

Installer's Guide

24 VOLT HARNESS KIT BAYACHP024A

ALL phases of this installation must comply with NATIONAL, STATE AND LOCAL CODES

IMPORTANT—This Document is **customer property** and is to remain with this unit. Please return to service information pack upon completion of work.

⚠ WARNING

Hazardous Voltage w/Capacitors!

Disconnect all electric power, including remote disconnects and discharge all motor start/run capacitors before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. For variable frequency drives or other energy storing components provided by Trane or others, refer to the appropriate manufacturer's literature for allowable waiting periods for discharge of capacitors. Verify with an appropriate voltmeter that all capacitors have discharged. Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury.

This kit is used to convert a communicating outdoor unit to 24 volt control.

⚠ WARNING

RISK OF ELECTRIC SHOCK: These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in these operating instructions unless you are qualified to do so.

⚠ WARNING

This information is for use by individuals having 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 manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

PRE-INSTALLATION OVERVIEW:

1. Be certain power to unit is **DISCONNECTED**.
2. Before beginning, review Table 1 below which defines maximum total length of low voltage wiring from the outdoor unit to the indoor unit, and to the Comfort Control.

| NEC CLASS II WIRING, 24 VOLTS | |
|-------------------------------|------------------|
| WIRE SIZE | MAX. WIRE LENGTH |
| 18 AWG | 150 FT |
| 16 AWG | 225 FT. |
| 14 AWG | 300 FT. |

3. Refer to Table 2 to select the proper figure for each model. The "A" figures depict the communicating harness as supplied from the factory. The "B" figures depict how the unit should be wired after the field-supplied 24 volt harness is installed.
4. Follow the instructions within each figure to remove the communicating control harness and install the field-supplied 24 volt harness.
5. Finally, after the 24 volt harness installation, select the proper replacement wiring diagram in Table 3 and place over the existing wiring diagram.

TABLE 2

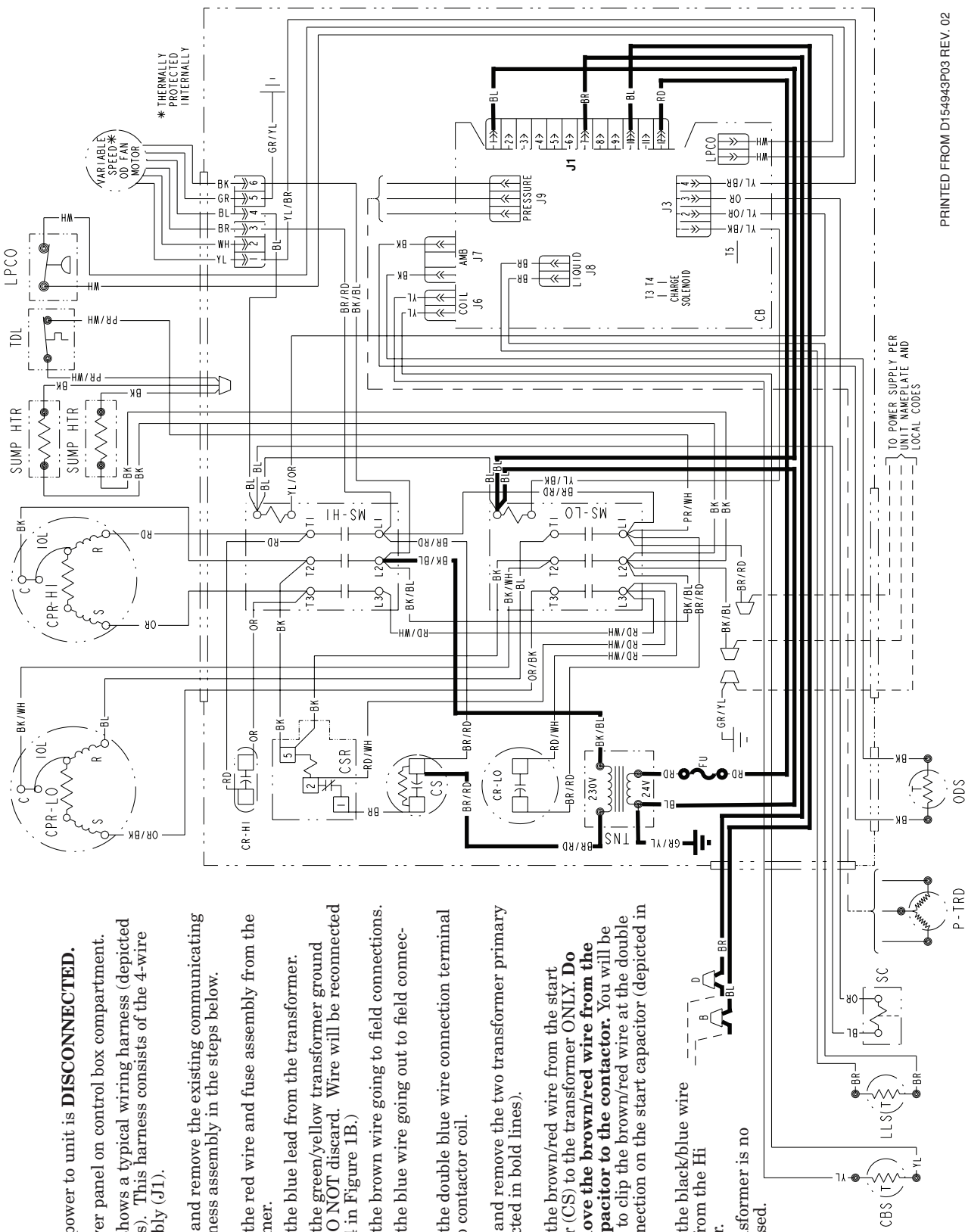
| Model | Existing Communicating Harness | After Converted Using Field Supplied 24V Harness |
|-------|--------------------------------|--|
| 2A7A8 | Figure 1A | Figure 1B |
| 2A6H8 | | |
| 2TTZ9 | | |
| 2TWZ9 | | |
| 4A7Z0 | Figure 2A | Figure 2B |
| 4A6Z0 | | |
| 4TTZ0 | | |
| 4TWZ0 | | |
| 4A7A6 | Figure 3A | Figure 3B |
| 4A6H6 | | |
| 4TTX6 | | |
| 4TWX6 | | |

