

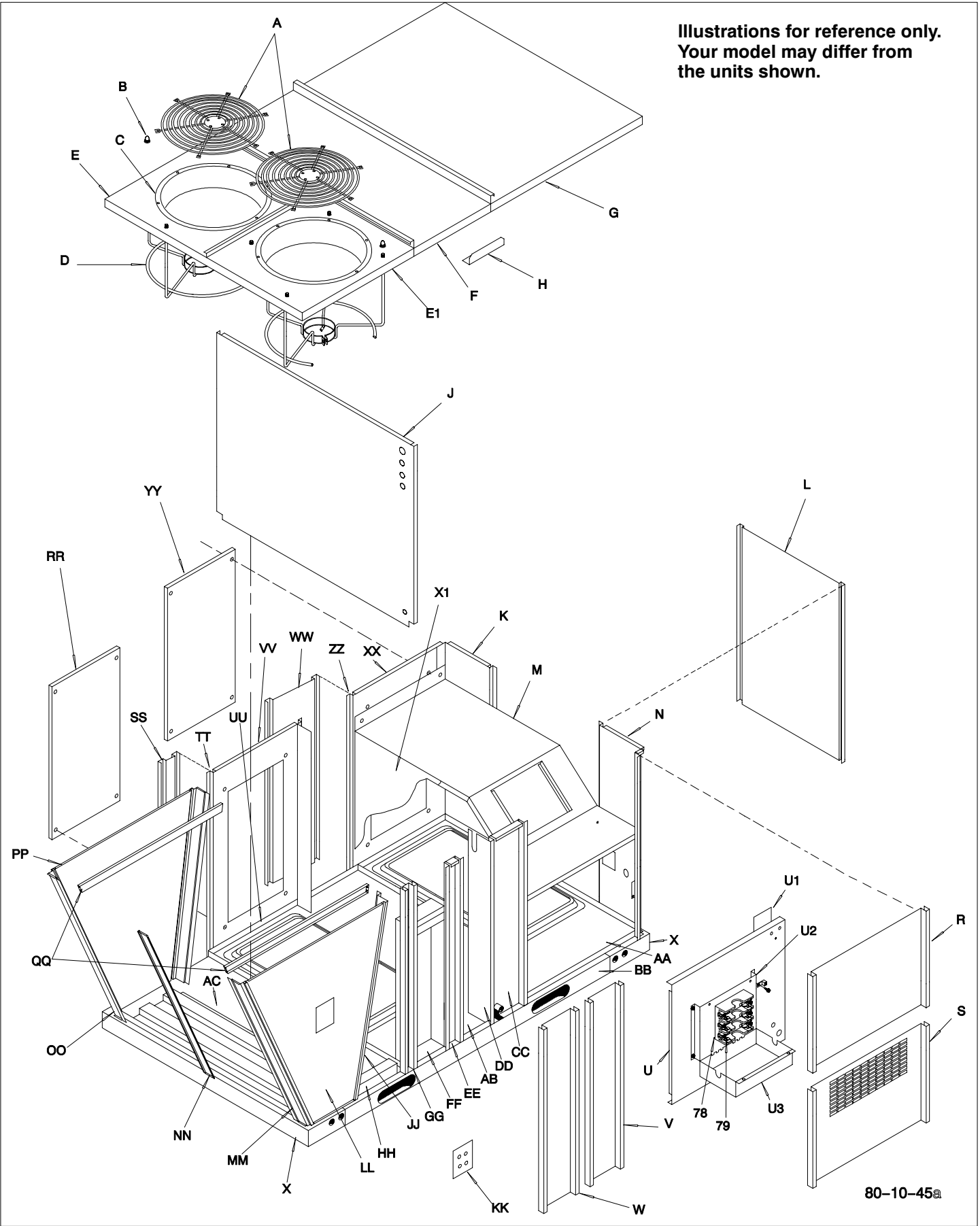
Parts List, Tech Labels & Wiring Diagrams for PAB240 & RAMA20 Series

Model Numbers: PAB240N2HA, PAB240N2LA, PAB240N2SA & RAMA20H001A, RAMA20F001A, RAMA20N001A

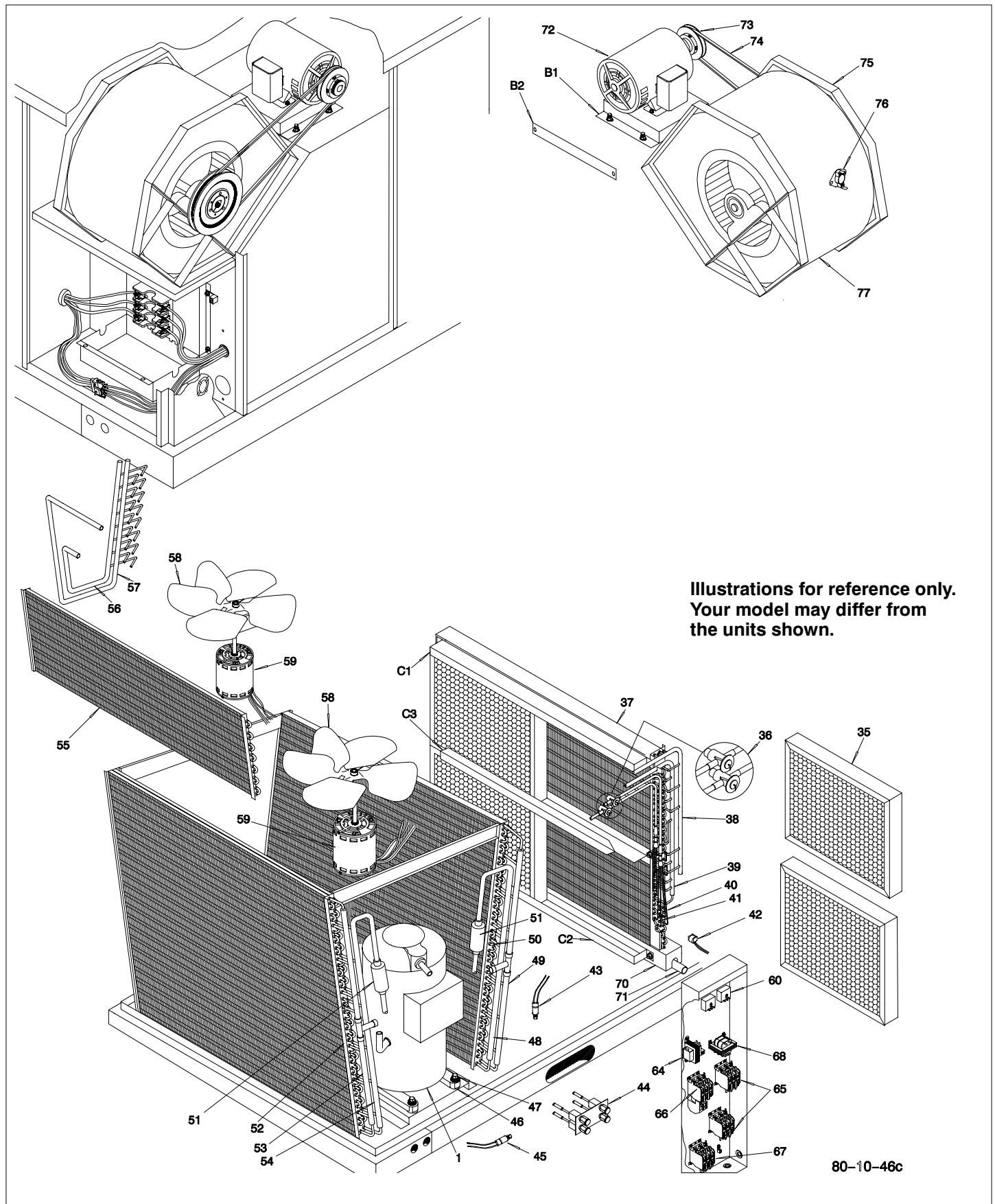
No.	Part No.	DESCRIPTION	HA	LA	SA
1	1082185	COMPRESSOR, ZR12M3TWC	2		
1	1083126	COMPRESSOR, ZR12M3TWD	-	2	
1	1083927	COMPRESSOR, ZR12M3TWE	-	-	2
35	1054503	FILTER, AIR (20" X 30" X 2")	4	4	4
36	1083125	VALVE, EXPANSION	2	2	2
37	1083068	EVAPORATOR	1	1	1
38	1083072	MANIFOLD, EVAP	1	1	1
39	1083071	MANIFOLD, EVAP	1	1	1
40	1083081	DISTRIBUTOR ASY EVAP	1	1	1
41	1083082	DISTRIBUTOR ASY EVAP	1	1	1
42	1071790	SWITCH, FREEZE STAT	1	1	1
43	1071713	SWITCH, LOW PRESSURE	2	2	2
44	1083170	PORT ASY	2	2	2
45	1083171	SWITCH, HIGH PRESSURE	2	2	2
46	79608	GROMMET, COMPRESSOR	8	8	8
47	1057967	BOLT, COMPRESSOR	8	8	8
48	1083130	MANIFOLD, CONDENSER	1	1	1
49	1083060	MANIFOLD, CONDENSER (LIQUID)	1	1	1
50	1083052	CONDENSER	1	1	1
51	1083142	DRIER	2	2	2
52	1083053	CONDENSER	1	1	1
53	1083056	MANIFOLD, CONDENSER	1	1	1
54	1083131	MANIFOLD, CONDENSER (LIQUID)	1	1	1
55	1082324	CONDENSER, DISCH COMP	1	1	1
56	1083400	MANIFOLD, DISCH	1	1	1
57	1083401	MANIFOLD, DISCH	1	1	1
58	1083133	FAN	2	2	2
59	1083106	MOTOR, CONDENSER FAN	2	2	-
59	1083926	MOTOR, CONDENSER FAN	-	-	2
60	1070822	TIMER, COMP ANTI-SHORT CYCLE	2	2	2
64	1054637	TRANSFORMER 230V 65VA	1		
65	1054638	TRANSFORMER 460/575V 65VA	-	1	1
65	1071334	CONTACTOR, 40A	2	2	2
66	1082354	CONTACTOR, 30A	1		
66	1082358	CONTACTOR, 30A	*	1	1
67	1083121	CONTACTOR, 20A	1	1	1
68	1054639	TRANSFORMER 460/575V 110VA	*	1	1
69	1066159	BOARD, TERMINAL (LOW VOLTAGE)	1	1	1
70	1083413	PAN, DRAIN	1	1	1
71	1071345	HOSE, DRAIN	1	1	1
