Service Facts

AM4-SF-1C

Convertible Air Handlers

Models: Series 4 Air Handlers 1-1/2 to 5 Ton

TAM4A0A18S11SB	TAM4A0C48S41SB	*AM4A0A36S31SA
TAM4A0A24S21SB	TAM4A0C60S51SB	*AM4A0B42S31SA
TAM4A0A30S21SB	*AM4A0A18S11SA	*AM4A0C48S41SA
TAM4A0A36S31SB	*AM4A0A24S21SA	*AM4A0C60S51SA
TAM4A0B42S31SB	*AM4A0A30S21SA	* May be "A" or "T"

***For use with BAYEA series heaters ONLY**

⚠ WARNING: HAZARDOUS VOLTAGE - DISCONNECT POWER BEFORE SERVICING

IMPORTANT --- This document contains a wiring diagram 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

SAFETY HAZARD! 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 manufacture or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

⚠ WARNING

LIVE ELECTRICAL COMPONENTS! During installation, testing, servicing, and troubleshooting of this product, it may be necessary to work with live electrical components. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

⚠ WARNING

PRESSURIZED REFRIGERANT! SYSTEM CONTAINS OIL AND REFRIGERANT UNDER HIGH PRESSURE. RECOVER REFRIGERANT TO RELIEVE PRESSURE BEFORE OPENING THE SYSTEM.

DO NOT USE NON-APPROVED REFRIGERANTS OR REFRIGERANT SUBSTITUTES OR REFRIGERANT ADDITIVES.

Note: This unit is certified to UL 1995.

The interior cabinet wall meets the following:

- UL94-5VA Flame Class Listed
- UL723 Steiner Tunnel Listed for 25/50 Flame/ Smoke
- UL746C Listed for Exposure to Ultraviolet Light, Water Exposure and Immersion

Table of Contents

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

PRODUCT SPECIFICATIONS

MODEL	*AM4A0A18S11SA TAM4A0A18S11SB	*AM4A0A24S21SA TAM4A0A24S21SB	*AM4A0A30S21SA TAM4A0A30S21SB	*AM4A0A36S31SA TAM4A0A36S31SB
RATED VOLTS/PH/HZ.	208-230/1/60	208-230/1/60	208-230/1/60	208-230/1/60
RATINGS ①	See O.D. Specifications	See O.D. Specifications	See O.D. Specifications	See O.D. Specifications
INDOOR COIL — Type	Plate Fin	Plate Fin	Plate Fin	Plate Fin
Rows — F.P.I.	3 - 14	3 - 14	3 - 14	3 - 14
Face Area (sq. ft.)	3.21	3.21	3.21	3.67
Tube Size (in.)	3/8	3/8	3/8	3/8
Refrigerant Control	EEV	EEV	EEV	EEV
Drain Conn. Size (in.) ②	3/4 NPT	3/4 NPT	3/4 NPT	3/4 NPT
DUCT CONNECTIONS	See Outline Drawing	See Outline Drawing	See Outline Drawing	See Outline Drawing
INDOOR FAN — Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Diameter-Width (In.)	11 X 8	10 X 8	10 X 8	11 X 8
No. Used	1	1	1	1
Drive - No. Speeds	Direct - 3	Direct - 3	Direct - 3	Direct - 3
CFM vs. in. w.g.	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table
No. Motors — H.P.	1 - 1/3	1 - 1/4	1 - 1/3	1 - 1/2
Motor Speed RPM	825	1075	1025	1075
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60	208-230/1/60
F.L. Amps - L.R. Amps	2.0 - 4.1	1.3 - 2.6	1.7 - 3.5	2.4 - 3.8
FILTER	**FILTER**	**FILTER**	**FILTER**	**FILTER**
Filter Furnished?	No	No	No	No
Type Recommended	Throwaway	Throwaway	Throwaway	Throwaway
No.-Size-Thickness	1 - 16 X 20 - 1 in.	1 - 16 X 20 - 1 in.	1 - 16 X 20 - 1 in.	1 - 16 X 20 - 1 in.
REFRIGERANT	**R-410A**	**R-410A**	**R-410A**	**R-410A**
Ref. Line Connections	Brazed	Brazed	Brazed	Brazed
Coupling or Conn. Size — in. Gas	3/4	3/4	3/4	3/4
Coupling or Conn. Size — in. Liq.	3/8	3/8	3/8	3/8
DIMENSIONS	H x W x D	H x W x D	H x W x D	H x W x D
Crated (In.)	51 x 20 x 24-1/2	51 x 20 x 24-1/2	51 x 20 x 24-1/2	51 x 20 x 24-1/2
Uncrated	49-15/16 x 17-1/2 x 21-13/16	49-15/16 x 17-1/2 x 21-13/16	49-15/16 x 17-1/2 x 21-13/16	49-15/16 x 17-1/2 x 21-13/16
WEIGHT				
Shipping (Lbs.)/Net (Lbs.)	123/113	126/116	127/117	131/120

MODEL	*AM4A0B42S31SA TAM4A0B42S31SB	*AM4A0C48S41SA TAM4A0C48S41SB	*AM4A0C60S51SA TAM4A0C60S51SB
RATED VOLTS/PH/HZ.	208-230/1/60	208-230/1/60	208-230/1/60
RATINGS ①	See O.D. Specifications	See O.D. Specifications	See O.D. Specifications
INDOOR COIL — Type	Plate Fin	Plate Fin	Plate Fin
Rows — F.P.I.	3 - 14	3 - 14	4 - 14
Face Area (sq. ft.)	5.04	5.50	5.50
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EEV	EEV	EEV
Drain Conn. Size (in.) ②	3/4 NPT	3/4 NPT	3/4 NPT
DUCT CONNECTIONS	See Outline Drawing	See Outline Drawing	See Outline Drawing
INDOOR FAN — Type	Centrifugal	Centrifugal	Centrifugal
Diameter-Width (In.)	10 X 10	11 X 10	11 X 10
No. Used	1	1	1
Drive - No. Speeds	Direct - 3	Direct - 3	Direct - 5 ③
CFM vs. in. w.g.	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table
No. Motors — H.P.	1 - 1/2	1 - 1/2	1 - 1
Motor Speed RPM	1075	1075	1050
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
F.L. Amps - L.R. Amps	2.7 - 5.0	3.1 - 5.5	7.6 - na
FILTER	**FILTER**	**FILTER**	**FILTER**
Filter Furnished?	No	No	No
Type Recommended	Throwaway	Throwaway	Throwaway
No.-Size-Thickness	1 - 20 X 20 - 1 in.	1 - 22 X 20 - 1 in.	1 - 22 X 20 - 1 in.
REFRIGERANT	**R-410A**	**R-410A**	**R-410A**
Ref. Line Connections	Brazed	Brazed	Brazed
Coupling or Conn. Size — in. Gas	7/8	7/8	7/8
Coupling or Conn. Size — in. Liq.	3/8	3/8	3/8
DIMENSIONS	H x W x D	H x W x D	H x W x D
Crated (In.)	56-13/16 x 23-1/2 x 24-1/2	58 x 25-1/2 x 24-1/2	62-13/16 x 25-1/2 x 24-1/2
Uncrated	55-23/32 x 21-5/16 x 21-13/16	56-15/16 x 23-1/2 x 21-13/16	61-23/32 x 23-1/2 x 21-13/16
WEIGHT			
Shipping (Lbs.)/Net (Lbs.)	144/133	155/143	171/159

① These Air Handlers are AHRI certified with various Split System Air Conditioners and Heat Pumps (AHRI STANDARD 210/240). Refer to the Split System Outdoor Unit Product Data Guides for performance data.

② 3/4" Male Plastic Pipe (Ref.: ASTM 1785-76)

③ Constant torque motor

* May be "A" or "T"

AIRFLOW PERFORMANCE						
*AM4A0A18S11SA TAM4A0A18S11SB						
EXTERNAL STATIC (in w.g)	**AIRFLOW (CFM)**					
	Speed Taps - 230 VOLTS			**Speed Taps - 208 VOLTS**		
	3	2 †	1	3	2 †	1
0	1091	743	677	1065	621	561
0.1	1024	719	659	999	606	544
0.2	952	690	635	929	583	524
0.3	875	651	598	852	551	492
0.4	799	601	553	782	510	451
0.5	726	536	488	706	453	390
0.6	621	431	390	604	369	315
0.7	500	320	N/A	474	225	N/A
0.8	321	N/A	N/A	302	N/A	N/A
0.9	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:
1. Values are with wet coil and without filters.
2. Contact your particular filter manufacturer for pressure drop data.
3. Electric heater pressure drop is negligible and is included within the airflow data.
4. † Factory Setting
* May be "A" or "T"

*AM4A0A18S11SA, TAM4A0A18S11SB MINIMUM HEATER AIRFLOW CFM		
Heater	Minimum Air Speed Tap	
	With Heat Pump	Without Heat Pump
BAYEAAC05BK1AA BAYEAAC05LG1AA	Tap 1	Tap 1
BAYEAAC08BK1AA BAYEAAC08LG1AA	Tap 2	Tap 1
BAYEAAC10BK1AA BAYEAAC10LG1AA	Tap 3	Tap 2
BAYEABC15BK1AA	-	-
BAYEABC20BK1AA	-	-
SEE AIR HANDLER NAMEPLATE OR PRODUCT DATA FOR EXCEPTIONS * May be "A" or "T"		