FIGURE 1A - EXISTING COMMUNICATING CONTROL HARNESS (MODELS 2A7A8, 2A6H8, 2TTZ9, 2TWZ9)

REMOVAL:

1. Be certain power to unit is **DISCONNECTED**.
 2. Remove cover panel on control box compartment.
 3. Figure 1A shows a typical wiring harness (depicted in bold lines). This harness consists of the 4-wire plug assembly (J1).
- Disconnect and remove the existing communicating control harness assembly in the steps below.
- Remove the red wire and fuse assembly from the transformer.
 - Remove the blue lead from the transformer.
 - Remove the green/yellow transformer ground wire. (DO NOT discard. Wire will be reconnected in Step 4 in Figure 1B.)
 - Remove the brown wire going to field connections.
 - Remove the blue wire going out to field connections.
 - Remove the double blue wire connection terminal at the Lo contactor coil.

4. Disconnect and remove the two transformer primary wires (depicted in bold lines).
 - Remove the brown/red wire from the start capacitor (CS) to the transformer ONLY. **Do not remove the brown/red wire from the start capacitor to the contactor.** You will be required to clip the brown/red wire at the double wire connection on the start capacitor (depicted in bold).
 - Remove the black/blue wire coming from the Hi contactor.
 - The transformer is no longer used.



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FIGURE 1B - AFTER INSTALLING FIELD-SUPPLIED 24 VOLT HARNESS (MODELS 2A7A8, 2A6H8, 2TTZ9, 2TWZ9)

INSTALLATION:

1. Connect the 24 volt harness (supplied with this kit) to the control board, where the communicating harness was removed (connector J1).
2. Take the double blue lead terminal and connect to the Lo contactor coil, where the previous blue lead was removed.

