Unbranded B6EMMX Multi-Speed Air Handler Installation Guide

Contents

UNBRANDED

Unbranded B6EMMX Multi-Speed Air Handler

Product Information

Product Name: B6 Air Handler FSHE Conversion Kit
Purpose: The purpose of this kit is to convert the controls on field-installed B6E* and 5-ton B6B* air handlers to the combined motor and heater kit circuit board currently in production.

Installation Instructions

1. Make sure power to the unit is turned off and any breakers/disconnects to the unit are deactivated.
2. Remove the upper air handler door.
3. Make note of the DIP switch airflow settings and thermostat wire connections on the unit control board.
4. Disconnect and remove both circuit boards from the unit.
5. Install the replacement board in the unit where the original control board was located. Use the same mounting holes.
6. Remove the old control board from the blower compartment.
7. Refer to Figure 1 for Control Board Removal & Installation.

SWITCH SETTINGS:

A-Cabinet:

1/5	2/6	3/7	4/8
0000	1000	0100	1100
0010	1010	0110	1110
0001	1001	0101	1101
0011	1011	0111	1111

B-Cabinet:

1/5	2/6	3/7	4/8
0000	1000	0100	1100
0010	1010	0110	1110
0001	1001	0101	1101
0011	1011	0111	1111

C-Cabinet:

1/5	2/6	3/7	4/8
0000	1000	0100	1100
0010	1010	0110	1110
0001	1001	0101	1101
0011	1011	0111	1111

Note: Please refer to the instruction manual for detailed information on switch settings.

Airflow Settings:

- 0.1
- 585
- 710
- 845
- 890
- 955
- 1030
- 1115
- 1155
- 1200
- 1240
- 1320
- 1355

- 1405
- 1440
- 1465

Important Safety Information:

Please read all instructions before servicing this equipment. Pay attention to all safety warnings and any other special notes highlighted in the manual. The safety markings used in this manual designate a degree or level of seriousness and should not be ignored.

WARNING: Indicates a potentially hazardous situation that if not avoided, could result in personal injury or death.

CAUTION: Indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage.

IMPORTANT: These instructions are primarily intended for qualified individuals experienced in the proper installation of heating and/or air conditioning appliances. All installations must be in accordance with these instructions and with all applicable national and local codes and standards.

If you do not possess mechanical skills or tools, it is recommended to call your local dealer for assistance.

INSTALLATION INSTRUCTIONS

B6 Air Handler FSHE Conversion Kit

IMPORTANT SAFETY INFORMATION

Please read all instructions before servicing this equipment. Pay attention to all safety warnings and any other special notes highlighted in the manual. The safety markings used in this manual designate a degree or level of seriousness and should not be ignored.
WARNING indicates a potentially hazardous situation that if not avoided, could result in personal injury or death.

CAUTION indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage.

WARNING
Installing and servicing HVAC equipment can be hazardous due to gas, electrical, or refrigerant components. Observe all precautions in the literature, and on tags and labels attached to the unit. Follow all safety codes. Failure to follow safety recommendations could result in possible damage to the equipment, serious personal injury or death.

IMPORTANT
ATTENTION INSTALLERS:
These instructions are primarily intended to assist qualified individuals experienced in the proper installation of heating and/or air conditioning appliances. Some local codes require licensed installation/service personnel for this type equipment. All installations must be in accordance with these instructions and with all applicable national and local codes and standards.
Please read all instructions carefully before starting the installation. If a problem occurs, check the instructions and follow the recommendations given.
The information shown in these instructions must be followed during the installation of this kit. Unqualified individuals should not attempt to interpret these instructions or install this equipment. If you do not possess mechanical skills or tools, call your local dealer for assistance.

- Use caution when handling or installing this component. Personal injury can occur from sharp metal edges present in all sheet metal constructed equipment.

ABOUT THE CONVERSION KIT

The purpose of this kit is to convert the controls on field installed B6E* and 5-ton B6B* air handlers to the combined motor and heater kit circuit board currently in production.