Note: *Heating and cooling speeds are the same, factory set at Speed Tap #2.*

AIRFLOW PERFORMANCE						
*AM4A0A24S21SA TAM4A0A24S21SB						
EXTERNAL STATIC (in w.g)	**AIRFLOW (CFM)**					
	Speed Taps - 230 VOLTS			**Speed Taps - 208 VOLTS**		
	3	2 †	1	3	2 †	1
0	1036	871	774	929	746	663
0.1	1008	838	747	890	720	636
0.2	965	806	712	856	686	605
0.3	922	767	676	815	654	564
0.4	875	726	638	777	618	518
0.5	823	681	591	733	568	464
0.6	769	608	505	675	479	398
0.7	673	498	422	572	393	N/A
0.8	515	402	322	436	303	N/A
0.9	339	242	N/A	279	N/A	N/A

NOTES:
1. Values are with wet coil and without filters.
2. Contact your particular filter manufacturer for pressure drop data.
3. Electric heater pressure drop is negligible and is included within the airflow data.
4. † Factory Setting
* May be "A" or "T"

*AM4A0A24S21SA, TAM4A0A24S21SB MINIMUM HEATER AIRFLOW CFM		
Heater	Minimum Air Speed Tap	
	With Heat Pump	Without Heat Pump
BAYEAAC05BK1AA BAYEAAC05LG1AA	Tap 1	Tap 1
BAYEAAC08BK1AA BAYEAAC08LG1AA	Tap 1	Tap 1
BAYEAAC10BK1AA BAYEAAC10LG1AA	Tap 2	Tap 1 ①
BAYEABC15BK1AA	-	-
BAYEABC20BK1AA	-	-

SEE AIR HANDLER NAMEPLATE OR PRODUCT DATA FOR EXCEPTIONS
* May be "A" or "T"
① Minimum Speed Tap is 3 for Horizontal Left only.

Note: *Heating and cooling speeds are the same, factory set at Speed Tap #2.*

AIRFLOW PERFORMANCE						
*AM4A0A30S21SA TAM4A0A30S21SB						
EXTERNAL STATIC (in w.g)	**AIRFLOW (CFM)**					
	Speed Taps - 230 VOLTS			**Speed Taps - 208 VOLTS**		
	3	2 †	1	3	2 †	1
0	1202	1013	944	1145	867	798
0.1	1156	985	922	1102	847	779
0.2	1102	947	892	1059	838	774
0.3	1049	909	859	1006	795	733
0.4	1000	867	822	958	774	714
0.5	943	823	783	900	726	672
0.6	883	767	738	843	681	621
0.7	822	709	658	778	601	542
0.8	749	583	542	697	492	441
0.9	684	440	N/A	628	N/A	N/A
1.0	613	N/A	N/A	549	N/A	N/A

NOTES:
1. Values are with wet coil and without filters.
2. Contact your particular filter manufacturer for pressure drop data.
3. Electric heater pressure drop is negligible and is included within the airflow data.
4. † Factory Setting
* May be "A" or "T"

*AM4A0A30S21SA, TAM4A0A30S21SB MINIMUM HEATER AIRFLOW CFM		
Heater	Minimum Air Speed Tap	
	With Heat Pump	Without Heat Pump
BAYEAAC05BK1AA BAYEAAC05LG1AA	Tap 1	Tap 1
BAYEAAC08BK1AA BAYEAAC08LG1AA	Tap 2	Tap 1
BAYEAAC10BK1AA BAYEAAC10LG1AA	Tap 2	Tap 1
BAYEABC15BK1AA	Tap 3	Tap 2
BAYEABC20BK1AA	-	-
SEE AIR HANDLER NAMEPLATE OR PRODUCT DATA FOR EXCEPTIONS * May be "A" or "T"		

Note: *Heating and cooling speeds are the same, factory set at Speed Tap #2.*

AIRFLOW PERFORMANCE						
*AM4A0A36S31SA TAM4A0A36S31SB						
EXTERNAL STATIC (in w.g)	**AIRFLOW (CFM)**					
	Speed Taps - 230 VOLTS			**Speed Taps - 208 VOLTS**		
	3	2 †	1	3	2 †	1
0	1456	1322	1170	1351	1189	1015
0.1	1417	1288	1140	1316	1164	990
0.2	1375	1254	1107	1279	1131	963
0.3	1328	1214	1075	1236	1100	938
0.4	1278	1179	1045	1197	1056	916
0.5	1239	1150	1018	1171	1030	888
0.6	1212	1117	983	1137	991	852
0.7	1164	1071	936	1092	948	807
0.8	1107	1017	877	1036	895	748
0.9	1040	942	799	967	828	688
1.0	953	843	724	882	753	608

NOTES:
1. Values are with wet coil and without filters.
2. Contact your particular filter manufacturer for pressure drop data.
3. Electric heater pressure drop is negligible and is included within the airflow data.
4. † Factory Setting
* May be "A" or "T"

*AM4A0A36S31SA, TAM4A0A36S31SB MINIMUM HEATER AIRFLOW CFM		
Heater	Minimum Air Speed Tap	
	With Heat Pump	Without Heat Pump
BAYEAAC05BK1AA BAYEAAC05LG1AA	Tap 1	Tap 1
BAYEAAC08BK1AA BAYEAAC08LG1AA	Tap 2 ①	Tap 2 ①
BAYEAAC10BK1AA BAYEAAC10LG1AA	Tap 3 ②	Tap 2 ②
BAYEABC15BK1AA	Tap 3	Tap 2
BAYEABC20BK1AA	-	-

SEE AIR HANDLER NAMEPLATE OR PRODUCT DATA FOR EXCEPTIONS
* May be "A" or "T"
① Heater not approved for Horizontal Left installations. Upflow installation approved for 240 Volts only.
② Approved for 240 Volts only. Approved for Upflow only.

Note: *Heating and cooling speeds are the same, factory set at Speed Tap #2.*

AIRFLOW PERFORMANCE						
*AM4A0B42S31SA TAM4A0B42S31SB						
EXTERNAL STATIC (in w.g)	**AIRFLOW (CFM)**					
	Speed Taps - 230 VOLTS			**Speed Taps - 208 VOLTS**		
	3	2 †	1	3	2 †	1
0	1646	1495	1358	1522	1298	1138
0.1	1599	1464	1335	1489	1285	1137
0.2	1546	1421	1313	1449	1260	1120
0.3	1488	1380	1280	1401	1233	1099
0.4	1425	1329	1233	1348	1193	1065
0.5	1353	1264	1178	1281	1140	1023
0.6	1259	1182	1108	1202	1075	958
0.7	1145	1081	995	1102	965	868
0.8	982	909	839	926	817	753
0.9	788	759	731	761	713	N/A
1.0	563	N/A	N/A	538	N/A	N/A

NOTES:
1. Values are with wet coil and without filters.
2. Contact your particular filter manufacturer for pressure drop data.
3. Electric heater pressure drop is negligible and is included within the airflow data.
4. † Factory Setting
* May be "A" or "T"

*AM4A0B42S31SA, TAM4A0B42S31SB MINIMUM HEATER AIRFLOW CFM		
Heater	Minimum Air Speed Tap	
	With Heat Pump	Without Heat Pump
BAYEAAC05BK1AA BAYEAAC05LG1AA	Tap 1	Tap 1
BAYEAAC08BK1AA BAYEAAC08LG1AA	Tap 1	Tap 1
BAYEAAC10BK1AA BAYEAAC10LG1AA	Tap 1	Tap 1
BAYEABC15BK1AA	Tap 1	Tap 1
BAYEABC20BK1AA	Tap 3	Tap 1
SEE AIR HANDLER NAMEPLATE OR PRODUCT DATA FOR EXCEPTIONS * May be "A" or "T"		

Note: *Heating and cooling speeds are the same, factory set at Speed Tap #2.*

AIRFLOW PERFORMANCE						
*AM4A0C48S41SA TAM4A0C48S41SB						
EXTERNAL STATIC (in w.g)	**AIRFLOW (CFM)**					
	Speed Taps - 230 VOLTS			**Speed Taps - 208 VOLTS**		
	3	2 †	1	3	2 †	1
0	1904	1711	1541	1652	1455	1305
0.1	1881	1687	1529	1640	1450	1288
0.2	1844	1666	1511	1619	1425	1271
0.3	1806	1637	1485	1592	1410	1249
0.4	1766	1602	1454	1559	1381	1231
0.5	1716	1560	1420	1524	1351	1198
0.6	1659	1513	1380	1484	1321	1165
0.7	1594	1458	1333	1434	1283	1127
0.8	1525	1395	1277	1376	1229	1067
0.9	1442	1310	1194	1304	1149	N/A
1.0	1345	N/A	N/A	1194	N/A	N/A

NOTES:
1. Values are with wet coil and without filters.
2. Contact your particular filter manufacturer for pressure drop data.
3. Electric heater pressure drop is negligible and is included within the airflow data.
4. † Factory Setting
* May be "A" or "T"