72	1083189	MOTOR, EVAP BLOWER	1	1	
72	1083925	MOTOR, EVAP BLOWER	-	-	1
73	1083410	PULLEY, MOTOR	1	1	1
74	1083409	BELT, DRIVE	1	1	1
75	1083103	PULLEY, BLOWER	1	1	1
76	1071246	SWITCH, LIMIT (AUXILIARY)	1	1	1
77	1081250	BLOWER	1	1	1
78	1071622	BLOCK, FUSE	-	1	1
78	1071623	BLOCK, FUSE	1		
79	91774	FUSE, FRC70	3		
79	1083439	FUSE, FRC150	-	3	
79	1083439	FUSE, FRS60	-	-	3
A	1072841	GRILLE, CONDENSER FAN	2	2	2
A1	1066106	BRACKET, TERMINAL BOARD	1	1	1
AA	*****	PANEL, BASE (HEAT)	1	1	1
AB	*****	PANEL, BASE (EVAP)	1	1	1
AC	*****	PANEL, BASE (CONDENSER)	1	1	1

No.	Part No.	DESCRIPTION	HA	LA	SA
B	1083113	NUT, CAP	8	8	8
B1	1083176	MOUNT, MOTOR	1	1	1
B2	1083442	BRACKET, BLOWER SUPPORT	1	1	1
BB	*****	RAIL, BASE (FRONT)	1	1	1
C	1070458	ORIFICE, CONDENSER FAN	2	2	2
C1	1083434	BRACKET, FILTER RACK	1	1	1
C2	1083129	BRACKET, FILTER RACK	1	1	1
C3	1083435	BRACKET, FILTER RACK	1	1	1
CC	1072822	POST, EVAPORATOR FRONT	1	1	1
D	1081224	MOUNT, CONDENSER FAN	2	2	2
DD	1071457	PANEL, EVAP DIVISION	1	1	1
E	1082267	PANEL, TOP REAR	1	1	1
E1	1082268	PANEL, TOP FRONT	1	1	1
EE	1072824	POST, FRONT CONTROL BOX	1	1	1
F	1072831	TOP, EXAPORATOR	1	1	1
FF	1070331	BOX, CONTROL	1	1	1
G	1072779	TOP, HEAT	1	1	1
GG	1082282	POST, EVAP DIVISION	1	1	1
H	1072729	PLATE, CONNECT	1	1	1
HH	*****	CHANNEL, WIRE	1	1	1
J	*****	PANEL, COND/EVAP DIVISION	1	1	1
JJ	1081171	POST, CONDENSER CENTER	1	1	1
K	1072775	POST, REAR CORNER HEAT	1	1	1
KK	1068189	PLATE, PRESSURE PORT	1	1	1
L	1072830	PANEL, HEAT ACCESS	1	1	1
LL	1082269	PANEL, CONDENSER ACCESS	1	1	1
M	1083175	DECK, BLOWER	1	1	1
MM	1081169	POST, CONDENSER CORNER	1	1	1
N	1082828	POST, FRONT CORNER HEAT	1	1	1
NN	1083151	POST, CONDENSER CENTER	1	1	1
