

ECM Blower Kit

INSTALLATION INSTRUCTIONS

For use with Electric Furnaces

IMPORTANT SAFETY INFORMATION

INSTALLER: Please read all instructions before servicing this equipment. Pay attention to all safety warnings and any other special notes highlighted in the manual. Safety markings are used frequently throughout this manual to 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:

ELECTRICAL SHOCK, FIRE OR EXPLOSION HAZARD

Failure to follow safety warnings exactly could result in serious injury or property damage.

Improper servicing could result in dangerous operation, serious injury, death or property damage.

- Before servicing, disconnect all electrical power to furnace.
- When servicing controls, label all wires prior to disconnecting. Reconnect wires correctly.
- Verify proper operation after servicing.”

SPEED TAP	HIGH (5)	MED-HIGH (4)	MED (3)	MED-LOW (2)	LOW (1)	
TONNAGE	4 TON	3.5 TON	2.5-3 TON	2 TON	1.5 TON	
Static (ESP) in W.C.	0.1	1655	1560	1190	940	680
	0.2	1630	1530	1160	900	645
	0.3	1590	1500	1130	870	615
	0.4	1555	1465	1100	830	575
	0.5	1525	1435	1060	800	540
	0.6	1495	1405	1030	770	510

Table 1. ECM Blower Data

COOLING			HEATING	
MODEL CAPACITY (KW)	TONNAGE	MOTOR TAP #	MODEL CAPACITY (KW)	MOTOR TAP #
ALL	1.5-2	2	010-012	1
	2.5-3	3	015-023	2
	3.5-4	4		

Table 2. Heating and Cooling Settings

INSTALLATION SEQUENCE

Blower Assembly Installation

NOTE: Retain all screws and fasteners for installation of the new blower assembly.

1. Before beginning the installation, make sure the unit is not powered and any breakers/disconnects to the unit are deactivated. Remove the furnace door.
2. Disconnect the thermostat wire connections and unhook the 6-pin blower plug from the control panel socket.
3. Remove all screws attaching the blower assembly to the furnace.
4. Slide out the complete blower assembly.
5. Replace the blower in step 4 with the ECM blower from this kit. Slide into the same position as the removed assembly, and then fasten with screws.

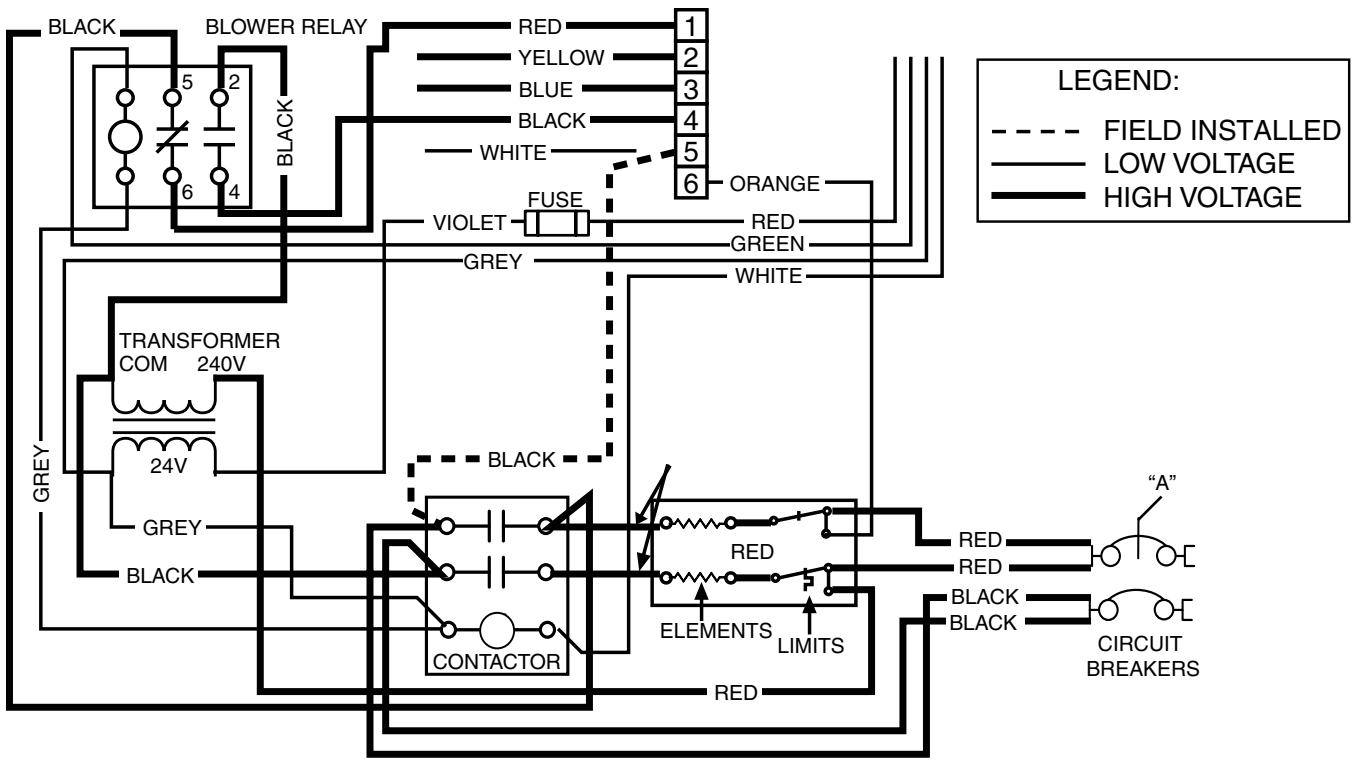
- **For furnaces without PCB Control:** Install the black wire that is supplied with this kit. Determine your appropriate model from Figures 1, 2, 3, or 4 (pages 2 & 3).