INSTALLATION SEQUENCE

1. Make sure power to the unit is turned off and any breakers/disconnects to the unit are deactivated.
2. Remove the upper air handler door.
3. Make note of the DIP switch airflow settings and thermostat wire connections on the unit control board.
4. Disconnect and remove both circuit boards from unit.
5. Install the replacement board in the unit where the original upper control board was mounted, with the seven-segment display closest to the door. See Figure 1.
6. Reroute the motor power and signal wires through the blower deck and connect them to the new board.
7. Connect the transformer harness, heater kit harness (if optional electric heat is installed), and unit power leads.
8. Install the included thermostat harness and reconnect thermostat wires.
   NOTE: The new harness includes an optional violet Dehumidification wire. This is shown in Figure 2.
9. Set the airflow DIP switches to match the original settings.
   NOTE: Table 1 lists additional DIP switch settings for various static pressures. If DIP switch settings need to be adjusted, refer to the table for reference.
10. Reinstall the air handler door and restore power to the unit.
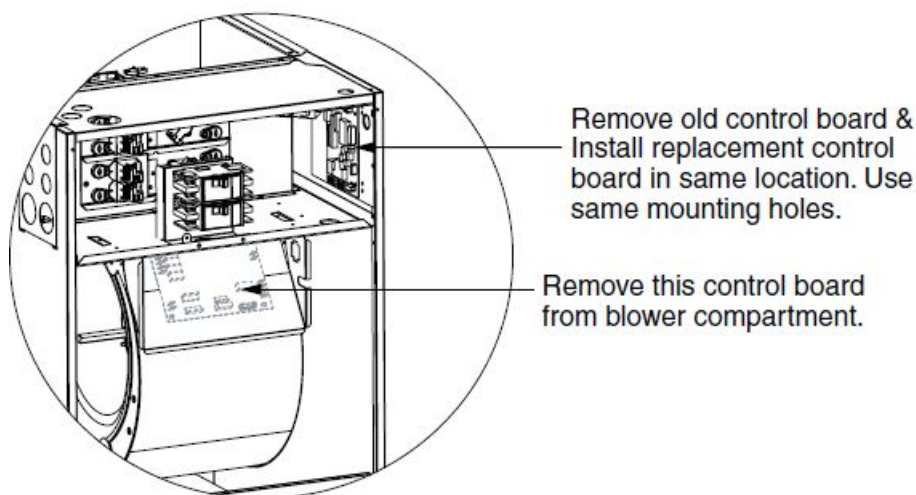
Figure 1. Control Board Removal & Installation

Table 1. B6EM (FSHE) Airflow Data

	SWITCH SETTINGS 0 = OFF, 1 = ON	COOLING OR HEATING AIRFLOW (CFM)
		DRY COIL ESP

1/5	2/6	3/7	4/8	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
0	0	0	0	585	550	520	460	420	405	—	—
1	0	0	0	710	670	650	610	560	530	475	440
0	1	0	0	845	790	765	715	680	655	625	580
1	1	0	0	890	865	840	785	760	710	680	655
0	0	1	0	955	925	900	850	825	790	770	720
1	0	1	0	1030	995	975	940	910	870	840	815
0	1	1	0	1115	1085	1060	1020	995	965	925	905
1	1	1	0	1155	1130	1095	1070	1040	1010	985	950
0	0	0	1	1200	1175	1145	1110	1085	1060	1025	1000
1	0	0	1	1240	1215	1195	1170	1140	1110	1080	1060
0	1	0	1	1320	1290	1265	1240	1215	1185	1160	1130
1	1	0	1	1355	1330	1305	1280	1255	1220	1200	1175
0	0	1	1	1405	1375	1345	1325	1295	1275	1250	1210
1	0	1	1	1440	1415	1385	1355	1325	1290	1255	1215
0	1	1	1	1465	1425	1390	1355	1320	1290	1260	1215
1	1	1	1	1465	1425	1390	1355	1320	1290	1260	1215

B6EM A-CABINET

SWITCH SETTINGS 0 = OFF, 1 = ON				COOLING OR HEATING AIRFLOW (CFM)							
				DRY COIL ESP							
1/5	2/6	3/7	4/8	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
0	0	0	0	600	550	430	390	—	—	—	—
1	0	0	0	660	610	540	460	425	—	—	—
0	1	0	0	830	750	695	640	580	520	—	—
1	1	0	0	860	825	765	690	630	600	525	485
0	0	1	0	935	895	835	790	710	655	620	585
1	0	1	0	1045	975	920	875	830	795	720	685
0	1	1	0	1095	1040	995	950	900	850	805	750
1	1	1	0	1155	1105	1060	1010	965	920	870	825
0	0	0	1	1230	1185	1140	1090	1045	1010	965	920
1	0	0	1	1285	1260	1210	1165	1125	1080	1040	1010
0	1	0	1	1330	1290	1245	1205	1170	1125	1085	1045