OO	1081170	POST, CONDENSER CORNER	1	1	1
PP	1081242	PANEL, CONDENSER ACCESS	1	1	1
QQ	1081334	BRACKET, COIL BRACE	2	2	2
R	1072803	PANEL, BLOWER ACCESS	1	1	1
RR	1072812	COVER, DUCT (RETURN)	1	1	1
S	1072805	PANEL, BURNER ACCESS	1	1	1
SS	1081173	POST, CONDENSER CENTER	1	1	1
TT	1082283	POST, EVAP DIVISION	1	1	1
U	1071467	PANEL	1	1	1
U1	1071487	PLATE, PANEL	1	1	1
U2	1071602	BRACKET, FUSE BLOCK	1	1	1
U3	1071603	COVER, FUSE BLOCK	1	1	1
UU	*****	RAIL, BASE (REAR)	1	1	1
V	1072789	PANEL, EVAPORATOR ACCESS	1	1	1
VV	1072795	PANEL, RETURN AIR	1	1	1
W	1072783	PANEL, CONTROL BOX ACCESS	1	1	1
WW	1083174	PANEL, FILLER	1	1	1
X	*****	RAIL, BASE (END)	2	2	2
XX	1072799	PANEL, SUPPLY AIR	1	1	1
YY	1072810	COVER, DUCT (SUPPLY)	1	1	1
ZZ	1072771	POST, EVAP REAR	1	1	1
	1082222	PANEL, FILLER EVAP	1	1	1
	1083152	PANEL, FILLER	1	1	1
	1083178	PANEL, FILLER EVAP	1	1	1

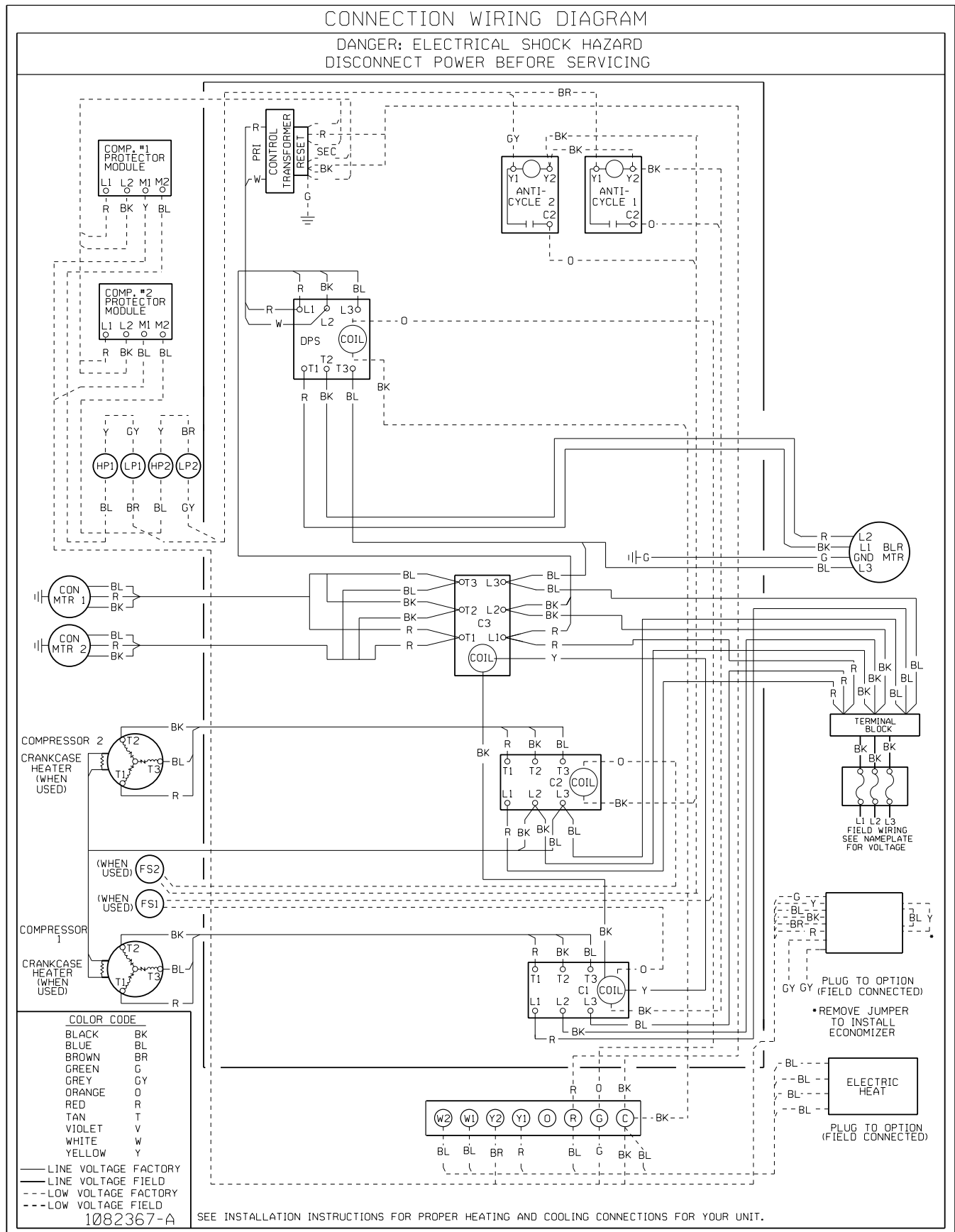
Parts List, Tech Labels & Wiring Diagrams for PAB240 & RAMA20 Series



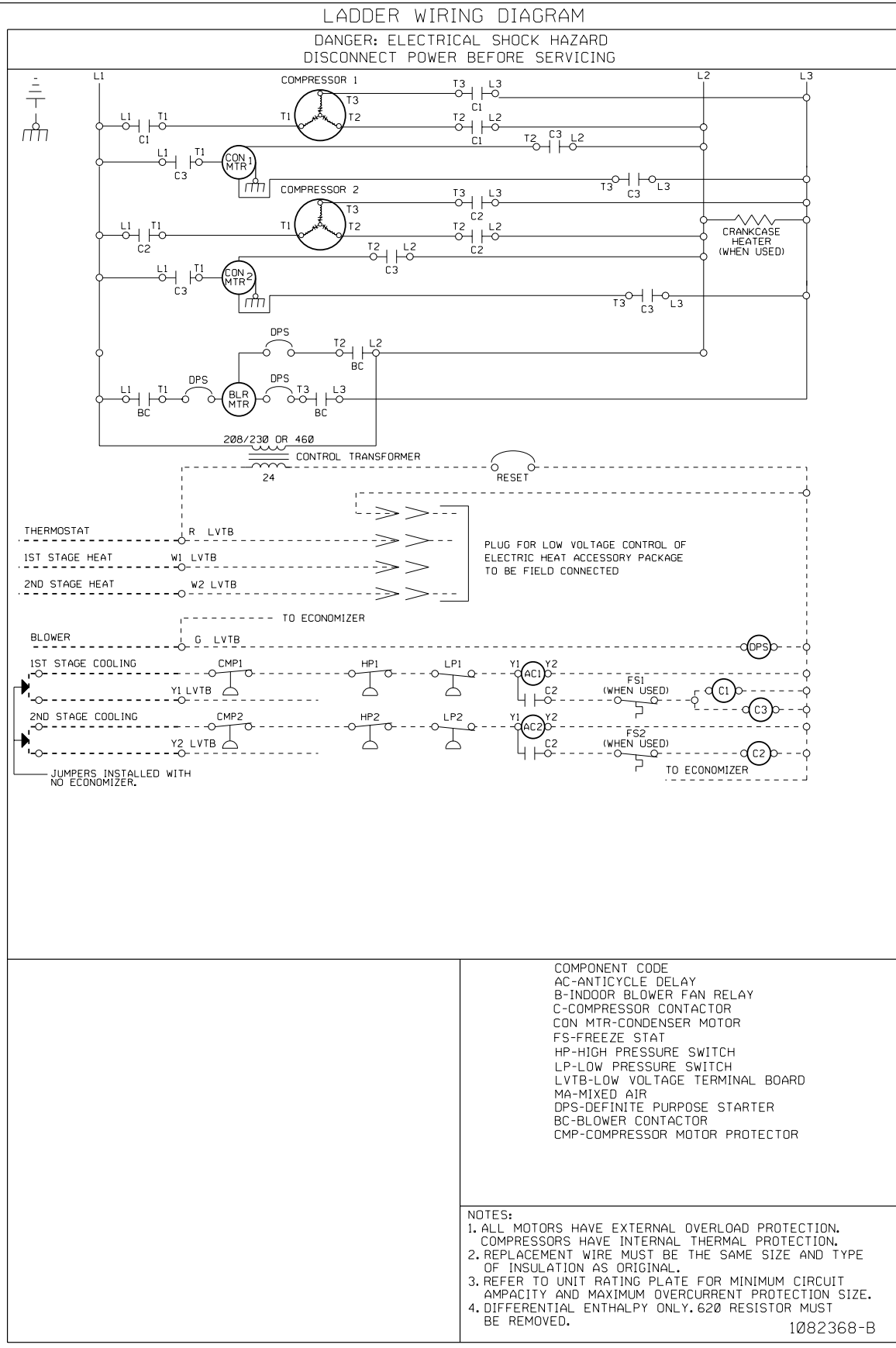
Parts List, Tech Labels & Wiring Diagrams for PAB240 & RAMA20 Series



Parts List, Tech Labels & Wiring Diagrams for PAB240 & RAMA20 Series



Parts List, Tech Labels & Wiring Diagrams for PAB240 & RAMA20 Series



Model or Style No. 20 Ton Pkg Air – 208–230V, 3 Phase			Outdoor Ambient Temperature - Degrees F. Dry Bulb																			
Specifications			75				85				95				105				115			
			Entering Indoor Temperature - Degrees F. Wet Bulb				Entering Indoor Temperature - Degrees F. Wet Bulb				Entering Indoor Temperature - Degrees F. Wet Bulb				Entering Indoor Temperature - Degrees F. Wet Bulb							
Electrical:			59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71