Firmly press the black wire socket termination into pin location #5 of the blower plug (in the control panel) and the .25" push-on terminal into the open contactor termination shown in Figures 1, 2, 3 & 4 (pages 2 & 3). The dashed line represents the field installed black wire.

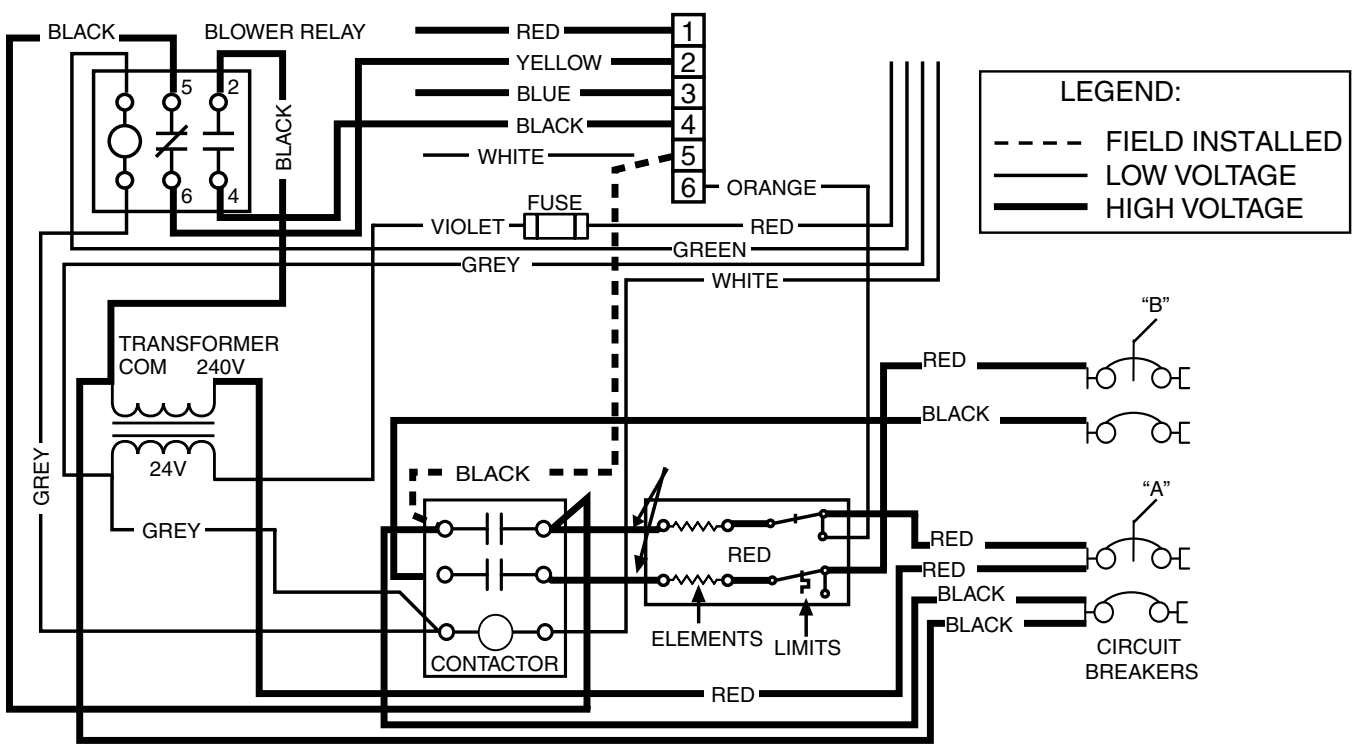
- **For furnaces with PCB Control:** Install the black wire that is supplied with this kit. Determine your appropriate model from Figures 5, 6, 7, or 8 (pages 4 & 5).
 - a.) Temporarily remove the black wire from pin L1 on the control board.
 - b.) Firmly press the black wire socket termination (from the kit) into pin location #5 of the blower plug (in the control panel) and the .25" push-on terminal into the L1 terminal.
 - b.) Replace the black wire from the furnace onto the "piggy-back" terminal of the black wire (from the kit) at pin L1.

