Installation Instructions

Manufactured Housing Blower Package for Electric Furnaces

KMABA----3TE
KMABA----4TE

NOTE: Read the entire instruction manual before starting the installation.
This symbol → indicates a change since last issue.

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and National Electrical Code (NEC) for special requirements.

Recognize safety information. This is the safety-alert symbol ⚠ . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **would** result in minor personal injury or product and property damage.

⚠ WARNING: Before installing or servicing system, always turn off all power to unit. There may be more than 1 disconnect switch. Turn off accessory heater power if applicable. Electrical shock can cause personal injury or death.

INTRODUCTION

→ These instructions cover the installation of blower kits with controls into Nordyne/Intertherm/Miller and Evcon/Coleman manufactured housing electric furnaces. After installing the blower packages and controls, the furnace is ready to add an air conditioner or heat pump. Four blower kits are available. Kit Part No. KMABA03013TE and KMABA04014TE are designed only for Nordyne E1EH and E2EH Furnaces. Kit Part No. KMABA05013TE and KMABA06014TE are designed for a variety of Nordyne and Evcon furnaces. Refer to Table 1 for kit usage. Refer to Table 2 for kit contents.

→ Table 1—Kit Usage

FURNACE MODEL		COOLING APPLICATION	
		3 Ton	4 Ton
Nordyne Miller Intertherm	E1EH E2EH	KMABA03013TE	KMABA04014TE
Nordyne Miller Intertherm	FEH2,FEHB FEBA,FEBB E1EH,E2EH	KMABA05013TE	KMABA06014TE
Evcon Coleman	3400 3400A 3500 EBxxA	KMABA05013TE	KMABA06014TE

Form: AG-MABA-03 Cancels: AG-MABA-01 Printed in U.S.A. 9-97 Catalog No. 63MA-BA0

→ **Table 2—Kit Contents**

DESCRIPTION	QUANTITY			
	KMABA03013TE	KMABA04014TE	KMABA05013TE	KMABA06014TE
240-v, 1/2-HP Blower Assembly	1	—	1	—
240-v, 3/4-HP Blower Assembly	—	1	—	1
Control Box	1	1	1	1
Adapter Plate for E1EH Furnace	1	1	1	1
Adapter Plate for E2EH Furnace	1	1	1	1
Adapter Plate for FEH2 Furnace	—	—	1	1
Adapter Plate for Coleman 3400/3500/EB Furnaces	—	—	1	1
Adapter Angle Bracket for Coleman 3500/EB Furnaces	—	—	1	1
Transformer	—	—	1	1
Harness for Coleman 3400/3500/EB Furnaces	—	—	1	1
Harness for Intertherm FEH2	—	—	1	1
Harness for Nordyne E1EH/E2EH	—	—	1	1
Orange Wire Connector	4	4	4	4
6-32X38 Bolt	—	—	2	2
6-32 Nut	—	—	2	2
No. 10 X 1/2-In. Blunt Screw	2	2	2	2
No. 10 X 1/2-In. Pointed Screw	6	6	6	6
Cable Clamp	1	1	1	1
Piggyback Connector	—	—	1	1
Installation Instructions	1	1	1	1

INSTALLATION

⚠ WARNING: For safe operation, it is the responsibility of the installer to assure that this package is installed in accordance with the furnace manufacturer's recommendations, local codes, good trade practices, and these Installation Instructions. Failure to follow this warning may result in property damage, personal injury, or death form hazards such as fire, smoke, soot, electric shock, or carbon monoxide.

⚠ WARNING: The use of components not tested in combination with specific makes and models of furnaces may make the equipment in violation of state codes, may create a hazard, and may damage the equipment. In addition, the National Mobile Home Construction and Safety Standards Act and its regulations require the use of components tested or certified by a nationally recognized testing laboratory in all manufactured homes constructed or sold subject to that act.

Refer to the appropriate section for your furnace and blower kit.

- Section 1—Nordyne/Intertherm E1EH and E2EH Furnaces
- → Section 2—Nordyne/Intertherm FEH2, FEHB, FEBB, E1EH and E2EH Furnaces
- Section 3—Evcon/Coleman 3400, 3400A, 3500, and EBxxA Furnaces

→ SECTION 1—NORDYNE/INTERTHERM E1EH/E2EH FURNACES

PROCEDURE 1—REMOVE BLOWER AND CONTROL BOX FROM CARTON

NOTE: Control box is in carton loose with only motor leads attaching it to blower.

1. Remove blower from carton. Unit is heavy so exercise care when handling.
2. Inspect contents for damage.
3. Remove cardboard packing from blower wheel.
4. Check for free rotation of blower wheel and center alignment in housing. If any rubbing occurs between blower wheel and housing, adjust blower wheel on motor shaft by loosening blower wheel setscrew and sliding wheel along shaft until center alignment is achieved.
5. Check blower wheel setscrew for tightness. When tightening setscrew, be sure it is on flat side of motor shaft.
6. Check wiring to control box and wire harnesses for pinched or damaged wires.
7. File claim with shipper if shipment is damaged or incomplete.

PROCEDURE 2—SELECT PROPER BLOWER MOTOR SPEED

NOTE: It will be necessary to select proper motor speed before attaching blower control box to blower control box base. As shipped, the control box low-speed lead (red) from blower motor is connected to heating terminal No. 5 on blower relay, and high-speed lead (black) is connected to cooling terminal No. 2 on relay.

Change blower leads to appropriate settings as follows:

1. Refer to Blower Speed Selection Chart and Operation Instructions on Wiring Diagram (Fig. 1) or refer to Table 3.
2. Determine furnace capacity from furnace rating plate and connect appropriate motor lead to blower relay No. 5. (See Fig. 1 or Table 3.)

3. Determine capacity of outdoor unit installed and connect appropriate motor lead to blower relay No. 2. (See Fig. 1 or Table 3.)
4. Blue jumper lead is provided to install between heating terminal No. 5 and cooling terminal No. 2 on blower relay if and only if heating and cooling speed are the same.

Table 3—Blower Speed Selection for Proper Operation of KMABA03013TE and KMABA04014TE Blowers

BLOWER PACKAGE KIT NO.	HEATING		COOLING	
	Furnace Kilowatt Rating	Heating Speed	Capacity	Cooling Speed
KMABA03013TE	10—12	LO	24,000	LO
	15—23	MED	30,000	MED
			36,000	HI
KMABA04014TE	10—12	LO	24,000	LO
	15—23	MED	30,000 36,000 42,000	MED
	—		48,000	HI

PROCEDURE 3—ATTACH CONTROL BOX TO BLOWER

1. Locate control box base which is factory mounted on blower housing.
2. Insert control box onto base aligning 2 holes in sides of control box and base. (See Fig. 2.)
3. Secure control box to base with 2 screws provided in loose parts bag. (See Fig. 2.)

