

Service Facts

Split System Cooling

4TTA3036B3000A, 4TTA3042D3000C,
4TTA3048D3000C, 4TTA3060D3000C

⚠ CAUTION

UNIT CONTAINS R-410A REFRIGERANT!
R-410A OPERATING PRESSURE EXCEEDS THE LIMIT OF R-22. PROPER SERVICE EQUIPMENT IS REQUIRED. FAILURE TO USE PROPER SERVICE TOOLS MAY RESULT IN EQUIPMENT DAMAGE OR PERSONAL INJURY.

SERVICE
USE ONLY R-410A REFRIGERANT AND APPROVED POE COMPRESSOR OIL.

IMPORTANT — This document contains a wiring diagram, a parts list, and service information. This is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

⚠ WARNING: HAZARDOUS VOLTAGE - DISCONNECT POWER and DISCHARGE CAPACITORS BEFORE SERVICING

PRODUCT SPECIFICATIONS

OUTDOOR UNIT ①②	4TTA3036B3000A	4TTA3042D3000C	4TTA3048D3000C	4TTA3060D3000C
POWER CONNS. — V/PH/HZ ③	200/230/3/60	208/230/3/60	208/230/3/60	208/230/3/60
MIN. BRCH. CIR. AMPACITY	14	18	18	21
BR CIR PROT RTG - MAX. (AMPS)	20	30	30	35
COMPRESSOR	SCROLL	SCROLL	SCROLL	SCROLL
NO. USED - NO. SPEEDS	1 - 1	1 - 1	1 - 1	1 - 1
VOLTS/PH/HZ	200/230/3/60	200/230/3/60	200/230/3/60	200/230/3/60
R.L. AMPS ⑦ - L.R. AMPS	10.4 - 73	13.6 - 83	13.7 - 83	15.6 - 110
FACTORY INSTALLED				
START COMPONENTS ⑧	NO	NO	NO	NO
INSUL/SOUND BLANKET	NO	NO	NO	NO
COMPRESSOR HEAT	YES	YES	YES	YES
OUTDOOR FAN	PROPELLER	PROPELLER	PROPELLER	PROPELLER
DIA. (IN.) - NO. USED	23 - 1	27.6 - 1	27.6 - 1	27.6 - 1
TYPE DRIVE - NO. SPEEDS	DIRECT - 1	DIRECT - 1	DIRECT - 1	DIRECT - 1
CFM @ 0.0 IN. W.G. ④	2800	4150	3950	4320
NO. MOTORS - HP	1 - 1/8	1 - 1/5	1 - 1/5	1 - 1/5
MOTOR SPEED R.P.M.	825	825	825	825
VOLTS/PH/HZ	200/230/3/60	200/230/1/60	200/230/1/60	200/230/1/60
F.L. AMPS	0.64	0.95	0.95	0.95
OUTDOOR COIL — TYPE	SPINE FIN™	SPINE FIN™	SPINE FIN™	SPINE FIN™
ROWS - F.P.I.	1 - 24	1 - 24	1 - 24	1 - 24
FACE AREA (SQ. FT.)	12.89	19.07	19.07	24.93
TUBE SIZE (IN.)	3/8	3/8	3/8	3/8
REFRIGERANT				
LBS — R-410A (O.D. UNIT) ⑤	5 LBS., 12 OZ.	6 LBS., 2 OZ.	6 LBS., 13 OZ.	8 LBS., 0 OZ.
FACTORY SUPPLIED	YES	YES	YES	YES
LINE SIZE - IN. O.D. GAS ⑥	3/4	3/4	7/8	7/8
LINE SIZE - IN. O.D. LIQ. ⑥	3/8	3/8	3/8	3/8
CHARGING SPECIFICATION				
SUBCOOLING	10°F	10°F	10°F	10°F
DIMENSIONS	H X W X D	H X W X D	H X W X D	H X W X D
CRATED (IN.)	34 x 30.1 x 33	34.4 x 35.1 x 38.7	34.4 x 35.1 x 38.7	42.4 x 35.1 x 38.7
WEIGHT				
SHIPPING (LBS.)	176	228	235	261
NET (LBS.)	149	196	203	226

TUBING INFORMATION

LINE TYPE		REFRIGERANT TO ADD AT SPECIFIED ADDITIONAL LENGTH				
Suction	Liquid	20 ft	30 ft	40 ft	50 ft	60 ft
3/4"	3/8"	3 oz	9 oz	15 oz	21 oz	27 oz
7/8"	3/8"	3 oz	9 oz	16 oz	22 oz	28 oz

