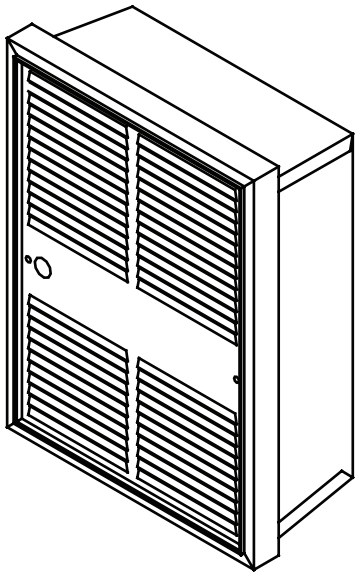
INSTALLATION AND OPERATION INSTRUCTIONS

303, 304, 305, CRH, CRQ, CFA SERIES

Note: Ceiling mounted units (3000 series) require a single pole remote mounted thermostat for operation. A thermostat is not provided with these units. Only 305/CFA units are supplied with an in-built thermostat.



CAUTION:

1. To prevent electric shock disconnect power to heater at main service before wiring or service.
2. Do not obstruct the front of the heater with curtains, furniture, doors, etc. Do not place heaters under towel racks. Proper operation of the heater requires a free flow intake and exhaust of air.

MISE EN GARDE:

1. Pour éviter les chocs électriques, déconnectez l'alimentation du chauffage au service principal avant le câblage ou l'entretien.
2. N'obstruez pas l'avant du radiateur avec des rideaux, des meubles, des portes, etc. Ne placez pas les radiateurs sous les porte-serviettes. Le bon fonctionnement du réchauffeur nécessite une prise d'air libre et de l'air évacué.

WARNING: To insure proper operation, all heaters must be thermostatically controlled. These heaters must not be installed without wallbox model no. 30WB.

AVERTISSEMENT: Pour assurer un fonctionnement correct, tous les appareils de chauffage doivent être contrôlés thermostatiqueent Ces appareils de chauffage ne doivent pas être installés sans boîtier mural. 30WB.

GENERAL

These heaters are designed for recessed or surface mount installation. The heaters may be wall mounted in a vertical or horizontal position and ceiling mounted. The wallbox is rated for zero clearance to combustables, such as wall framing and insulation. **However,** to maintain proper air circulation, the final installation of the heater must maintain the minimum clearance of 6 inches to adjacent surfaces, such as walls and floors.

NOTE: Ceiling mounted units (3000 Series) require a single pole remote mounted thermostat for operation.

INSTALLATION OF WALL BOX 30 WB FOR NEW CONSTRUCTION

1. Position wall box a minimum of 6 inches from adjacent wall and floor, See figure 1A, page 3. Secure to wall stud with nails or screws. Wall box must be installed with front edge flush with finished wall surface. See figure 1, page 3.
2. Remove knockout in wall box for power source, and install cable clamp.
3. Insert supply cable through clamp allowing 6-8" for field wiring.

NOTE: Field wiring must enter wall box where the corner wiring compartment is located.

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IMPORTANT INSTRUCTIONS

When using electrical appliances, basic precautions should always be followed to reduce the risk of fire, electrical shock, and injury to persons, including the following:

1. Read all instructions before using this heater.

2. **CAUTION:** High temperatures. Keep cords and all other combustible material, such as furniture, papers, clothes and curtains away from the heater. For safe and efficient operation, keep an open space around heater of three feet in front and 12 inches at ends and rear.

   ATTENTION: Les températures élevées. Gardez les cordons et tout autre matériau combustible, tels que les meubles, papiers, vêtements et rideaux à l'extérieur de l'appareil de chauffage. Pour un fonctionnement sûr et efficace, garder un espace ouvert autour de chauffage de trois pieds à l'avant et 12 pouces aux extrémités et à l'arrière.

3. Extreme caution is necessary when any heater is used by or near children or invalids and when ever the heater is left operating and unattended.

4. Do not operate any heater after it malfunctions, has been dropped or damaged in any manner. Return heater to authorized service facility for examination, electrical or mechanical adjustment, or repair.

5. Do not use outdoors.

6. To disconnect heater, turn controls to off, and turn off power to heater circuit at main disconnect panel (or operate internal disconnect switch if provided).

7. Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock or fire, or damage the heater.

8. To prevent a possible fire, do not block air intakes or exhaust in any manner.

9. A heater has hot and arcing or sparking parts inside.

WARNING: Do not use it in area where gasoline, paint, or flammable liquids are used or stored.

AVERTISSEMENT: Ne l'utilisez pas dans des endroits où de l'essence, de la peinture ou des liquides in flammables sont utilisés ou entreposés.

10. Use this heater only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.

11. This heater may include an audible or visual alarm to warn that parts of the heater are getting excessively, hot . If the alarm sounds (or illuminates), immediately turn the heater off and inspect for any objects on or adjacent to the heater that may have blocked the airflow or otherwise caused high temperatures to have occured. **DO NOT OPERATE THE HEATER WITH THE ALARM SOUNDING (OR ILLUMINATING).**

12. SAVE THESE INSTRUCTIONS

MAINTENANCE AND CLEANING

The heater should be cleaned at least annually to prevent excess build-up of dirt and lint accumulated under normal operating conditions. In an unusually dirty environment the cleaning should be done more often. To clean the heater first DISCONNECT THE HEATER FROM THE MAIN POWER SOURCE. Then remove the grille. Using a vacuum cleaner with soft brush attachment clean the element of any accumulated dirt or lint. Be carefull not to bend the fins of the element. When the cleaning is finished, re-install the grille and restore power. DO NOT OPERATE THE HEATER WITHOUT GRILLE.

INSTALLATION OF WALL BOX 30WB
FOR EXISTING CONSTRUCTION

1. Carefully cut a hole measuring 9 ¼" wide by 12 ¼" long in wall. Wall box 30WB must be attached to a wall stud on one edge. Minimum clearances of 6" must be maintained to adjacent surfaces. Attach wall box and secure power cable as in new construction.

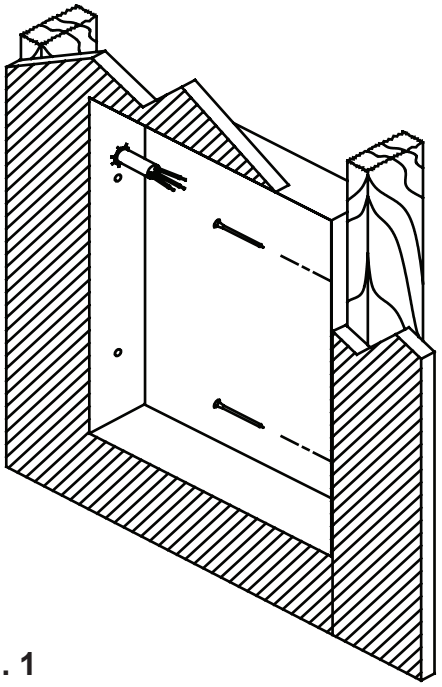

FIG. 1

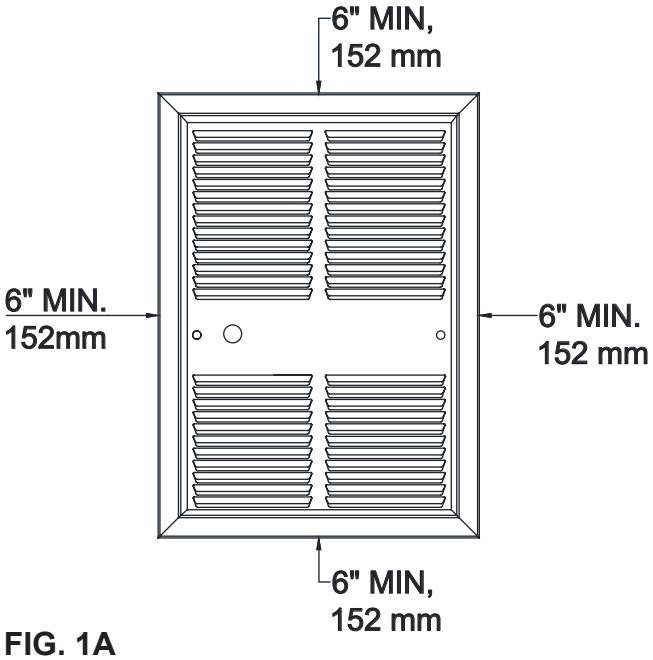

FIG. 1A

NOTE: IN THE VERTICAL POSITION THE HEATER CAN BE MOUNTED ONLY FOR BOTTOM DISCHARGE.

