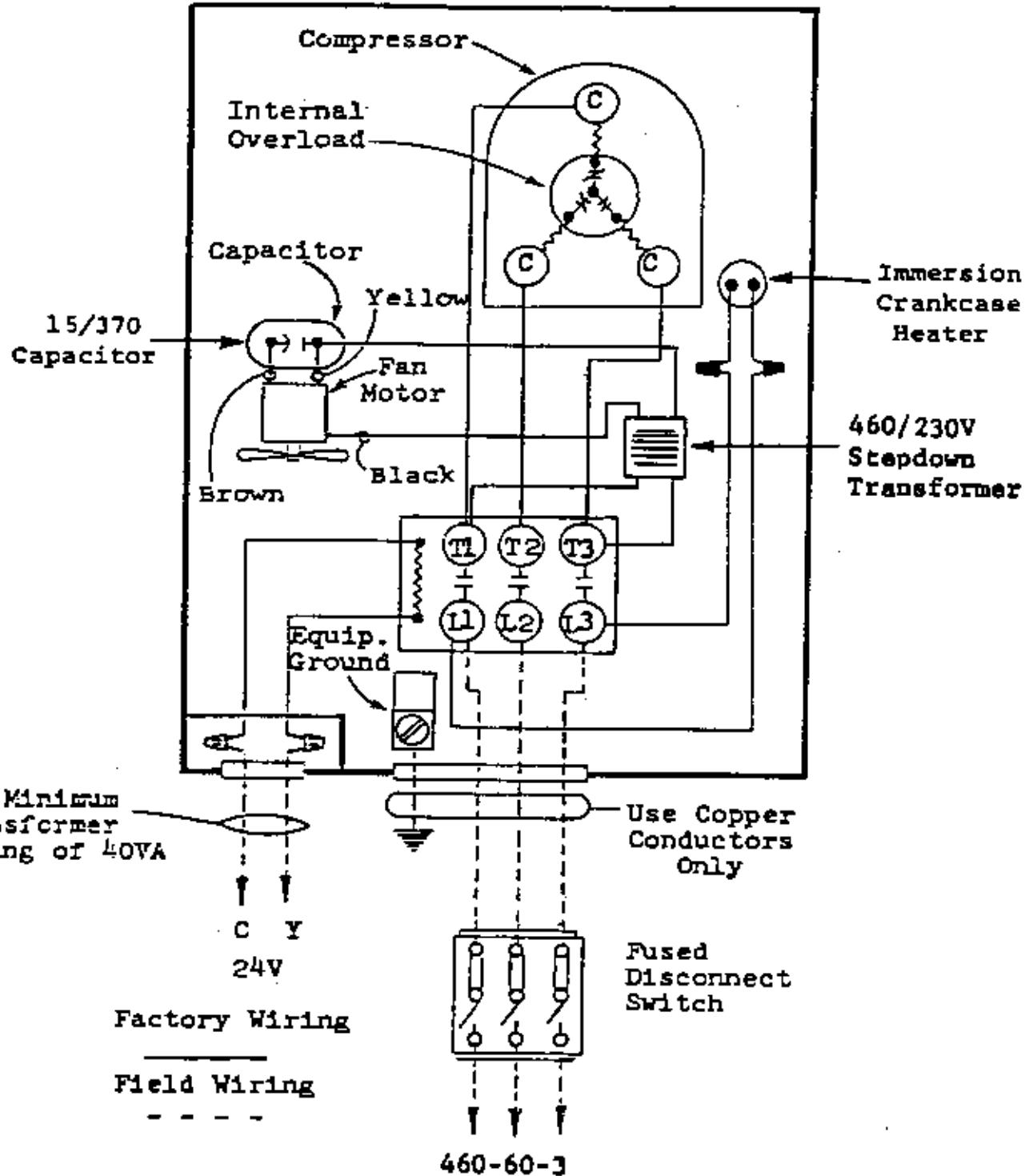


4025-1108

SPLIT SYSTEM AIR CONDITIONERS
 42ECQ1, 48ECQ2, 60ECQ1
 230/208V 60Hz 3Ph



SPLIT SYSTEM AIR CONDITIONERS
42ECQ1, 48ECQ2, 60ECQ1
460V 60Hz 3Ph

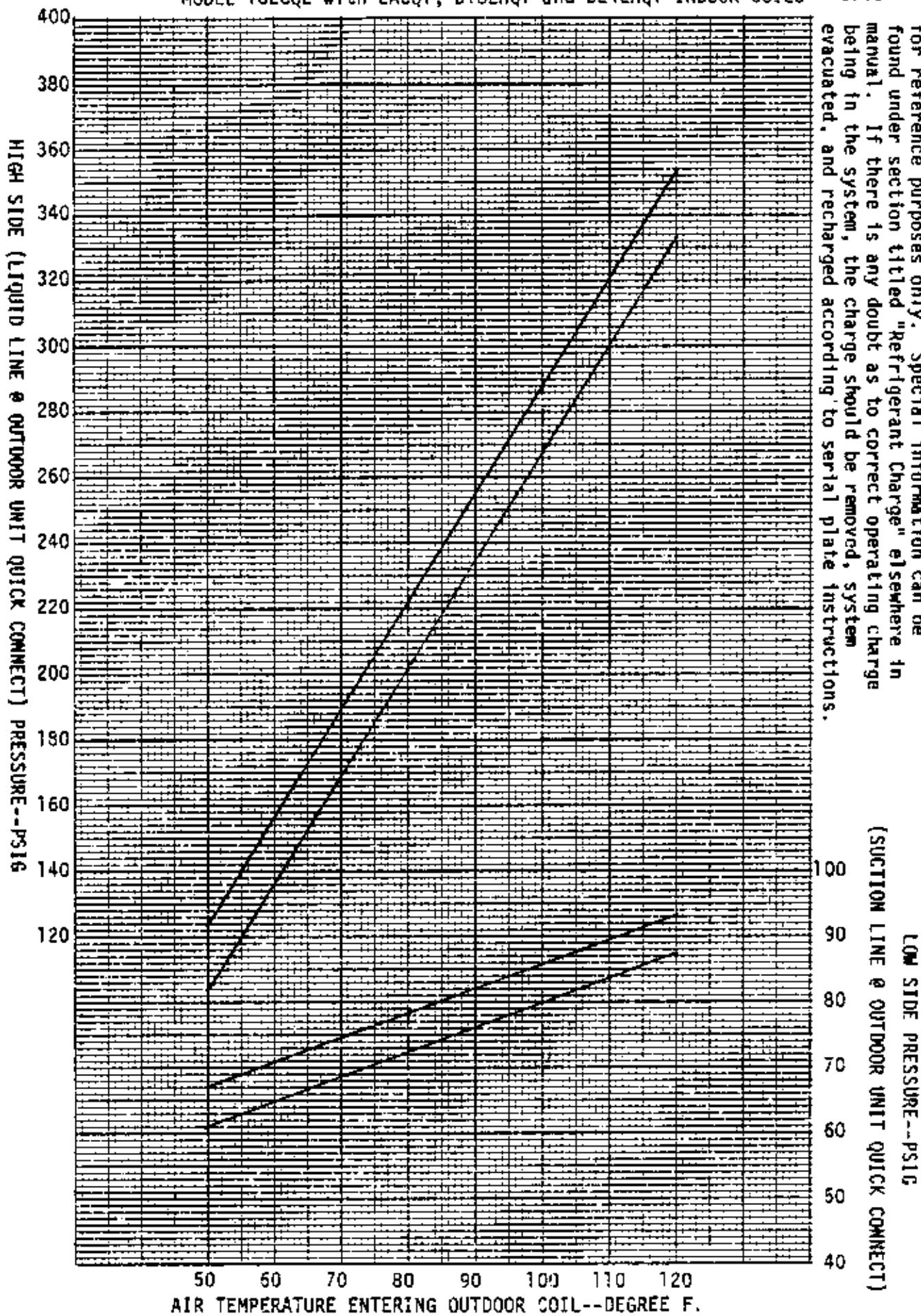


4025-310B

SPLIT AIR CONDITIONER
MODEL 18ECQ2 with 2ACQ1, B18EHQ1 and B24EHQ1 INDOOR COILS