- ① Certified in accordance with the Air-Source Unitary Air-conditioner Equipment certification program, which is based on AHRI standard 210/240.
- ② Rated in accordance with AHRI standard 270.
- ③ Calculated in accordance with Natl. Elec. Codes. Use only HACR circuit breakers or fuses.
- ④ Standard Air — Dry Coil — Outdoor
- ⑤ This value approximate. For more precise value see unit nameplate.
- ⑥ Max. linear length 60 ft.; Max. lift - Suction 60 ft.; Max lift - Liquid 60 ft. For greater length consult refrigerant piping software Pub. No. 32-3312-0* (* denotes latest revision).
- ⑦ This value shown for compressor RLA on the unit nameplate and on this specification sheet is used to compute minimum branch circuit ampacity and max. fuse size. The value shown is the branch circuit selection current.
- ⑧ No means no start components. Yes means quick start kit components. PTC means positive temperature coefficient starter.

⚠ CAUTION

HOT SURFACE!
DO NOT TOUCH TOP OF COMPRESSOR.
May cause minor to severe burning.

⚠ CAUTION

CONTAINS REFRIGERANT!
SYSTEM CONTAINS OIL AND REFRIGERANT UNDER HIGH PRESSURE. RECOVER REFRIGERANT TO RELIEVE PRESSURE BEFORE OPENING SYSTEM.
Failure to follow proper procedures can result in personal illness or injury or severe equipment damage.

⚠ WARNING

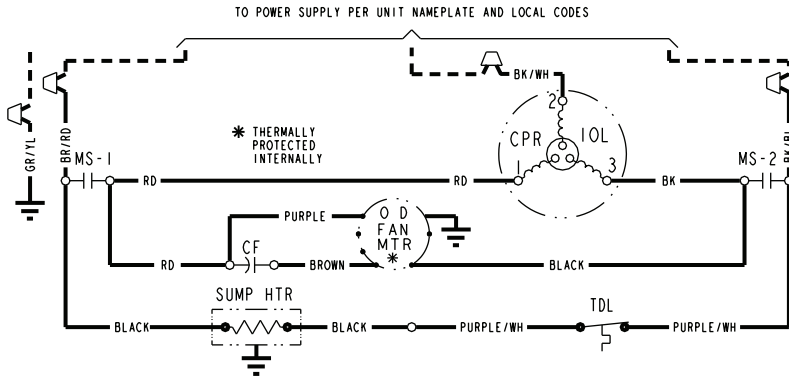
THIS INFORMATION IS INTENDED FOR USE BY INDIVIDUALS POSSESSING ADEQUATE BACKGROUNDS OF ELECTRICAL AND MECHANICAL EXPERIENCE. ANY ATTEMPT TO REPAIR A CENTRAL AIR CONDITIONING PRODUCT MAY RESULT IN PERSONAL INJURY AND OR PROPERTY DAMAGE. THE MANUFACTURER OR SELLER CANNOT BE RESPONSIBLE FOR THE INTERPRETATION OF THIS INFORMATION, NOR CAN IT ASSUME ANY LIABILITY IN CONNECTION WITH ITS USE.

NOTICE: The manufacturer has a policy of continuous product and product data improvement and it reserves the right to change design and specifications without notice.

⚠ CAUTION

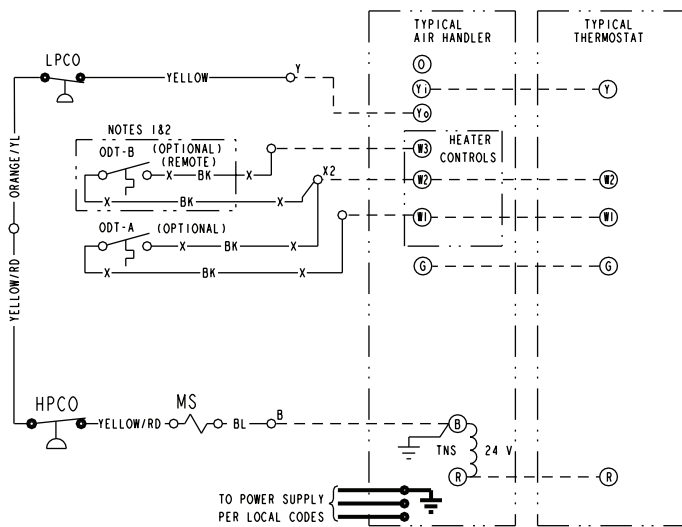
RECONNECT ALL GROUNDING DEVICES. ALL PARTS OF THIS PRODUCT CAPABLE OF CONDUCTING ELECTRICAL CURRENT ARE GROUNDED. IF GROUNDING WIRES, SCREWS, STRAPS, CLIPS, NUTS OR WASHERS USED TO COMPLETE A PATH TO GROUND ARE REMOVED FOR SERVICE, THEY MUST BE RETURNED TO THEIR ORIGINAL POSITION AND PROPERLY FASTENED.