6. Plug the 6-pin plug from this kit into the control panel socket.
7. Make the required thermostat wiring connections as shown in Figure 9 (page 6).
8. Reinstall the furnace electrical panel and exterior door, and then restore power to the unit.

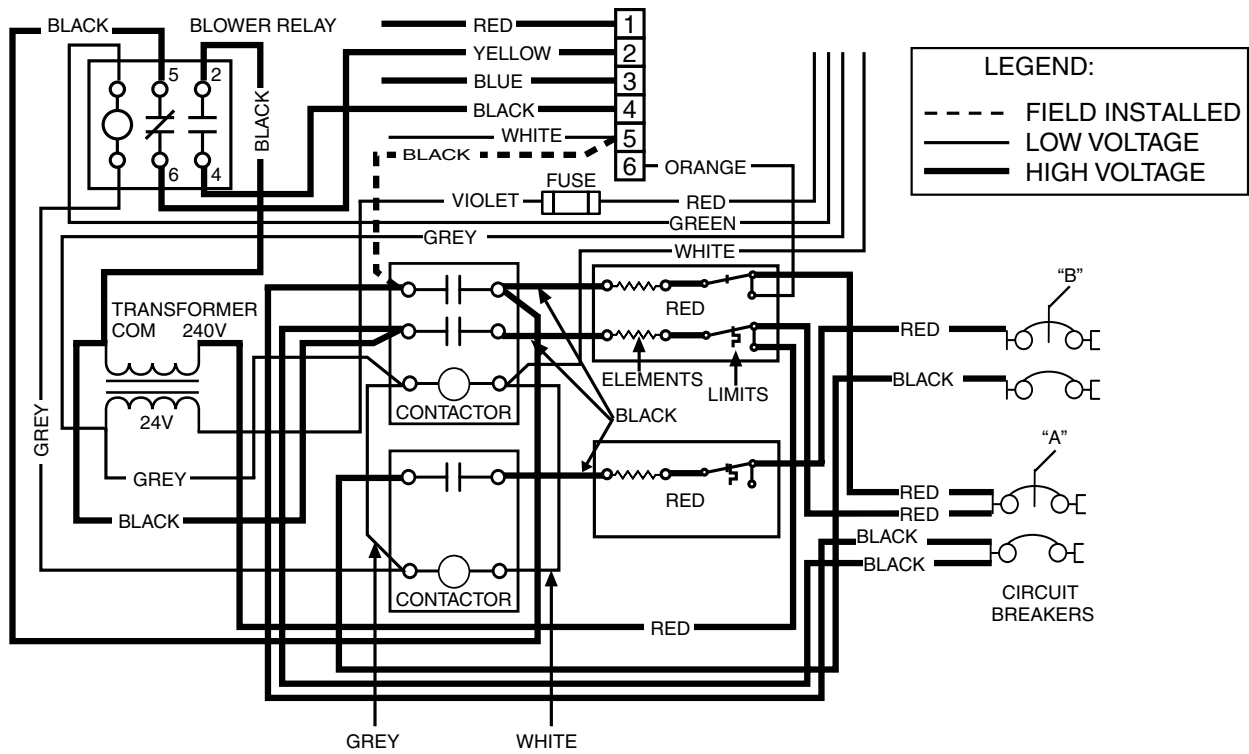
The blower speed is preset at the factory for proper heating and cooling operation. For optimum system performance and comfort, it may be necessary to change the factory set speed. Recommended settings are listed in Table 1 & Table 2. If heat and cool require tap 2, use the included wire adapter and wire nut.



