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KITS COMMON TO HEAT PUMPS

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TP Technical
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MOTOR / FAN REPLACEMENT KIT

INSTALLATION INSTRUCTION FOR OUTDOOR MOTOR / FAN BLADE REPLACEMENT USED WITH ALL DAVE LENNOX SIGNATURE® COLLECTION XP17 AND XP21 UNITS

Shipping and Packing List

Check unit for shipping damage. Consult last carrier immediately if damage is found.

Quantity	Part Description
2	ATTENTION sticker (104578-01)
1	XP17N (with control 103369-xx) Wiring Diagram (537565-01)
1	XP21N (with control 103369-xx) Wiring Diagram (537566-01)
1	XP17N (with control 101797-xx) Wiring Diagram (537825-01)
1	XP21N (with control 101796-xx) Wiring Diagram (537826-01)

NOTE - After the motor / fan replacement kit is installed, the resulting unit configuration is that of an N model and the N-model wiring diagram becomes applicable to the respective unit.

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause personal injury, loss of life, or damage to property.

Installation and service must be performed by a licensed professional installer (or equivalent) or a service agency.

⚠ WARNING



Electric Shock Hazard. Can cause injury or death. Unit must be grounded in accordance with national and local codes.

Line voltage is present at all components when unit is not in operation on units with single-pole contactors. Disconnect all remote electric power supplies before opening access panel. Unit may have multiple power supplies.

Application

Instructions for removal of factory-installed outdoor one-piece motor / plastic fan blade assembly and installation of alternate motor and metal fan blade.

This kit can be applied to all Dave Lennox Signature® Collection XP17 and XP21 models.

NOTE - Replacement outdoor motor (Cat. # 98M39) and metal fan blade (Cat. # 85M50) must be ordered separately.

⚠ WARNING

Fan motor / grille assembly is heavy. Take care when removing and reinstalling.

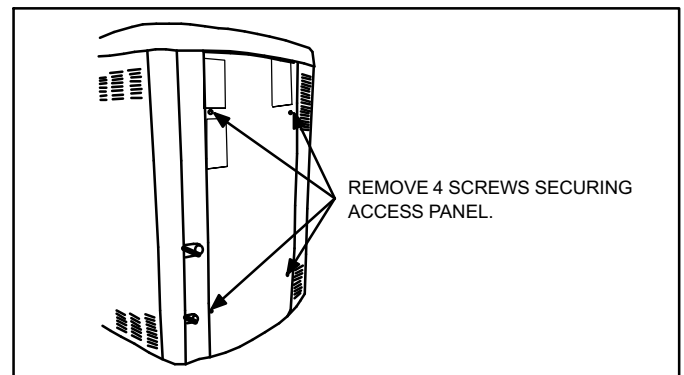
Failure to do so may result in injury.

⚠ CAUTION

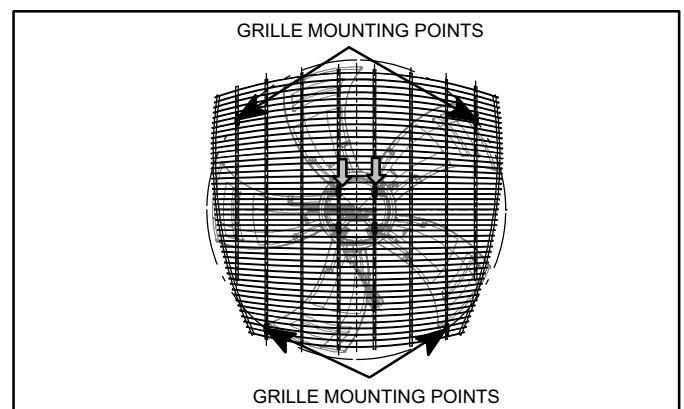
As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and use protective clothing.

Replacement Procedure

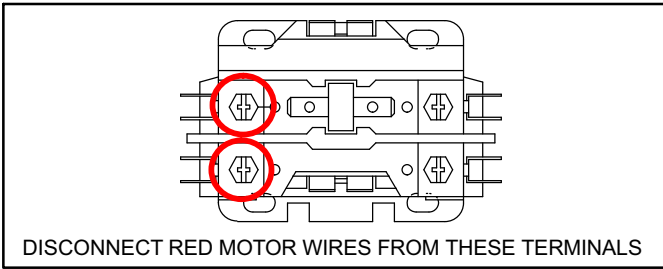
1. Disconnect all power to unit. Remove the four screws securing the front access panel. Remove panel and set aside.



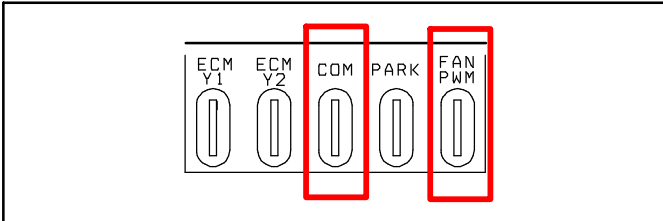
2. Remove the four screws that secure the top grille / fan motor assembly to the unit.