SCHEMATIC DIAGRAM



CA	COOLING ANTICIPATOR	LPCO	LOW PRESSURE CUTOUT SW.
CBS	COIL BOTTOM SENSOR	MS	COMPRESSOR MOTOR CONTACTOR
CF	FAN CAPACITOR	ODA	OUTDOOR ANTICIPATOR
CN	WIRE CONNECTOR	OFT	OUTDOOR FAN THERMOSTAT
CPR	COMPRESSOR	ODS	OUTDOOR TEMPERATURE SENSOR
CR	RUN CAPACITOR	ODT	OUTDOOR THERMOSTAT
CS	STARTING CAPACITOR	RHS	RESISTANCE HEAT SWITCH
CSR	CAPACITOR SWITCHING RELAY	SC	SWITCHOVER VALVE SOLENOID
DFC	DEFROST CONTROL	SM	SYSTEM "ON-OFF" SWITCH
F	INDOOR FAN RELAY	TDL	DISCHARGE LINE THERMOSTAT
HA	HEATING ANTICIPATOR	TNS	TRANSFORMER
HPCO	HIGH PRESSURE CUTOUT SW.	TS	HEATING-COOLING THERMOSTAT
IOL	INTERNAL OVERLOAD PROTECTOR	TSH	HEATING THERMOSTAT

<p>⚠ WARNING HAZARDOUS VOLTAGE! DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING. FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH!</p>	<p>⚠ CAUTION USE COPPER CONDUCTORS ONLY! UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT!</p>
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COLOR OF WIRE

BK/BL BLACK WIRE WITH BLUE MARKER

COLOR OF MARKER

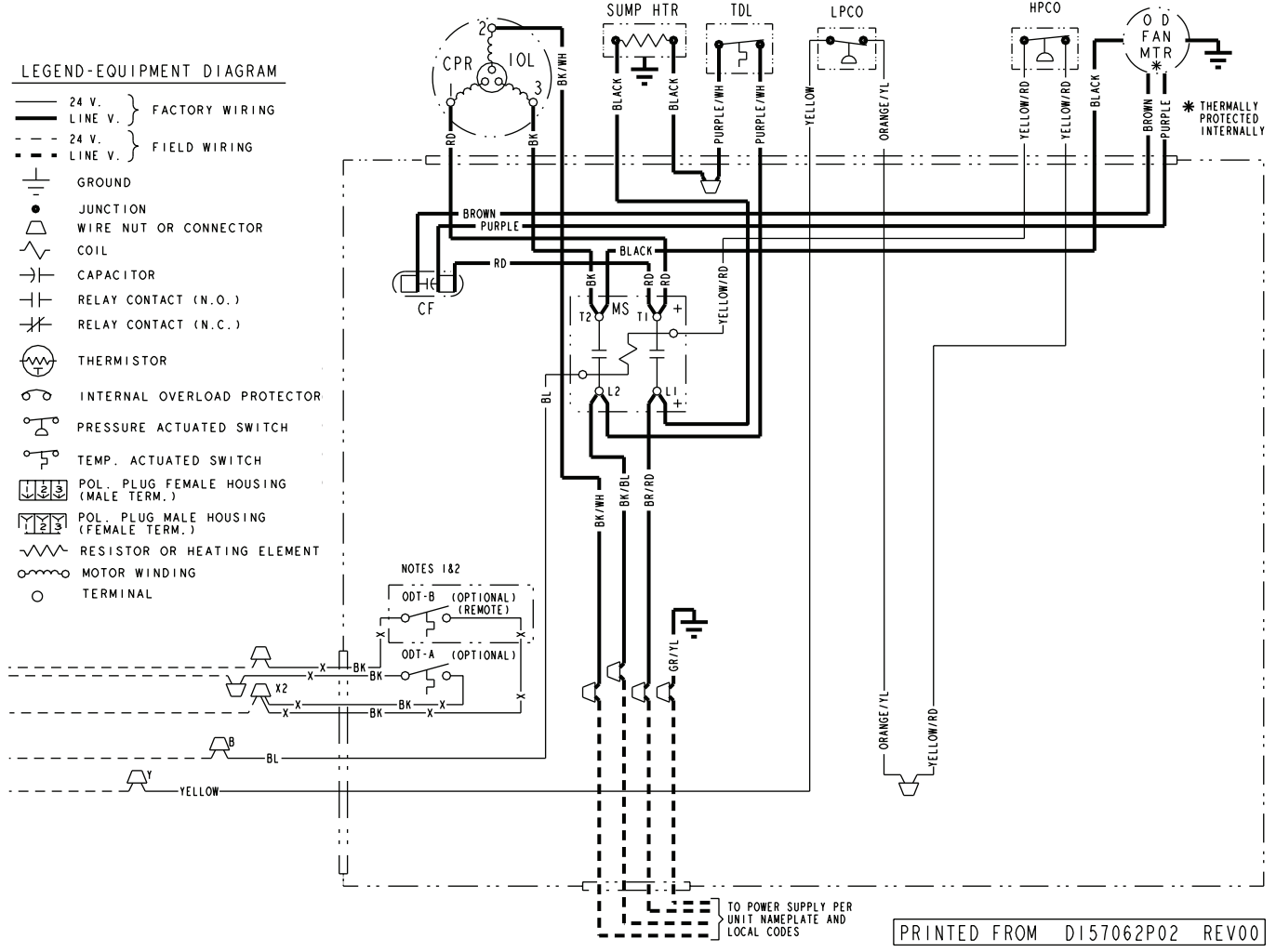
BK	BLACK	OR	ORANGE	YL	YELLOW
BL	BLUE	RD	RED	GR	GREEN
BR	BROWN	WH	WHITE	PR	PURPLE