Voltage/Phase/Hz			113.4	116.8	126.4	135.6	110.7	114.0	123.4	132.4	108.0	111.2	120.4	129.2	102.6	105.6	114.3	122.7	95.0	97.9	105.9	113.7
Branch Circuit Ampacity			0.88	0.79	0.60	0.38	0.90	0.81	0.61	0.39	0.93	0.83	0.63	0.41	0.97	0.86	0.65	0.42	0.98	0.87	0.66	0.42
Max. Fuse/HACR Brk.			48.3	49.0	49.9	51.0	50.7	51.4	52.5	53.7	52.8	53.6	54.7	56.0	54.9	55.7	56.9	58.3	56.9	57.8	59.1	60.6
Fan Motor:			190	205	216	226	216	233	246	257	247	265	280	292	277	298	315	329	306	330	348	363
Voltage/Cycles/Phase			60	64	70	74	62	66	73	77	66	70	76	81	69	73	80	85	71	76	83	88
H.P./Qty.			115.4	117.9	126.0	134.7	112.7	115.1	123.0	131.5	109.9	112.3	120.0	128.3	104.4	106.7	114.0	121.9	96.7	98.8	105.6	112.9
RLA/LRA			0.97	0.91	0.74	0.55	0.99	0.93	0.76	0.56	1.00	0.96	0.78	0.58	1.00	0.99	0.81	0.61	1.00	1.00	0.82	0.61
Speeds/CFM			48.5	49.2	50.2	51.3	51.0	51.7	52.8	54.0	53.1	53.9	55.0	56.3	55.2	56.0	57.2	58.6	57.3	58.2	59.4	60.9
Cap. MFD/Volts			192	207	218	228	219	235	248	259	249	268	283	295	280	302	318	332	310	333	352	367
Compressor:			61	65	71	75	63	67	73	78	66	71	77	82	69	74	81	86	72	76	83	89
System #1			117.4	119.7	125.4	133.8	114.6	116.9	122.4	130.6	111.8	114.0	119.4	127.4	106.2	108.3	113.4	121.0	98.4	100.3	105.1	112.1
System #2			1.00	0.98	0.88	0.72	1.00	1.00	0.90	0.73	1.00	1.00	0.93	0.76	1.00	1.00	0.97	0.79	1.00	1.00	0.98	0.79
RLA/LRA			48.8	49.5	50.4	51.6	51.3	52.0	53.1	54.3	53.4	54.2	55.3	56.6	55.5	56.4	57.6	59.0	57.6	58.5	59.8	61.3
Service Driers (Each Sys):			194	209	221	230	221	238	251	262	252	271	286	298	283	305	322	335	313	336	355	371
Liquid/Charge			61	65	71	76	64	68	74	79	67	71	78	83	70	75	82	87	73	77	84	90
