



wiring diagram

HEAT PUMP UNITS

**661C, 661G, 661S
661W, 662C, 663C
663G, 693C**

Cancels: New

WD 661C.18.8
5-05

UNIT - SIZE	SERIES	DIAGRAM NUMBER	VOLTS	FIGURE NUMBER	PAGE NUMBER
661CEX-036	F	327415-101	460-3-60	6	7
661CEX-036-042	G-K	327416-101	460-3-60	7	8
661CEX-048-060	F-H	327416-101	460-3-60	7	8
661CJX-018-042	D-G	327418-101	208/230-1-60	9	10
661CJX-048	C	327418-101	208/230-1-60	9	10
661CPX-030	B, C	327413-101	208/230-3-60	4	5
661CPX-036	F	327413-101	208/230-3-60	4	5
661CPX-036-042	G-K	327414-101	208/230-3-60	5	6
661CPX-048-060	F-H	327414-101	208/230-3-60	5	6
661GJX-018-048	B-G	327418-101	208/230-1-60	9	10
661GJX-060	D-E	327417-101	208/230-1-60	8	9
661SJX-018-048	B, C	327418-101	208/230-1-60	9	10
662CJX-018-048	D, E	327418-101	208/230-1-60	9	10
662CJX-060	D-E	327417-101	208/230-1-60	8	9
663CJX-018-048	D-F	327418-101	208/230-1-60	9	10
663CJX-060	D-E	327417-101	208/230-1-60	8	9
663GJX-018-048	A	327418-101	208/230-1-60	9	10
663GJX-060	A	327417-101	208/230-1-60	8	9
693CJX-018-048	D-F	327418-101	208/230-1-60	9	10
661WJX-018	D	327207-101	208/230-1-60	1	2
661WJX-024	D, E	327207-101	208/230-1-60	1	2
661WJX-030	B	327207-101	208/230-1-60	1	2
661WJX-036	D, E	327207-101	208/230-1-60	1	2
661WJX-042	D, E	327207-101	208/230-1-60	1	2
661WJX-048	B, C	327207-101	208/230-1-60	1	2
661WJX-060	B	327209-101	208/230-1-60	3	4
661WPX-030	B, C	327209-101	208/230-3-60	3	4
661WPX-036	E, F	327208-101	208/230-3-60	2	3
661WPX-042	E, F	327208-101	208/230-3-60	2	3
661WPX-048	D, E	327208-101	208/230-3-60	2	3
661WPX-060	D	327208-101	208/230-3-60	2	3