PROCEDURE 4—REMOVE EXISTING BLOWER FROM FURNACE

1. Set wall thermostat to lowest setting. Allow furnace to shut off completely.
2. Turn off electrical circuits to furnace at main circuit box.

⚠ CAUTION: Furnace may be connected to more than 1 power supply. Do not use factory circuit breaker as a disconnect.

3. Remove furnace door.
4. Disconnect the multi-point plugs from furnace control panel.
5. Remove screws securing existing blower to furnace. Save screws for installation of new cooling blower.
6. Slide existing blower forward and remove from furnace.

PROCEDURE 5—INSULATE FURNACE CABINET

→ Current Nordyne/Intertherm heating only electric furnaces do not have insulation liners. The E1EH and E2EH Furnaces will require insulation kit Part No. KMAIK0101E1I. Refer to Installation Instructions packaged with kit to insulate furnace.

PROCEDURE 6—ATTACH NEW COOLING BLOWER TO ADAPTER PLATE

→ 1. Orient new cooling blower with adapter plate provided in kit as shown in Fig. 3 or Fig. 4.
2. Place side flanges of adapter plate on outside of blower housing and end flange of adapter plate inside blower housing wrapper sheet.
→ 3. Secure blower to adapter plate using No. 10 screws provided in loose parts bag. (See Fig. 3 or Fig. 4.)

PROCEDURE 7—INSTALL BLOWER/ADAPTER PLATE ASSEMBLY IN FURNACE

→ 1. For E1EH models, slide blower/adapter assembly into furnace such that adapter plate goes over side and back retaining tabs of furnace until flange drops down and latches under tabs. For E2EH models, slide blower into furnace with adapter plate secure in blower shelf.
2. Secure with 2 screws removed in Procedure 4.

PROCEDURE 8—MODIFY WIRING

→ 1. Connect multi-point plugs.
   a. Connect motor plug to 6-pin female plug at control box.
   b. Connect 6-pin high-voltage plug from wire harness to 6-pin high-voltage plug on furnace panel.
   c. Connect low-voltage plug at control box to plug on furnace panel.
2. Install wire tie provided in loose parts bag to prevent wires from entering blower housing.
3. Ensure that all pins make proper connections and that no pins are displaced by another.
4. Review the Operating Instructions and Wiring Diagram. (See Fig. 1.)
5. Refer to wiring diagrams on blower housing, furnace, and outdoor unit. Connect low-voltage wiring to blower control box, furnace control panel, outdoor unit, and thermostat.

NOTE: Blowers require a 4-wire heating/cooling thermostat for air conditioning, or a heat pump thermostat for heat pumps.

6. Check all connections for tightness.

OPERATION INSTRUCTIONS:

A. BLOWER IS SUPPLIED WITH HEATING TERMINAL #5 ON BLOWER RELAY CONNECTED TO LOW SPEED MOTOR LEAD (RED) AND COOLING TERMINAL #2 TO HIGH SPEED MOTOR LEAD (BLACK). CHANGE MOTOR LEADS TO PROVIDE PROPER BLOWER SPEED FOR FURNACE AND COIL CAPACITIES AS RECOMMENDED IN BLOWER SPEED SELECTION CHART. WHEN HEATING AND COOLING SPEEDS ARE THE SAME, CONNECT #5 AND #2 TERMINALS.

B. A FILTER IS REQUIRED TO PREVENT LINT AND DUST FROM PLUGGING THE COIL.

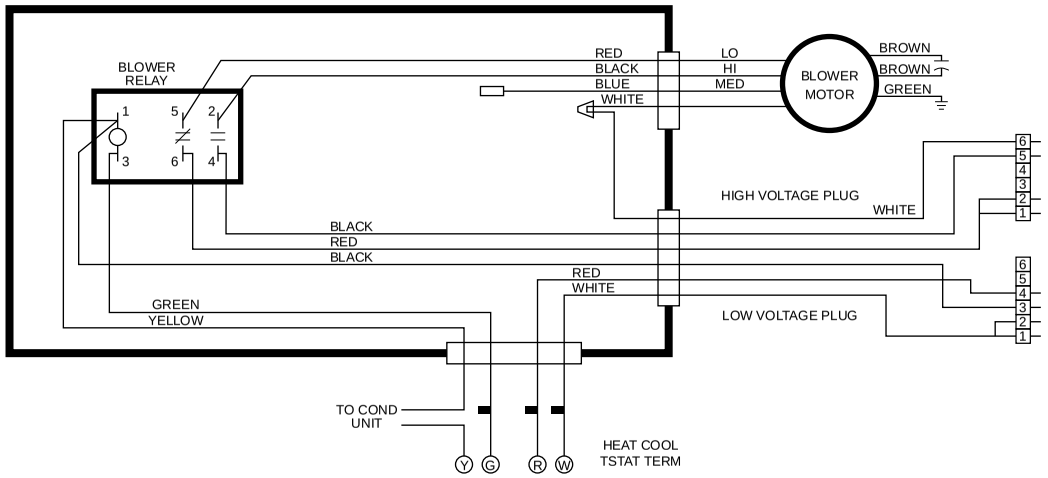
C. CHECK FOR CORRECT BLOWER OPERATION ON BOTH HEATING AND COOLING.

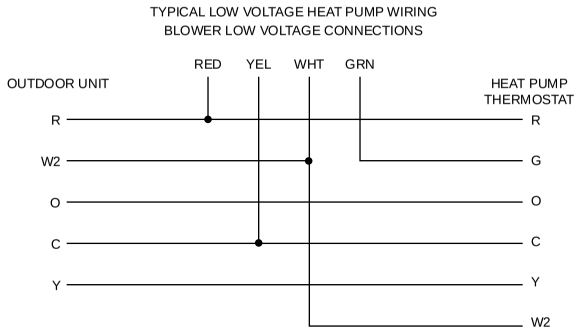
D. IF ANY OF THE ORIGINAL WIRE, AS SUPPLIED, MUST BE REPLACED, USE THE SAME OR EQUIVALENT TYPE WIRE.