FIELD CONVERSION FOR LOWER WATTAGE

Models rated 2000W or less: To convert heater to a lower wattage rating, remove red jumper from heating element (see figure 2). The wattage will be reduced to half of the nameplate wattage. See specification chart (Fig. 2A) for available wattage.

Models rated 2250W: To convert to lower wattage, see Specification Chart (Fig. 3) for available wattages and see Wattage Conversion Chart (Fig. 4) & Wiring Diagrams (Fig. 5) for wiring.

INSTALLATION OF HEATER ASSEMBLY

1. Place heater into wall box and secure with the two no. 8 x ¾ screws provided.
2. Connect power supply to heater pigtails with wirenuts or crimp terminals.
3. After field connections are made, push wires into wiring compartment and secure wiring compartment cover to heater using no. 8 X ½" screw provided.

INSTALLATION OF GRILLE AND KNOB

1. Place the two no. 8 oval head screws into grille mounting holes.
2. Align grille with heater and secure. Be careful not to over tighten as this may cause fan blade to strike grille.
3. To install knob, **(305 Series only)** remove hole plug in grille and align flat of thermostat shaft with flat on knob. Push knob onto shaft until knob almost touches grille.
4. For tamper-resistant installation, set thermostat with knob, remove knob and replace hole plug. Retain knob for future use.

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OPERATION

1. Turn on the power supply to heater.
2. Rotate thermostat knob fully clockwise. This heater is equipped with a fan delay, so the fan will be delayed 45-60 seconds after the element is energized.
3. Allow the room to reach desired temperature, then rotate thermostat knob counter clockwise until thermostat clicks. Fan will continue to run for 45-60 seconds to purge warm air from heater enclosure. The heater will continue to cycle on and off in the selected temperature range.
4. For remote thermostat operation, remove wire nut on wires marked T1 and T2. Connect single pole remote thermostat to T1 and T2. Thermostat wiring must be the same size as power supply wiring. See specification chart for minimum wire size.

NOTE: The wall thermostat cycles the heating element only. Direct runs of supply service leads L1 & L2 supplies continuous power to the fan motor, and the heater should be considered live at all times. Move the disconnect switch to the off position or disconnect power at main distribution box before any maintenance work. Turning the thermostat to low position will not disconnect the heater.

NOTE: This heater is equipped with a manual reset limit control. The front grille must be removed to reset limit. Disconnect power before reset button is pushed.

WARNING:

It should be noted that the 3000 series units feature a fan delay control to allow for element pre-heat and more critically fan purge of heat at the end of thermostat cycle. If the units are turned off with disconnect while the motor is operating, the residual heat may allow the manual reset thermal limit to cycle, this may lead to service calls and unnecessary returns of the units. To turn these units off with the disconnect switch, the thermostat should first be turned to low position, fan should be allowed to complete the purge cycle. These units have a label attached that states " DO NOT DISCONNECT UNIT WHILE FAN IS RUNNING". This applies to any unit that has the disconnect option.

AVERTISSEMENT:

Il convient de noter que les unités de la série 3000 disposent d'un contrôle de délai de ventilation pour permettre le préchauffage des éléments et une ventilation plus critique de la chaleur du ventilateur à la fin du cycle du thermostat. Si les unités sont mises hors tension avec déconnexion pendant que le moteur fonctionne, la chaleur résiduelle peut permettre à la limite thermique de réinitialisation manuelle de se déclencher, ce qui peut entraîner des appels de service et des retours inutiles des unités. Pour éteindre ces appareils à l'aide du sectionneur, le thermostat doit d'abord être tourné en position basse, le ventilateur doit pouvoir terminer le cycle de purge. Ces unités sont munies d'une étiquette indiquant "NE PAS DÉCONNECTER L'APPAREIL LORSQUE LE VENTILATEUR FONCTIONNE". Ceci s'applique à toute unité disposant de l'option de déconnexion