*AM4A0C48S41SA, TAM4A0C48S41SB MINIMUM HEATER AIRFLOW CFM		
Heater	Minimum Air Speed Tap	
	With Heat Pump	Without Heat Pump
BAYEAAC05BK1AA BAYEAAC05LG1AA	Tap 1	Tap 1
BAYEAAC08BK1AA BAYEAAC08LG1AA	Tap 1	Tap 1
BAYEAAC10BK1AA BAYEAAC10LG1AA	Tap 1	Tap 1
BAYEABC15BK1AA	Tap 1	Tap 1
BAYEABC20BK1AA	Tap 1	Tap 1
BAYEACC25BK1AA	Tap 3	Tap 2 ①

SEE AIR HANDLER NAMEPLATE OR PRODUCT DATA FOR EXCEPTIONS
* May be "A" or "T"
① Not approved for 208 Volts

Note: *Heating and cooling speeds are the same, factory set at Speed Tap #2.*

AIRFLOW PERFORMANCE										
*AM4A0C60S51SA TAM4A0C60S51SB										
EXTERNAL STATIC (in w.g)	**AIRFLOW (CFM)**									
	Speed Taps - 230 VOLTS					**Speed Taps - 208 VOLTS**				
	5	4 †	3	2	1	5	4 †	3	2	1
0	2169	1956	1874	1739	1633	2165	2033	1871	1736	1629
0.1	2161	1916	1839	1696	1588	2155	1990	1833	1690	1582
0.2	2130	1889	1803	1667	1554	2121	1961	1795	1659	1545
0.3	2102	1850	1774	1628	1523	2090	1919	1763	1617	1511
0.4	2066	1818	1741	1596	1491	2052	1884	1727	1582	1477
0.5	2015	1785	1707	1564	1457	1998	1848	1690	1547	1440
0.6	1959	1754	1673	1520	1408	1939	1814	1653	1500	1389
0.7	1888	1716	1638	1477	1372	1880	1774	1615	1455	1349
0.8	1811	1680	1605	1440	1323	1820	1735	1580	1415	1298
0.9	1750	1628	1561	1403	1291	1770	1680	1533	1376	1263
1.0	1680	1604	1533	1368	1256	1725	1654	1503	1337	1226

NOTES:
1. Values are with wet coil and without filters.
2. Contact your particular filter manufacturer for pressure drop data.
3. Electric heater pressure drop is negligible and is included within the airflow data.
4. † Factory Setting

* May be "A" or "T"

*AM4A0C60S51SA, TAM4A0C60S51SB MINIMUM HEATER AIRFLOW CFM		
Heater	Minimum Air Speed Tap	
	With Heat Pump	Without Heat Pump
BAYEAAC05BK1AA BAYEAAC05LG1AA	Tap 2	Tap 2
BAYEAAC08BK1AA BAYEAAC08LG1AA	Tap 3	Tap 2
BAYEAAC10BK1AA BAYEAAC10LG1AA	Tap 3	Tap 2
BAYEABC15BK1AA	Tap 4	Tap 3
BAYEABC20BK1AA	Tap 4	Tap 3
BAYEACC25BK1AA	Tap 5	Tap 4
SEE AIR HANDLER NAMEPLATE OR PRODUCT DATA FOR EXCEPTIONS * May be "A" or "T"		

Note: *Heating and cooling speeds are the same, factory set at Speed Tap #4 for the CTM motor.*

WIRING DATA											
*AM4A0A18S11SA, TAM4A0A18S11SB											
Heater Model No.	No. of Circuits	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater	-	-	-	2.0**	3	15	-	-	2.0**	3	15
BAYEAAC05++	1	4.80	16400	20	28	30	3.60	12300	17.30	24	25
BAYEAAC08++	1	7.68	26200	32	43	45	5.76	19700	27.70	37	40
BAYEAAC10++	1	9.60	32800	40	53	60	7.20	24600	34.60	46	50
Note: ** Motor Amps * May be "A" or "T"											

WIRING DATA											
*AM4A0A24S21SA, TAM4A0A24S21SB											
Heater Model No.	No. of Circuits	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater	-	-	-	1.3**	2	15	-	-	1.3**	2	15
BAYEAAC05++	1	4.80	16400	20	27	30	3.60	12300	17.30	23	25
BAYEAAC08++	1	7.68	26200	32	42	45	5.76	19700	27.70	36	40
BAYEAAC10++	1	9.60	32800	40	52	60	7.20	24600	34.60	45	45
Note: ** Motor Amps * May be "A" or "T"											

WIRING DATA											
*AM4A0A30S21SA, TAM4A0A30S21SB											
Heater Model No.	No. of Circuits	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater	-	-	-	1.7**	2	15	-	-	1.7**	2	15
BAYEAAC05++	1	4.80	16400	20	27	30	3.60	12300	17.3	24	25
BAYEAAC08++	1	7.68	26200	32	42	45	5.76	19700	27.7	37	40
BAYEAAC10++	1	9.60	32800	40	52	60	7.20	24600	34.6	45	45
BAYEABC15++											
circuit 1		9.60	32800	40	52	60	7.20	24600	34.6	45	45
circuit 2		4.80	16400	20	25	25	3.60	12300	17.3	22	25
Note: ** Motor Amps * May be "A" or "T"											

WIRING DATA											
*AM4A0A36S31SA, TAM4A0A36S31SB											
Heater Model No.	No. of Circuits	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater	-	-	-	2.4**	3	15	-	-	2.4**	3	15
BAYEAAC05++	1	4.80	16400	20	28	30	3.60	12300	17.3	25	25
BAYEAAC08++ ①	1	7.68	26200	32	43	45	5.76	19700	27.7	38	40
BAYEAAC10++ ②	1	9.60	32800	40	53	60	N/A ②	N/A ②	N/A ②	N/A ②	N/A ②
BAYEABC15++											
circuit 1		9.60	32800	40	53	60	7.20	24600	34.6	46	50
circuit 2		4.80	16400	20	25	25	3.60	12300	17.3	22	25

Note: ** Motor Amps
* May be "A" or "T"
① Heater not approved for Horizontal Left installations. Upflow Installation approved for 240 Volts only.
② Approved for 240 Volts only. Approved for Upflow only.

WIRING DATA											
*AM4A0B42S31SA, TAM4A0B42S31SB											
Heater Model No.	No. of Circuits	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater	-	-	-	2.7**	3	15	-	-	2.7**	3	15
BAYEAAC05++	1	4.80	16400	20	28	30	3.60	12300	17.3	25	25
BAYEAAC08++	1	7.68	26200	32	43	45	5.76	19700	27.7	38	40
BAYEAAC10++	1	9.60	32800	40	53	60	7.20	24600	34.6	47	50
BAYEABC15++											
circuit 1		9.60	32800	40	53	60	7.20	24600	34.6	47	50
circuit 2		4.80	16400	20	25	25	3.60	12300	17.3	22	25
BAYEABC20++											
circuit 1		9.60	32800	40	53	60	7.20	24600	34.6	53	60
circuit 2		9.60	32800	40	50	50	7.20	24600	34.6	43	45

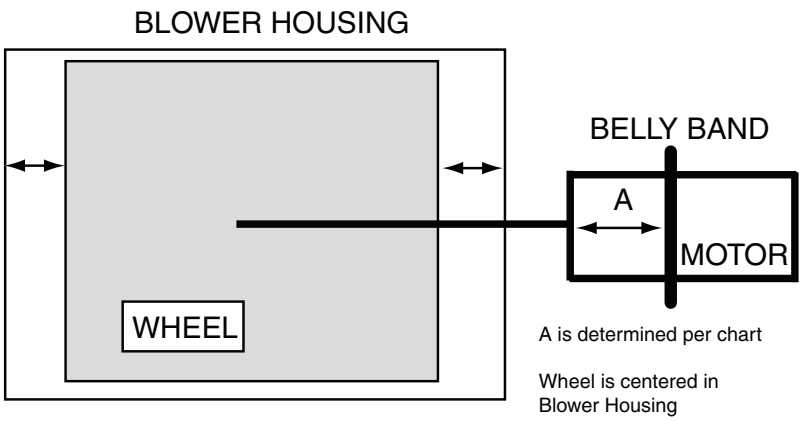
Note: ** Motor Amps
* May be "A" or "T"

WIRING DATA											
*AM4A0C48S41SA, TAM4A0C48S41SB											
Heater Model No.	No. of Circuits	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater	-	-	-	3.1**	4	15	-	-	3.1**	4	15
BAYEAAC05++	1	4.80	16400	20.0	29	30	3.60	12300	17.3	26	30
BAYEAAC08++	1	7.68	26200	32.0	44	45	5.76	19700	27.7	38	40
BAYEAAC10++	1	9.60	32800	40.0	54	60	7.20	24600	34.6	47	50
BAYEABC15++											
circuit 1		9.60	32800	40.0	54	60	7.20	24600	34.6	47	50
circuit 2		4.80	16400	20.0	25	25	3.60	12300	17.3	22	25
BAYEABC20++											
circuit 1		9.60	32800	40.0	54	60	7.20	24600	34.6	53	60
circuit 2		9.60	32800	40.0	50	50	7.20	24600	34.6	43	45
BAYEABC25++ ①											
circuit 1		9.60	32800	40.0	54	60	7.20	24600	34.6	47	50
circuit 2		9.60	32800	40.0	50	50	7.20	24600	34.6	43	45
circuit 3		4.80	16400	20.0	25	25	3.60	12300	17.3	22	25