B6EM B-CABINE

T	1	1	0	1	1395	1365	1315	1275	1235	1205	1160	1130
	0	0	1	1	1450	1405	1375	1335	1295	1260	1220	1180
	1	0	1	1	1490	1450	1410	1385	1340	1300	1270	1230
	0	1	1	1	1530	1485	1460	1425	1380	1350	1310	1280
	1	1	1	1	1530	1490	1465	1425	1390	1350	1310	1285

	SWITCH SETTINGS 0 = OFF, 1 = ON				COOLING OR HEATING AIRFLOW (CFM)							
					DRY COIL ESP							
	1/5	2/6	3/7	4/8	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
	0	0	0	0	710	580	395	—	—	—	—	—
	1	0	0	0	830	690	675	530	505	—	—	—
	0	1	0	0	930	875	710	665	560	530	—	—
	1	1	0	0	1065	1015	900	840	800	705	665	635
	0	0	1	0	1185	1115	1010	960	925	875	830	745
	1	0	1	0	1275	1220	1175	1120	1060	970	930	890
	0	1	1	0	1365	1350	1255	1200	1150	1105	1060	1025
	1	1	1	0	1480	1430	1370	1325	1265	1225	1185	1140
	0	0	0	1	1560	1535	1485	1430	1375	1335	1285	1240
B6EM C-CABINET	1	0	0	1	1650	1600	1545	1500	1450	1405	1360	1305
	0	1	0	1	1730	1685	1660	1610	1570	1520	1470	1420
	1	1	0	1	1785	1740	1695	1645	1615	1545	1510	1470
	0	0	1	1	1865	1820	1785	1750	1695	1655	1605	1560
	1	0	1	1	1920	1890	1850	1805	1765	1715	1675	1640
	0	1	1	1	2010	1965	1960	1900	1850	1810	1775	1730
	1	1	1	1	2065	2020	1985	1955	1915	1880	1840	1810

WIRING DIAGRAM

Air Handler with Fixed Speed High Efficiency Motor

NOTES:

1. The blower motor speed tap connection may not be as shown. See the Installation Instructions.
2. Disconnect all power before servicing.
3. Transformer may have a dual voltage primary tap. Match the tap position with the supply voltage used.
4. If the internal wiring is replaced,use only 105°C copper wire of the same gauge.