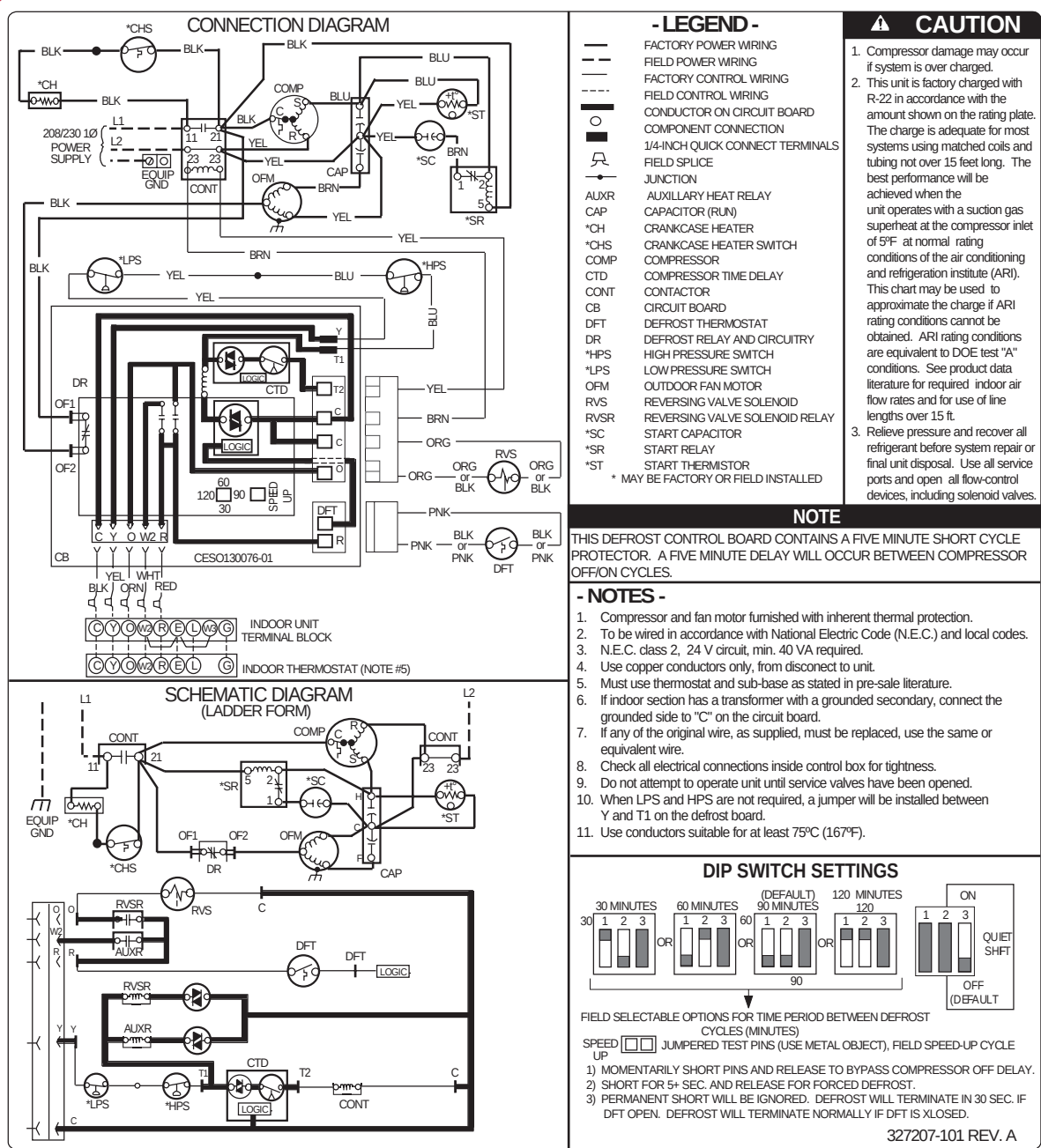


Fig. 1—Label Wiring 327207-101

A05014

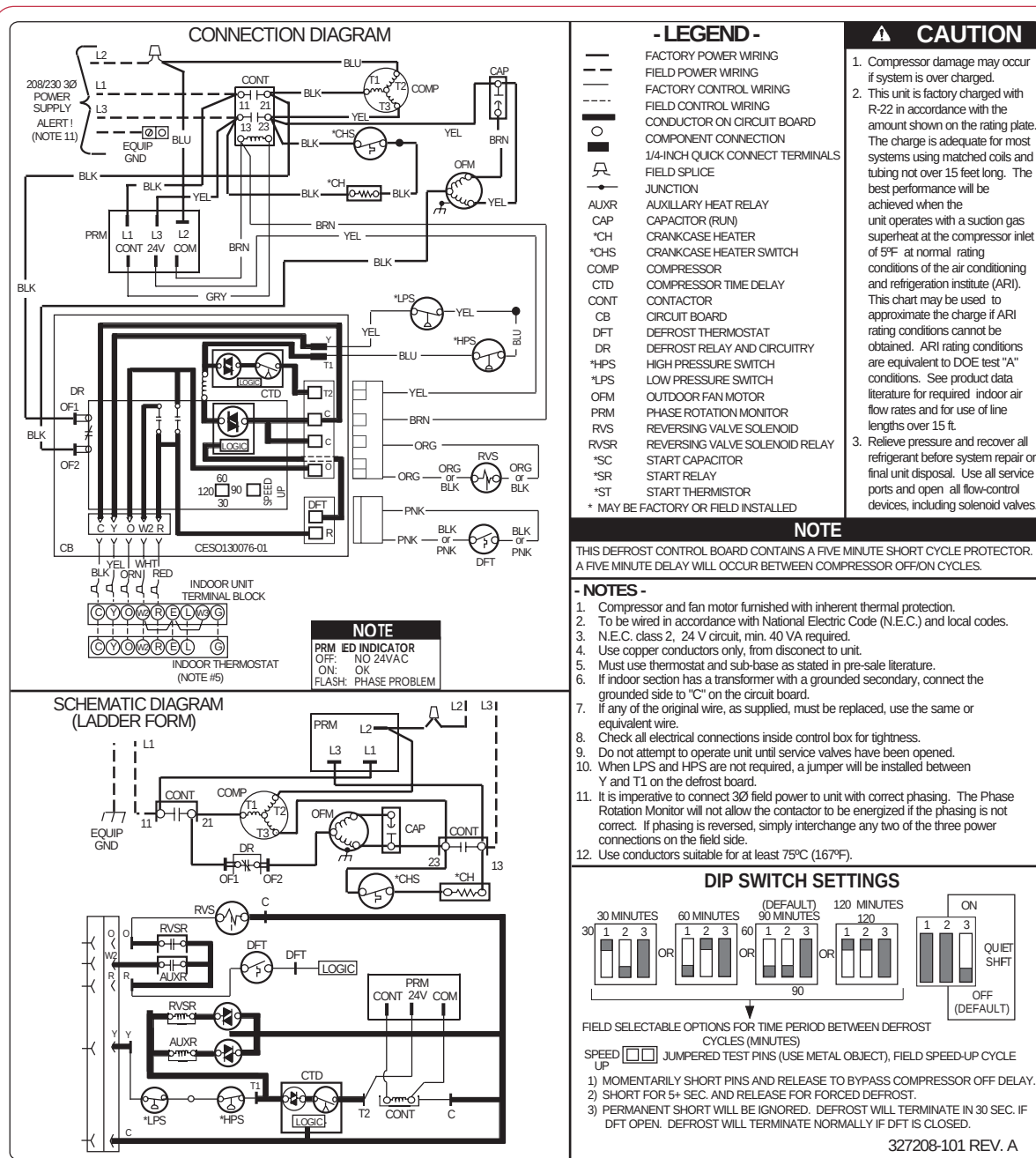


Fig. 2—Label Wiring 327208-101