BLOWER SPEED SELECTION CHART

FURNACE KW RATING	HEATING SPEED	COOLING CAPACITY SPEED		
3TE		24,000	30,000	36,000
10-12	LO	LO	MED	HI
15-23	MED	LO	MED	HI
4TE		24,000	30/36/42,000	48,000
10-12	LO	LO	MED	HI
15-23	MED	LO	MED	HI

BLOWER PACKAGE
ELECTRIC FURNACE





3TE/4TE

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Fig. 1—Wiring Diagram for KMABA03013TE and KMABA04014TE Blowers

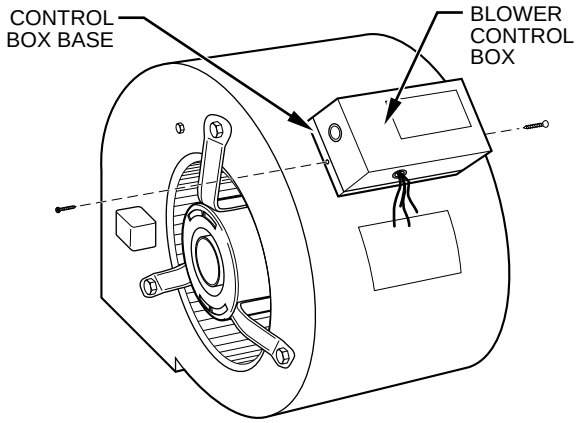

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Fig. 2—Attaching Control Box to Control Box Base

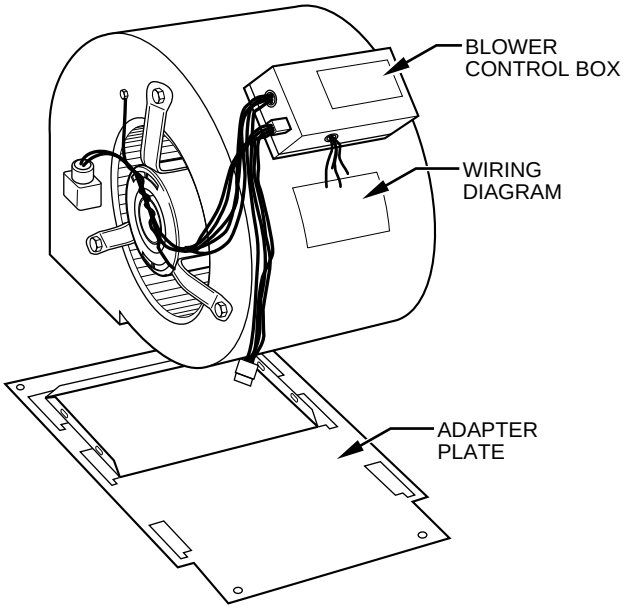

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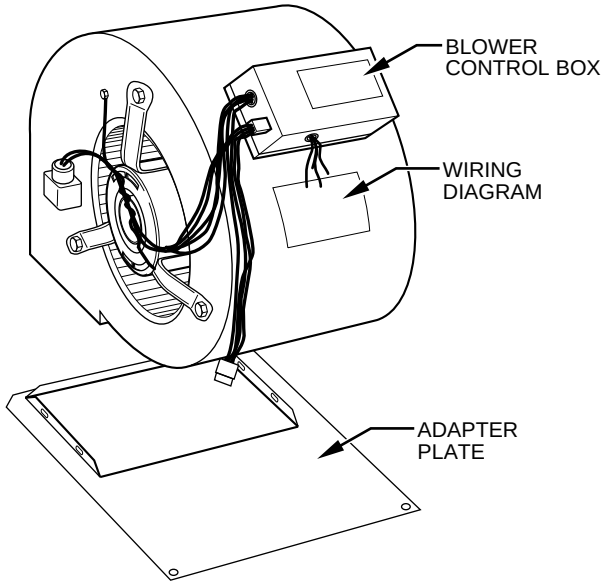
Fig. 3—Attaching KMABA03013TE or KMABA04014TE Blower to E1EH Adapter Plate



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→ **Fig. 4—Attaching Blower to E2EH Adapter Plate**

PROCEDURE 9—APPLY FURNACE LABELS

1. Fill in data on Furnace/Air Conditioning Accessory label provided in kit listing all model numbers and certification authorities. Use ball point pen.
2. Install this label in furnace vestibule.

NOTE: The HUD requirements are not met unless the data is entered and the label is attached to furnace showing certification authority for the approvals for blower and coils.

3. If not already attached, apply wiring diagram shipped with kit to blower housing as shown in Fig. 3.

PROCEDURE 10—REASSEMBLE FURNACE AND CHECK FURNACE OPERATION

1. Close furnace control panel door.
2. Turn thermostat to OFF position or lowest setting.
3. Turn furnace system switch on furnace to either ON or HEAT position and re-energize power to unit.
4. Reinstall furnace door.
5. Set thermostat to HEAT or COOL setting.
6. Observe system operation in cooling and heating modes to ensure system is in a safe, reliable operating condition.

NOTE: A filter is required to prevent dirt, lint, and dust from plugging the evaporator coil. Use filter kit KMAFK0101NFK or equivalent.

NOTE: A condensate drain trap is required for all coils installed with electric furnaces. Consult evaporator coil Installation Instructions.

→ SECTION 2—INTERTHERM FEH2, FEHB, FEBB, E1EH AND E2EH FURNACES

PROCEDURE 1—REMOVE BLOWER AND CONTROL BOX FROM CARTON

NOTE: Control box is in carton loose with only motor leads attaching it to blower.

1. Remove blower from carton. Unit is heavy so exercise care when handling.
2. Inspect contents for damage.

3. Remove cardboard packing from blower wheel.
4. Check for free rotation of blower wheel and center alignment in housing. If any rubbing occurs between blower wheel and housing, adjust blower wheel on motor shaft by loosening blower wheel setscrew and sliding wheel along shaft until center alignment is achieved.
5. Check blower wheel setscrew for tightness. When tightening setscrew, be sure it is on flat side of motor shaft.
6. Check wiring to control box and wire harnesses for pinched or damaged wires.
7. File claim with shipper if shipment is damaged or incomplete.

PROCEDURE 2—SELECT PROPER BLOWER MOTOR SPEED

NOTE: It will be necessary to select proper motor speed before attaching blower control box to blower control box base. As shipped, the control box low-speed lead (red) from blower motor is connected to heating terminal No. 5 on blower relay, and high-speed lead (black) is connected to cooling terminal No. 2 on relay.

Change blower leads to appropriate settings as follows:

1. Refer to Blower Speed Selection Chart and Operation Instructions on Wiring Diagram (Fig. 5) or refer to Table 4.
2. Determine furnace capacity from furnace rating plate and connect appropriate motor lead to blower relay No. 5. (See Fig. 5 or Table 4.)
3. Determine capacity of outdoor unit installed and connect appropriate motor lead to blower relay No. 2. (See Fig. 5 or Table 4.)
4. Blue jumper lead is provided to install between heating terminal No. 5 and cooling terminal No. 2 on blower relay if and only if heating and cooling speed are the same.