NOTES:

- IF ODT-B IS NOT USED, ADD JUMPER BETWEEN W2 & W3 AT AIR HANDLER. IF USED, ODT-B MUST BE MOUNTED REMOTE OF CONTROL BOX IN AN APPROVED WEATHER PROOF ENCLOSURE.
- IF ODT-A IS NOT USED, ADD JUMPER BETWEEN W1 & W2 AT AIR HANDLER.
- LOW VOLTAGE (24 V.) FIELD WIRING MUST BE 18 AWG MIN.

NOTE
THREE PHASE MOTOR (S) FACTORY SUPPLIED IN THIS EQUIPMENT PROTECTED UNDER PRIMARY SINGLE-PHASE CONDITIONS.

WIRING DIAGRAM



SUBCOOLING CHARGING IN COOLING ABOVE 55°F OD AMBIENT

The manufacturer has always recommended installing matched indoor and outdoor systems.

All split systems are AHRI rated with only TXV indoor systems.

The benefits of installing approved indoor and outdoor split systems are maximum efficiency, optimum performance and the best overall system reliability.

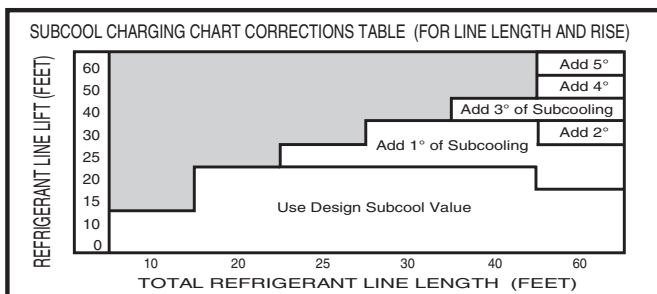
The following charging methods are therefore prescribed for systems with indoor TXVs.

1. Subcooling (in the cooling mode) is the only recommended method of charging above 55°F ambient temperatures.
2. For best results – the indoor temperature should be kept between 70°F to 80°F. Add system heat if needed.
3. At startup, or whenever charge is removed or added, the system must be operated for a minimum 20 minutes to stabilize before accurate measurements can be made.
4. Measure Liquid Line Temperature and Refrigerant Pressure at service valves.
5. Determine total refrigerant line length, and height (lift) if indoor section is above the condenser.
6. Determine the Design Subcool Charging Temperature from the unit nameplate.
7. Locate this value in the appropriate column of the Subcooling Charging Table. Locate your liquid line temperature in the left column of the table, and the intersecting liquid line pressure under your nameplate subcool value column. Add refrigerant to raise the pressure to match the table, or remove refrigerant to lower the pressure. Again, wait 20 minutes for the system conditions to stabilize before adjusting charge again.
8. When system is correctly charged, you can refer to System Pressure Tables (on page 7) to verify typical performance.