Suction			226.8	233.5	252.8	271.3	221.4	228.0	246.7	264.8	216.0	222.4	240.7	258.4	205.2	211.3	228.7	245.4	190.1	195.7	211.8	227.4
Ref. Charge (R-22)			0.80	0.72	0.54	0.35	0.82	0.73	0.56	0.36	0.85	0.76	0.57	0.37	0.88	0.79	0.60	0.38	0.89	0.79	0.60	0.39
System #1			75.9	77.3	79.3	81.6	81.0	82.5	84.7	87.2	85.4	87.0	89.3	92.0	89.7	91.5	94.0	96.9	94.0	95.9	98.5	101.6
System #2			196	211	223	233	223	240	254	265	254	274	289	302	286	308	325	339	316	340	359	375
Blower Motor:			61	65	71	75	63	67	74	78	66	71	77	82	70	74	81	86	72	77	84	89
VOLTAGE			230.8	235.9	252.0	269.4	225.3	230.3	246.0	263.0	219.8	224.6	240.0	256.6	208.8	213.4	228.0	243.7	193.5	197.7	211.2	225.8
H. P.			0.88	0.82	0.67	0.50	0.90	0.85	0.69	0.51	0.93	0.87	0.71	0.53	0.97	0.91	0.74	0.55	0.97	0.91	0.74	0.56
RLA/LRA			76.5	77.9	79.9	82.2	81.6	83.1	85.3	87.9	86.0	87.7	90.0	92.7	90.4	92.2	94.7	97.6	94.7	96.6	99.3	102.4
RPM / RATED CFM			198	213	225	235	226	243	256	267	257	277	292	305	289	311	329	343	319	344	363	379
			62	65	71	76	64	68	74	79	67	71	78	83	70	75	82	87	73	77	85	90
			234.9	239.4	250.7	267.5	229.3	233.7	244.8	261.1	223.7	228.0	238.8	254.8	212.5	216.6	226.9	242.0	196.8	200.6	210.1	224.2
			0.92	0.89	0.80	0.65	0.94	0.91	0.82	0.67	0.98	0.94	0.85	0.69	1.00	0.98	0.88	0.72	1.00	0.98	0.89	0.72
			77.0	78.4	80.5	82.8	82.2	83.7	85.9	88.5	86.6	88.3	90.7	93.4	91.1	92.9	95.4	98.4	95.5	97.4	100.1	103.2
			200	216	228	237	228	245	259	270	260	279	295	308	292	314	332	346	323	347	367	382
			62	66	72	77	65	69	75	80	68	72	79	84	71	76	83	88	74	78	85	91
Clearances			EXTERNAL STATIC PRESSURE IN INCHES WATER COLUMN (PASCALS)																W = Watts High Static Data *Factory Turns Open		1082317A 1–10–97	
			.25 (62)		.50 (124)		.75 (186)		1.0 (249)		1.25 (311)		1.50 (373)		1.75 (435)		2.0 (497)					