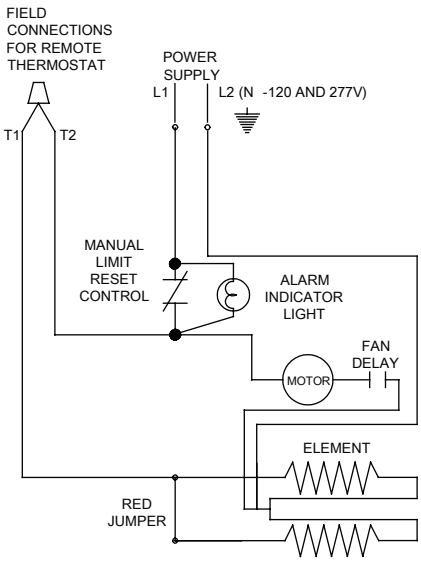
SPECIFICATIONS: **Fig. 2A**

MODEL NO.	VOLTS	WATTAGE*	BTU/HR	AMPERAGE	MIN. "WIRE SIZE 60°C
E3035	120	1500/750	5120/2560	12.5/6.25	12 AWG.
E3055	120	1500/750	5120/2560	12.5/6.25	12 AWG.
E3038	120	1800/900	6143/3072	15/7.5	12 AWG.
E3058	120	1800/900	6143/3072	15/7.5	12 AWG.
F3032	208	2000/1000	6826/3413	9.6/4.8	14 AWG.
F3052	208	2000/1000	6826/3413	9.6/4.8	14 AWG.
H3032	240 208	2000/1000 1500/750	6826/3413 5120/2560	8.33/4.16 7.22/3.6	14AWG.
H3052	240 208	2000/1000 1500/750	6826/3413 5120/2560	8.33/4.16 7.22/3.6	14 AWG.
G3032	277	2000/1000	6826/3413	7.22/3.61	14 AWG.
G3052	277	2000/1000	6826/3413	7.22/3.61	14 AWG.

*Factory wired for higher voltages, field convertable to lower wattage.

**Use copper wire only. All wiring must conform to N.E.C and local electrical codes.

FIG. 2



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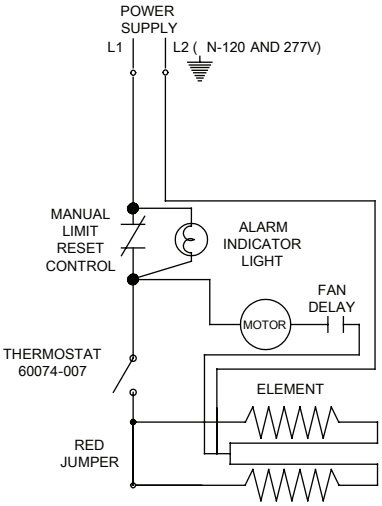
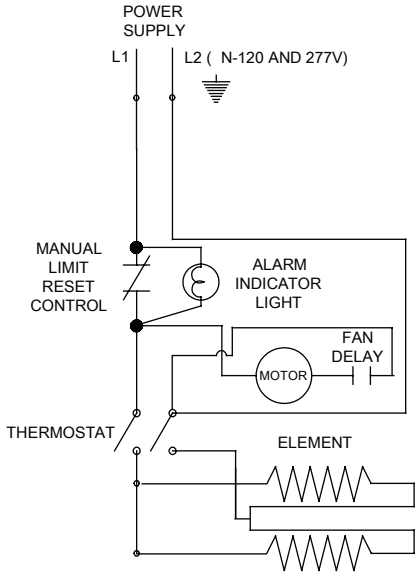
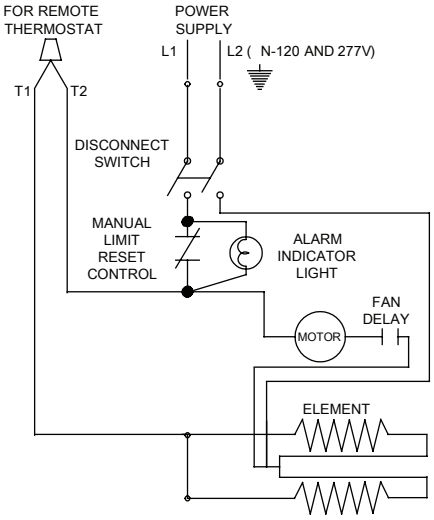