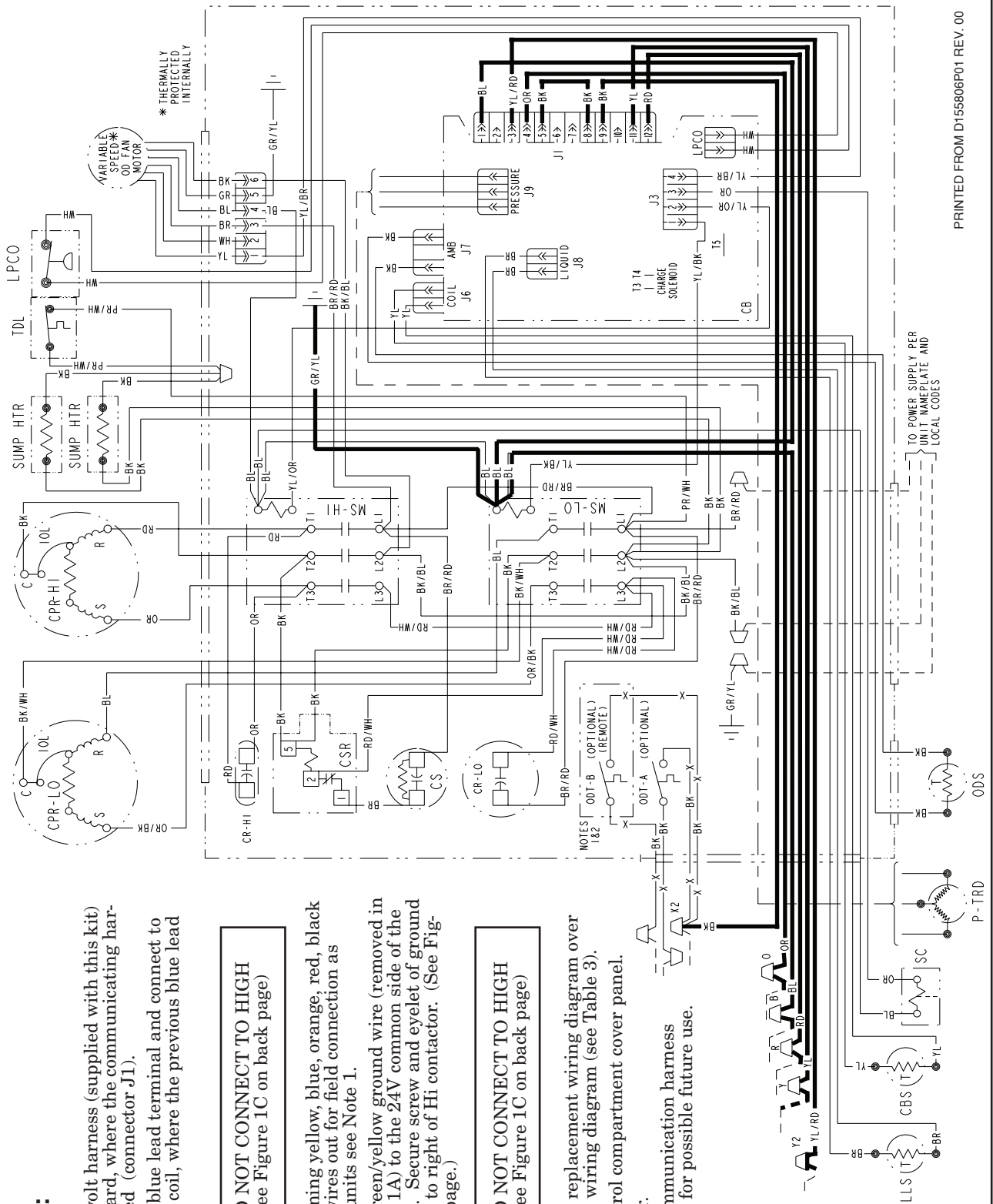
CAUTION: DO NOT CONNECT TO HIGH VOLTAGE! (See Figure 1C on back page)

3. Route the remaining yellow, blue, orange, red, black and yellow/red wires out for field connection as shown. For AC units see Note 1.
4. Reconnect the green/yellow ground wire (removed in Step 3 in Figure 1A) to the 24V common side of the Lo contactor coil. Secure screw and eyelet of ground wire into dimple to right of Hi contactor. (See Figure 1C on back page.)

CAUTION: DO NOT CONNECT TO HIGH VOLTAGE! (See Figure 1C on back page)