5/83

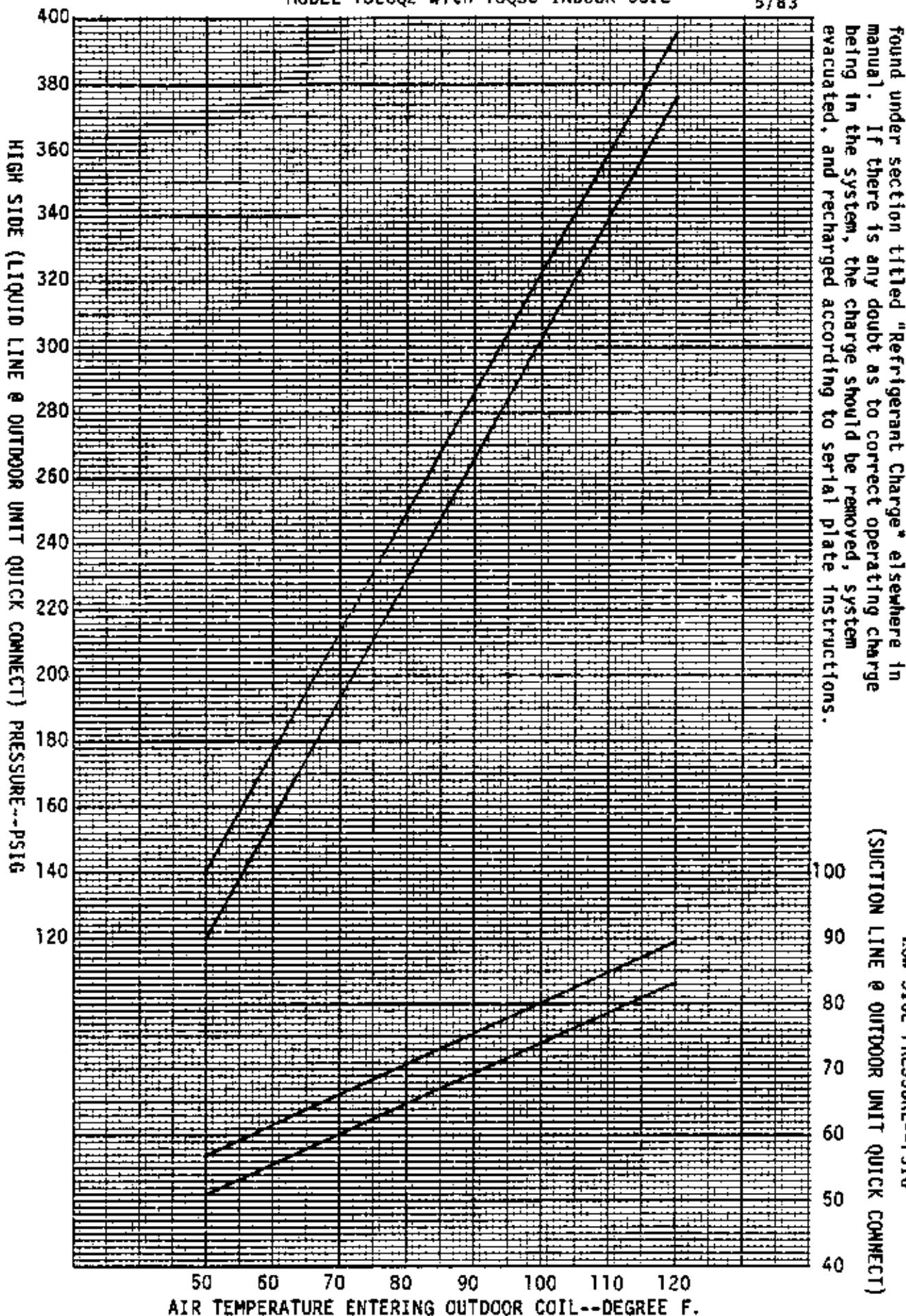
These curves are based upon 80°OB, 67°WB R.A. Temp. and 1000 CFM (airflow) across the evaporator coil and should be used for reference purposes only. Special information can be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged according to serial plate instructions.