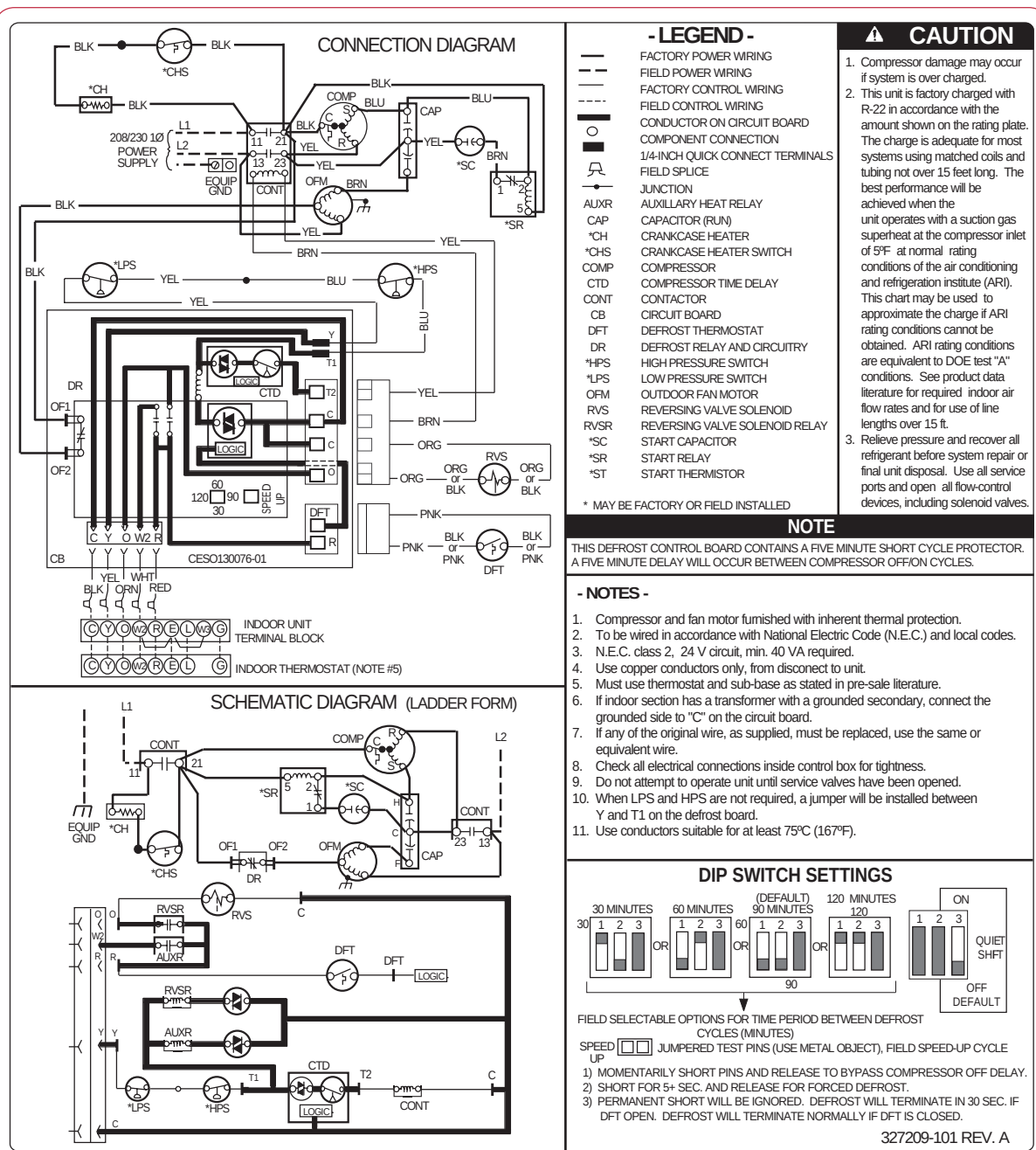


Fig. 3—Label Wiring 327209-101

A05016

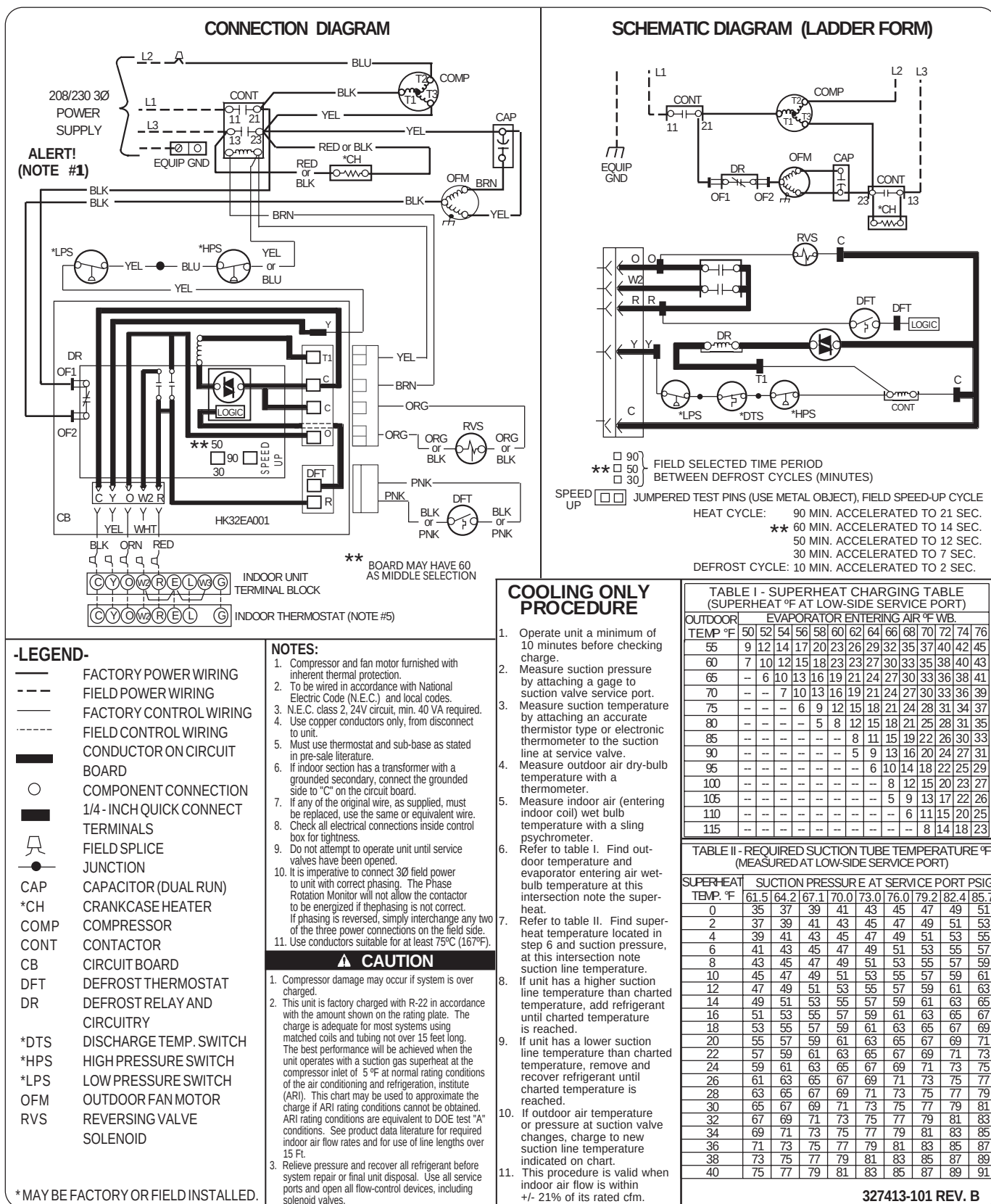