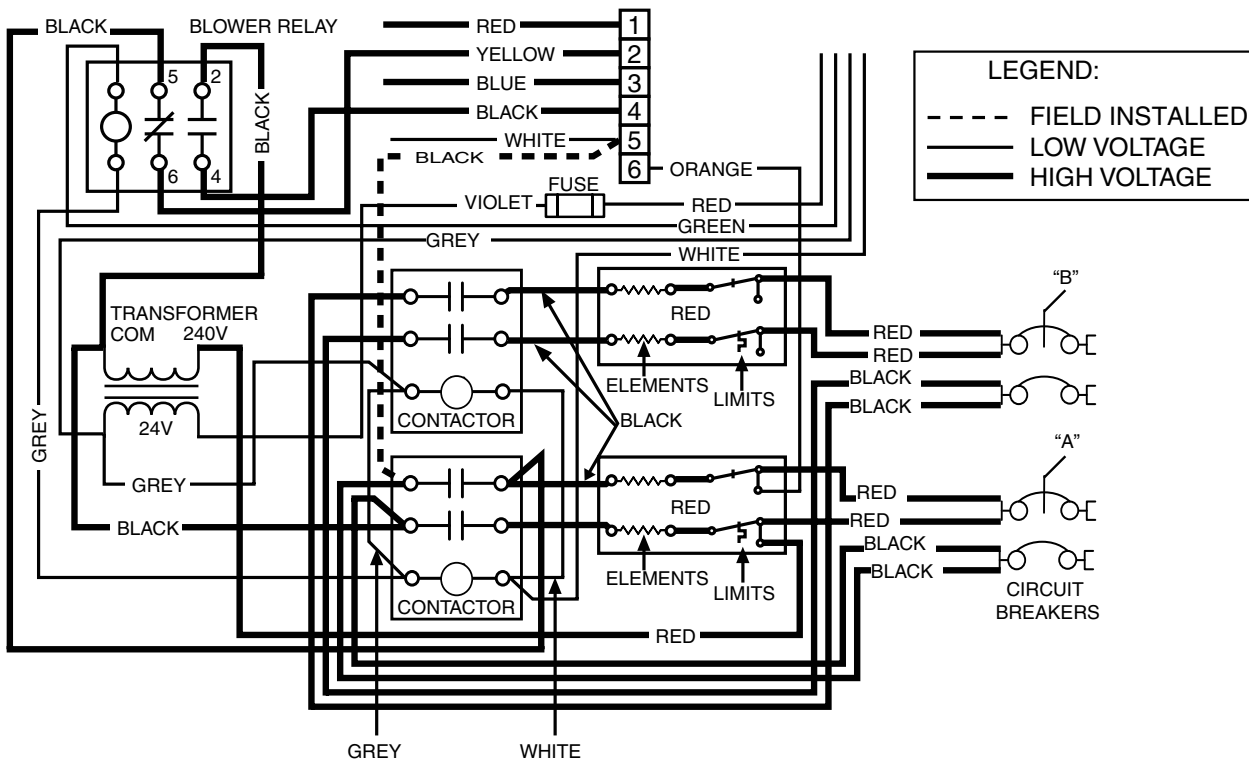
**Figure 1. 10kW Electrical Diagram
(Without PCB Control)**



**Figure 2. 12kW Electrical Diagram
(Without PCB Control)**



**Figure 3. 15kW & 17kW Electrical Diagram
(Without-PCB Control)**



**Figure 4. 20kW & 23kW Electrical Diagram
(Without PCB Control)**

WIRING DIAGRAM

Model: 10 kW Electric Furnace

NOTES:

1. Supply wire size must be in accordance to the applicable revision of the NEC and all other applicable codes.
2. To change blower speed refer to installation instructions.
3. Refer to furnace installation instructions for thermostat connections.
4. If any wire in this unit is to be replaced it must be replaced with 105° C thermoplastic copper wire of the same gauge.
5. Not suitable for use on systems exceeding 120V to ground.
6. Refer to installation instructions for complete wiring diagram.
7. Heating and cooling may be wired on the same speed using the provided jumper wire.
8. ECM terminals 1-5 are motor speed taps that are field adjustable.