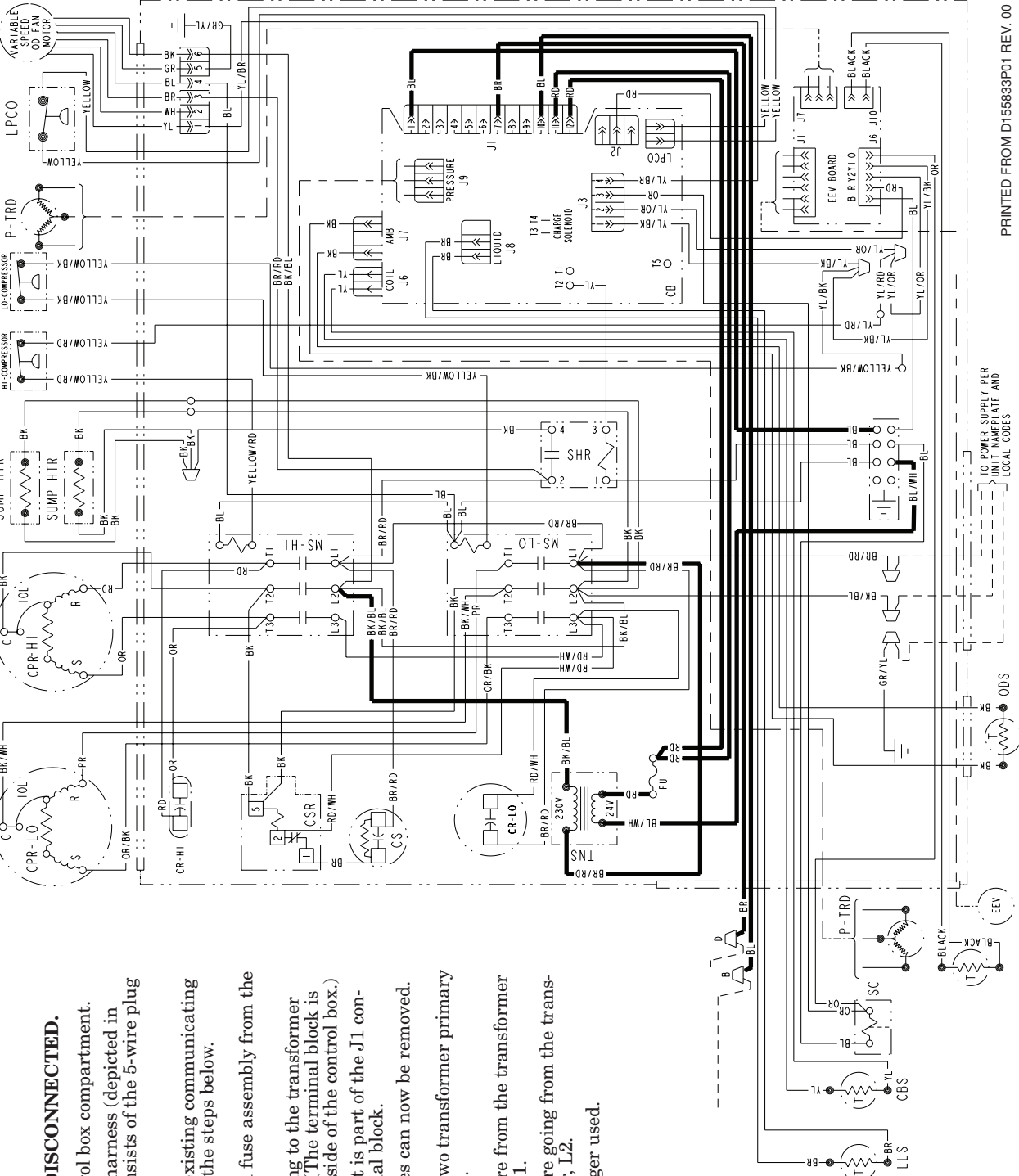
5. Place the proper replacement wiring diagram over the existing unit wiring diagram (see Table 3).
6. Replace the control compartment cover panel.
7. Reconnect power.
8. Please retain communication harness and transformer for possible future use.

Note 1:
If the unit is a cooling-only model (not a heat pump), the orange and black leads will not be used and should be capped off.



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FIGURE 2A - EXISTING COMMUNICATING CONTROL HARNESS (MODELS 4A7Z0, 4A6Z0, 4TTZ0, 4TWZ0)



REMOVAL:

1. Be certain power to unit is **DISCONNECTED**.
2. Remove cover panel on control box compartment.
3. Figure 2A shows the wiring harness (depicted in bold lines). This harness consists of the 5-wire plug assembly (J1).
 Disconnect and remove the existing communicating control harness assembly in the steps below.
 - Remove the red wires and fuse assembly from the transformer.
 - Remove the blue wire going to the transformer from the terminal block. (The terminal block is located at the bottom left side of the control box.)
 - Remove the blue wire that is part of the J1 control harness at the terminal block.
 - The J1 plug and its 5 wires can now be removed.
4. Disconnect and remove the two transformer primary wires (depicted in bold lines).
 - Remove the brown/red wire from the transformer and at the Lo contactor, L1.
 - Remove the black/blue wire going from the transformer to the Hi contactor, L2.
 - The transformer is no longer used.