6-PIN PLUG	
R	RED
C	GRAY
G	GREEN
W	WHITE
D	VIOLET
Y	YELLOW

HEATER PLUG

MOTOR

HARNESS

CUT WIRES TO REMOVE PLUG HOUSING WHEN HEATER KIT NOT INSTALLED

L2 L1

L1 L2 C R

4-PIN PLUG

1 BLACK
2 RED

BLACK
WHITE

240 208 COM
TRANSFORMER
R 24 V C

GRAY
RED

BLACK
WHITE

MOTOR
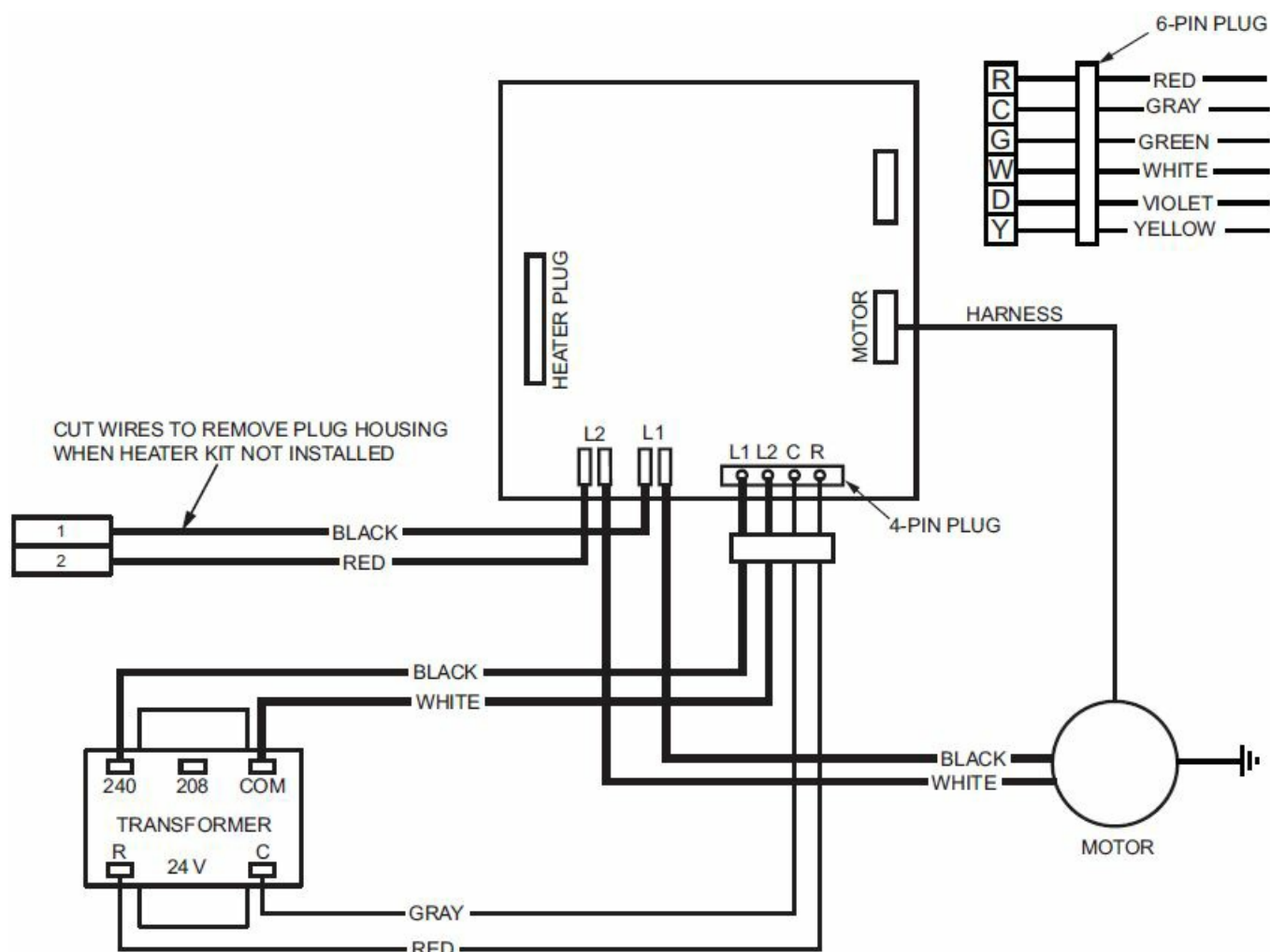
DISPLAY CODE	CURRENT MODE
-	Standby is a Rotating Segment
C	Cooling Mode (Y input active)
H	Heating Mode (W input active)
F	Circulate Fan Mode (G input active)
d	Dehum Cooling Mode (DEHUM input active along with Y)
I	(one) A Motor Fault has Occurred (BMF active for more than 30 seconds)
t	(lower case t) Over Temperatures (The value of the TS input has exceeded 80C all outputs are stopped.)
L	Lockout (Ten (10) or more Motor Faults or Over Temperature events have occurred. All outputs are set to off for one hour.

Figure 2. B6EM Wiring Diagram

1014903A
(Replaces 10149030)

LEGEND

```
┌─────────────────────────────────────┐
│  FIELD WIRING    - - - -             │
│  LOW VOLTAGE     ─────────           │
│  HIGH VOLTAGE    ═════════           │
└─────────────────────────────────────┘
```

Specifications & illustrations subject to change without notice or incurring obligations (02/19).
O'Fallon, MO, © Nortek Global HVAC LLC 2019. All Rights Reserved.

Documents / Resources

Unbranded B6EMMX Multi-Speed Air Handler [pdf] Installation Guide
B6EMMX, B6EMMX Multi-Speed Air Handler, Multi-Speed Air Handler, Air Handler, Handler