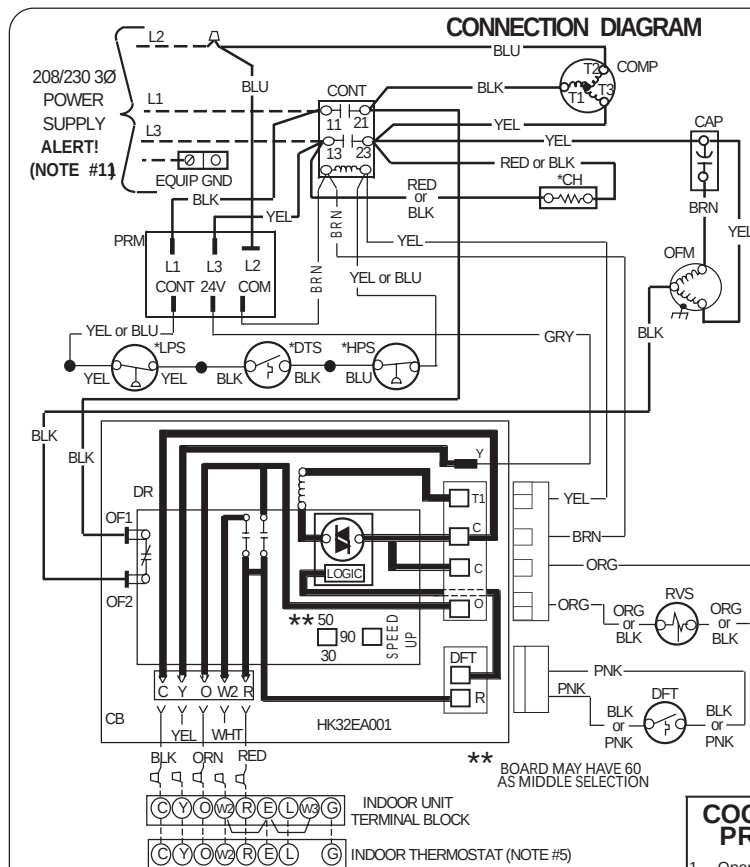
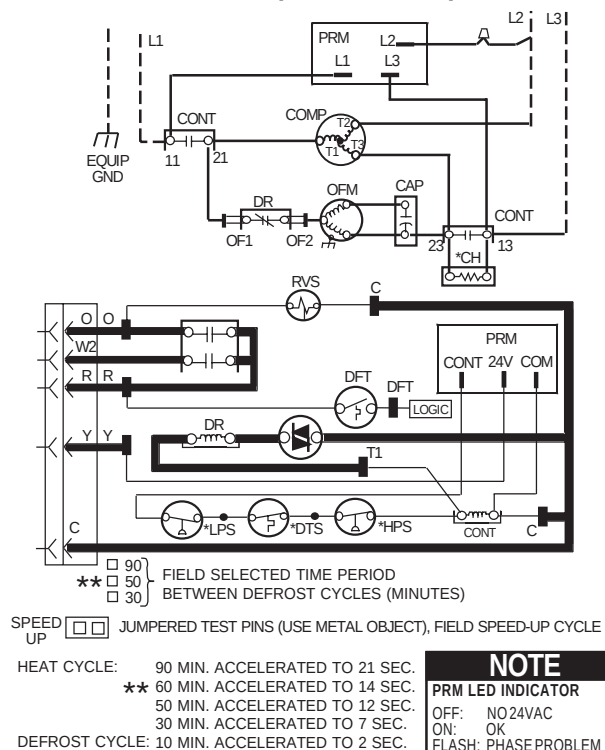


Fig. 4—Label Wiring 327413-101



SCHEMATIC DIAGRAM (LADDER FORM)