Table 4—Blower Speed Selection for Proper Operation of KMABA03013TE and KMABA04014TE Blowers

BLOWER PACKAGE KIT NO.	HEATING		COOLING	
	Furnace Kilowatt Rating	Heating Speed	Capacity	Cooling Speed
KMABA05013TE	10—12	LO	24,000	LO
	15—18	MED	30,000	MED
	20—23	MED	36,000	HI
KMABA06014TE	10—12	LO	24,000	LO
	15—18	MED	30,000 36,000 42,000	MED
	20—23	MED	48,000	HI

PROCEDURE 3—REPOSITION CONTROL BOX BASE (E1EH AND E2EH FURNACES ONLY)

1. Remove 2 screws securing control box base to flat edge of blower housing.
2. Reposition control box base on blower housing aligning holes in control box base with holes in blower housing. (See Fig. 6.)
3. Secure control box base to blower housing with 2 screws previously removed. (See Fig. 6.)

PROCEDURE 4—ATTACH CONTROL BOX TO BLOWER

1. Locate control box base on blower housing.
2. Insert control box onto base aligning 2 holes in sides of control box and base. (See Fig. 7 or 8.)
3. Secure control box to base with 2 screws provided in loose parts bag. (See Fig. 7 or 8.)

PROCEDURE 5—REMOVE EXISTING BLOWER FROM FURNACE

1. Set wall thermostat to lowest setting. Allow furnace to shut off completely.
2. Turn off electrical circuits to furnace at main circuit box.

⚠ CAUTION: Furnace may be connected to more than 1 power supply. Do not use factory circuit breaker as a disconnect.

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3. Remove furnace door.
4. Pull out furnace safety disconnect from control panel where applicable.
5. Disconnect multi-point motor plug from furnace control panel.
6. Remove screws securing existing blower to furnace. Save screws for installation of new cooling blower.
7. Slide existing blower forward and remove from furnace.

PROCEDURE 6—INSULATE FURNACE CABINET

→ Current Nordyne/Miller/Intertherm heating only electric furnaces do not have insulation liners. The FEHB and FEH2 Furnaces require field-supplied cabinet insulation to prevent condensation when air conditioning is added. The E1EH and E2EH Furnaces require insulation kit Part No. KMAIK0101E1I to prevent condensation when air conditioning is added. Refer to Installation Instructions packaged with kit to insulate furnace.

PROCEDURE 7—ATTACH NEW COOLING BLOWER TO ADAPTER PLATE

→ 1. Four adapter plates are shipped with kit. Select appropriate adapter plate for application.
   a. For E1EH Furnaces, use adapter plate shown in Fig. 9.
   b. For FE Furnaces, use adapter plate shown in Fig. 10.

OPERATION INSTRUCTIONS:

A. BLOWER IS SUPPLIED WITH HEATING TERMINAL #5 ON BLOWER RELAY CONNECTED TO LOW SPEED MOTOR LEAD (RED) AND COOLING TERMINAL #2 TO HIGH SPEED MOTOR LEAD (BLACK). CHANGE MOTOR LEADS TO PROVIDE PROPER BLOWER SPEED FOR FURNACE AND COIL CAPACITIES AS RECOMMENDED IN BLOWER SPEED SELECTION CHART. WHEN HEATING AND COOLING SPEEDS ARE THE SAME, CONNECT #5 AND #2 TERMINALS.

B. A FILTER IS REQUIRED TO PREVENT LINT AND DUST FROM PLUGGING THE COIL.

C. CHECK FOR CORRECT BLOWER OPERATION ON BOTH HEATING AND COOLING.

D. IF ANY OF THE ORIGINAL WIRE, AS SUPPLIED, MUST BE REPLACED, USE THE SAME OR EQUIVALENT TYPE WIRE.

BLOWER SPEED SELECTION CHART

FURNACE KW RATING	HEATING SPEED	COOLING CAPACITY SPEED		
53TE		24,000	30,000	36,000
10-12	LO	LO	MED	HI
15-18	MED	LO	MED	HI
20-23	MED	LO	MED	HI
64TE		24,000	30/36/42,000	48,000
10-12	LO	LO	MED	HI
15-18	MED	LO	MED	HI
20-23	MED	LO	MED	HI

BLOWER PACKAGE
ELECTRIC FURNACE

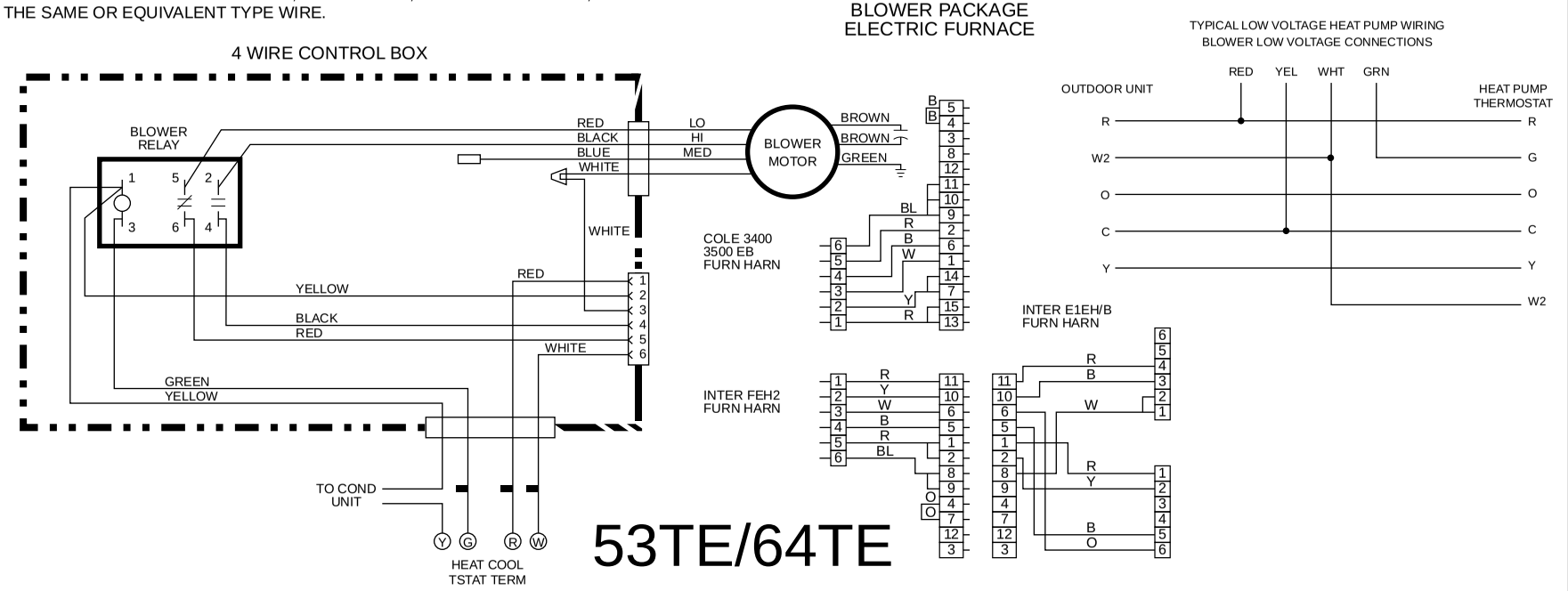

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Fig. 5—Wiring Diagram for KMABA05013TE and KMABA06014TE Blowers