FAN		RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	
RPM																						

Model or Style No. 20 Ton Pkg Air – 460V, 3 Phase	
Specifications	
Electrical:	
Voltage/Phase/Hz	460–3–60
Branch Circuit Ampacity	60
Max. Fuse/HACR Brk.	70
Fan Motor:	
Voltage/Cycles/Phase	460/3/60
H.P./Qty.	1 1/2 –2 EA.
RLA/LRA	2.6/11.5
Speeds/CFM	1/8000 EA
Cap. MFD/Volts	N / A
Compressor:	
System #1	Scroll
RLA/LRA	18 / 127
System #2	
RLA/LRA	19.4 / 127
Service Driers (Each Sys):	
Liquid/Charge	16 cu in/10 oz
Suction	210 sq in
Ref. Charge (R-22)	
System #1	16 Lbs 14 oz
System #2	16 Lbs 14 oz
Blower Motor:	
VOLTAGE	460–3–60
H. P.	10 H P
RLA/LRA	12.7/83
RPM / RATED CFM	3500 / 7200
Clearances	See Installation Instructions

1 st Stage		Outdoor Ambient Temperature - Degrees F. Dry Bulb																			
		75				85				95				105				115			
		Entering Indoor Temperature - Degrees F. Wet Bulb																			
IDB		59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71
75	MBh	113.4	116.8	126.4	135.6	110.7	114.0	123.4	132.4	108.0	111.2	120.4	129.2	102.6	105.6	114.3	122.7	95.0	97.9	105.9	113.7
	S/T	0.88	0.79	0.60	0.38	0.90	0.81	0.61	0.39	0.93	0.83	0.63	0.41	0.97	0.86	0.65	0.42	0.98	0.87	0.66	0.42
	AMPS	24.1	24.5	24.9	25.5	25.3	25.7	26.2	26.8	26.4	26.8	27.3	28.0	27.4	27.9	28.4	29.1	28.5	28.9	29.5	30.3
	HI PR	190	205	216	226	216	233	246	257	247	265	280	292	277	298	315	329	306	330	348	363
	LO PR	60	64	70	74	62	66	73	77	66	70	76	81	69	73	80	85	71	76	83	88
80	MBh	115.4	117.9	126.0	134.7	112.7	115.1	123.0	131.5	109.9	112.3	120.0	128.3	104.4	106.7	114.0	121.9	96.7	98.8	105.6	112.9
	S/T	0.97	0.91	0.74	0.55	0.99	0.93	0.76	0.56	1.00	0.96	0.78	0.58	1.00	0.99	0.81	0.61	1.00	1.00	0.82	0.61