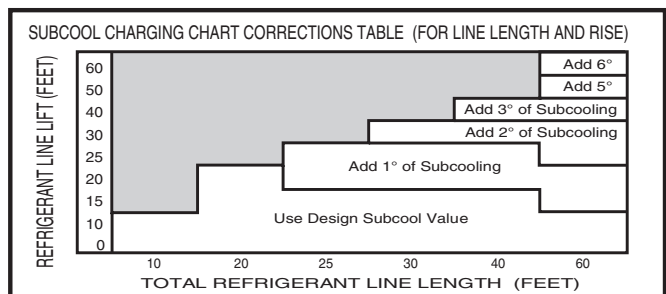
R-410A REFRIGERANT CHARGING CHART							
LIQUID TEMP (°F)	DESIGN SUBCOOLING (°F)						
	8	9	10	11	12	13	14
LIQUID GAGE PRESSURE (PSI)							
55	179	182	185	188	191	195	198
60	195	198	201	204	208	211	215
65	211	215	218	222	225	229	232
70	229	232	236	240	243	247	251
75	247	251	255	259	263	267	271
80	267	271	275	279	283	287	291
85	287	291	296	300	304	309	313
90	309	313	318	322	327	331	336
95	331	336	341	346	351	355	360
100	355	360	365	370	376	381	386
105	381	386	391	396	402	407	413
110	407	413	418	424	429	435	441
115	435	441	446	452	458	464	470
120	464	470	476	482	488	495	501
125	495	501	507	514	520	527	533
Refer to Service Facts or Installer's Guide for charging method.							