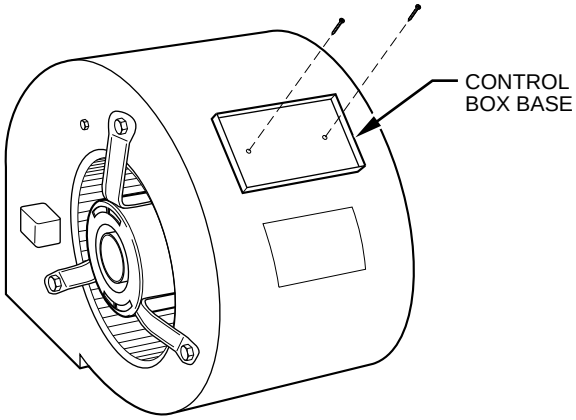

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Fig. 6—Repositioning Control Box Base for E1EH Furnaces

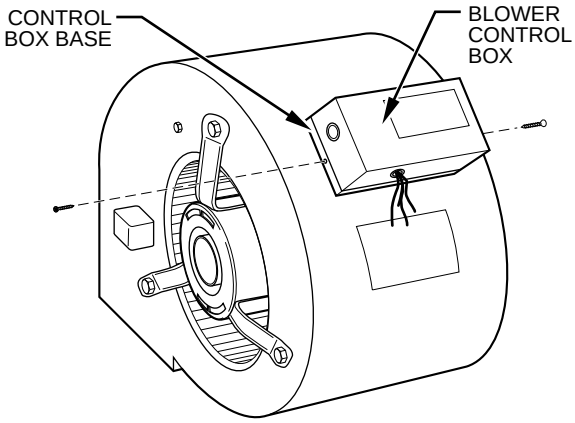

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Fig. 7—Attaching Control Box to Control Box Base (E1EH Furnaces)

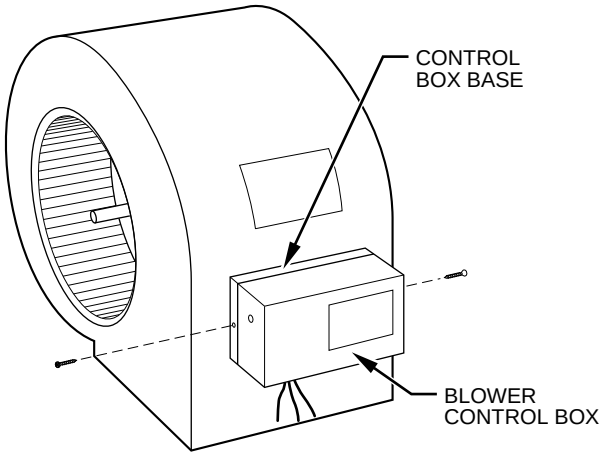

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Fig. 8—Attaching Control Box to Control Box Base (FEH2/FEHB/FEBA/FEBB Furnaces)

c. For E2EH Furnaces, use adapter plate shown in Fig. 11.

→ 2. Orient new cooling blower with adapter plate provided in kit as shown in Fig. 9, 10, or 11.

3. Place side flanges of adapter plate on outside of blower housing and end flange of adapter plate inside blower housing wrapper sheet.

→ 4. Secure blower to adapter plate using screws provided in loose parts bag. (See Fig. 9, 10, or 11.)

→ **NOTE:** Arrangement of control box base, adapter plate, and wiring diagram on blower housing will differ with make and model of furnace. (See Fig. 9, 10, or 11.)

PROCEDURE 8—INSTALL BLOWER/ADAPTER PLATE ASSEMBLY IN FURNACE

1. Slide blower/adapter assembly into furnace.
2. Secure with 2 screws supplied in kit or those removed from old blower.

PROCEDURE 9—MODIFY WIRING

1. Connect multi-point plug(s).

→ a. For E1EH and E2EH Furnaces, wire as follows:

→ (1.) Select both the E1EH/E2EH harness (Y-shaped harness) and the FEH2 harness (with 12-point plug) provided in kit.

(2.) Connect motor plug to 6-pin female plug at control box.

(3.) Connect 6-pin high-voltage plug from wire harness to 6-pin high-voltage plug on furnace panel.

(4.) Connect low-voltage plug at control box to plug on furnace panel.

b. For FE Furnaces, wire as follows:

(1.) Select the FEH2 harness (with 12-pin plug) provided in kit.

(2.) Connect 12-pin plug from wire harness to plug on furnace panel.

(3.) Connect 6-pin plug from wire harness to other plug at control box.

2. Install wire tie provided in loose parts bag to secure harness to 1 leg of motor mount to prevent wires from entering blower housing.
3. Ensure that all pins make proper connections and that no pins are displaced by another.

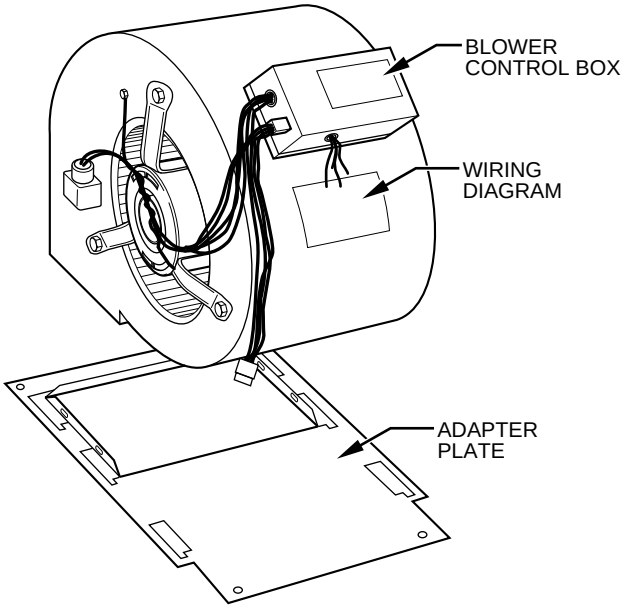

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Fig. 9—Attaching KMABA05013TE or KMABA06014TE Blower to E1EH Adapter Plate