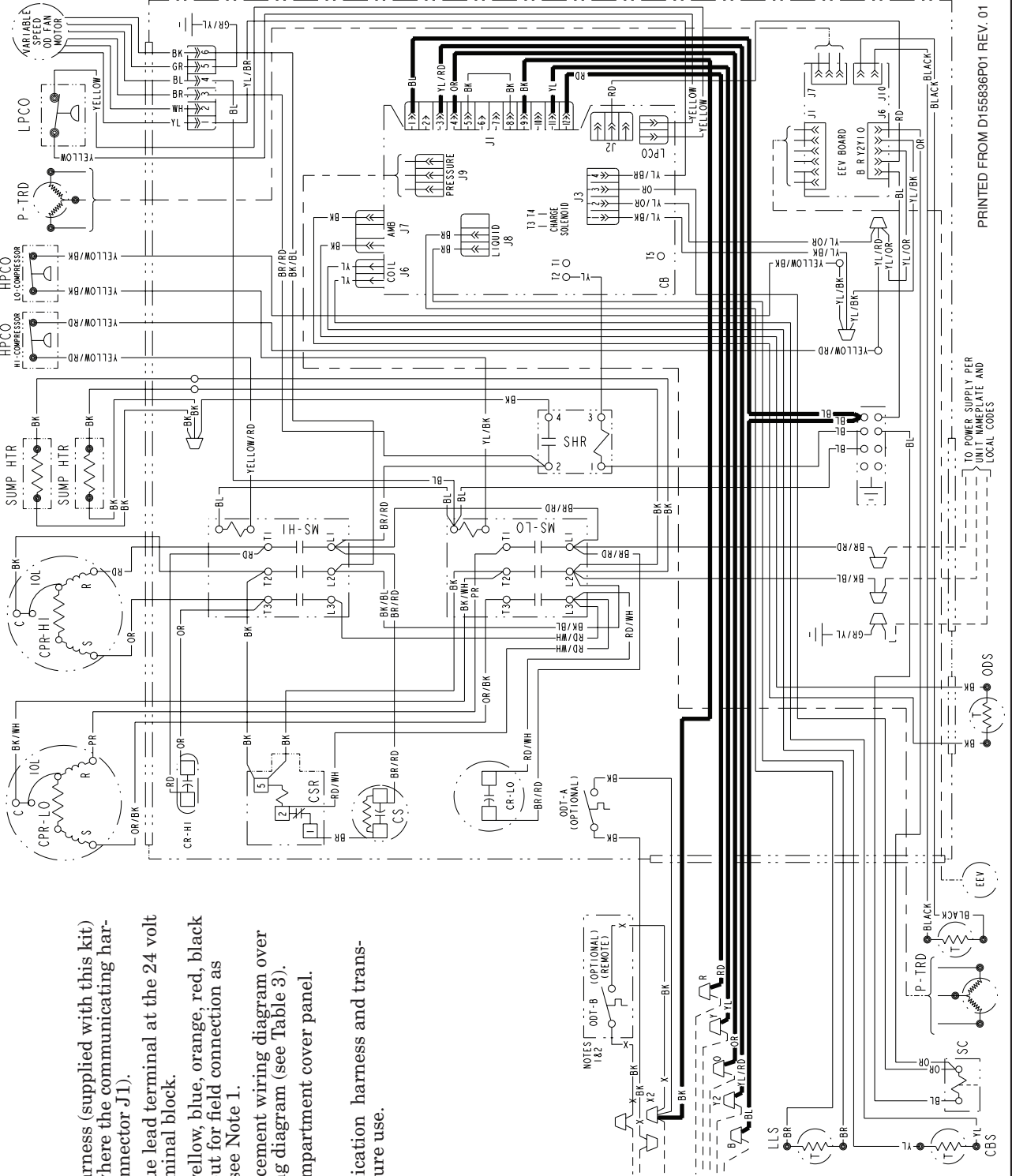
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TO POWER SUPPLY PER UNIT NAMEPLATE AND LOCAL CODES

FIGURE 2B - AFTER INSTALLING FIELD-SUPPLIED 24 VOLT HARNESS (MODELS 4A7Z0, 4A6Z0, 4TTZ0, 4TWZ0)

INSTALLATION:

1. Connect the 24 volt harness (supplied with this kit) to the control board, where the communicating harness was removed (connector J1).
2. Connect the double blue lead terminal at the 24 volt blue wire common terminal block.
3. Route the remaining yellow, blue, orange, red, black and yellow/red wires out for field connection as shown. For AC units see Note 1.
4. Place the proper replacement wiring diagram over the existing unit wiring diagram (see Table 3).
5. Replace the control compartment cover panel.
6. Reconnect power.
7. Please retain communication harness and transformer for possible future use.