Note: ** Motor Amps
* May be "A" or "T"
① Not approved for 208 Volt without Heat Pump

WIRING DATA											
*AM4A0C60S51SA, TAM4A0C60S51SB											
Heater Model No.	No. of Circuits	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater	-	-	-	7.6**	10	15	-	-	7.6**	10	15
BAYEAAC05++	1	4.80	16400	20.0	35	35	3.60	12300	17.3	31	35
BAYEAAC08++	1	7.68	26200	32.0	50	50	5.76	19700	27.7	44	45
BAYEAAC10++	1	9.60	32800	40.0	60	60	7.20	24600	34.6	53	60
BAYEABC15++											
circuit 1		9.60	32800	40.0	60	60	7.20	24600	34.6	53	60
circuit 2		4.80	16400	20.0	25	25	3.60	12300	17.3	22	25
BAYEABC20++											
circuit 1		9.60	32800	40.0	60	60	7.20	24600	34.6	53	60
circuit 2		9.60	32800	40.0	50	50	7.20	24600	34.6	43	45
BAYEABC25++											
circuit 1		9.60	32800	40.0	60	60	7.20	24600	34.6	53	60
circuit 2		9.60	32800	40.0	50	50	7.20	24600	34.6	43	45
circuit 3		4.80	16400	20.0	25	25	3.60	12300	17.3	22	25
Note: ** Motor Amps * May be "A" or "T"											

DISTANCE FROM BELLY BAND TO SHAFT FACE OF MOTOR FOR MINIMUM VIBRATION

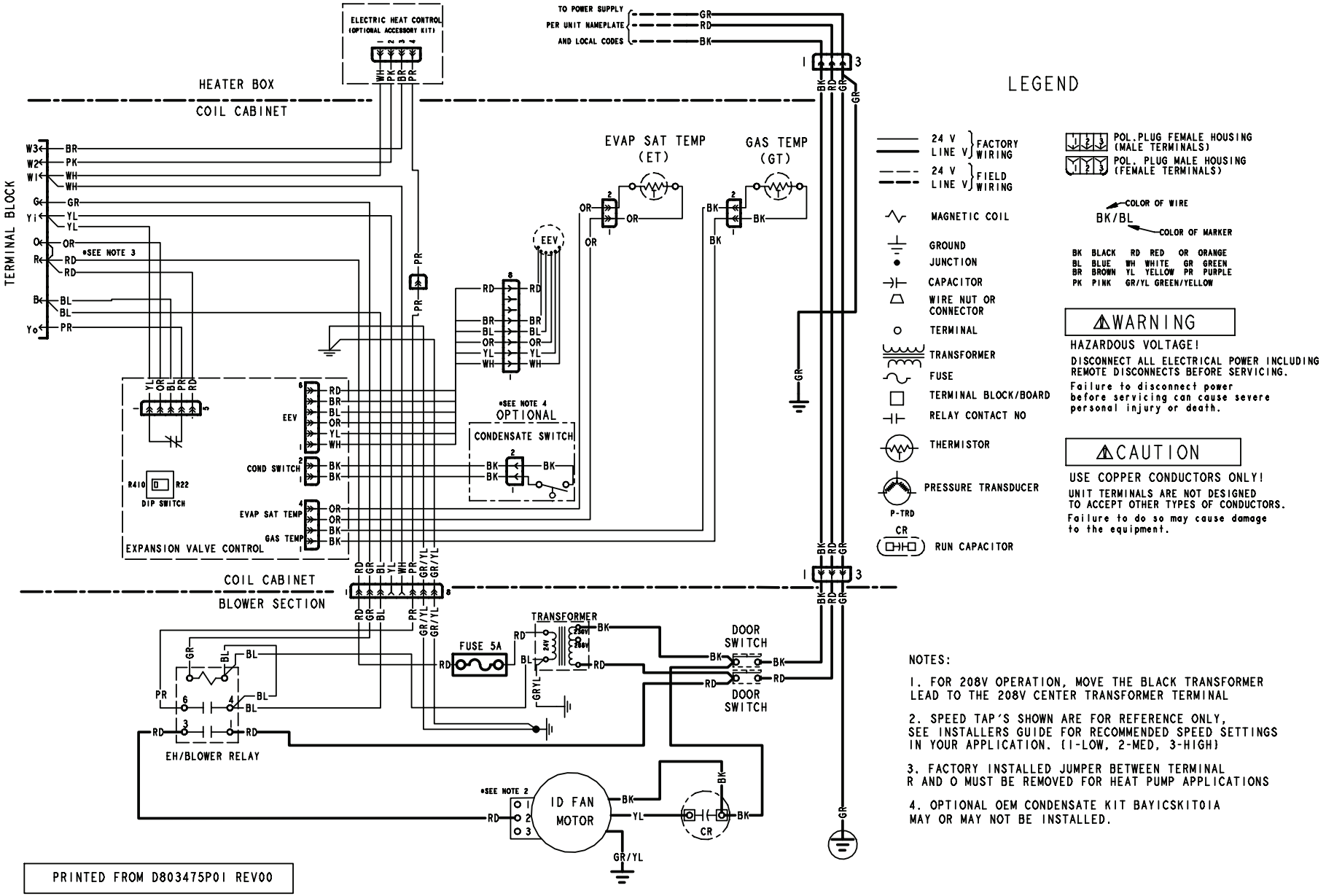


A is determined per chart

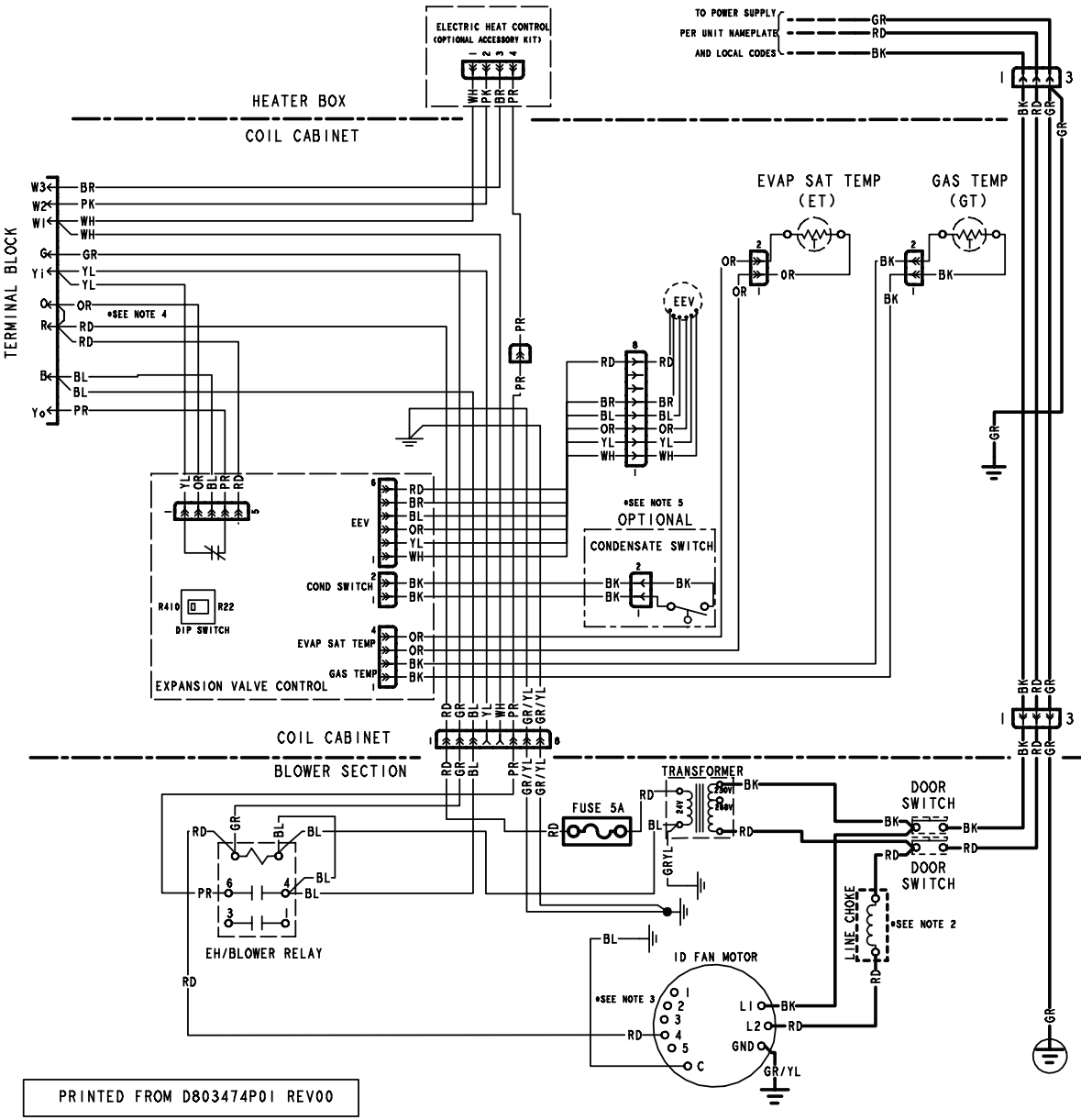
Wheel is centered in Blower Housing

MODEL	DIM "A"
*AM4A0A18S11SA TAM4A0A18S11SB	1-1/8
*AM4A0A24S21SA TAM4A0A24S21SB	2-11/16
*AM4A0A30S21SA TAM4A0A30S21SB	1-9/16
*AM4A0A36S31SA TAM4A0A36S31SB	1-11/16
*AM4A0B42S31SA TAM4A0B42S31SB	3
*AM4A0C48S41SA TAM4A0C48S41SB	2-13/16
*AM4A0C60S51SA TAM4A0C60S51SB	2-1/4
* May be "A" or "T" For factory OEM motors	