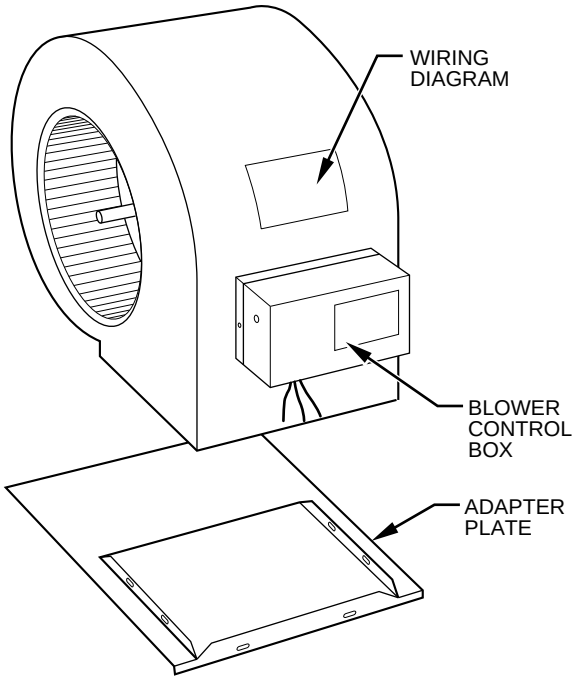

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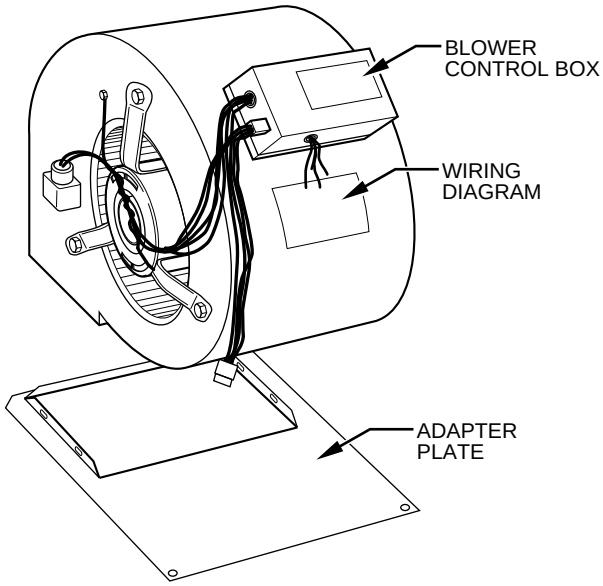
Fig. 10—Attaching KMABA05013TE or KMABA06014TE Blower to FEH2/FEHB/FEBA/FEBB Adapter Plate



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→ **Fig. 11—Attaching Blower to E2EH Adapter Plate**

4. Review the Operating Instructions and Wiring Diagram. (See Fig. 5.)
5. Refer to wiring diagrams on blower housing, furnace, and outdoor unit. Connect low-voltage wiring to blower control box, furnace control panel, outdoor unit, and thermostat.

NOTE: Blowers require a 4-wire heating/cooling thermostat for air conditioning, or a heat pump thermostat for heat pumps.

6. Check all connections for tightness.

PROCEDURE 10—REPLACE FURNACE TRANSFORMER

Heating transformers on most electric furnaces are not rated for air conditioning and must be replaced with 40-va transformer supplied in kit.

1. Remove old transformer. If necessary, tag primary and secondary lead locations.
2. Replace with new transformer supplied in kit. Be sure to reconnect all wiring correctly.

PROCEDURE 11—APPLY FURNACE LABELS

1. Fill in data on Furnace/Air Conditioning Accessory label provided in kit listing all model numbers and certification authorities. Use ball point pen.
2. Install this label in furnace vestibule.

NOTE: The HUD requirements are not met unless the data is entered and the label is attached to furnace showing certification authority for the approvals for blower and coils.

→ 3. If not already attached, apply wiring diagram shipped with kit to blower housing as shown in Fig. 9, 10, or 11.

PROCEDURE 12—REASSEMBLE FURNACE AND CHECK FURNACE OPERATION

1. Close furnace control panel door.
2. Reinsert safety disconnect.
3. Turn thermostat to OFF position or lowest setting.
4. Turn furnace system switch on furnace to either ON or HEAT position and re-energize power to unit.
5. Reinstall furnace door.
6. Set thermostat to HEAT or COOL setting.
7. Observe system operation in cooling and heating modes to ensure system is in a safe, reliable operating condition.

NOTE: A filter is required to prevent dirt, lint, and dust from plugging the evaporator coil.

NOTE: A condensate drain trap is required for all coils installed with electric furnaces. Consult evaporator coil Installation Instructions.

SECTION 3—EVCON/COLEMAN 3400, 3400A, 3500, AND EBXXA FURNACES

PROCEDURE 1—REMOVE BLOWER AND CONTROL BOX FROM CARTON

NOTE: Control box is in carton loose with only motor leads attaching it to blower.

1. Remove blower from carton. Unit is heavy so exercise care when handling.
2. Inspect contents for damage.
3. Remove cardboard packing from blower wheel.
4. Check for free rotation of blower wheel and center alignment in housing. If any rubbing occurs between blower wheel and housing, adjust blower wheel on motor shaft by loosening blower wheel setscrew and sliding wheel along shaft until center alignment is achieved.
5. Check blower wheel setscrew for tightness. When tightening setscrew, be sure it is on flat side of motor shaft.
6. Check wiring to control box and wire harnesses for pinched or damaged wires.
7. File claim with shipper if shipment is damaged or incomplete.

PROCEDURE 2—SELECT PROPER BLOWER MOTOR SPEED

NOTE: It will be necessary to select proper motor speed before attaching blower control box to blower control box base. As shipped, the control box low-speed lead (red) from blower motor is connected to heating terminal No. 5 on blower relay, and high-speed lead (black) is connected to cooling terminal No. 2 on relay.

Change blower leads to appropriate settings as follows:

1. Refer to Blower Speed Selection Chart and Operation Instructions on Wiring Diagram (Fig. 5) or refer to Table 4.
2. Determine furnace capacity from furnace rating plate and connect appropriate motor lead to blower relay No. 5. (See Fig. 5 or Table 4.)
3. Determine capacity of outdoor unit installed and connect appropriate motor lead to blower relay No. 2. (See Fig. 5 or Table 4.)
4. Blue jumper lead is provided to install between heating terminal No. 5 and cooling terminal No. 2 on blower relay if and only if heating and cooling speed are the same.

PROCEDURE 3—REPOSITION CONTROL BOX BASE (3500/EBXXA FURNACES ONLY)

1. Remove 2 screws securing control box base to flat edge of blower housing.
2. Reposition control box base to curved edge of blower housing aligning holes in control box base with holes in blower housing. (See Fig. 12.)
3. Secure control box base to blower housing with 2 screws previously removed. (See Fig. 12.)