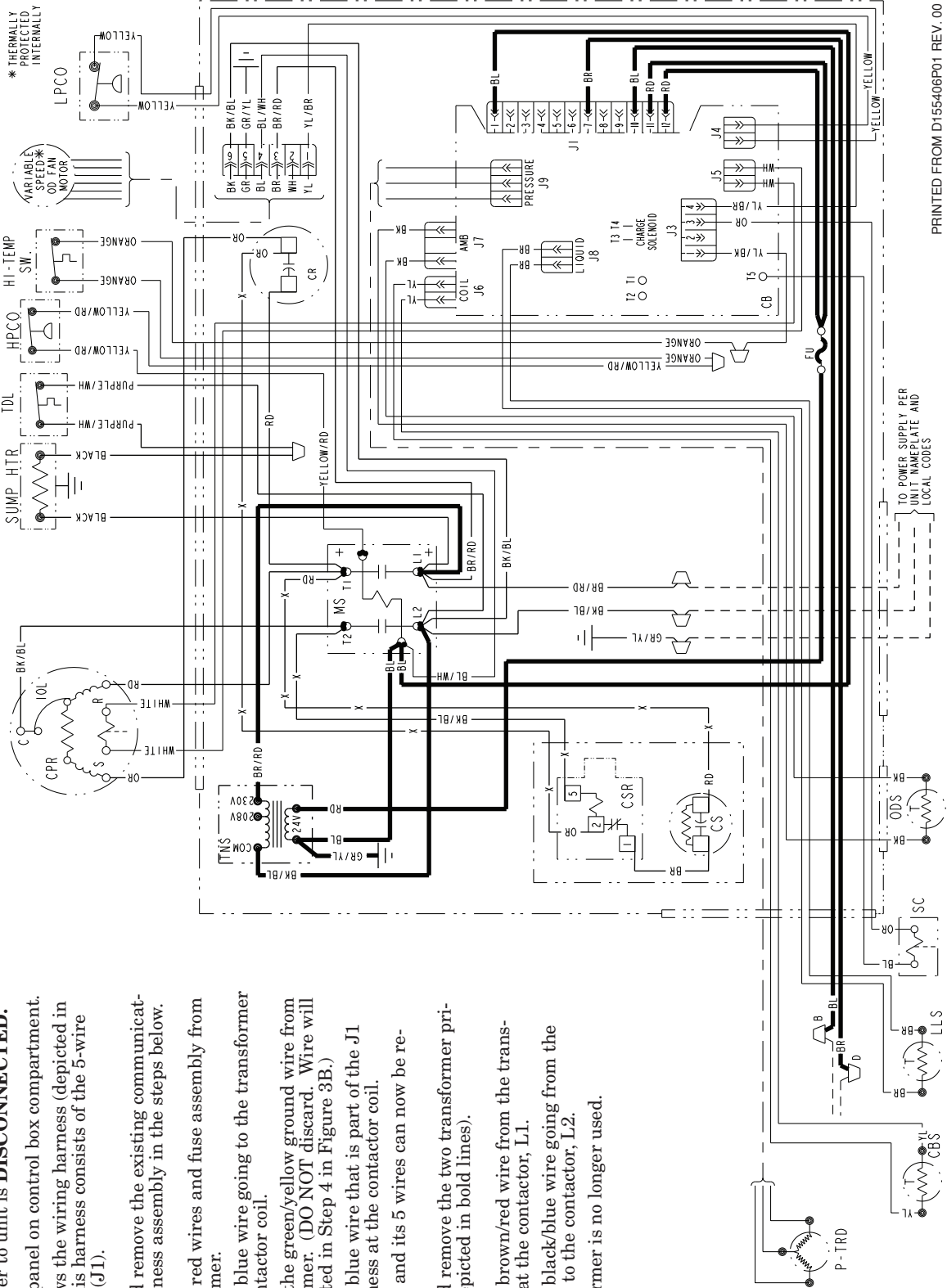
Note 1:
If the unit is a cooling-only model (not a heat pump), the orange and black leads will not be used and should be capped off.

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FIGURE 3A - EXISTING COMMUNICATING CONTROL HARNESS (MODELS 4A7A6, 4A6H6, 4TTX6, 4TWX6)

REMOVAL:

1. Be certain power to unit is **DISCONNECTED**.
 2. Remove cover panel on control box compartment.
 3. Figure 3A shows the wiring harness (depicted in bold lines). This harness consists of the 5-wire plug assembly (J1).
- Disconnect and remove the existing communicating control harness assembly in the steps below.
- Remove the red wires and fuse assembly from the transformer.
 - Remove the blue wire going to the transformer from the contactor coil.
 - Disconnect the green/yellow ground wire from the transformer. (DO NOT discard. Wire will be reconnected in Step 4 in Figure 3B.)
 - Remove the blue wire that is part of the J1 control harness at the contactor coil.
 - The J1 plug and its 5 wires can now be removed.
4. Disconnect and remove the two transformer primary wires (depicted in bold lines).
 - Remove the brown/red wire from the transformer and at the contactor, L1.
 - Remove the black/blue wire going from the transformer to the contactor, L2.
 - The transformer is no longer used.