	AMPS	24.3	24.6	25.1	25.6	25.5	25.9	26.4	27.0	26.5	26.9	27.5	28.2	27.6	28.0	28.6	29.3	28.6	29.1	29.7	30.5
	HI PR	192	207	218	228	219	235	248	259	249	268	283	295	280	302	318	332	310	333	352	367
	LO PR	61	65	71	75	63	67	73	78	66	71	77	82	69	74	81	86	72	76	83	89
85	MBh	117.4	119.7	125.4	133.8	114.6	116.9	122.4	130.6	111.8	114.0	119.4	127.4	106.2	108.3	113.4	121.0	98.4	100.3	105.1	112.1
	S/T	1.00	0.98	0.88	0.72	1.00	1.00	0.90	0.73	1.00	1.00	0.93	0.76	1.00	1.00	0.97	0.79	1.00	1.00	0.98	0.79
	AMPS	24.4	24.7	25.2	25.8	25.6	26.0	26.5	27.1	26.7	27.1	27.7	28.3	27.8	28.2	28.8	29.5	28.8	29.3	29.9	30.7
	HI PR	194	209	221	230	221	238	251	262	252	271	286	298	283	305	322	335	313	336	355	371
	LO PR	61	65	71	76	64	68	74	79	67	71	78	83	70	75	82	87	73	77	84	90
2 nd Stage		Entering Indoor Temperature - Degrees F. Wet Bulb																			
IDB		59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71
75	MBh	226.8	233.5	252.8	271.3	221.4	228.0	246.7	264.8	216.0	222.4	240.7	258.4	205.2	211.3	228.7	245.4	190.1	195.7	211.8	227.4
	S/T	0.80	0.72	0.54	0.35	0.82	0.73	0.56	0.36	0.85	0.76	0.57	0.37	0.88	0.79	0.60	0.38	0.89	0.79	0.60	0.39
	AMPS	38.0	38.7	39.7	40.8	40.5	41.3	42.3	43.6	42.7	43.5	44.7	46.0	44.9	45.7	47.0	48.4	47.0	48.0	49.3	50.8
	HI PR	196	211	223	233	223	240	254	265	254	274	289	302	286	308	325	339	316	340	359	375
	LO PR	61	65	71	75	63	67	74	78	66	71	77	82	70	74	81	86	72	77	84	89
80	MBh	230.8	235.9	252.0	269.4	225.3	230.3	246.0	263.0	219.8	224.6	240.0	256.6	208.8	213.4	228.0	243.7	193.5	197.7	211.2	225.8
	S/T	0.88	0.82	0.67	0.50	0.90	0.85	0.69	0.51	0.93	0.87	0.71	0.53	0.97	0.91	0.74	0.55	0.97	0.91	0.74	0.56