PROCEDURE 4—ATTACH CONTROL BOX TO BLOWER

1. Locate control box base on blower housing.
2. Insert control box onto base aligning 2 holes in sides of control box and base. (See Fig. 13 or 14.)
3. Secure control box to base with 2 screws provided in loose parts bag. (See Fig. 13 or 14.)

PROCEDURE 5—REMOVE EXISTING BLOWER FROM FURNACE

1. Set wall thermostat to lowest setting. Allow furnace to shut off completely.
2. Turn off electrical circuits to furnace at main circuit box.

⚠ CAUTION: Furnace may be connected to more than 1 power supply. Do not use factory circuit breaker as a disconnect.

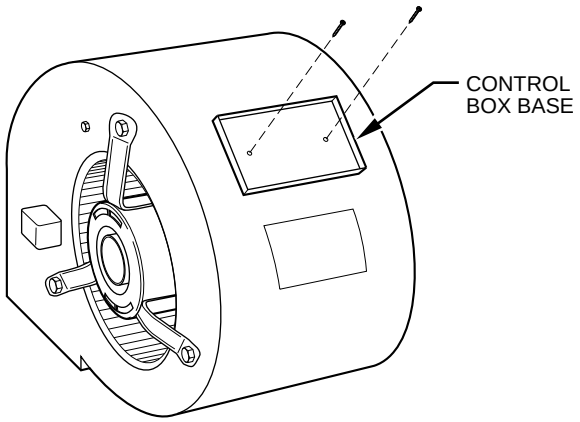

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Fig. 12—Repositioning Control Box Base for 3500 Furnaces

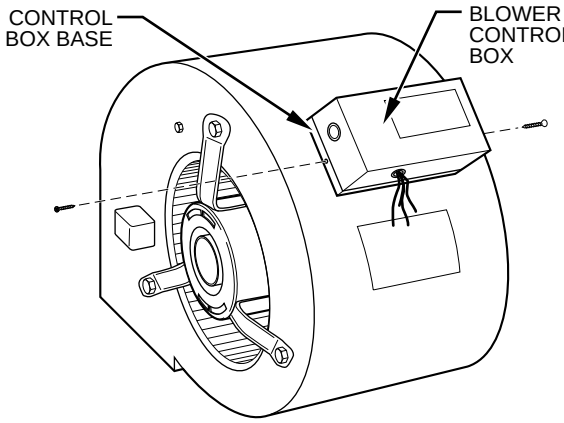

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Fig. 13—Attaching Control Box to Control Box Base (3400/3400A Furnaces)

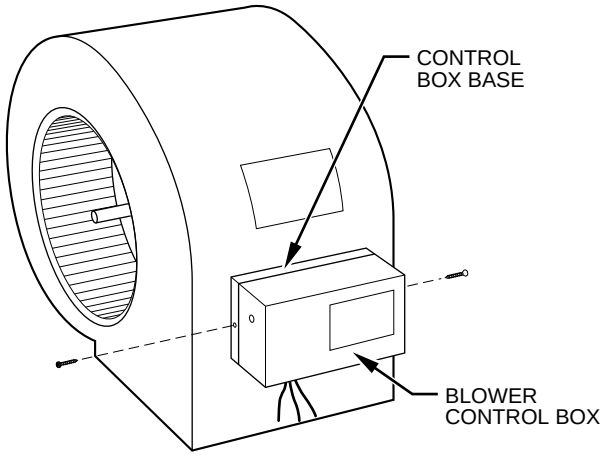

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Fig. 14—Attaching Control Box to Control Box Base (3500/EBxxA Furnaces)

3. Remove furnace door.
4. Pull out furnace safety disconnect from control panel where applicable.
5. Disconnect multi-point motor plug from furnace control panel.
6. Remove screws securing existing blower to furnace. Save screws for installation of new cooling blower.
7. Slide existing blower forward and remove from furnace.

PROCEDURE 6—INSULATE FURNACE CABINET

Current Evcon/Coleman heating only electric furnaces do not have insulation liners or coil support shelf in furnace. The 3400/3500/EB Furnaces require coil support shelf and insulation kit Part No. KMACR0101CRI to complete installation and prevent condensation when air conditioning is added. Refer to Installation Instructions packaged with kit.

PROCEDURE 7—ATTACH NEW COOLING BLOWER TO ADAPTER PLATE

1. Three adapter plates are shipped with kit. Select appropriate adapter plate for application.
   a. For 3400/3400A Furnaces, use adapter plate shown in Fig. 15.
   b. For 3500/EB Furnaces, use adapter plate and adapter plate angle shown in Fig. 16.
2. Orient new cooling blower with adapter plate provided in kit as shown in Fig. 15 or 16.
3. Place side flanges of adapter plate on outside of blower housing and end flange of adapter plate inside blower housing wrapper sheet.
4. Secure blower to adapter plate using screws provided in loose parts bag. (See Fig. 15 or 16.)
5. For 3500/EB Furnaces only, also connect adapter plate angle to adapter plate with 2 bolts and nuts supplied in loose parts bag of kit as shown in Fig. 16.

NOTE: Arrangement of control box base, adapter plate, and wiring diagram on blower housing will differ with make and model of furnace. (See Fig. 15 and 16.)

PROCEDURE 8—INSTALL BLOWER/ADAPTER PLATE ASSEMBLY IN FURNACE

1. Slide blower/adapter assembly into furnace.
2. Secure with 2 screws supplied in kit.
3. Installed blower assembly should appear as shown in Fig. 17 or 18.

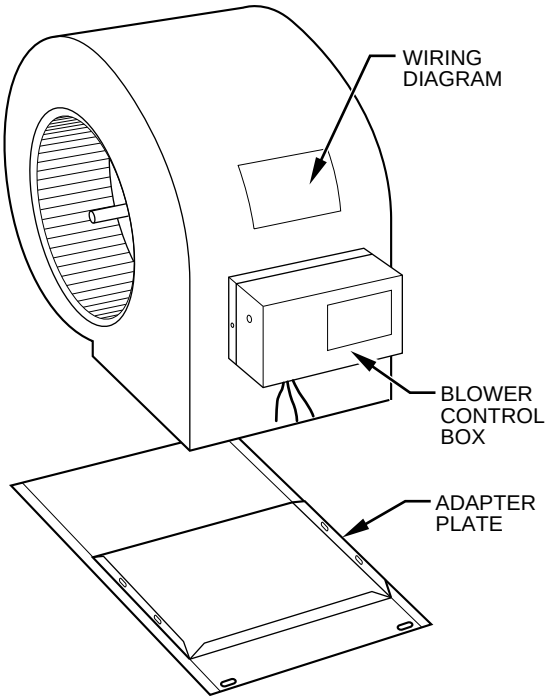

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Fig. 15—Attaching KMABA05013TE or KMABA06014TE Blower to 3400/3400A Adapter Plate