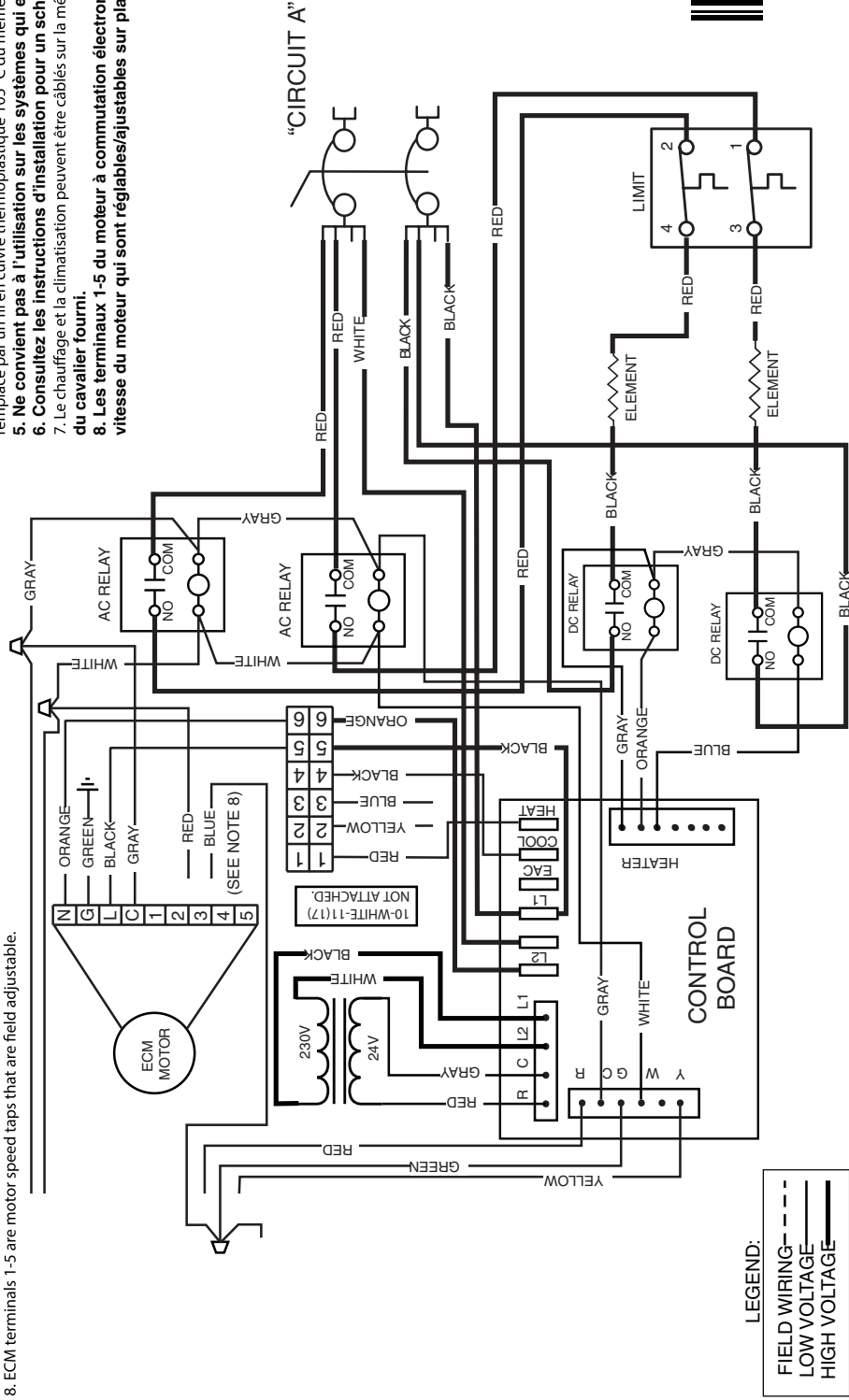
WARNING

Switch circuit breakers to the "off" position before servicing the furnace.

AVERTISSEMENT

Placez les disjoncteurs en position « off » avant d'entretenir la fournaise.

1. La taille du câblage d'alimentation doit être conforme à la révision applicable des codes NEC et des autres codes applicables.
2. Pour changer la vitesse du ventilateur consultez les instructions d'installation.
3. Consultez les instructions d'installation de la fournaise pour les branchements du thermostat.
4. Si l'un ou l'autre des fils de cette unité requiert un remplacement, il doit être remplacé par un fil en cuivre thermoplastique 105 °C du même gabarit.
5. Ne convient pas à l'utilisation sur les systèmes qui excèdent 120 V à la terre.
6. Consultez les instructions d'installation pour un schéma de câblage complet.
7. Le chauffage et la climatisation peuvent être câblés sur la même vitesse à l'aide du cavalier fourni.
8. Les terminaux 1-5 du moteur à commutation électronique sont les rapports de vitesse du moteur qui sont réglables/ajustables sur place.