-LEGEND-

- FACTORY POWER WIRING
- - - FIELD POWER WIRING
- FACTORY CONTROL WIRING
- - - FIELD CONTROL WIRING
- CONDUCTOR ON CIRCUIT BOARD
- COMPONENT CONNECTION
- 1/4 - INCH QUICK CONNECT TERMINALS
- FIELD SPLICE JUNCTION
- CAP CAPACITOR (DUAL RUN)
- *CH CRANKCASE HEATER
- COMP COMPRESSOR
- CONT CONTACTOR
- CB CIRCUIT BOARD
- DFT DEFROST THERMOSTAT
- DR DEFROST RELAY AND CIRCUITRY
- *DTS DISCHARGE TEMP. SWITCH
- *HPS HIGH PRESSURE SWITCH
- *LPS LOW PRESSURE SWITCH
- OFM OUTDOOR FAN MOTOR
- PRM PHASE ROTATION MONITOR
- RVS REVERSING VALVE SOLENOID

* MAY BE FACTORY OR FIELD INSTALLED.

NOTES:

- Compressor and fan motor furnished with inherent thermal protection.
- To be wired in accordance with National Electric Code (N.E.C.) and local codes.
- N.E.C. class 2, 24V circuit, min. 40 VA required.
- Use copper conductors only, from disconnect to unit.
- Must use thermostat and sub-base as stated in pre-sale literature.
- If indoor section has a transformer with a grounded secondary, connect the grounded side to "C" on the circuit board.
- If any of the original wire, as supplied, must be replaced, use the same or equivalent wire.
- Check all electrical connections inside control box for tightness.
- Do not attempt to operate unit until service valves have been opened.
- It is imperative to connect 3Ø field power to unit with correct phasing. The Phase Rotation Monitor will not allow the contactor to be energized if the phasing is not correct. If phasing is reversed, simply interchange any two of the three power connections on the field side.
- Use conductors suitable for at least 75°C (167°F).

CAUTION

- Compressor damage may occur if system is over charged.
- This unit is factory charged with R-22 in accordance with the amount shown on the rating plate. The charge is adequate for most systems using matched coils and tubing not over 15 feet long. The best performance will be achieved when the unit operates with a suction gas superheat at the compressor inlet of 5°F at normal rating conditions of the air conditioning and refrigeration, institute (ARI). This chart may be used to approximate the charge if ARI rating conditions cannot be obtained. ARI rating conditions are equivalent to DOE test "A" conditions. See product data literature for required indoor air flow rates and for use of line lengths over 15 Ft.
- Relieve pressure and recover all refrigerant before system repair or final unit disposal. Use all service ports and open all flow-control devices, including solenoid valves.

COOLING ONLY PROCEDURE

- Operate unit a minimum of 10 minutes before checking charge.
- Measure suction pressure by attaching a gage to suction valve service port.
- Measure suction temperature by attaching an accurate thermistor type or electronic thermometer to the suction line at service valve.
- Measure outdoor air dry-bulb temperature with a thermometer.
- Measure indoor air (entering indoor coil) wet bulb temperature with a sling psychrometer.
- Refer to table I. Find outdoor temperature and evaporator entering air wet-bulb temperature at this intersection note the superheat.
- Refer to table II. Find superheat temperature located in step 6 and suction pressure, at this intersection note suction line temperature.
- If unit has a higher suction line temperature than charted temperature, add refrigerant until charted temperature is reached.
- If unit has a lower suction line temperature than charted temperature, remove and recover refrigerant until charted temperature is reached.
- If outdoor air temperature or pressure at suction valve changes, charge to new suction line temperature indicated on chart.
- This procedure is valid when indoor air flow is within +/- 21% of its rated cfm.

TABLE I - SUPERHEAT CHARGING TABLE (SUPERHEAT °F AT LOW-SIDE SERVICE PORT)

OUTDOOR TEMP °F	50	52	54	56	58	60	62	64	66	68	70	72	74	76
EVAPORATOR ENTERING AIR °F WB	55	9	12	14	17	20	23	26	29	32	35	37	40	42
60	7	10	12	15	18	23	27	30	33	35	38	40	43	
65	-	6	10	13	16	19	21	24	27	30	33	36	38	41
70	-	-	7	10	13	16	19	21	24	27	30	33	36	39
75	-	-	-	6	9	12	15	18	21	24	28	31	34	37
80	-	-	-	-	5	8	12	15	18	21	25	28	31	35
85	-	-	-	-	-	8	11	15	19	22	26	30	33	
90	-	-	-	-	-	-	5	9	13	16	20	24	27	31
95	-	-	-	-	-	-	-	6	10	14	18	22	25	29
100	-	-	-	-	-	-	-	-	8	12	15	20	23	27
105	-	-	-	-	-	-	-	-	-	5	9	13	17	22
110	-	-	-	-	-	-	-	-	-	-	6	11	15	20
115	-	-	-	-	-	-	-	-	-	-	-	8	14	18