SPLIT AIR CONDITIONER
MODEL 18ECQ2 with 18QS3 INDOOR COIL

5/83

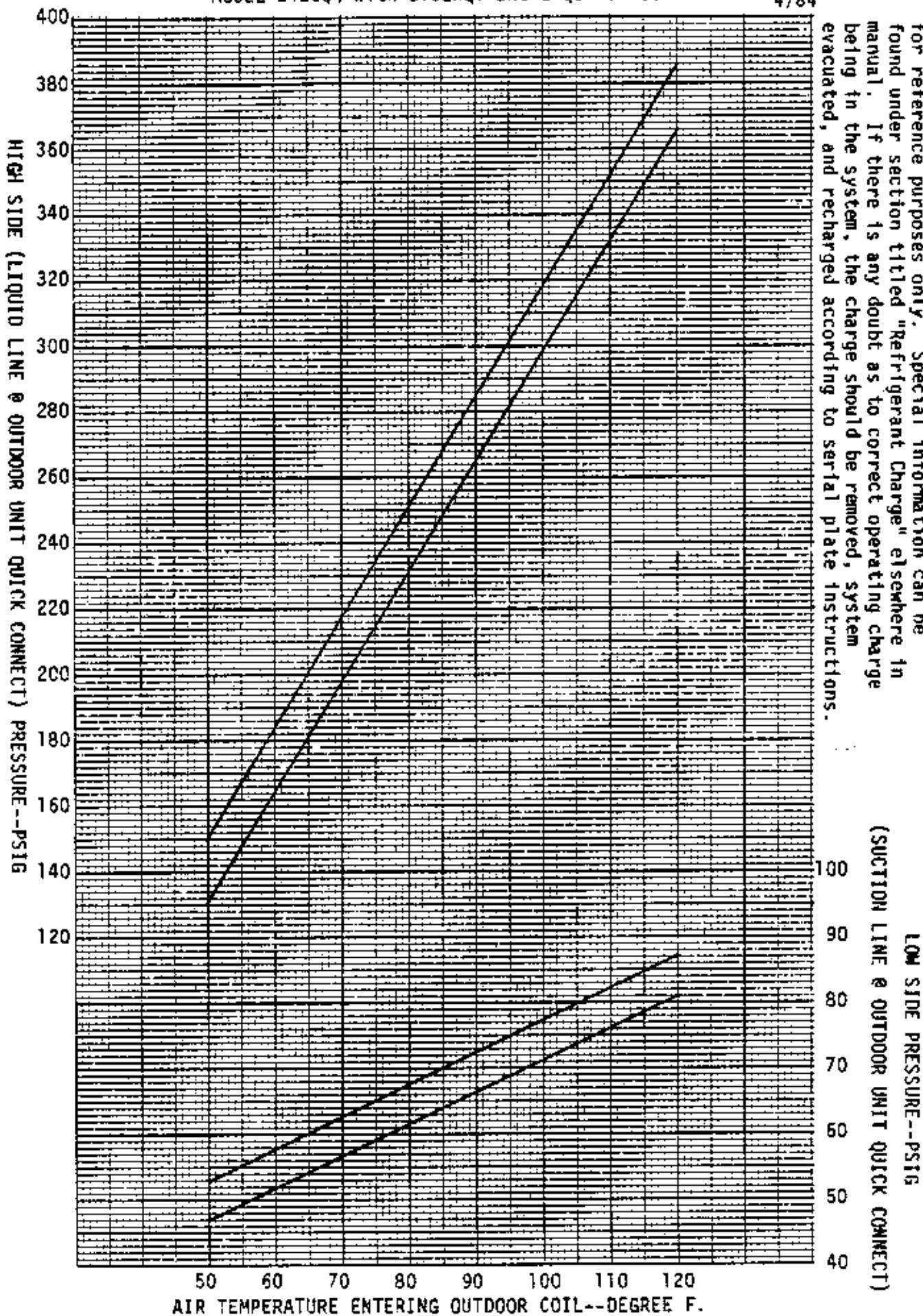
These curves are based upon 80°DB, 67°WB R.A. Temp. and Rated CFM (airflow) across the evaporator coil and should be used for reference purposes only. Special information can be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged according to serial plate instructions.