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Figure 5. 10 kW Wiring Diagram (With PCB Control)

WIRING DIAGRAM

Model: 15 KW and 17 KW Electric Furnace

NOTES:

1. Supply wire size must be in accordance to the applicable revision of the NEC and all other applicable codes.
2. To change blower speed refer to installation instructions
3. Refer to furnace installation instructions for thermostat connections.
4. If any wire in this unit is to be replaced it must be replaced with 105° C thermoplastic copper wire of the same gauge.
5. Not suitable for use on systems exceeding 120V to ground.
6. Refer to installation instructions for complete wiring diagram.
7. Heating and cooling may be wired on the same speed using the provided jumper wire.
8. ECM terminals 1-5 are motor speed taps that are field adjustable.

WARNING
Switch circuit breakers to the "off" position before servicing the furnace.

AVERTISSEMENT
Placez les disjoncteurs en position « off » avant d'entretenir la fournaise.

1. La taille du câblage d'alimentation doit être conforme à la révision applicable des codes NEC et des autres codes applicables.
2. Pour changer la vitesse du ventilateur, consultez les instructions d'installation.
3. Consultez les instructions d'installation de la fournaise pour les branchements du thermostat.
4. Si l'un ou l'autre des fils de cette unité requiert un remplacement, il doit être remplacé par un fil en cuivre thermoplastique 105 °C du même gabarit.
5. Ne convient pas à l'utilisation sur les systèmes qui excèdent 120 V à la terre.
6. Consultez les instructions d'installation pour un schéma de câblage complet.
7. Le chauffage et la climatisation peuvent être câblés sur la même vitesse à l'aide du cavalier fourni.
8. Les terminaux 1-5 du moteur à commutation électronique sont les rapports de vitesse du moteur qui sont réglables/ajustables sur place.