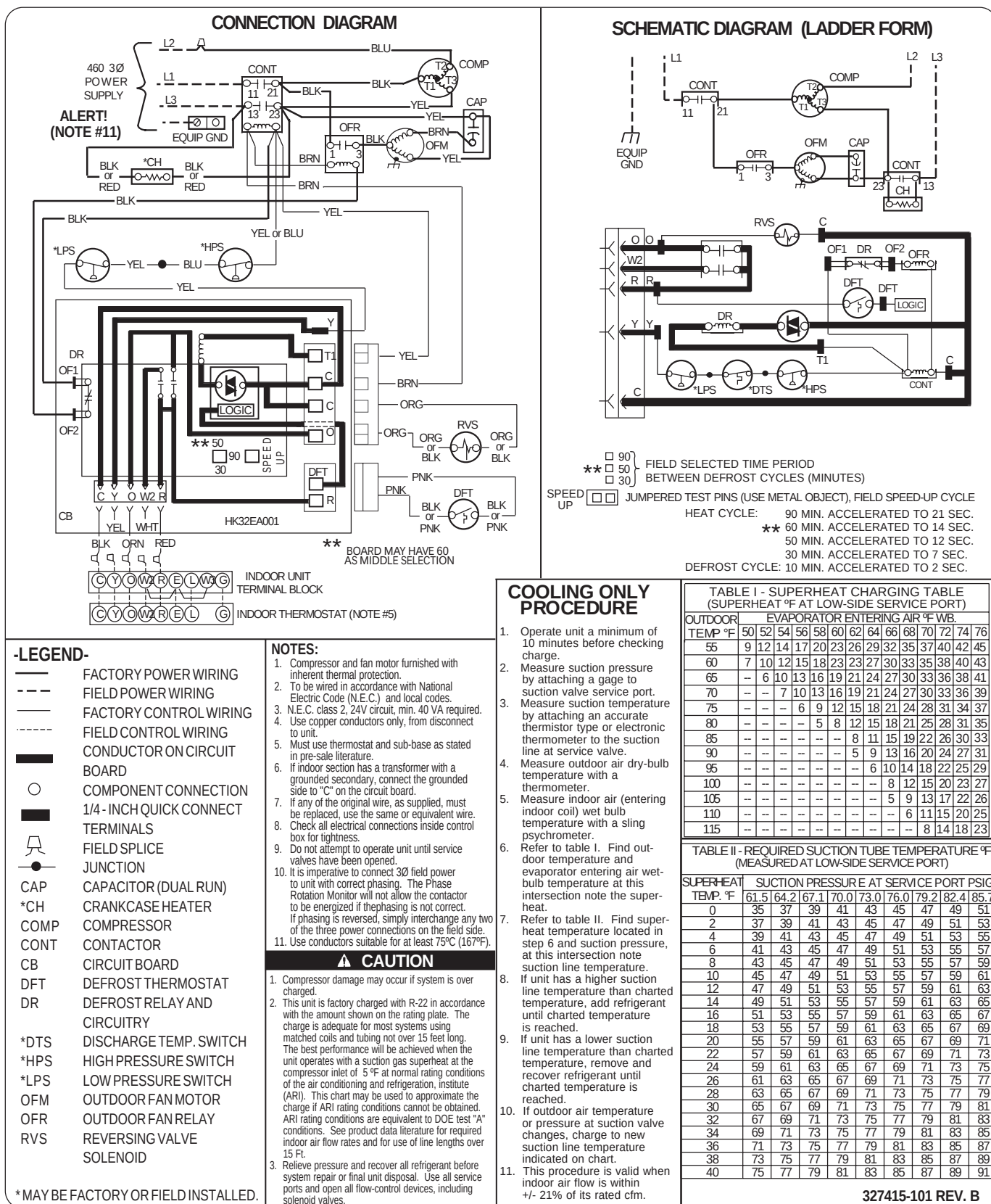
TABLE II - REQUIRED SUCTION TUBE TEMPERATURE °F (MEASURED AT LOW-SIDE SERVICE PORT)

SUPERHEAT TEMP °F	61.5	64.2	67.1	70.0	73.0	76.0	79.2	82.4	85.7
0	35	37	39	41	43	45	47	49	51
2	37	39	41	43	45	47	49	51	53
4	39	41	43	45	47	49	51	53	55
6	41	43	45	47	49	51	53	55	57
8	43	45	47	49	51	53	55	57	59
10	45	47	49	51	53	55	57	59	61
12	47	49	51	53	55	57	59	61	63
14	49	51	53	55	57	59	61	63	65
16	51	53	55	57	59	61	63	65	67
18	53	55	57	59	61	63	65	67	69
20	55	57	59	61	63	65	67	69	71
22	57	59	61	63	65	67	69	71	73
24	59	61	63	65	67	69	71	73	75
26	61	63	65	67	69	71	73	75	77
28	63	65	67	69	71	73	75	77	79
30	65	67	69	71	73	75	77	79	81
32	67	69	71	73	75	77	79	81	83
34	69	71	73	75	77	79	81	83	85
36	71	73	75	77	79	81	83	85	87
38	73	75	77	79	81	83	85	87	89
40	75	77	79	81	83	85	87	89	91