WIRING DIAGRAM FOR AAM4A0A18, TAM4A0A18, AAM4A0A24, TAM4A0A24, AAM4A0A30, TAM4A0A30, AAM4A0A36, TAM4A0A36, AAM4A0B42, TAM4A0B42, AAM4A0C48 and TAM4A0C48



WIRING DIAGRAM FOR AAM4A0C60 and TAM4A0C60



LEGEND

- 24 V LINE V } FACTORY WIRING
- 24 V LINE V } FIELD WIRING
- MAGNETIC COIL
- GROUND
- JUNCTION
- CAPACITOR
- WIRE NUT OR CONNECTOR
- TERMINAL
- TRANSFORMER
- FUSE
- TERMINAL BLOCK/BOARD
- RELAY CONTACT NO
- THERMISTOR

- POL.PLUG FEMALE HOUSING (MALE TERMINALS)
- POL. PLUG MALE HOUSING (FEMALE TERMINALS)

COLOR OF WIRE
BK/BL
COLOR OF MARKER

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

⚠WARNING

HAZARDOUS VOLTAGE!

DISCONNECT ALL ELECTRICAL POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.

Failure to disconnect power before servicing can cause severe personal injury or death.

⚠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.

NOTES:

1. FOR 208V OPERATION, MOVE THE BLACK TRANSFORMER LEAD TO THE 208V CENTER TRANSFORMER TERMINAL
2. LINE CHOKE MAY NOT BE USED ON ALL MODELS.
3. SPEED TAP'S SHOWN ARE FOR REFERENCE ONLY, SEE INSTALLERS GUIDE FOR RECOMMENDED SPEED SETTINGS IN YOUR APPLICATION.
4. FACTORY INSTALLED JUMPER BETWEEN TERMINAL R AND O MUST BE REMOVED FOR HEAT PUMP APPLICATIONS
5. OPTIONAL OEM CONDENSATE KIT BAYICSKITOIA MAY OR MAY NOT BE INSTALLED.

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SEQUENCE OF OPERATION FOR AAM4/TAM4 AIR HANDLERS

AAM4/TAM4 Sequence of Operation

Abbreviations

- EVC = Expansion Valve Control
- EEV = Electronic Expansion Valve
- YI = Y signal into the EVC from the comfort control
- YO = Y signal out of the EVC to the outdoor unit

NOTE: *Models with a constant torque motor (5 ton / AAM4A0C60 or TAM4A0C60) do not use blower relay contacts 1 & 3 to energize the motor. The 24VAC signal from the G terminal provides the necessary power to energize the motor.*

See unit, electric heat, and field wiring diagrams for additional information.

Continuous Fan

1. R-G contacts close on comfort control sending 24VAC to the blower relay
2. Relay contacts 1 and 3 close
3. The blower will now run on the selected speed. Speed is field selectable

Heatpump OD (cooling)

1. R-Y contacts close on the comfort control sending 24VAC to the YI (Y In) terminal on the EVC.
2. R-G contacts close on comfort control sending 24VAC to the blower relay
3. Relay contacts 1 and 3 close
4. The blower will now run on the selected speed. Speed is field selectable
5. R-O contacts on the comfort control close sending 24VAC to the O terminal on the EVC. This signals the EVC that the unit is in cooling mode. The EVC will control the EEV to maintain the correct superheat.
6. Normally closed contacts on the EVC will pass 24VAC to the YO terminal providing power to the outdoor unit control circuit

Heatpump OD (heating)

1. R-Y contacts close on the comfort control sending 24VAC to the YI (Y In) terminal on the EVC
2. R-G contacts close on comfort control sending 24VAC to the blower relay
3. Relay contacts 1 and 3 close
4. The blower will now run on the selected speed. Speed is field selectable
5. The combination of 24VAC on the Y terminal and zero volts on the O terminal signals the EVC that the unit is in heat-pump heating mode
6. Normally closed contacts on the EVC will pass 24VAC to the YO terminal providing power to the outdoor unit control circuit

Cooling OD

1. R-Y contacts close on the comfort control sending 24VAC to the YI (Y In) terminal on the EVC
2. R-G contacts close on comfort control sending 24VAC to the blower relay
3. Relay contacts 1 and 3 close
4. The blower will now run on the selected speed. Speed is field selectable
5. R-O jumper on the LVTB sends 24VAC to the O terminal on the EVC. This signals the EVC that the unit is in cooling mode. The EVC will control the EEV to maintain the correct superheat
6. Normally closed contacts on the EVC will pass 24VAC to the YO terminal providing power to the outdoor unit control circuit

Electric Heating

1. R-W contacts close on the comfort control sending 24VAC to the EHC to energize the heat relay.
2. R-G contacts close on comfort control sending 24VAC to the blower relay
3. Relay contacts 1 and 3 close
4. The blower will now run on the selected speed. Speed is field selectable
5. Contacts 4 & 6 on the blower relay close providing the interlock circuit to allow the electric heat relays to operate

The comfort control must be setup to control R-G contacts with a call for electric heat. This closes the interlock circuit and allows the heat relay circuit to be energized.

Optional Condensate Switch

1. An optional OEM condensate switch can be installed within the unit. This switch is only available through the National Distribution Center or Global Parts.
2. Switch contacts are normally open and close when water level rises. The closed switch will interrupt current flow to the YO terminal and de-energize the OD unit.
3. Switch is only operational during cooling mode. Condensate overflow is not operational during heating or defrost modes.

Standard aftermarket condensate switches cannot be used within the unit but can be installed exterior of the unit. Switch should be wired in series with YO wiring to the OD unit.

Freeze Protection

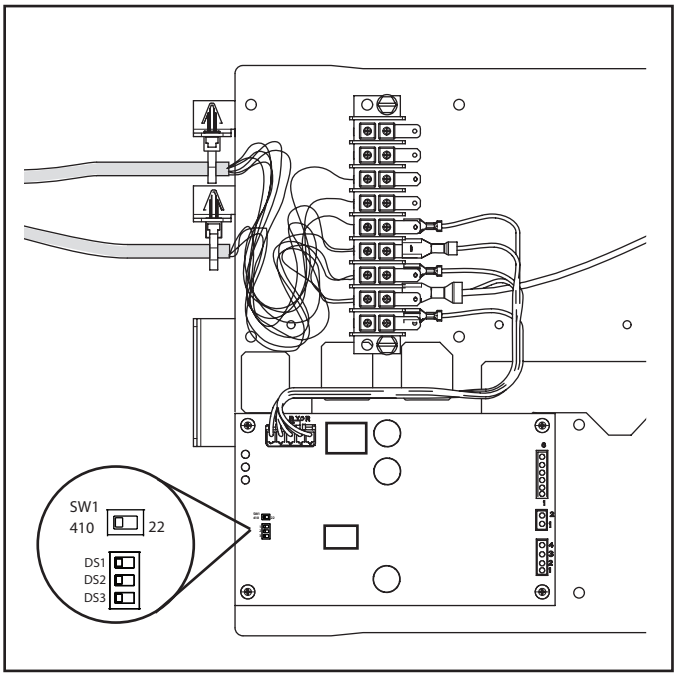
1. The EVC control has the ability to sense when the coil is beginning to ice. When this event occurs, the contacts to the YO circuit will open and de-energize the OD unit.
2. The indoor blower motor will continue to run to aid in defrosting the coil. After the coil has sufficiently defrosted, the YO contacts will close and cooling operation will begin again.

CONFIGURATION DIP SWITCH SETTINGS

SW2 Switch Settings (Configuration)

DS1	DS2	DS3	Model Number
OFF	ON	OFF	TAM4A0A18S11SB, *AM4A0A18S11SA
			TAM4A0A24A21SB, *AM4A0A24A21SA
ON	OFF	ON	TAM4A0A30S21SB, *AM4A0A30S21SA
			TAM4A0A36S21SB, *AM4A0A36S21SA
OFF	OFF	ON	TAM4A0B42S31SB, *AM4A0B42S31SA
OFF	ON	OFF	TAM4A0B48S41SB, *AM4A0B48S41SA
ON	OFF	ON	TAM4A0C60S51SB, *AM4A0C60S51SA

* May be "A" or "T"



DIP SWITCH SETTING - Refrigeration Switch

Note: Ensure that the system refrigerant is set to match your application, either R-410A or R-22. using the Refrigerant Switch located on the Expansion Valve Control board (EVC) in the Control Pocket.

Factory default is R-410A.

Note: A “power cycle” is needed for the EVC to recognize the change.