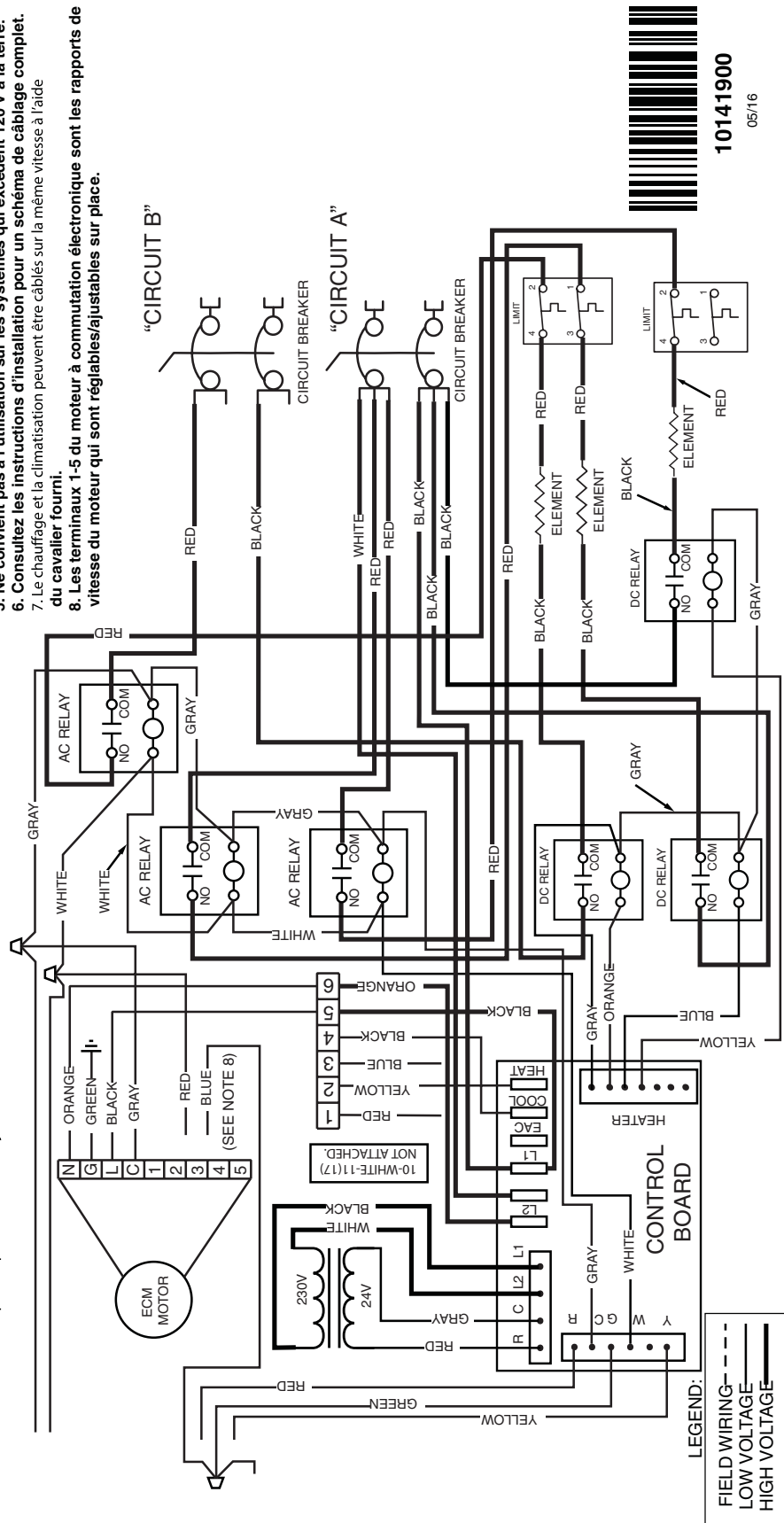


Figure 7. 15kW & 17kW Wiring Diagram (With PCB Control)

WIRING DIAGRAM

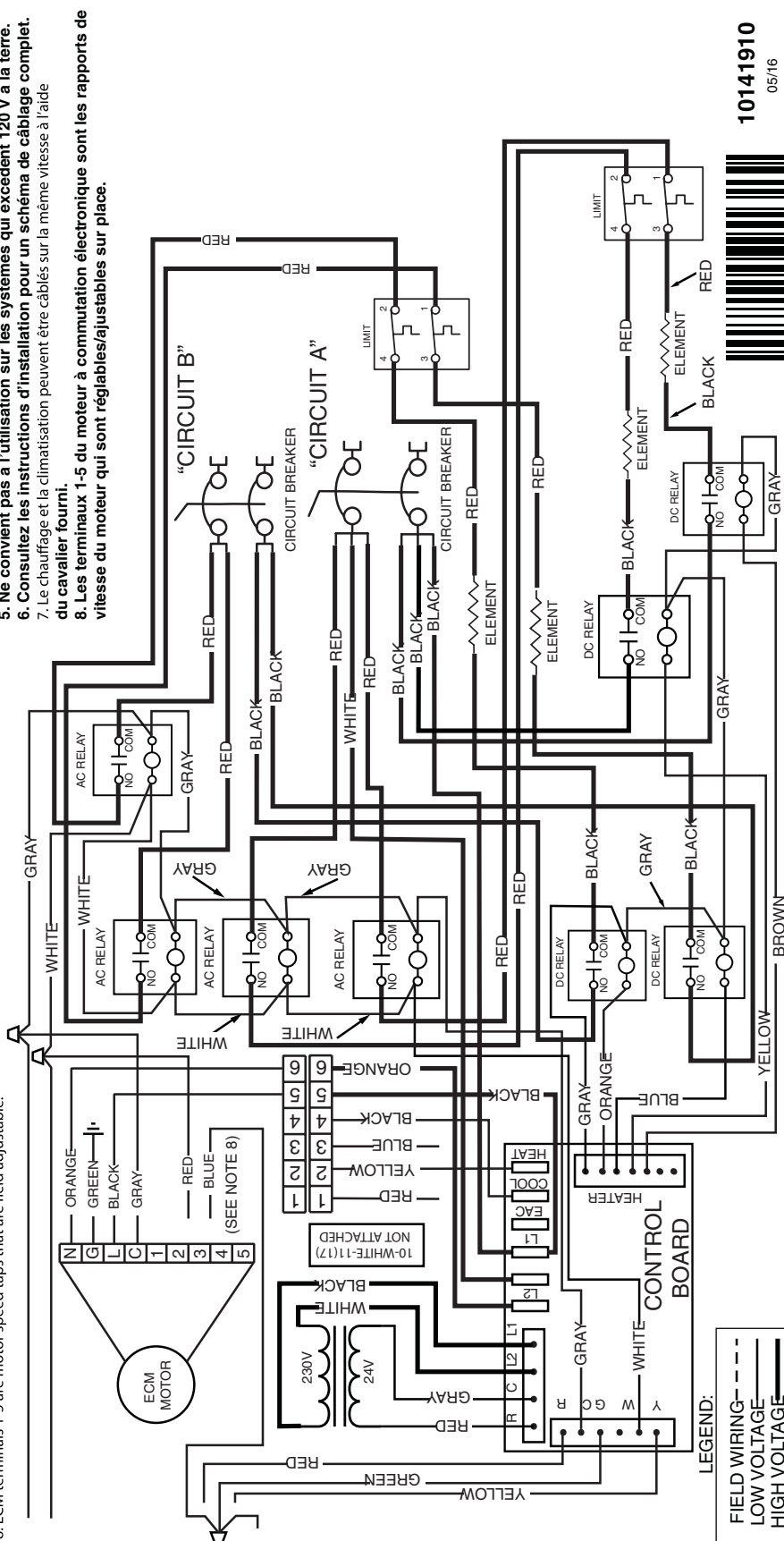
Model: 20 KW and 23 KW Electric Furnace

AVERTISSEMENT
Placez les disjoncteurs en position « off » avant d'entretenir la fournaise.