327414-101 REV. B

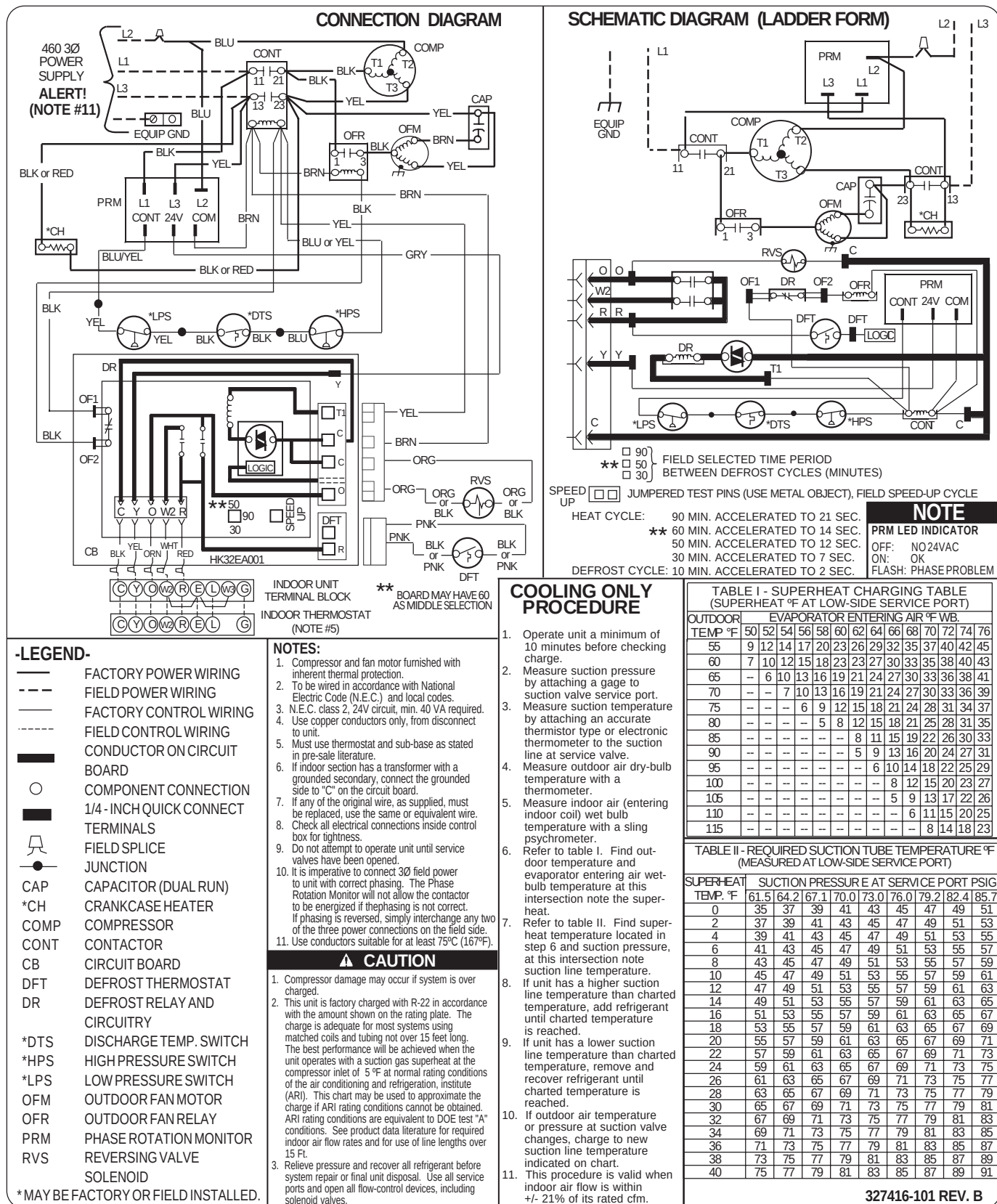
Fig. 5—Label Wiring 327414-101

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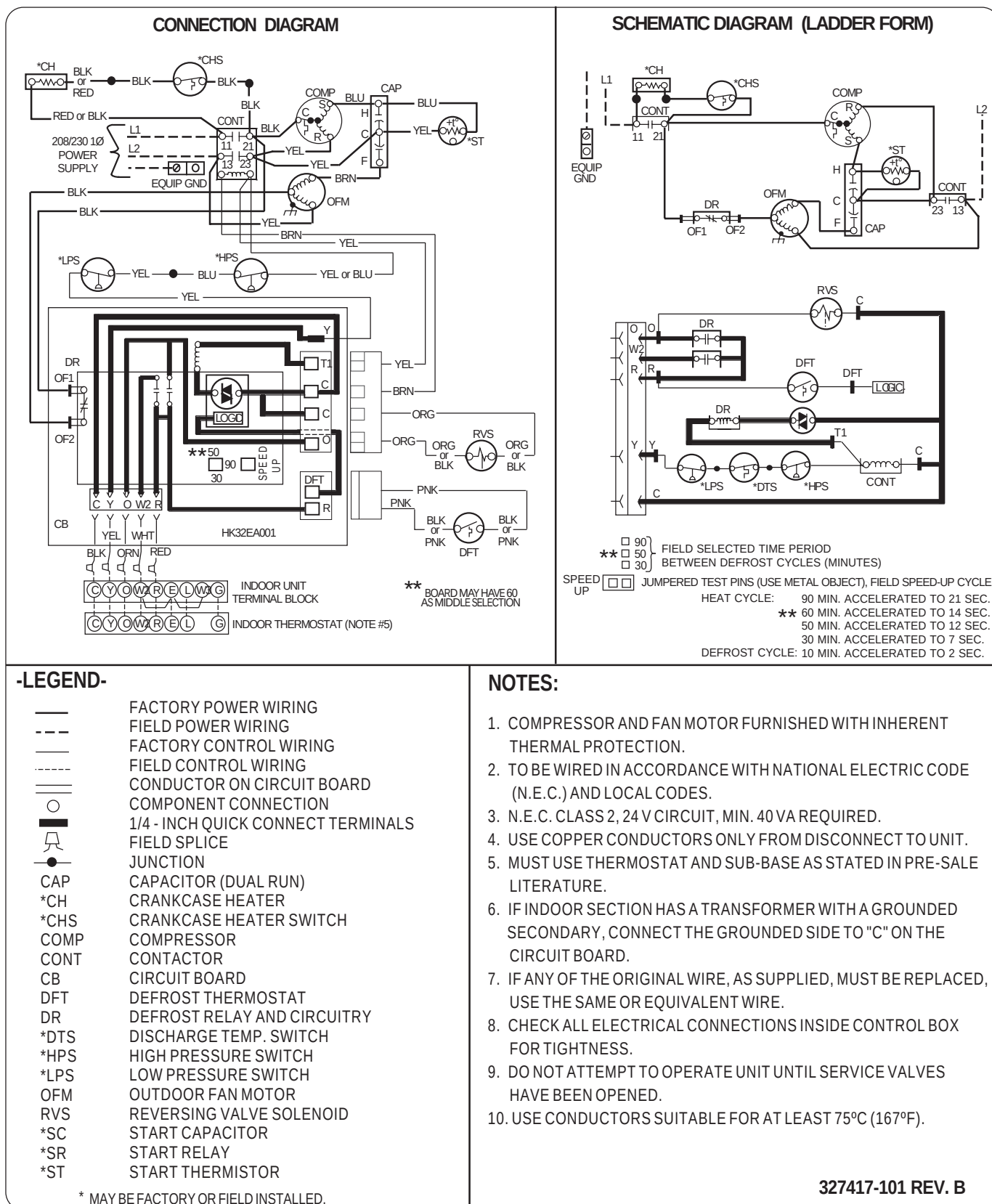
327415-101 REV. B