SPLIT AIR CONDITIONER
MODEL 24EC04 with 818EHQ1 and 24QS1 INDOOR COILS

4/84

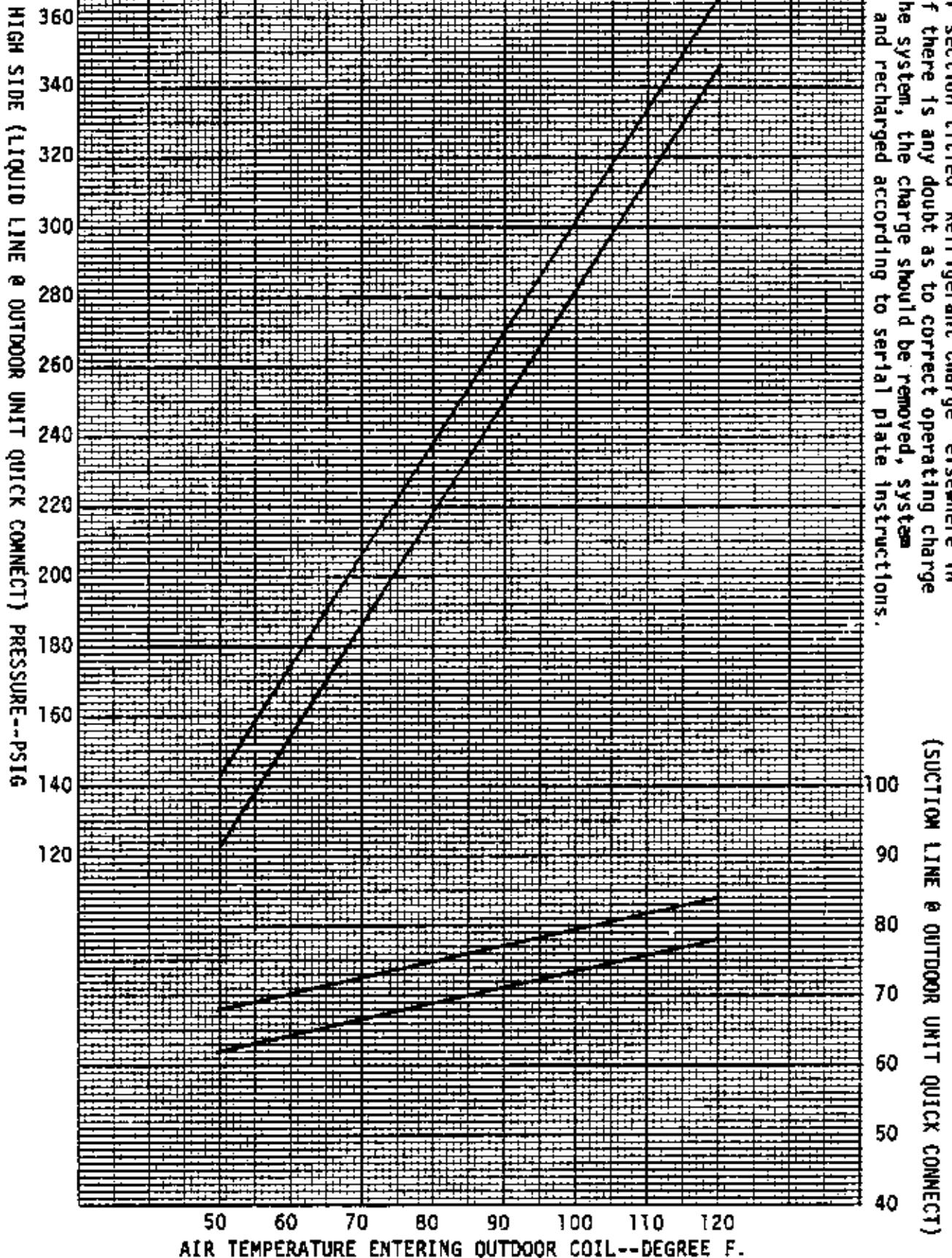
These curves are based upon 80°OB, 67°WB R.A. Temp. and rated CFM (airflow) across the evaporator coil and should be used for reference purposes only. Special information can be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged according to serial plate instructions.



SPLIT AIR CONDITIONER
MODEL 24ECQ4 with 2ACQ1 INDOOR COIL

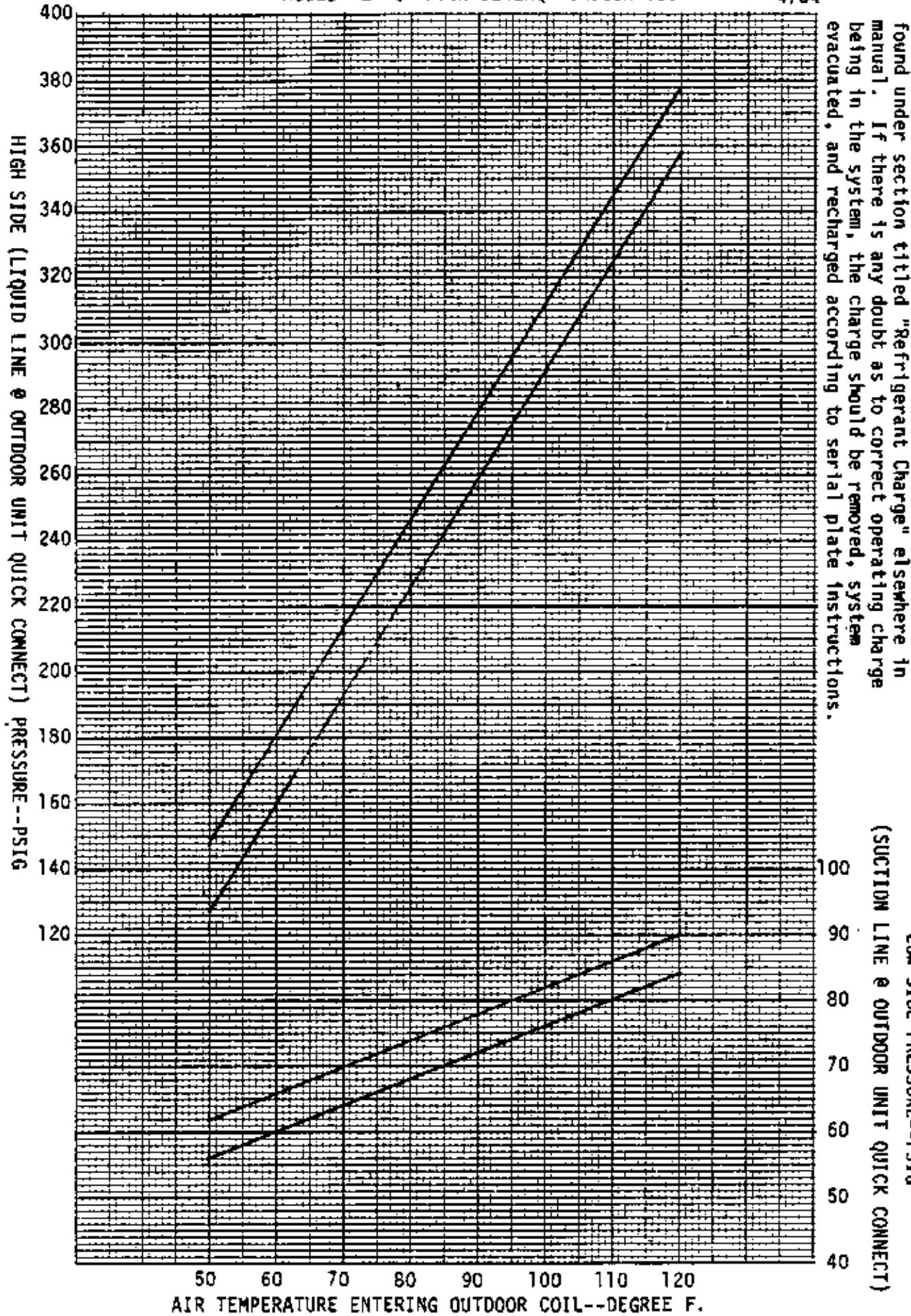
4/84

These curves are based upon 80°DB, 67°WB R.A. Temp. and Rated CFM (airflow) across the evaporator coil and should be used for reference purposes only. Spectral information can 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 according to serial plate instructions.