From Dwg. D15457P01 Rev. 2

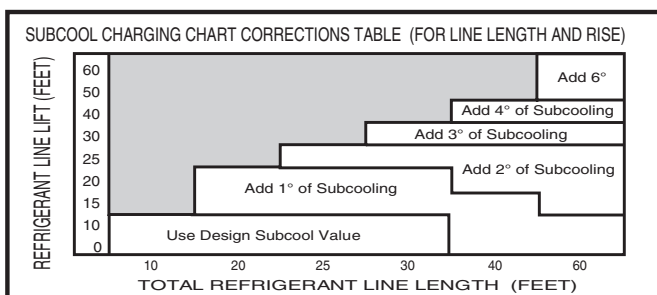
3 Ton



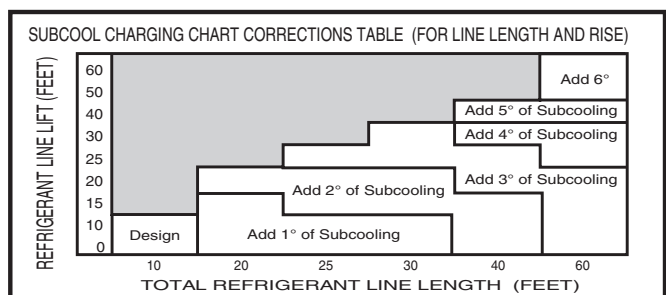
3 1/2 Ton