3. Disconnect the red fan motor power wires from the L1 and L2 terminals on the line side of the contactor.



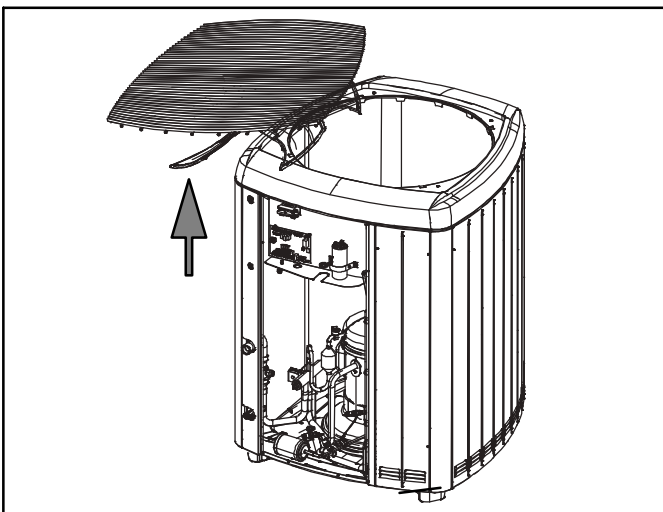
4. **Units with outdoor control part #103369-XX:** Remove the low voltage wires from “COM” and “FAN PWM” terminals on the outdoor control board.



5. **Units with outdoor control part #101796-XX or 101797-XX:** Remove the low voltage wires from the outdoor fan control (A177). Remove the brown and black (J2 plug) wires from the outdoor fan motor. Remove R, Y1, Y2 and C wires from the unitary control (A175). Remove the outdoor fan control (A177) from the unit and discard.

IMPORTANT - Plug all holes in control panel where the outdoor fan control was mounted to prevent moisture from getting into the control box.

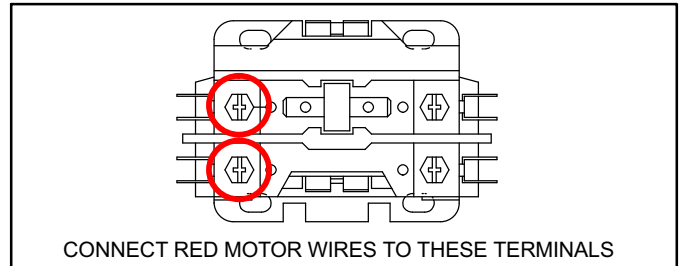
6. Lift the grille / fan motor assembly out of the unit. Unfasten the existing motor / fan blade assembly from the grille. Retain the acorn nuts. Remove the wiring conduit from the motor.



7. Install the new fan motor (reusing the acorn nuts) and wiring conduit onto the grille. Install the new metal fan

blade onto the motor shaft. The bottom of the fan blade hub should be flush (even) with the end of the motor shaft when installed.

8. Route motor wiring through conduit into control box.
9. Carefully lower the grille / fan motor assembly into unit. Reinstall the four screws that secure the grille / fan motor assembly to the unit.
10. Connect the red fan motor power wires to the L1 and L2 terminals on the line side of contactor.



11. After installation of the kit, the unit is configured as an N version. Connect low voltage wiring using the applicable N-version wiring diagram for the unit.
 12. Make the following wiring connections from the new outdoor fan motor to the unitary control (A175):
 - Connect black wire from motor to C on control.
 - Connect blue wire from motor to Y2 on control.
 - Connect yellow wire from motor to (ECM) Y1 on control.
- Applicable wiring diagrams are included in this instruction and new wiring diagram stickers are included in the kit.
13. Remove the paper backing and apply the applicable wiring diagram sticker onto the access panel, directly on top of the existing factory wiring sticker.
 14. Remove the paper backing and apply one ATTENTION sticker (two provided in kit) to the access panel, beside the nameplate. Apply the remaining sticker inside the control box.

ATTENTION

THE FAN ASSEMBLY IN THIS UNIT HAS BEEN MODIFIED TO AN ALTERNATE OUTDOOR FAN MOTOR (Cat. # 98M39) AND A METAL OUTDOOR FAN BLADE (Cat. # 85M50) COMBINATION. USE THESE PART NUMBERS FOR REPAIR PART ORDERS.