EVC STATUS

EVC STATUS LED (Non Heat Pump Systems)	
Flash	
1	Cool mode / No active call
3	Active call for cooling

EVC STATUS LED (Heat Pump Systems)	
Flash	
1	Cool mode / No active call
3	Active call for cooling or defrost
4	Heat mode selected or Thermostat system switch off
6	Active call for heating

NOTE: Status LED is for determining EVC control state only. Auxiliary heat status is not reported.

EVC FAULT CODES

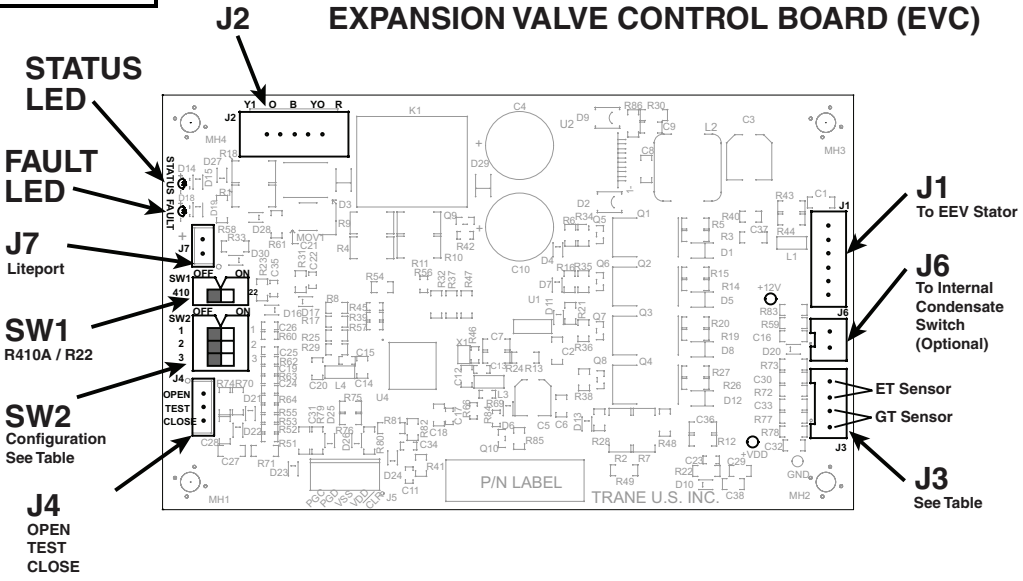
LED Color	EVC Fault LED	Description
RED	**OFF**	**Standby**
	1	Stepper Motor coil has an open circuit or intermittent short
	2	Control has detected an internal failure (Replace EEV control, EVC)
	3	Evaporator Temperature Sensor (ET) input out of range (Verify resistance, 5VDC output from control) **(1)**
	4	Gas Temperature Sensor (GT) input out of range (Verify resistance, 5VDC output from control) **(1)**
	5	Stepper Motor Coil is shorted **(2)**
	6	Valve is not responding to a change in position. (Possible stuck valve)
	7	High superheat (Low charge or restriction)
	10	Low superheat (Check airflow, possible stuck valve) **(3)**
	11	Condensate drain switch activated for 100 seconds (Check condensate switch and drain) **(2)**
	13	Indoor frost protection activated (Check refrigerant charge and airflow) **(4)**
NOTES:		1) EEV will try to go to a safe position, cooling attempt allowed 2) EVC disables YO 3) Cooling attempt allowed, 5 consecutive Y calls with same condition disables YO 4) EVC disables YO for 5 minutes NOTE: Faults 6, 7, & 10 may require jumper from "Test - Close" for 10 seconds to clear fault LED

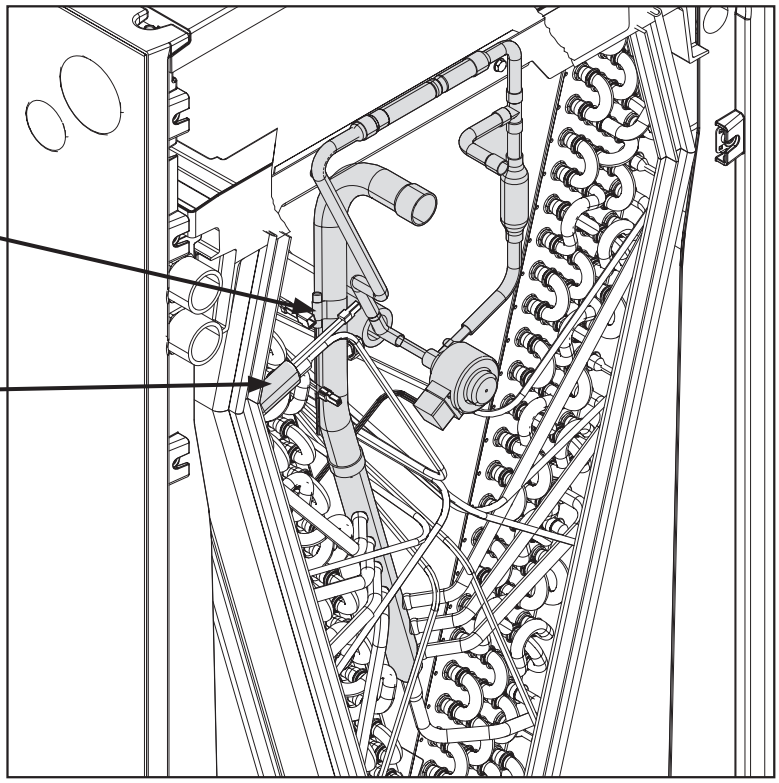
THERMAL RESISTANCE AND VOLTAGE TABLE

TEMP F	TEMP C	THERMISTOR RESISTANCE (OHMS) *	Volts DC at plug J3 EVAP TEMP (ET) - Orange to Orange GAS TEMP (GT) - Black to Black
20	-6.7	45076	3.20
21	-6.1	43764	3.17
22	-5.6	42494	3.14
23	-5.0	41266	3.10
24	-4.4	40077	3.07
25	-3.9	38927	3.04
26	-3.3	37813	3.00
27	-2.8	36736	2.97
28	-2.2	35692	2.93
29	-1.7	34681	2.90
30	-1.1	33703	2.86
31	-0.6	32755	2.83
32	0.0	31838	2.80
33	0.6	30949	2.76
34	1.1	30087	2.73
35	1.7	29253	2.69
36	2.2	28445	2.66
37	2.8	27661	2.62
38	3.3	26902	2.59
39	3.9	26166	2.56
40	4.4	25452	2.52
41	5.0	24761	2.49
42	5.6	24090	2.45
43	6.1	23440	2.42
44	6.7	22810	2.39
45	7.2	22198	2.35
46	7.8	21605	2.32
47	8.3	21030	2.29
48	8.9	20472	2.25
49	9.4	19931	2.22
50	10.0	19405	2.19
51	10.6	18896	2.16
52	11.1	18401	2.12
53	11.7	17921	2.09
54	12.2	17455	2.06
55	12.8	17002	2.03
56	13.3	16563	2.00
57	13.9	16137	1.97
58	14.4	15723	1.94
59	15.0	15320	1.91
60	15.6	14930	1.88
61	16.1	14550	1.85
62	16.7	14182	1.82
63	17.2	13824	1.79
64	17.8	13476	1.76
65	18.3	13138	1.73
66	18.9	12810	1.70
67	19.4	12491	1.67
68	20.0	12181	1.65
69	20.6	11879	1.62
70	21.1	11586	1.59
72	22.2	11024	1.54
74	23.3	10492	1.49
76	24.4	9990	1.44
78	25.6	9515	1.39
80	26.7	9065	1.34
82	27.8	8639	1.29
84	28.9	8236	1.25
86	30.0	7855	1.20
88	31.1	7493	1.16
90	32.2	7150	1.12
92	33.3	6825	1.08
94	34.4	6516	1.04
96	35.6	6224	1.01
98	36.7	5946	0.97
100	37.8	5682	0.93
102	38.9	5432	0.90
104	40.0	5194	0.87
106	41.1	4968	0.84
108	42.2	4753	0.81
110	43.3	4548	0.78
112	44.4	4354	0.75
114	45.6	4169	0.72
116	46.7	3992	0.70
118	47.8	3825	0.67
120	48.9	3665	0.65
122	50.0	3513	0.62
124	51.1	3368	0.60
126	52.2	3230	0.58
128	53.3	3098	0.56
130	54.4	2972	0.54
132	55.6	2853	0.52
134	56.7	2738	0.50
136	57.8	2629	0.48
138	58.9	2525	0.46
140	60.0	2425	0.45
142	61.1	2330	0.43
144	62.2	2239	0.42
146	63.3	2153	0.40
148	64.4	2070	0.39
150	65.6	1990	0.37

* Values should be within +/- 5%

EXPANSION VALVE CONTROL BOARD (EVC)





Note: Some future models may not have external check valve.

Electronic Expansion Valve Test

Note: Close Valve and Open Valve Tests are active in any mode of operation

Test Pins: OPEN, CLOSE, TEST (See J4 on EVC Board)

Close Valve Test - Touch CLOSE pin to TEST pin.

EEV drives closed (5 seconds max) and stays closed for 1.5 minutes (90 seconds).

1) Status LED will be flashing.
2) Gauges should indicate suction pressure dropping.
   - Valve is working.
   - LPCO may trip.