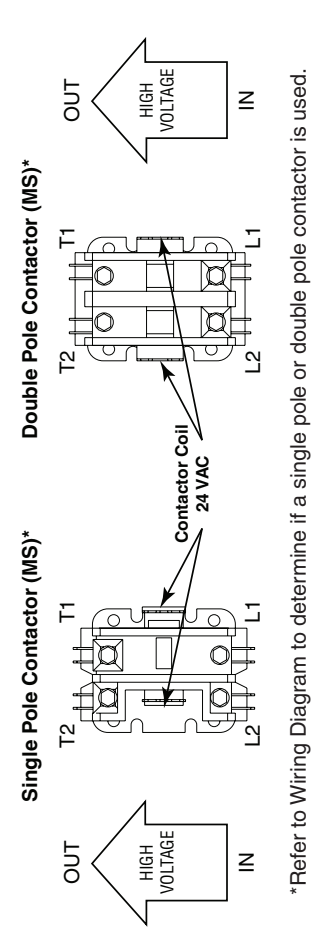
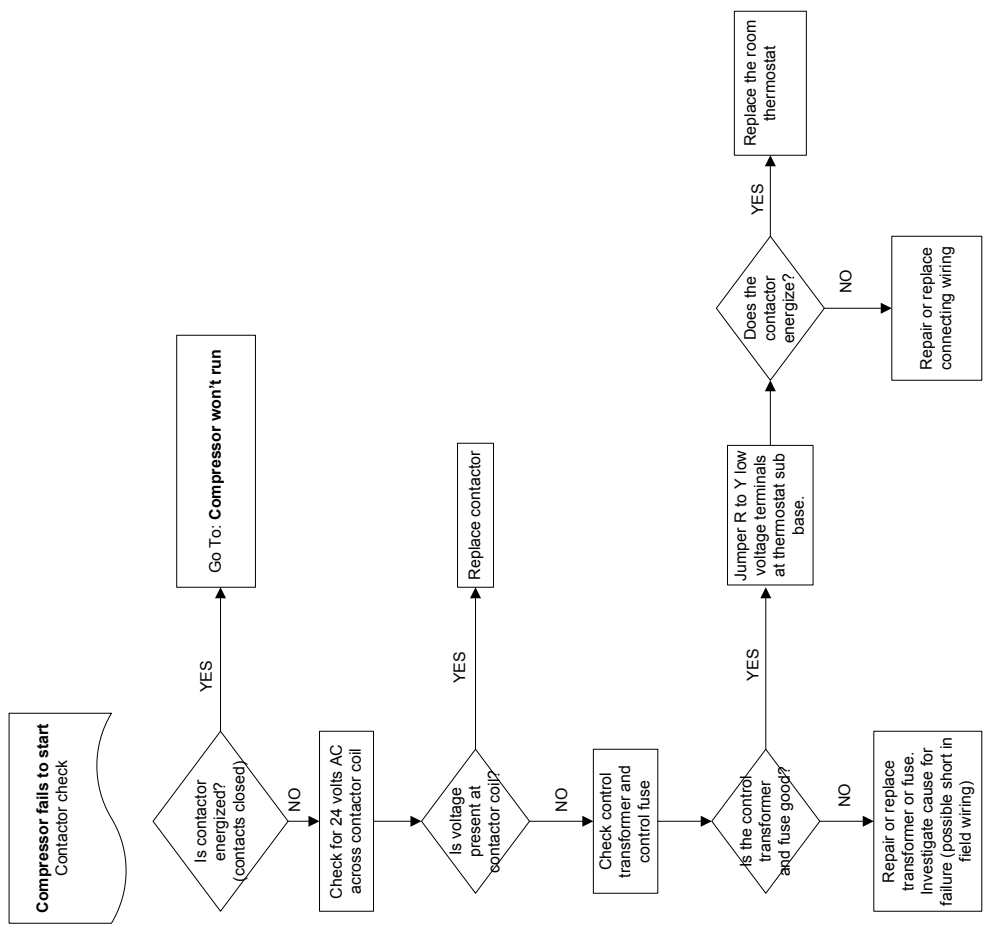
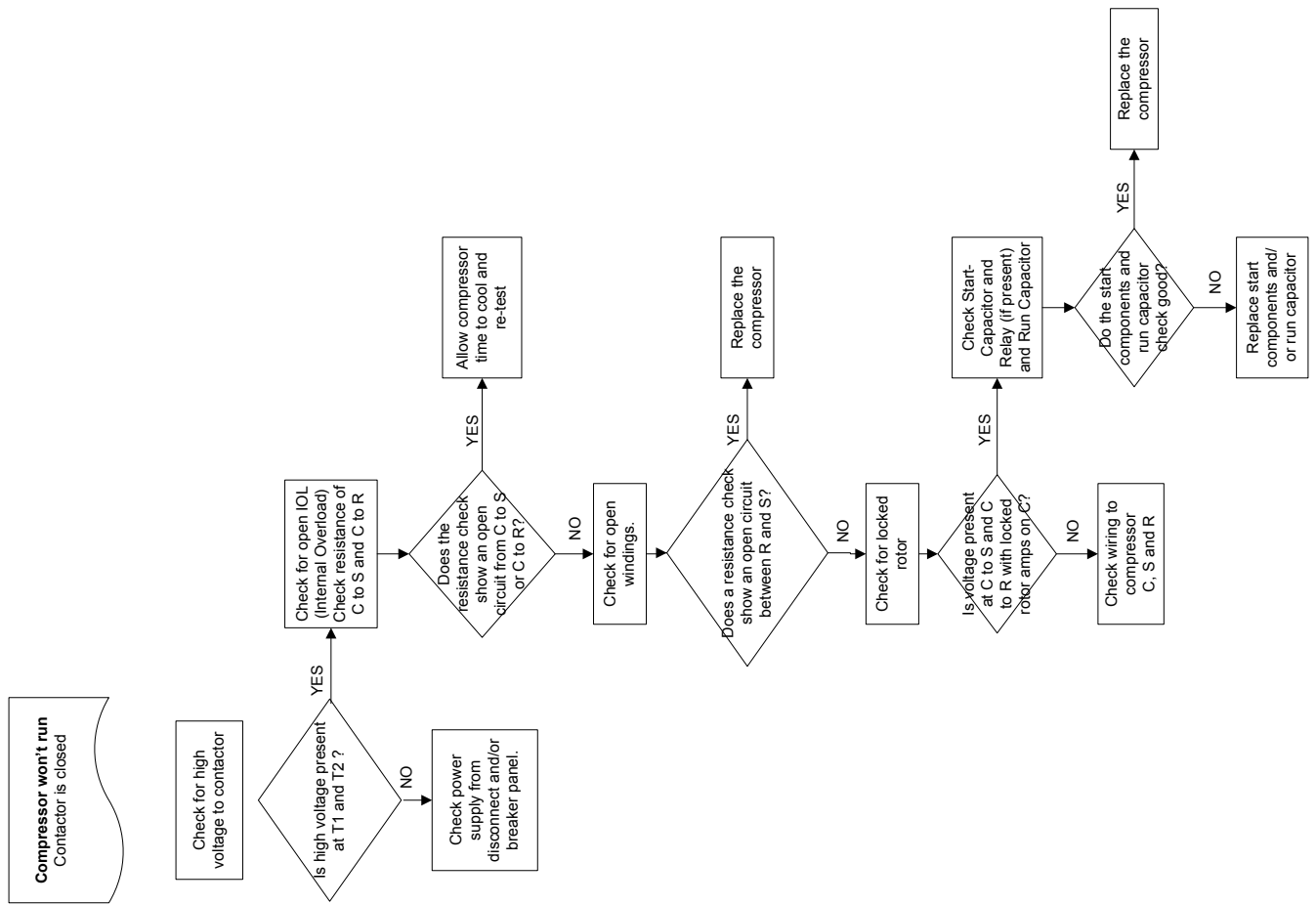
4 Ton