	AMPS	38.2	38.9	39.9	41.1	40.8	41.6	42.7	43.9	43.0	43.8	45.0	46.4	45.2	46.1	47.3	48.8	47.4	48.3	49.7	51.2
	HI PR	198	213	225	235	226	243	256	267	257	277	292	305	289	311	329	343	319	344	363	379
	LO PR	62	65	71	76	64	68	74	79	67	71	78	83	70	75	82	87	73	77	85	90
85	MBh	234.9	239.4	250.7	267.5	229.3	233.7	244.8	261.1	223.7	228.0	238.8	254.8	212.5	216.6	226.9	242.0	196.8	200.6	210.1	224.2
	S/T	0.92	0.89	0.80	0.65	0.94	0.91	0.82	0.67	0.98	0.94	0.85	0.69	1.00	0.98	0.88	0.72	1.00	0.98	0.89	0.72
	AMPS	38.5	39.2	40.2	41.4	41.1	41.9	43.0	44.3	43.3	44.2	45.3	46.7	45.5	46.4	47.7	49.2	47.7	48.7	50.0	51.6
	HI PR	200	216	228	237	228	245	259	270	260	279	295	308	292	314	332	346	323	347	367	382
	LO PR	62	66	72	77	65	69	75	80	68	72	79	84	71	76	83	88	74	78	85	91

CFM		EXTERNAL STATIC PRESSURE IN INCHES WATER COLUMN (PASCALS)															
		.25 (62)		.50 (124)		.75 (186)		1.0 (249)		1.25 (311)		1.50 (373)		1.75 (435)		2.0 (497)	
		RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
6750														1390	7100	1410	7300
7000						1220	5800	1265	6250	1350	6650	1380	7200	1410	7400	1430	7600
7250	1190	5760	1220	5920	1260	6300	1290	6550	1390	7500	1410	7700	1425	7750	1480	8600	
7500	1220	6150	1255	6500	1300	6950	1390	8010	1420	8250	1440	8400	1460	8650			
7750	1250	6750	1280	6850	1360	8000	1420	8450	1450	8700	1460	9750	1475	8800			
8000	1280	7300	1380	8800	1420	8800	1433	8870	1455	8950	1470	9000	1480	9050			
8250	1400	8890	1420	9150	1432	9200	1455	9250	1470	9270	1480	9300					
PULLEY TURNS OPEN		0	1	2	3	4	5	W = Watts High Static Data *Factory Turns Open									
FAN	STD PULLEY	1390	1340	1295	1245	1195*	1140	1082318A 1–10–97									
RPM	HIGH STATIC PULLEY	1540	1495	1445	1390	1345	1295										