Note: The *Close Valve Test* will exit after 1.5 minutes (90 seconds) and will not reinitiate (requires a break and make to initialize). To clear faults stored in memory, apply a jumper between Close and Test pins for 10 seconds.

Open Valve Test - Touch OPEN pin to TEST pin.

EEV drives open (5 sec max) and stays open for 30 seconds.

1) Status LED will be flashing.
2) Temperature probe should indicate superheat falling.
   - Valve is working.

Note: If jumper is left on pins, the OPEN VALVE TEST will be cleared after 30 seconds and will not reinitiate (requires a break and make to reinitialize).

Exit Test Mode - The Open Valve Test or Closed Valve Test can be cancelled by jumping to the opposite mode Test pin. The system will return to normal super heat control.

Verify connections for sensors are plugged in and connected properly

Sensor Check

Start Here

Turn System switch on thermostat to OFF and Fan to ON position

Wait 10 minutes

Measure return air temperature

Measure VDC at J3 connector on EVC. (See EVC table for J3 location)

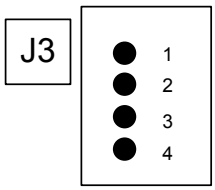
Does voltage(s) measured correspond to return air temperature? +-3F

YES

Proceed to next step

NO

Remove J3 connector



Is 4.5 – 5 VDC measured between pins 1-2 and pins 3-4?

NO

Replace EVC

YES

Remove J3 connector and measure resistance across BK-BK and OR-OR

Do resistance readings match chart (within +- 5%) for the return air temperature?

NO

Replace sensor(s)

Measure resistance of each sensor lead to ground

Are zero ohms measured from any lead to ground

NO

Sensors are good

YES

Check sensor leads for short to ground. Replace or repair as needed

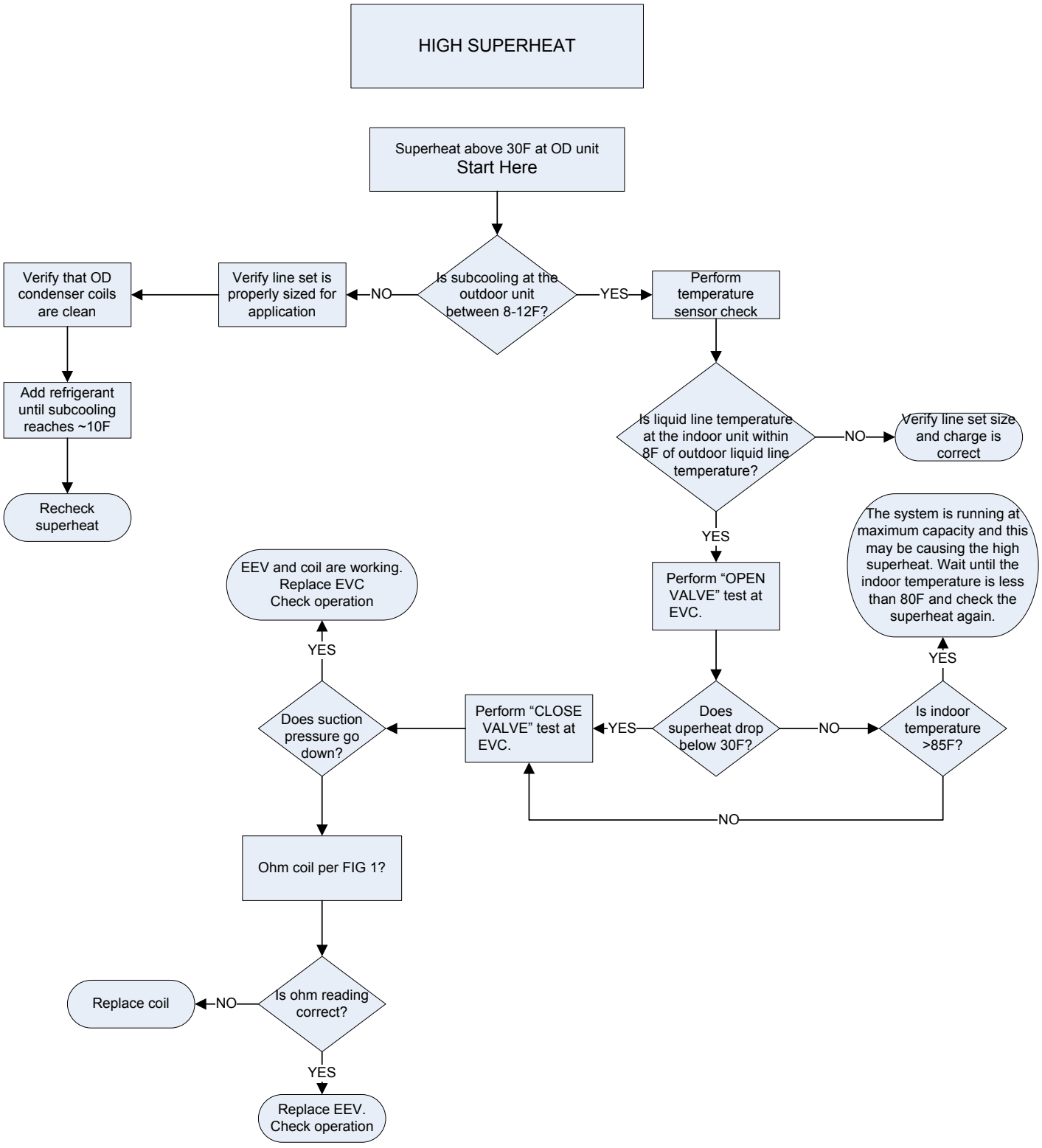
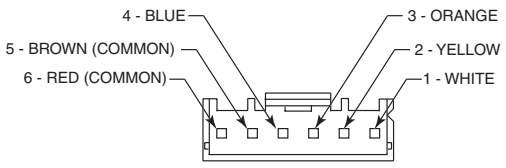


Figure 1
4 - Phase Coil Control



- Brown (common) to Blue or Yellow should measure 46 ohms
- Red (common) to Orange or White should measure 46 ohms