SPLIT AIR CONDITIONER
MODEL 2NECQ4 with B24EHQ1 INDOOR COIL

4/84

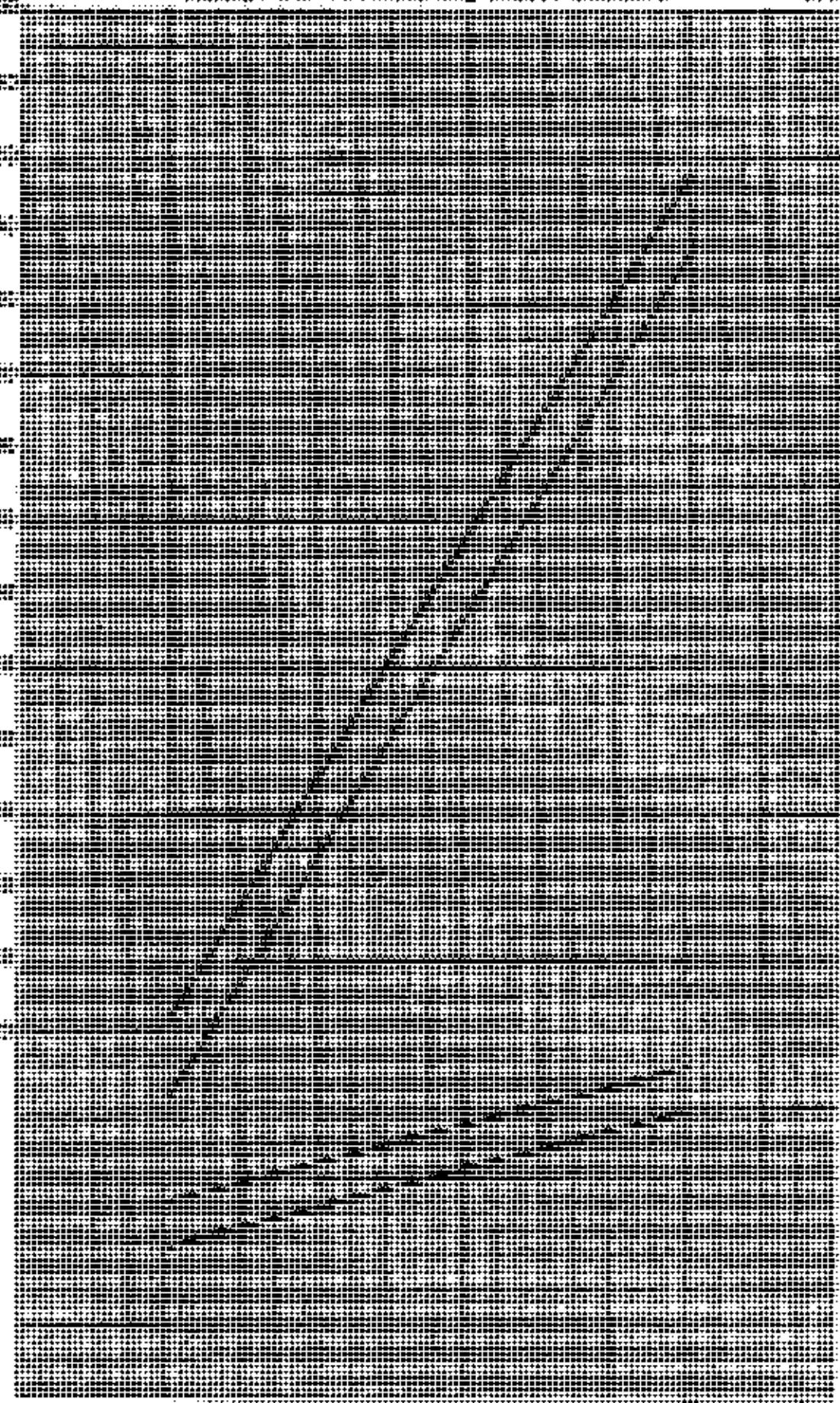


These curves are based upon 80°DB, 67°WB R.A. Temp. and stated CFH (airflow) across the evaporator coil and should be used for reference purposes only. Special information can be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged according to serial plate instructions.

(SUCTION LINE @ OUTDOOR UNIT QUICK CONNECT)
LOW SIDE PRESSURE--PSIG

SPLIT AIR CONDITIONER

10. The following table shows the number of hours worked by each employee.



These curves are based upon 80°DB, 67°WB R.A. Temp. and Rated CFM (airflow) across the evaporator coil and should be used with refrigerant pressure rating. Actual operating class may be limited by condenser conditions.

the legal system are being strengthened. This is a good thing, but it must be done in a way that respects the rights of all individuals and does not infringe on their freedom.

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HIGH SIDE (LIQUID LINE @ OUTDOOR UNIT QUICK CONNECT) PRESSURE--PSIG

AIR TEMPERATURE ENTERING OUTDOOR COIL--DEGREE F.

SPLIT AIR CONDITIONER

31EC01 With All Matching Indoor Sections

The curves are based upon 80°DB, 67°WB R.A. Temp. at... Rated CFM (airflow) across the evaporator coil and should be used for reference purposes only. Special information can be found under section titled "Performance Curves". It is important to note that the performance curves shown are based on the outdoor coil entering air conditions specified by the customer. The designer should take account of variations, and calculate ducting for inlet air from other locations.

LIN SIDE PRESSURE--PSIG

OUTSIDE LIN. & INDOOR UNIT AIR TEMP. DIFFERENCE

10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100

AIR TEMPERATURE ENTERING OUTDOOR COIL--DEGREE F.