Fig. 6—Label Wiring 327415-101



327416-101 REV. B

Fig. 7—Label Wiring 327416-101



327417-101 REV. B

Fig. 8—Label Wiring 327417-101

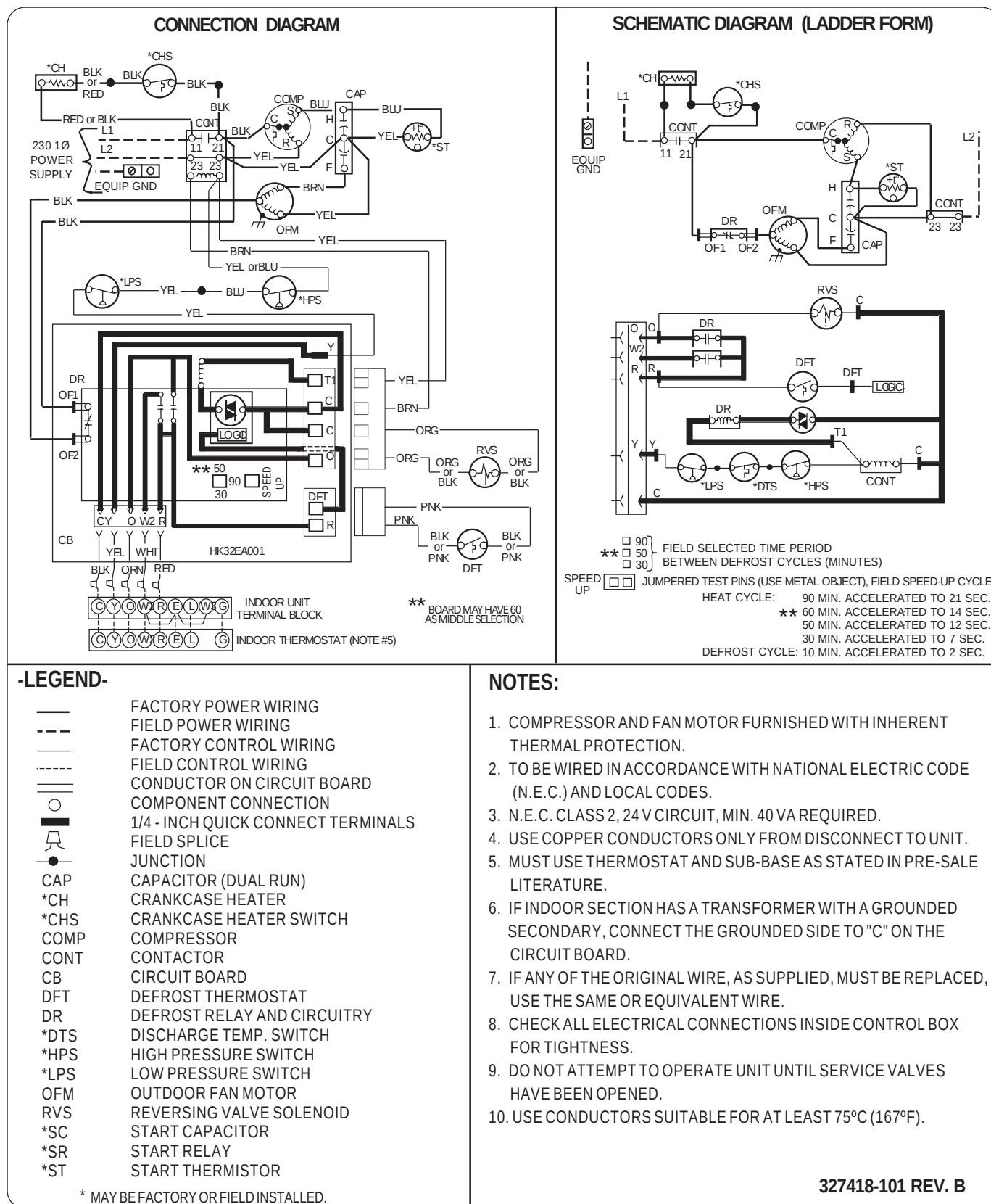


Fig. 9—Label Wiring 327418-101

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