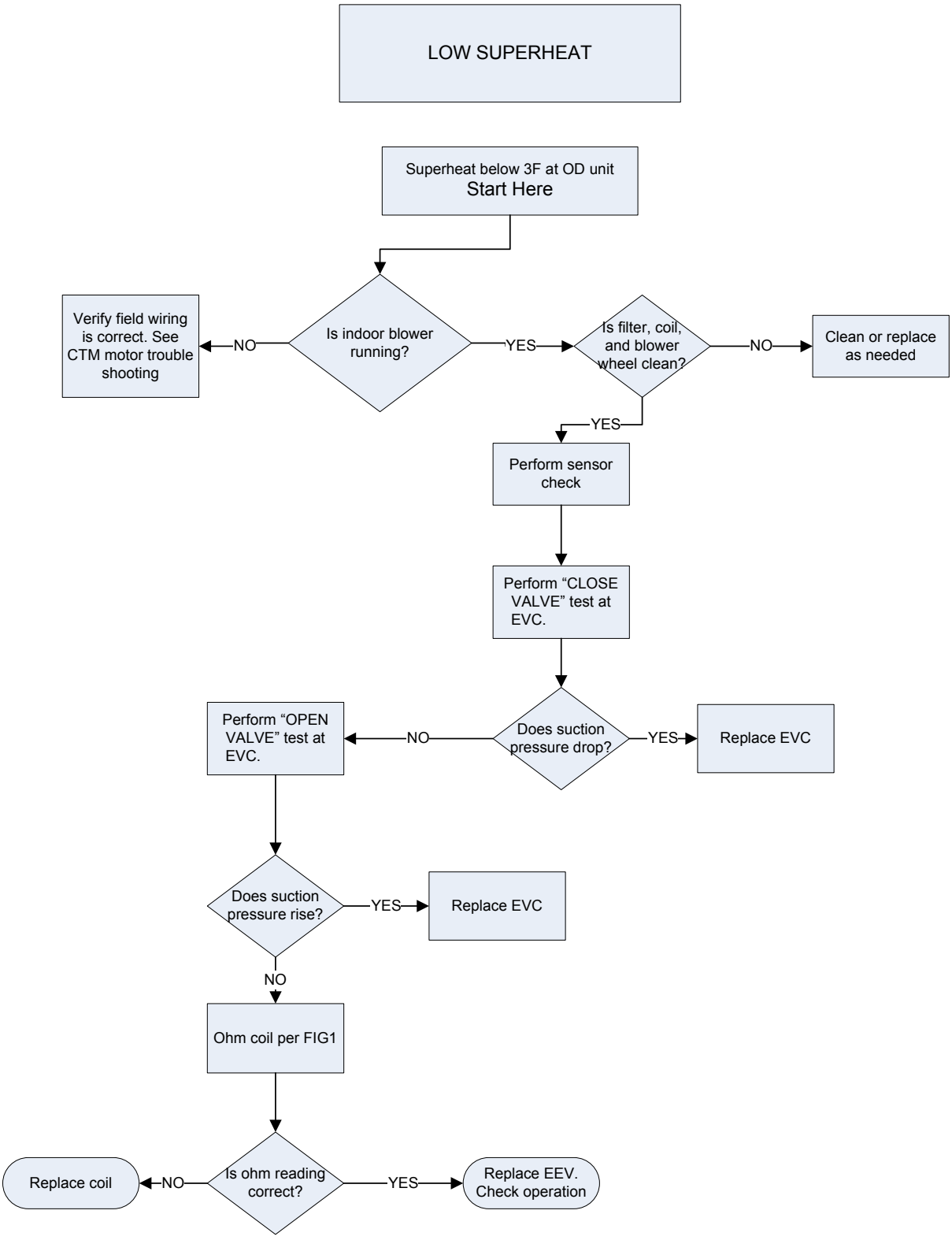
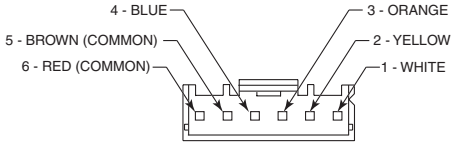
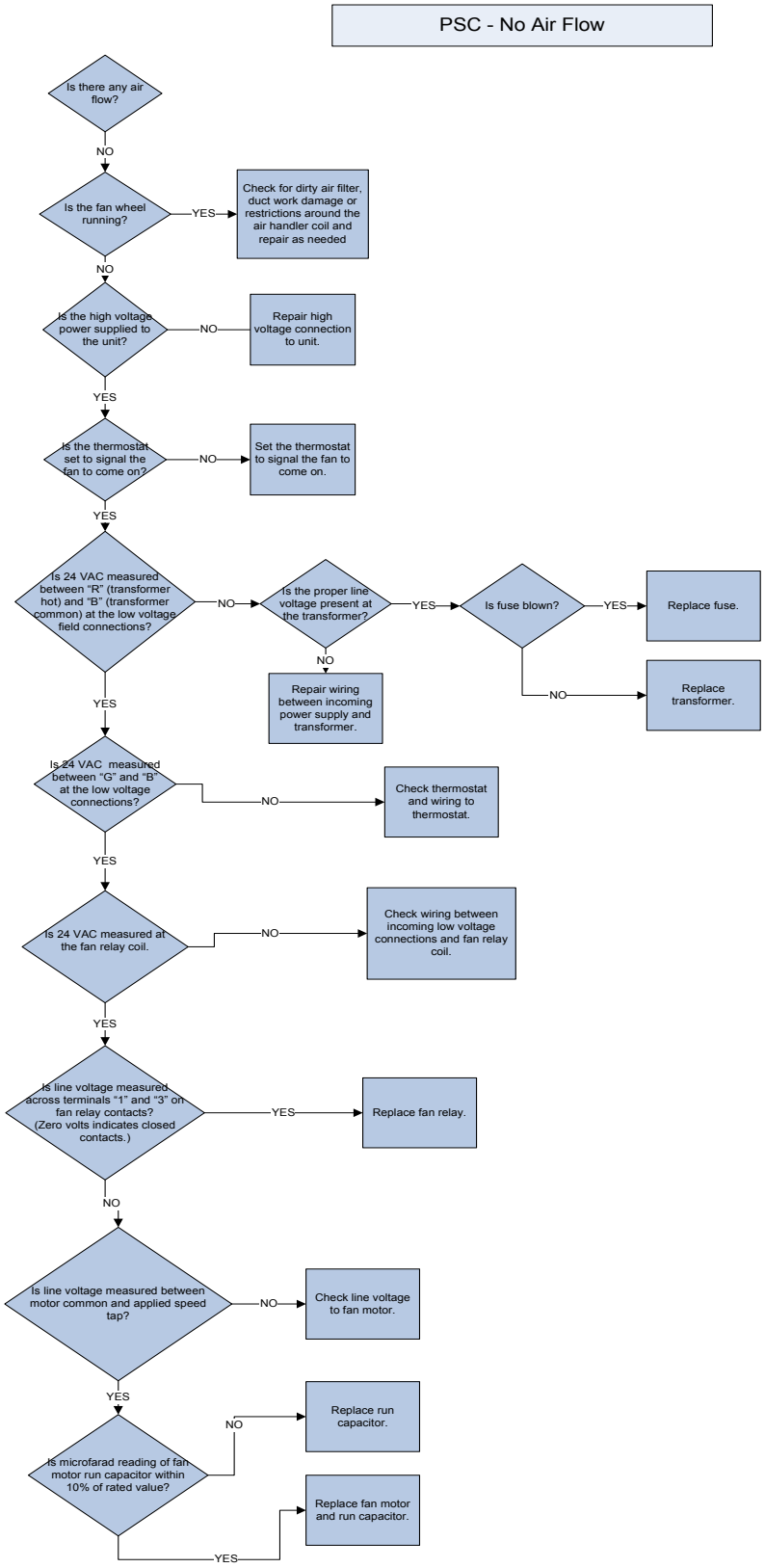


Figure 1
4 - Phase Coil Control

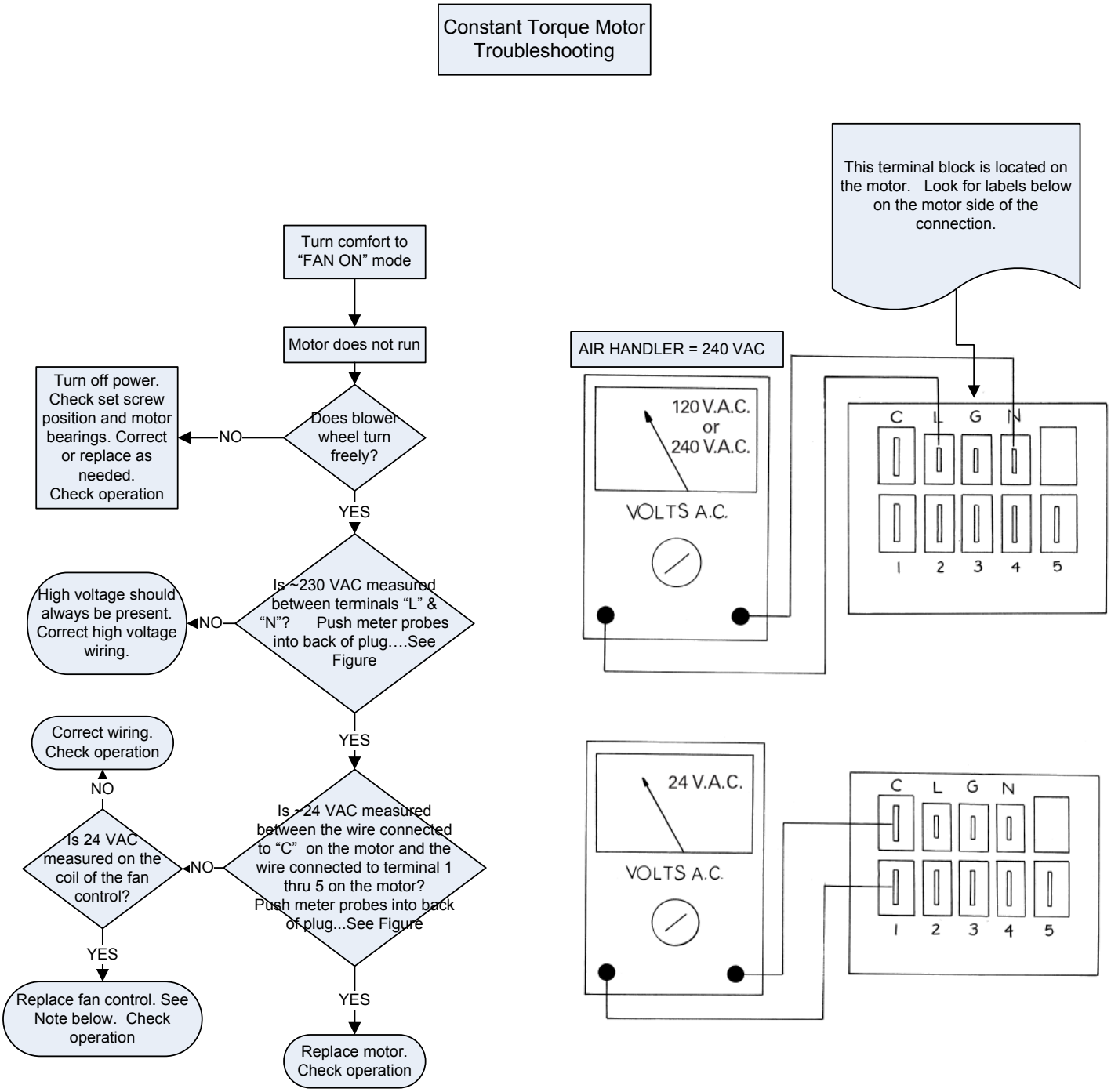


- Brown (common) to Blue or Yellow should measure 46 ohms
- Red (common) to Orange or White should measure 46 ohms

PSC MOTOR TROUBLESHOOTING FOR AAM4A0A18, TAM4A0A18, AAM4A0A24, TAM4A0A24, AAM4A0A30, TAM4A0A30, AAM4A0A36, TAM4A0A36, AAM4A0B42, TAM4A0B42, AAM4A0C48, and TAM4A0C48



CONSTANT TORQUE MOTOR TROUBLESHOOTING FOR *AM4A0C60S51SA AND TAM4A0C60S51SB



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For more information contact your local dealer (distributor)