HIGH SIDE (LIQUID LINE @ OUTDOOR UNIT QUICK CONNECT) PRESSURE--PSIG

SPLIT AIR CONDITIONER

INDOOR UNIT & OUTDOOR UNIT COOLING CURVES

These curves are based upon 80°DB, 67°WB R.A. Temp. and Rated CFM (airflow) across the evaporator coil and should be used for reference purposes only. Special information can be found under section titled "Refrigerant Charge" elsewhere in

the Service Manual. It is important that the charge be correct, and that the system be completely drained

before recharging.

LOW SIDE PRESSURE--PSIG

100 90 80 70 60 50 40 30 20 10 0

AIR TEMPERATURE ENTERING OUTDOOR COIL--DEGREE F.

HIGH SIDE (LIQUID LINE @ OUTDOOR UNIT QUICK CONNECT) PRESSURE--PSIG

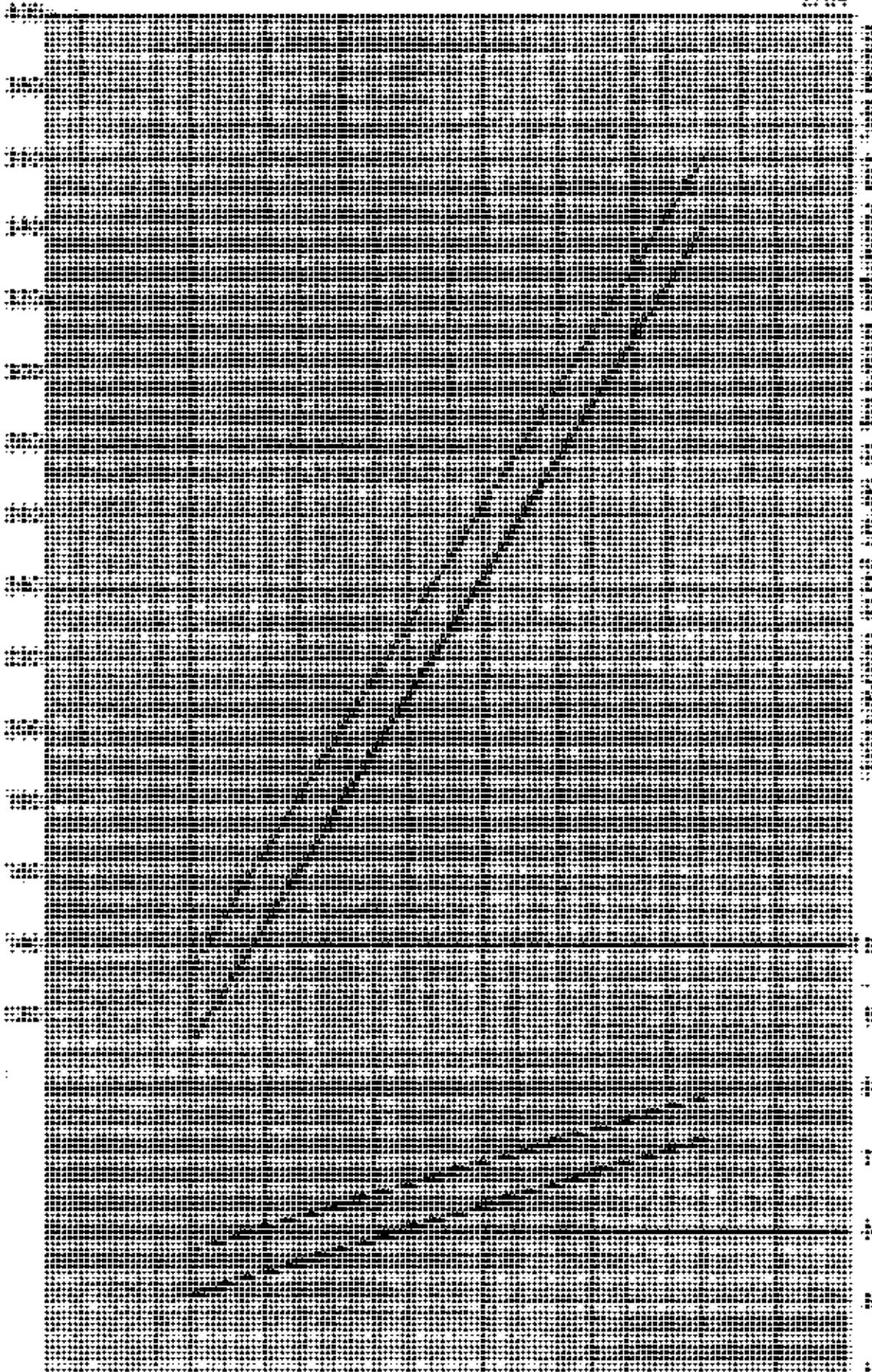
SPLIT AIR CONDITIONER

37ECQ1 With All Matching Indoor Sections

2/84

The curves are based upon 80°DB, 67°WB R.A. Temp. as... rated CFM (airflow) across the evaporator coil and should be used for reference purposes only. Special information can 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 flushed, and recharged from the service valve.

LOW SIDE PRESSURE--PSIG
(SUCTION LINE @ OUTDOOR UNIT QUICK CONNECT)