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FIGURE 3B - AFTER INSTALLING FIELD-SUPPLIED 24 VOLT HARNESS (MODELS 4A7A6, 4A6H6, 4TTX6, 4TWX6)

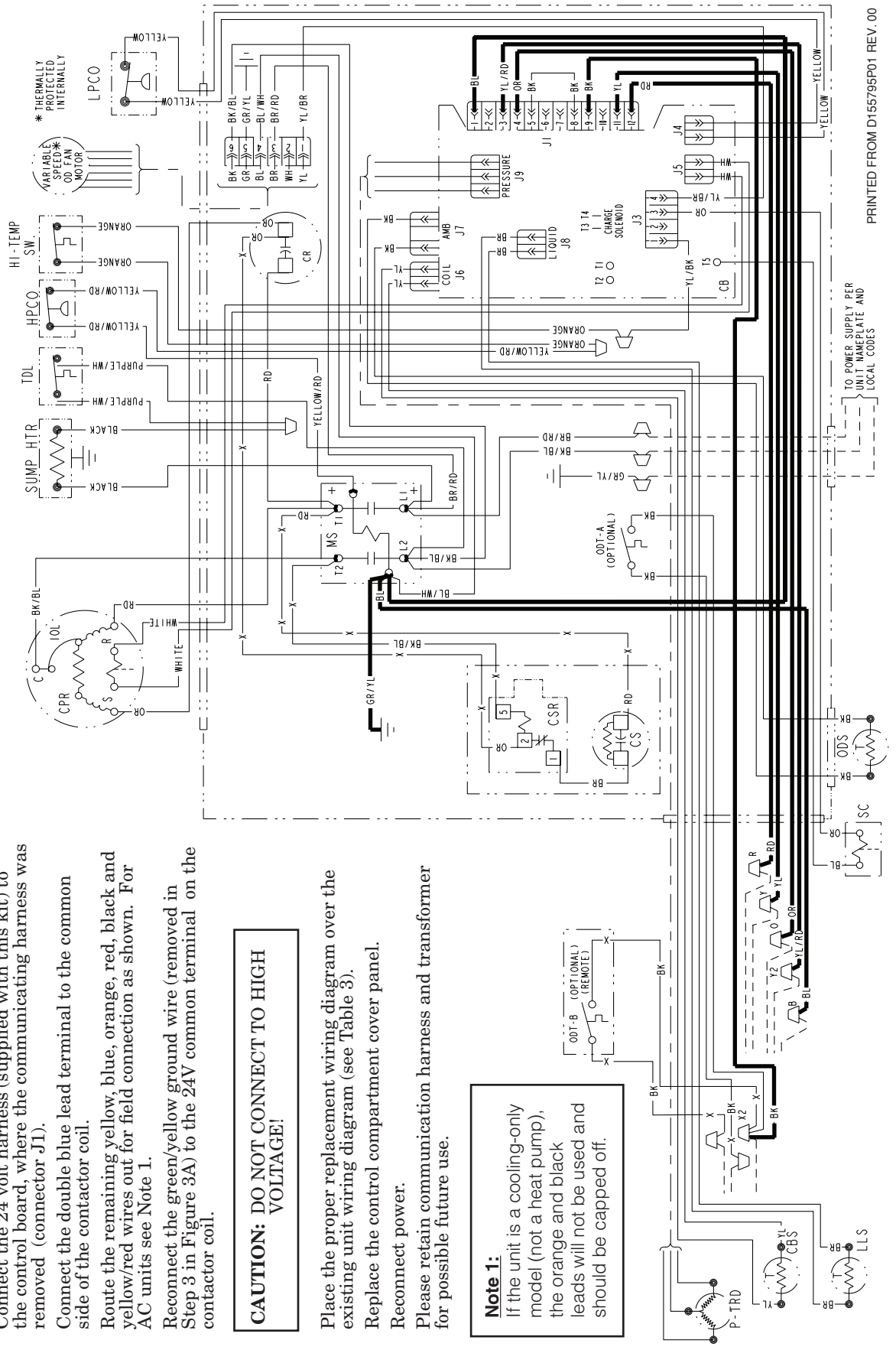
INSTALLATION:

1. Connect the 24 volt harness (supplied with this kit) to the control board, where the communicating harness was removed (connector J1).
2. Connect the double blue lead terminal to the common side of the contactor coil.
3. Route the remaining yellow, blue, orange, red, black and yellow/red wires out for field connection as shown. For AC units see Note 1.
4. Reconnect the green/yellow ground wire (removed in Step 3 in Figure 3A) to the 24V common terminal on the contactor coil.