15. Reinstall the four screws securing the front access panel.
16. Restore power to the unit.

TABLE 1. XP17N Fan RPM for ECM Motors



ECM MOTOR

Model Number	Stage 1 RPM	Stage 2 RPM	EDA Stage RPM
XP17N-XXX-230-01	700	N/A	250

NOTE - THE FAN MOTOR RPM IS FACTORY-SET AND CANNOT BE ADJUSTED. THE ECM MOTOR SPEED (FAN PROFILE) STRING WILL NOT APPEAR ON THE 7-SEGMENT DISPLAY. THE FAN PROFILE THAT IS DISPLAYED APPLIES ONLY TO EBM MOTOR APPLICATIONS.

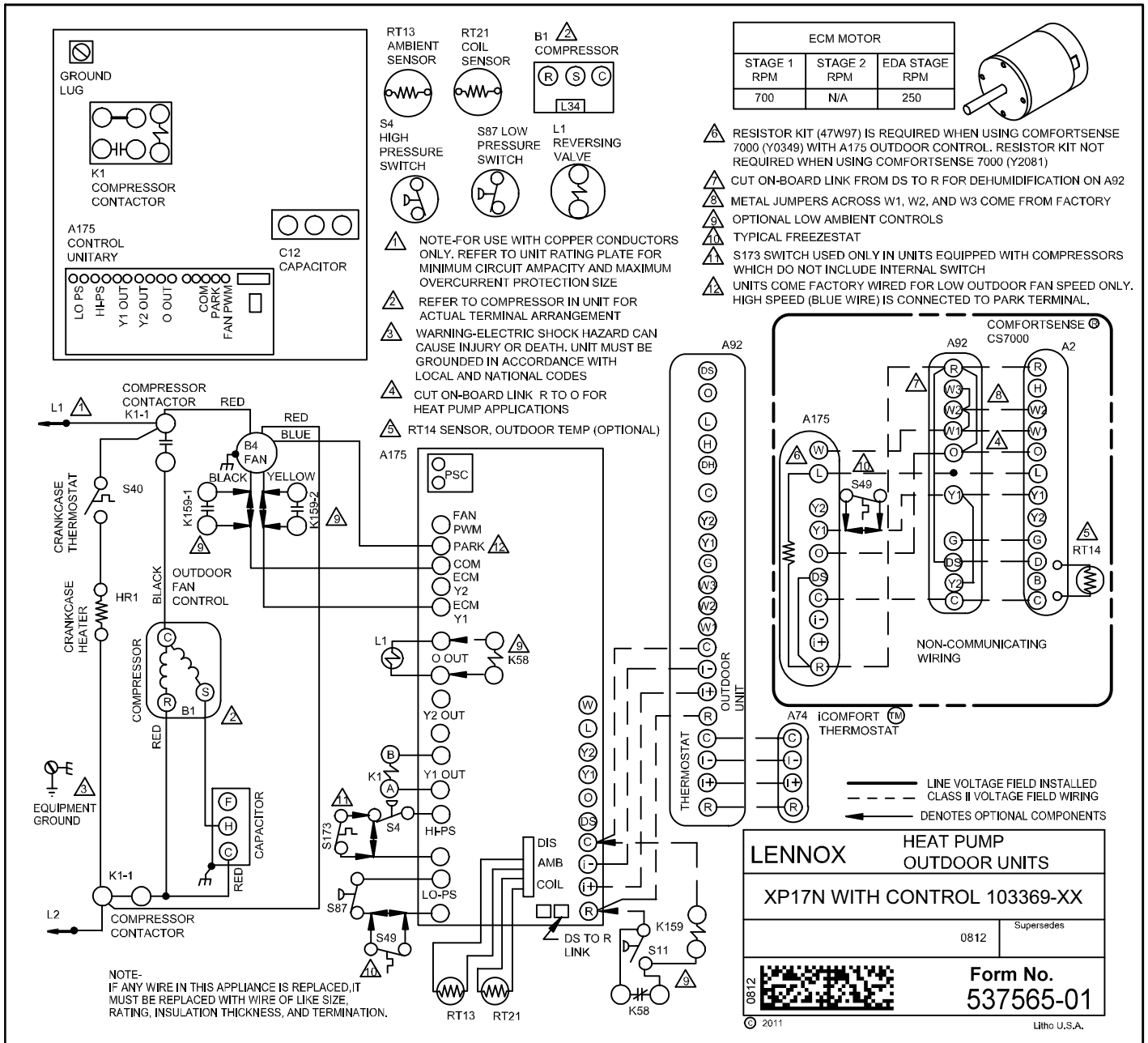


FIGURE 1. Typical XP17N Wiring (XP17N-XXX-230-01 shown)

TABLE 2. XP21N Fan RPM for ECM Motors



ECM MOTOR

Model Number	Stage 1 RPM	Stage 2 RPM	EDA Stage RPM
XP21N-XXX-230-01	700	825	250

NOTE - THE FAN MOTOR RPM IS FACTORY-SET AND CANNOT BE ADJUSTED. THE ECM MOTOR SPEED (FAN PROFILE) STRING WILL NOT APPEAR ON THE 7-SEGMENT DISPLAY. THE FAN PROFILE THAT IS DISPLAYED APPLIES ONLY TO EBM MOTOR APPLICATIONS.