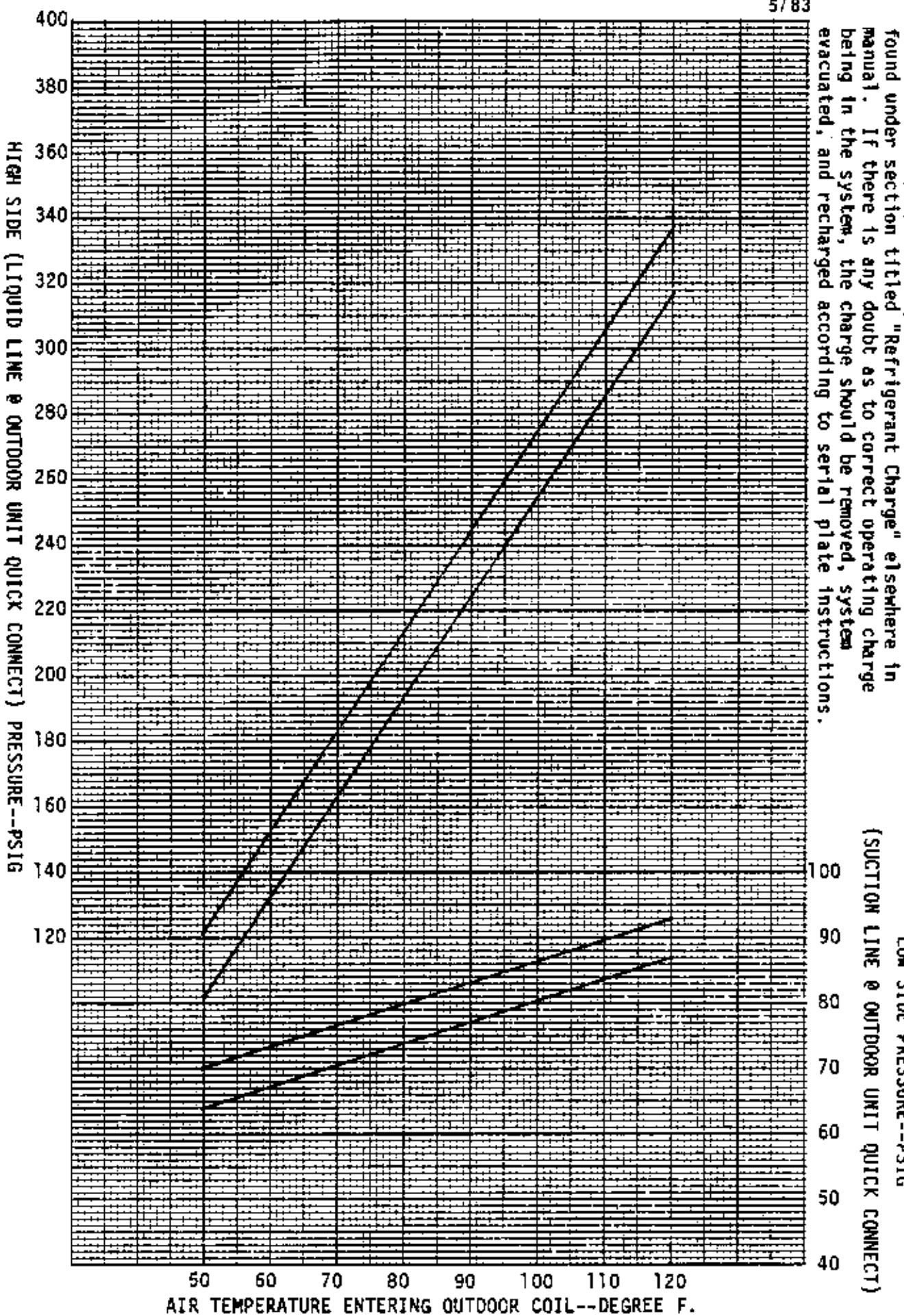
HIGH SIDE (LIQUID LINE @ OUTDOOR UNIT QUICK CONNECT) PRESSURE--PSIG

AIR TEMPERATURE ENTERING OUTDOOR COIL--DEGREE F.

SPLIT AIR CONDITIONER
MODEL 42ECQ1 with 8C48A and 5ACQ1 INDOOR COILS

5/83

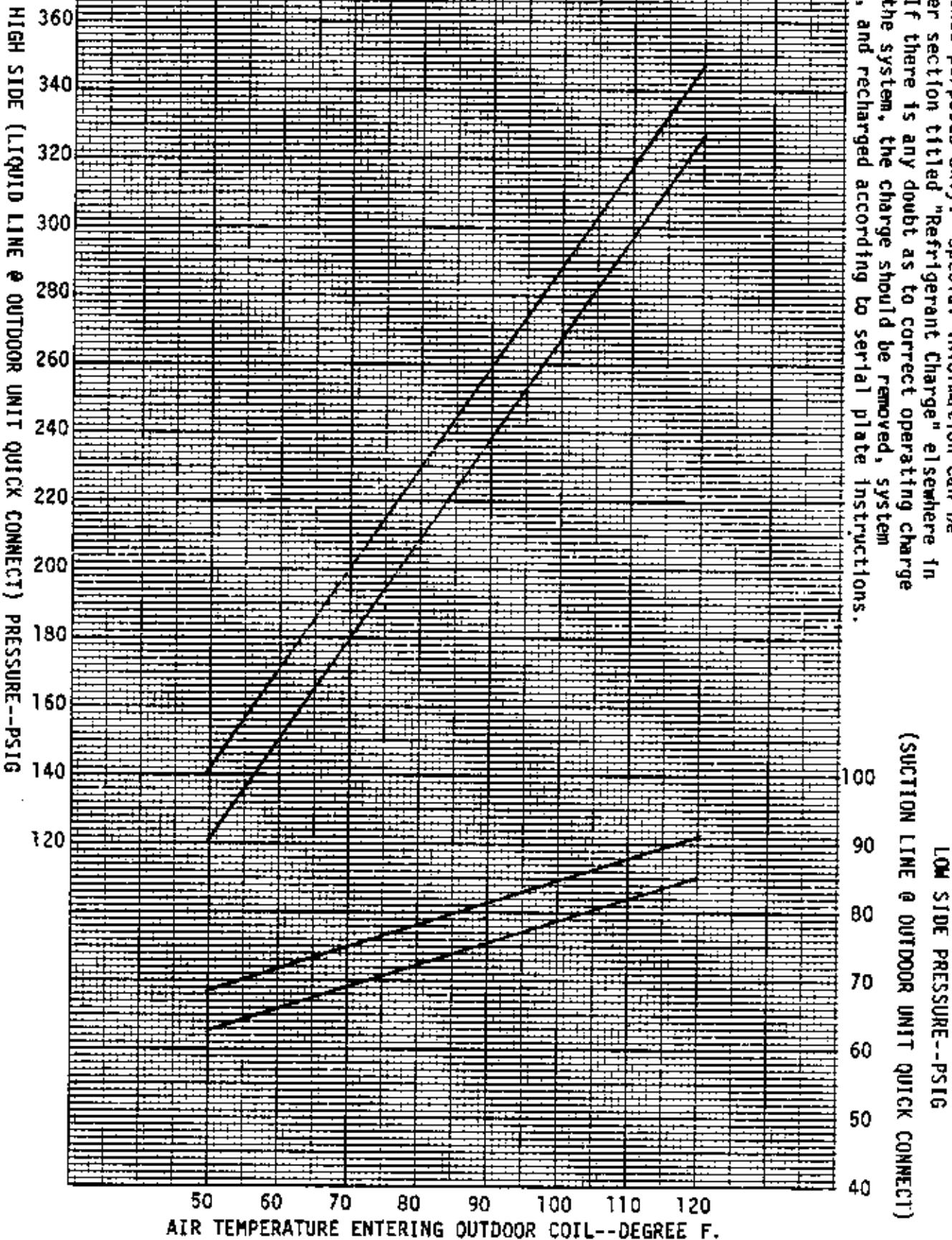
These curves are based upon 80°DB, 67°WB R.A. Temp. and Rated CFM (airflow) across the evaporator coil and should be used for reference purposes only. Special information can be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged according to serial plate instructions.