5 Ton

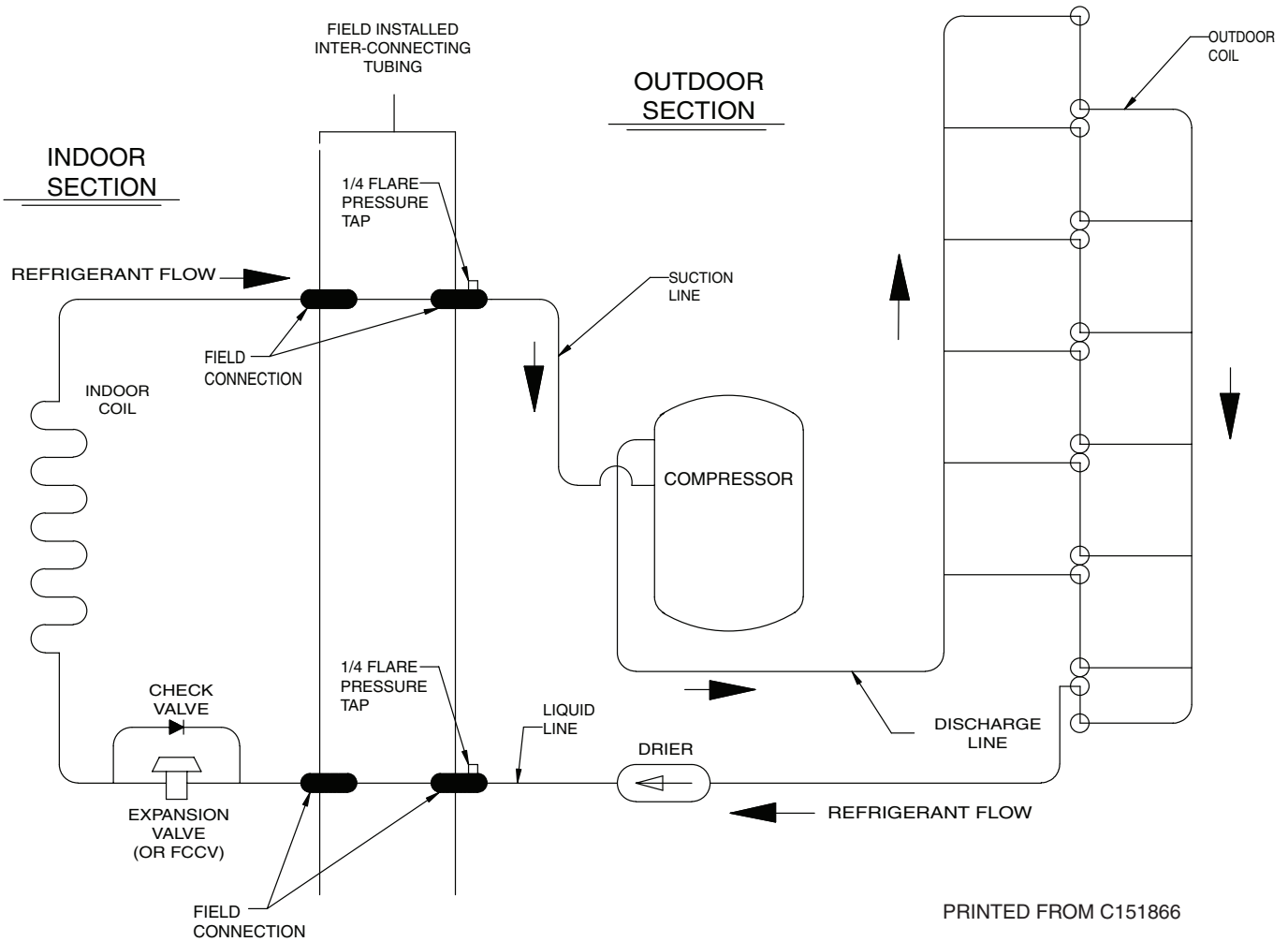


TROUBLESHOOTING



REFRIGERANT CIRCUIT

4TTA3036B3, 4TTA3042-060D3



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PRESSURE TABLES FOR 4TTA30*3**
 4TXC****BC Cooling with Thermal Expansion Valve

		Outdoor Size & Coil				
OD ***		30A	36B	42D ③	48D	60D
Coil ****		B031	C037	C043	C049	D064
		Liquid Pressure (PSIG)				
Outdoor Temperature (Degree F)	115	480	495	495	480	505
	110	455	470	465	465	475
	105	430	440	435	435	445
	100	400	410	405	405	420
	95	375	385	380	380	390
	90 ①	350	355	355 ④	355	365
	85	325	335	330	330	340
	80	305	315	310	310	315
	75	285	295	385	285	295
	70	265	275	265	265	275
	65	250	255	245	245	255
	60	230	235	230	225	235

		Outdoor Size & Coil				
OD ***		30A	36B	42D ③	48D	60D
Coil ****		B031	C037	C043	C049	D064
Outdoor Temp. (Degree F)	Indoor Wet Bulb (Degree F)	Suction Pressure (PSIG)				
110	71	159	156	152	154	151
	67	150	147	143	145	141
	63	141	137	133	136	132
	59	133	127	124	127	124
100	71	152	149	148	149	146
	67	144	140	138	140	137
	63	135	131	129	132	128
	59	127	122	121	123	119
90 ①	71	147	145	144	145	142
	67 ②	139	136	135 ④	136	133
	63	131	127	126	128	124
	59	123	117	117	120	116
80	71	145	143	141	142	138
	67	137	135	132	133	129
	63	129	126	123	125	121
	59	121	117	115	117	113
70	71	142	141	138	138	135
	67	134	132	129	130	126
	63	127	123	121	122	118
	59	119	114	113	114	110
60	71	139	138	136	135	132
	67	132	130	127	127	123
	63	124	121	118	119	115
	59	116	112	110	111	107

COOLING PERFORMANCE CAN BE CHECKED WHEN THE OUTDOOR TEMP IS ABOVE 65 DEG F. TO CHECK COOLING PERFORMANCE, SELECT THE PROPER INDOOR CFM, ALLOW PRESSURES TO STABILIZE. MEASURE INDOOR WET BULB TEMPERATURE, OUTDOOR TEMPERATURE, LIQUID AND SUCTION PRESSURES. ON THE TABLE LOCATE OUTDOOR TEMPERATURE (1); LOCATE INDOOR WET BULB (2); LOCATE MODEL OUTDOOR. (3); FIND INTERSECTION BETWEEN 1, 2, & 3 (4) FIND TARGET PRESSURE.

EXAMPLE: (1) OUTDOOR TEMP. 90 F.
 (2) INDOOR WET BULB 67 F.
 (3) OD 4TTA3042
 (4) LIQUID PRESSURE IS 355 PSIG LIQUID PRESSURE
 (5) SUCTION PRESSURE IS 135 PSIG SUCTION PRESSURE

ACTUAL:
 SHOULD BE +/- 10 PSI OF CHART
 SHOULD BE +/- 3 PSIG OF CHART