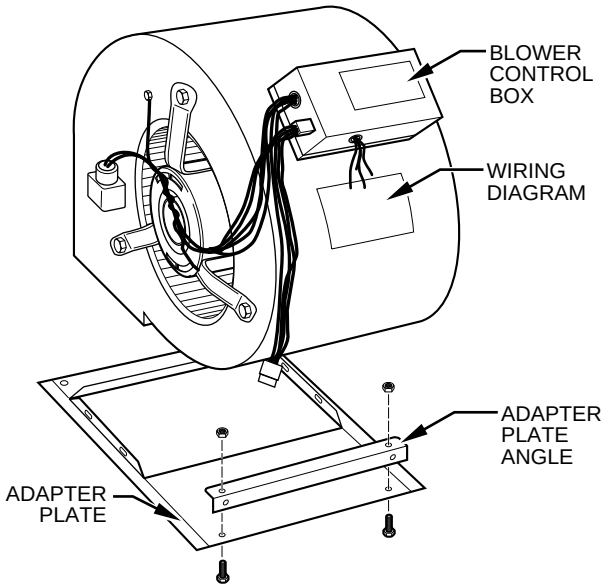

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Fig. 16—Attaching KMABA05013TE or KMABA06014TE Blower to 3500/EB Adapter Plate and Adapter Plate Angle

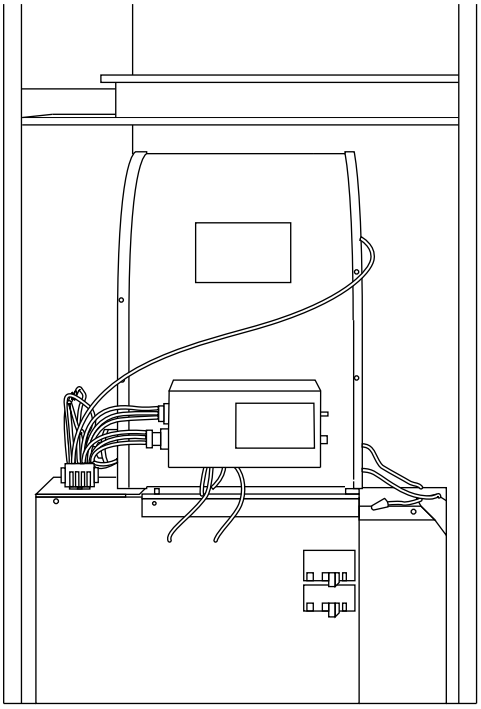

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Fig. 17—KMABA03013TE or KMABA04014TE Blower Installed in 3400/3400A Furnaces

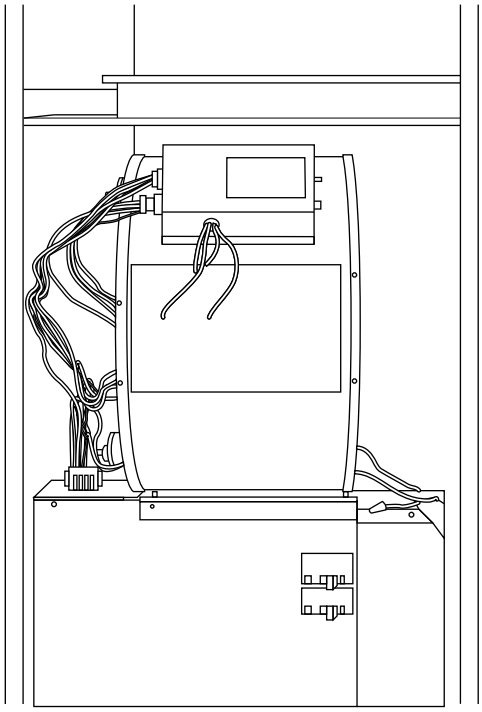

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Fig. 18—KMABA03013TE or KMABA04014TE Blower Installed in 3500/EB Furnaces

PROCEDURE 9—MODIFY WIRING

1. Connect multi-point plug. (See Fig. 17 or 18.)
   a. Select the 3400/3400A/3500/EB harness (with 15-pin plug) provided in kit.
   b. Connect 15-pin plug from wire harness to plug on furnace panel.
   c. Connect 6-pin plug from wire harness to plug at control box.
2. Install wire tie provided in loose parts bag to secure harness to 1 leg of motor mount to prevent wires from entering blower housing.
3. Ensure that all pins make proper connections and that no pins are displaced by another.

4. Review the Operating Instructions and Wiring Diagram. (See Fig. 5.)
5. Refer to wiring diagrams on blower housing, furnace, and outdoor unit. Connect low-voltage wiring on blower control box, furnace control panel, outdoor unit, and thermostat.

NOTE: Blowers require a 4-wire heating/cooling thermostat for air conditioning, or a heat pump thermostat for heat pumps.

6. Check all connections for tightness.

PROCEDURE 10—REPLACE FURNACE TRANSFORMER

Heating transformers on most electric furnaces are not rated for air conditioning and must be replaced with 40-va transformer supplied in kit.

1. Remove old transformer. If necessary, tag primary and secondary lead locations.
2. Replace with new transformer supplied in kit. Be sure to reconnect all wiring correctly.

PROCEDURE 11—APPLY FURNACE LABELS

1. Fill in data on Furnace/Air Conditioning Accessory label provided in kit listing all model numbers and certification authorities. Use ball point pen.
2. Install this label in furnace vestibule.

NOTE: The HUD requirements are not met unless the data is entered and the label is attached to furnace showing certification authority for the approvals for blower and coils.

3. If not already attached, apply wiring diagram shipped with kit to blower housing as shown in Fig. 15 or 16.

PROCEDURE 12—REASSEMBLE FURNACE AND CHECK FURNACE OPERATION

1. Close furnace control panel door.
2. Reinsert safety disconnect.
3. Turn thermostat to OFF position or lowest setting.
4. Turn furnace system switch on furnace to either ON or HEAT position and re-energize power to unit.
5. Reinstall furnace door.
6. Set thermostat to HEAT or COOL setting.
7. Observe system operation in cooling and heating modes to ensure system is in a safe, reliable operating condition.

NOTE: A filter is required to prevent dirt, lint, and dust from plugging the evaporator coil. The filter furnished with 3400/3400A/3500/EB Furnaces is normally adequate.

NOTE: A condensate trap is required for all coils installed with electric furnaces. Consult evaporator coil Installation Instructions.

SERVICE TRAINING

Packaged Service Training programs are an excellent way to increase your knowledge of the equipment discussed in this manual, including:

- Unit Familiarization
- Maintenance
- Installation Overview
- Operating Sequence

A large selection of product, theory, and skills programs is available, using popular video-based formats and materials. All include video and/or slides, plus companion book.

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