SPLIT AIR CONDITIONER
MODEL 48ECQ2 with BC48A and 5ACQ1 INDOOR COILS

5/83

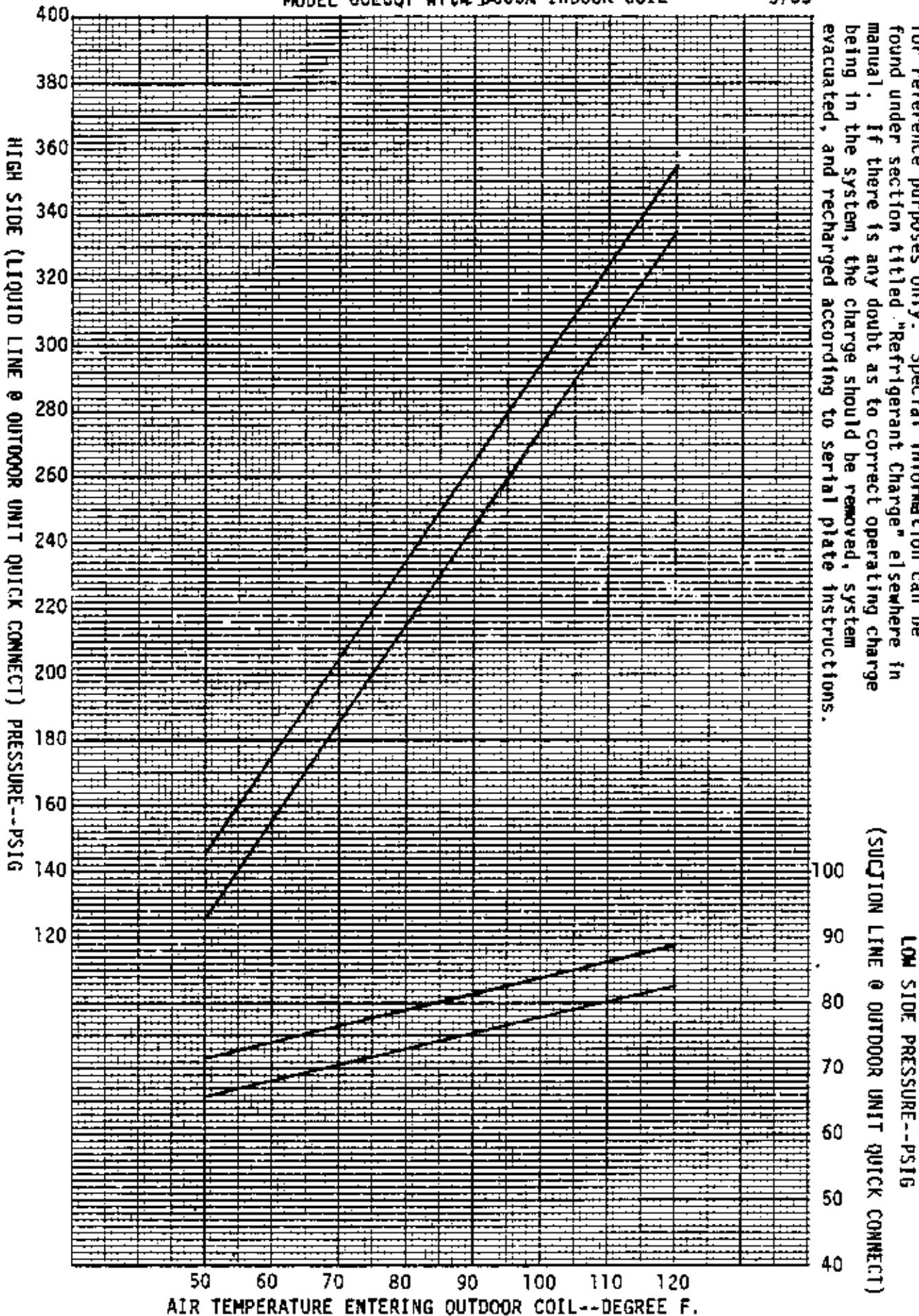
These curves are based upon 80°DB, 67°WB R.A. Temp., and Rated CFM (airflow) across the evaporator coil and should be used for reference purposes only. Spectral information can be found under section titled "Refrigerant Charge" elsewhere in manual. If there is any doubt as to correct operating charge being in the system, the charge should be removed, system evacuated, and recharged according to serial plate instructions.



SPLIT AIR CONDITIONER
MODEL 60ECQ1 with BC60A INDOOR COIL

5/83

These curves are based upon 80°DB, 67°WB R.A. Temp. and Rated CFM (airflow) across the evaporator coil and should be used for reference purposes only. Spectral information can 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 according to serial plate instructions.



SPLIT AIR CONDITIONER
MODEL 60ECQ1 with BC48A, SACQ1 and 5HCQ INDOOR COILS

5/83

These curves are based upon 80°DB, 67°WB R.A. Temp. and 1000 CFM (airflow) across the evaporator coil and should be used for reference purposes only. Special information can 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 according to serial plate instructions.