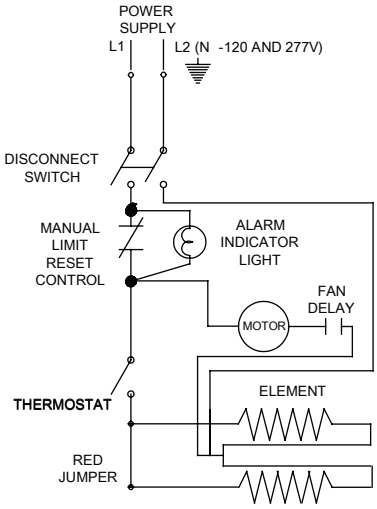
OPTION T



OPTION T2



OPTION D



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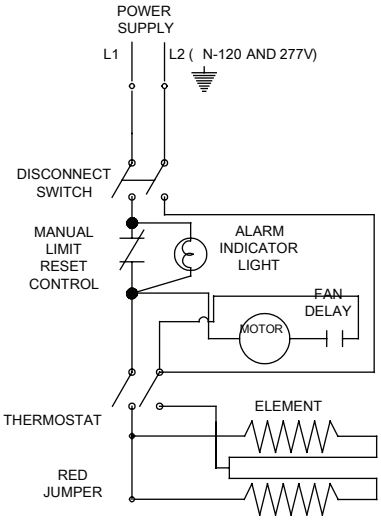

OPTION T2D

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FIG. 3 SPECIFICATIONS

MODEL NO.	VOLTS	WATTAGE *	BTU/ HOUR	AMPERAGE	MIN. ** WIRE SIZE 60°C
F30322, CRH822 F30422, CPQ822 F30522, CFA822	208	500, 750, 1000 1250, 1500, 1750 2250	1707, 2560, 3413, 4266, 5120, 5973 7680	10.8	14 AWG
H30322, CRH222 H30422, CPQ222 H30522, CFA222	240	500, 750, 1000 1250, 1500, 1750 2250	1707, 2560, 3413, 4266, 5120, 5973 7680	9.4	14 AWG.

* Factory wired for higher wattage, field convertible to lower wattage.
** Use copper wire only. All wiring must conform to N.E.C. and local electric codes

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FIG. 4 WATTAGE CONVERSION CHART