CAUTION: DO NOT CONNECT TO HIGH VOLTAGE!

5. Place the proper replacement wiring diagram over the existing unit wiring diagram (see Table 3).
6. Replace the control compartment cover panel.
7. Reconnect power.
8. Please retain communication harness and transformer for possible future use.

Note 1:
If the unit is a cooling-only model (not a heat pump), the orange and black leads will not be used and should be capped off.



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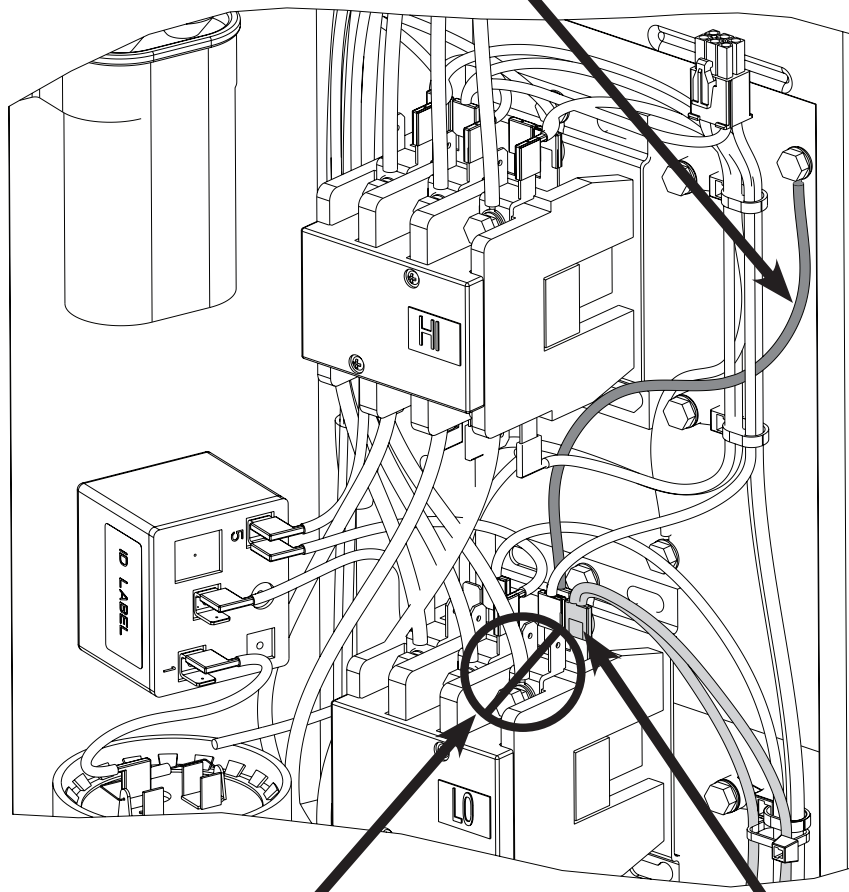
TO POWER SUPPLY PER UNIT NAMEPLATE AND LOCAL CODES

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**FIGURE 1C - DETAIL FOR MODELS
2A7A8, 2A6H8, 2TTZ9, 2TWZ9**

Relocated green/yellow
ground wire

(See Step 4, Figure 1B)



CAUTION!
Do NOT connect
to high voltage
terminal!

Connect the double blue lead
terminal to the Lo contactor
coil, where the previous blue
lead was removed.

(See Step 2, Figure 1B)

REPLACEMENT WIRING DIAGRAMS BY MODEL (INCLUDED IN KIT)

TABLE 3

| Model | Wiring Diagram |
|----------------------------|----------------|
| 2TWZ9030/2A6H8030 | D155805 |
| 2TWZ9036/2TWZ9048/2TWZ9060 | D155806 |
| 2A6H8036/2A6H8048/2A6H8060 | D155806 |
| 2TTZ9030/2A7A8030 | D155803 |
| 2TTZ9036/2TTZ9048/2TTZ9060 | D155804 |
| 2A7A8036/2A7A8048/2A7A8060 | D155804 |
| 4TWZ0/4A6Z0 | D155836 |
| 4TTZ0/4A7Z0 | D155835 |
| 4TWX6024/4TWX6048 | D155891 |
| 4A6H6024/4A6H6048 | D155891 |
| 4TWX6036/4A6H6036 | D155795 |
| 4TWX6060/4A6H6060 | D155797 |
| 4TTX6036/4A7A6036 | D155801 |
| 4TTX6024/4TTX6048 | D155893 |
| 4A7A6024/4A7A6048 | D155893 |
| 4TTX6060/4A7A6060 | D155800 |