WARNING
Switch circuit breakers to the "off" position before servicing the furnace.

NOTES:

- Supply wire size must be in accordance to the applicable revision of the NEC and all other applicable codes.
- To change blower speed refer to installation instructions
- Refer to furnace installation instructions for thermostat connections.
- If any wire in this unit is to be replaced it must be replaced with 105° C thermoplastic copper wire of the same gauge.
- Not suitable for use on systems exceeding 120V to ground.
- Refer to installation instructions for complete wiring diagram.
- Heating and cooling may be wired on the same speed using the provided jumper wire.
- ECM terminals 1-5 are motor speed taps that are field adjustable.



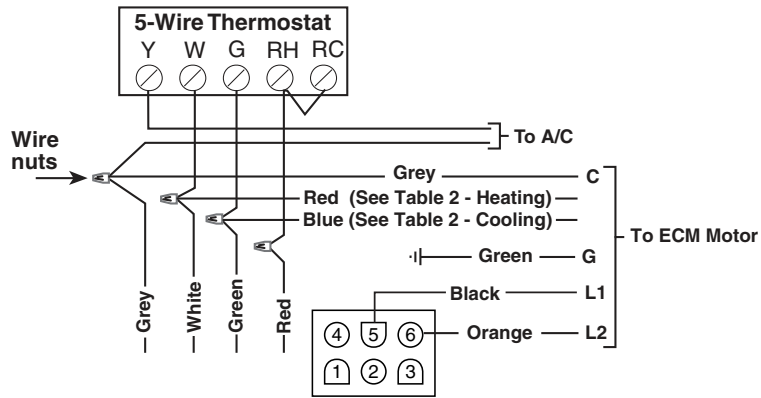
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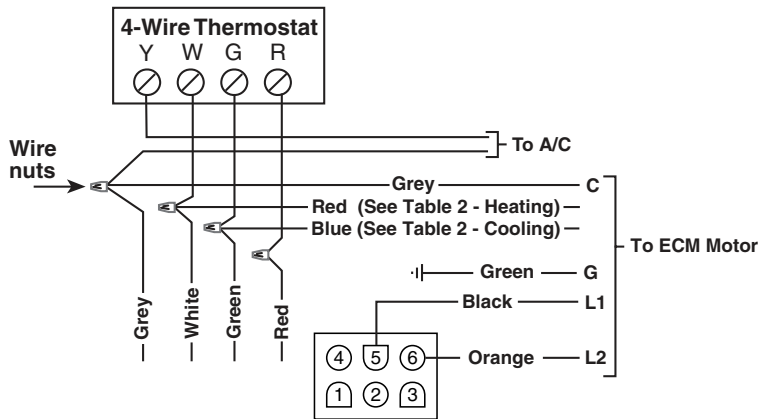
Figure 8. 20kW & 23kW Wiring Diagram (With PCB Control)

FURNACE CONTROL WIRING

5-Wire Thermostat to AC



4-Wire Thermostat to AC



6-Wire Thermostat to HP

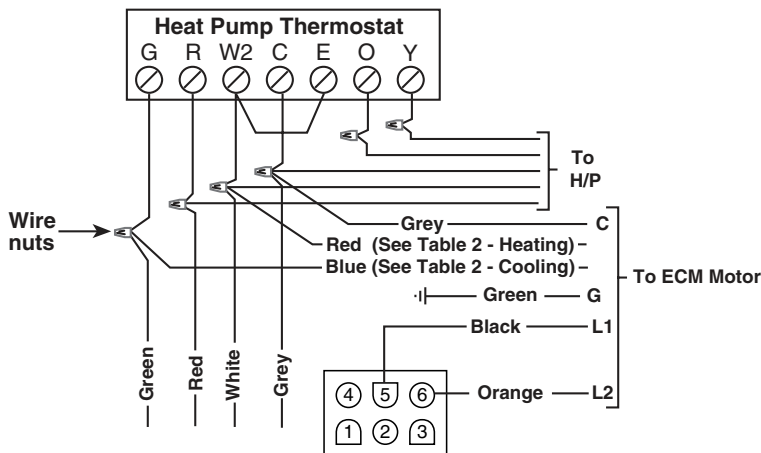


Figure 9. Electric Furnace Thermostat Connections