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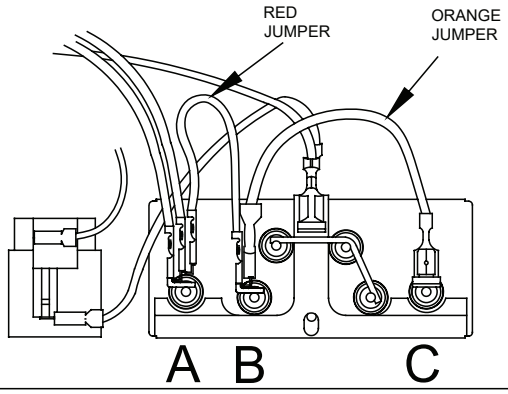
<td> 
</td>
<td>WD-1
2250W</td>
<td colspan="2">WD-2 1750W Remove orange jumper.
WD-3 1500W Remove red jumper and
move orange jumper to terminal "A".
WD-4 1250W Remove red jumper, remove wires
from terminal "A" to terminal "B".
Connect orange jumper to terminals "B" and"C".
WD-5 1000W Remove orange and red jumpers.
WD-6 750W Remove orange and red jumpers.
Move wires from terminal "A" to "B".
WD-7 500W Remove orange and red jumpers.
Move wires from terminal "A" to "C'.</td>
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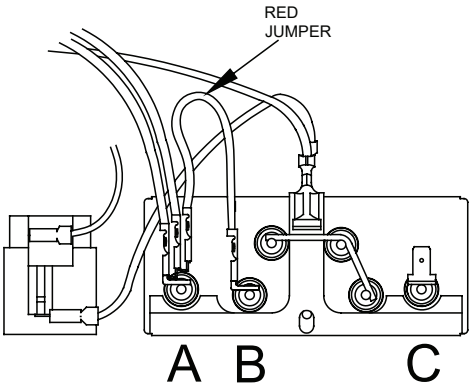
<td> 
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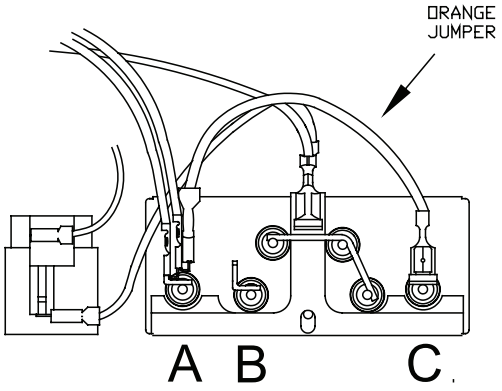
1750W</td>
<td> 
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1500W</td>
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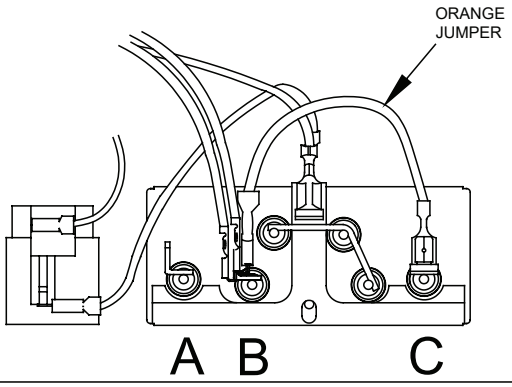
<td> 
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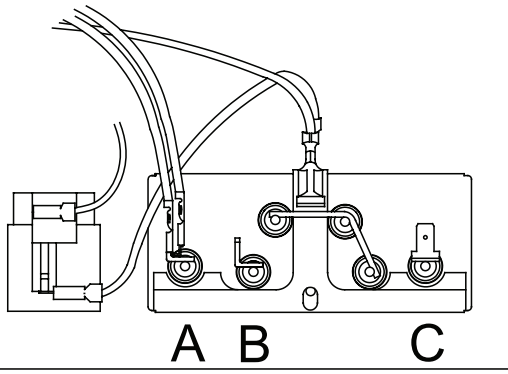
<td> 
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1000W</td>
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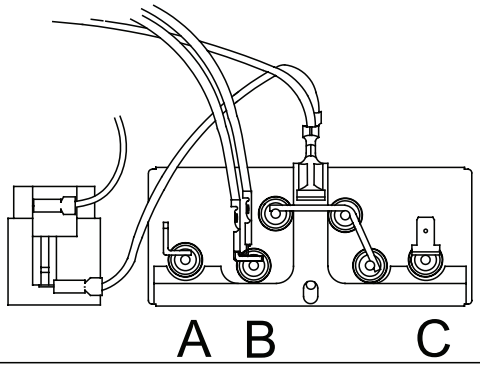
<td> 
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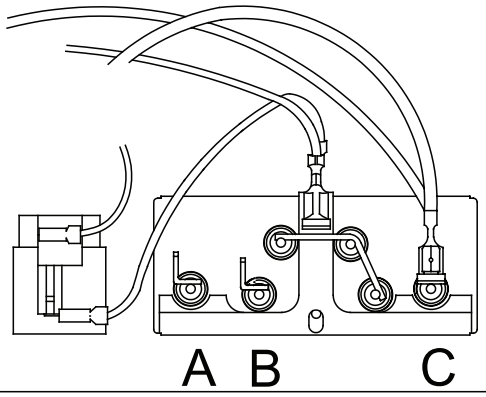
750W</td>
<td> 
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500W</td>
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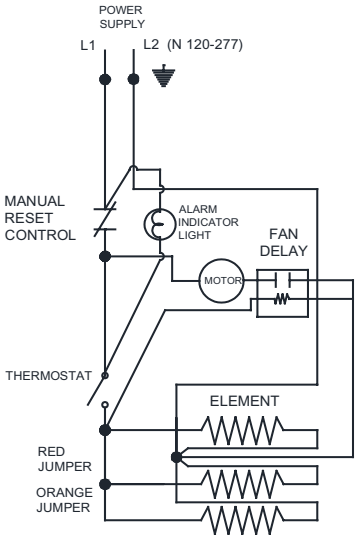
FIG. 5 WIRING DIAGRAMS



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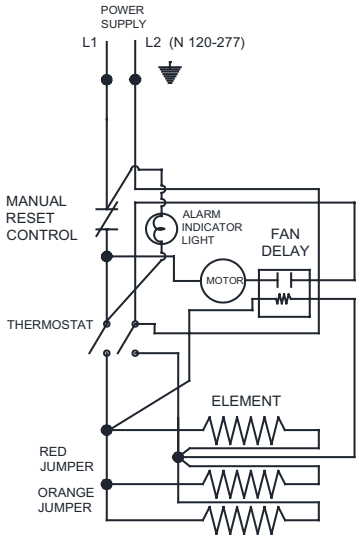

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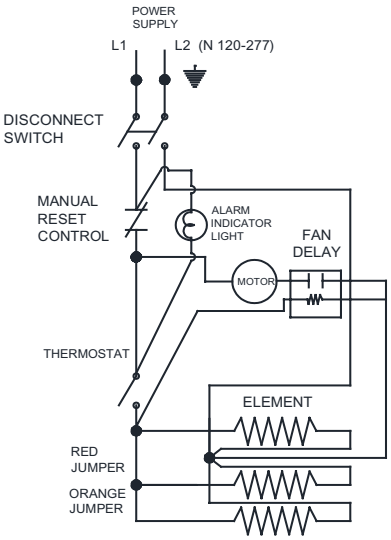

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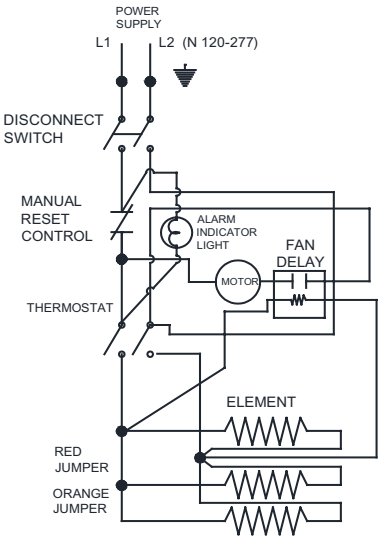

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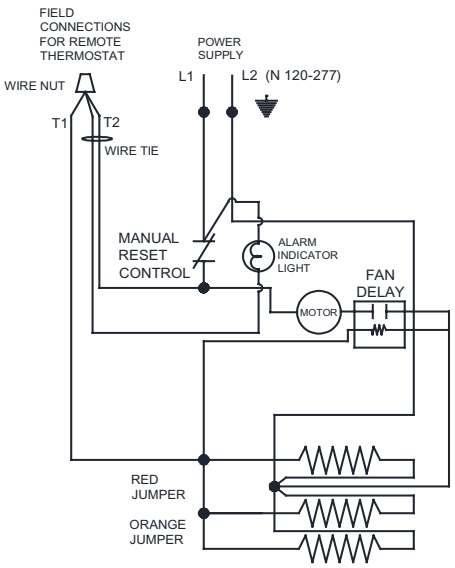

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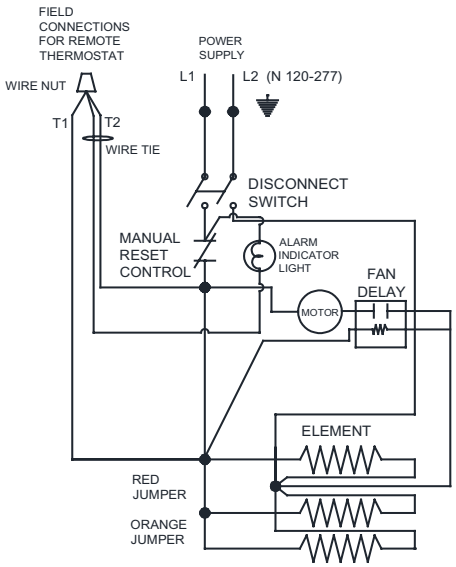

"D" OPTION

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