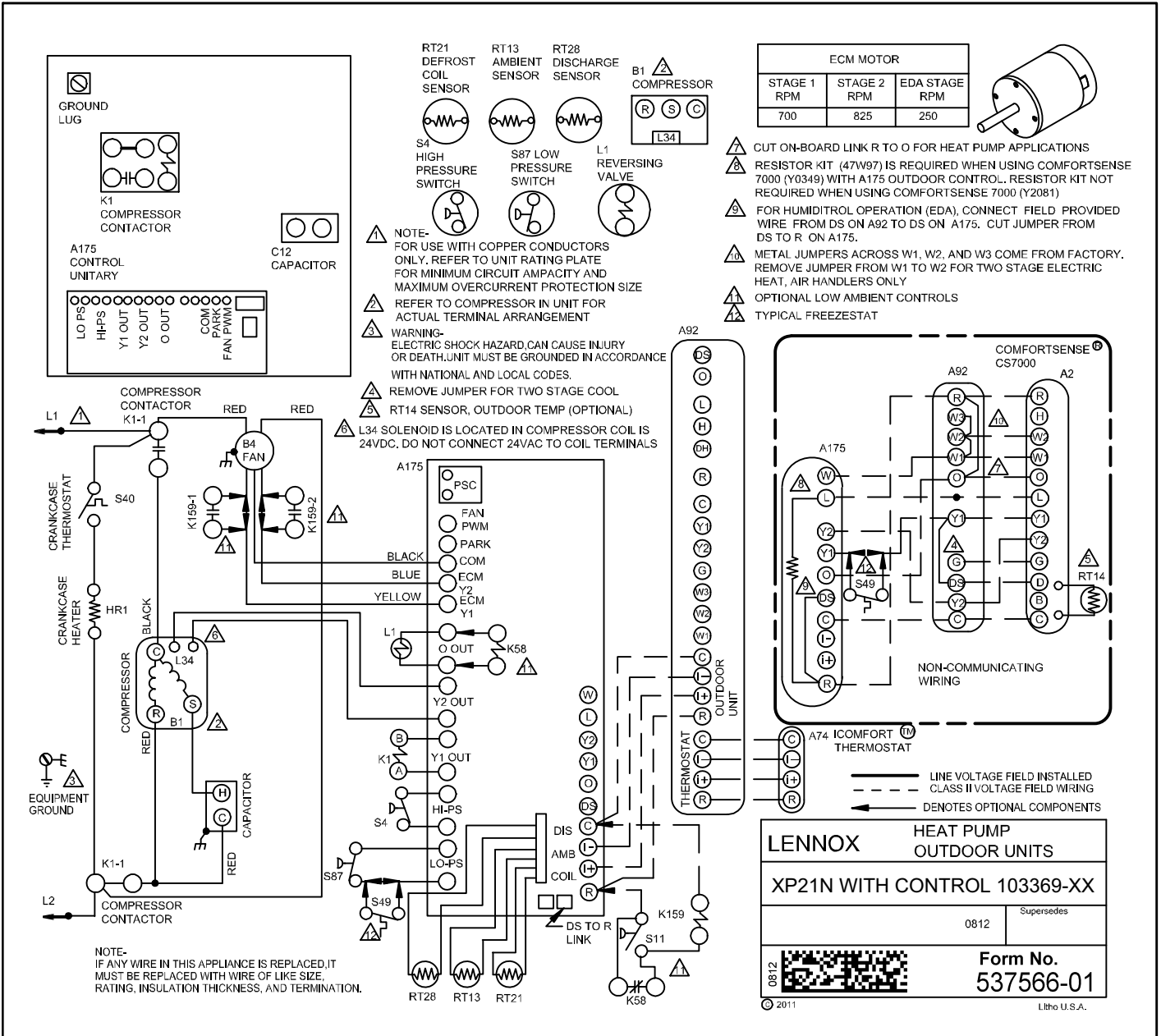


FIGURE 2. Typical XP21N Wiring (XP21N-XXX-230-01 shown)

TABLE 3. XP17N Fan RPM for ECM Motors

Model Number	Stage 1 RPM	Stage 2 RPM	EDA Stage RPM
XP17N-XXX-230-01	700	N/A	250

NOTE - THE FAN MOTOR RPM IS FACTORY-SET AND CANNOT BE ADJUSTED. THE ECM MOTOR SPEED (FAN PROFILE) STRING WILL NOT APPEAR ON THE 7-SEGMENT DISPLAY. THE FAN PROFILE THAT IS DISPLAYED APPLIES ONLY TO EBM MOTOR APPLICATIONS.

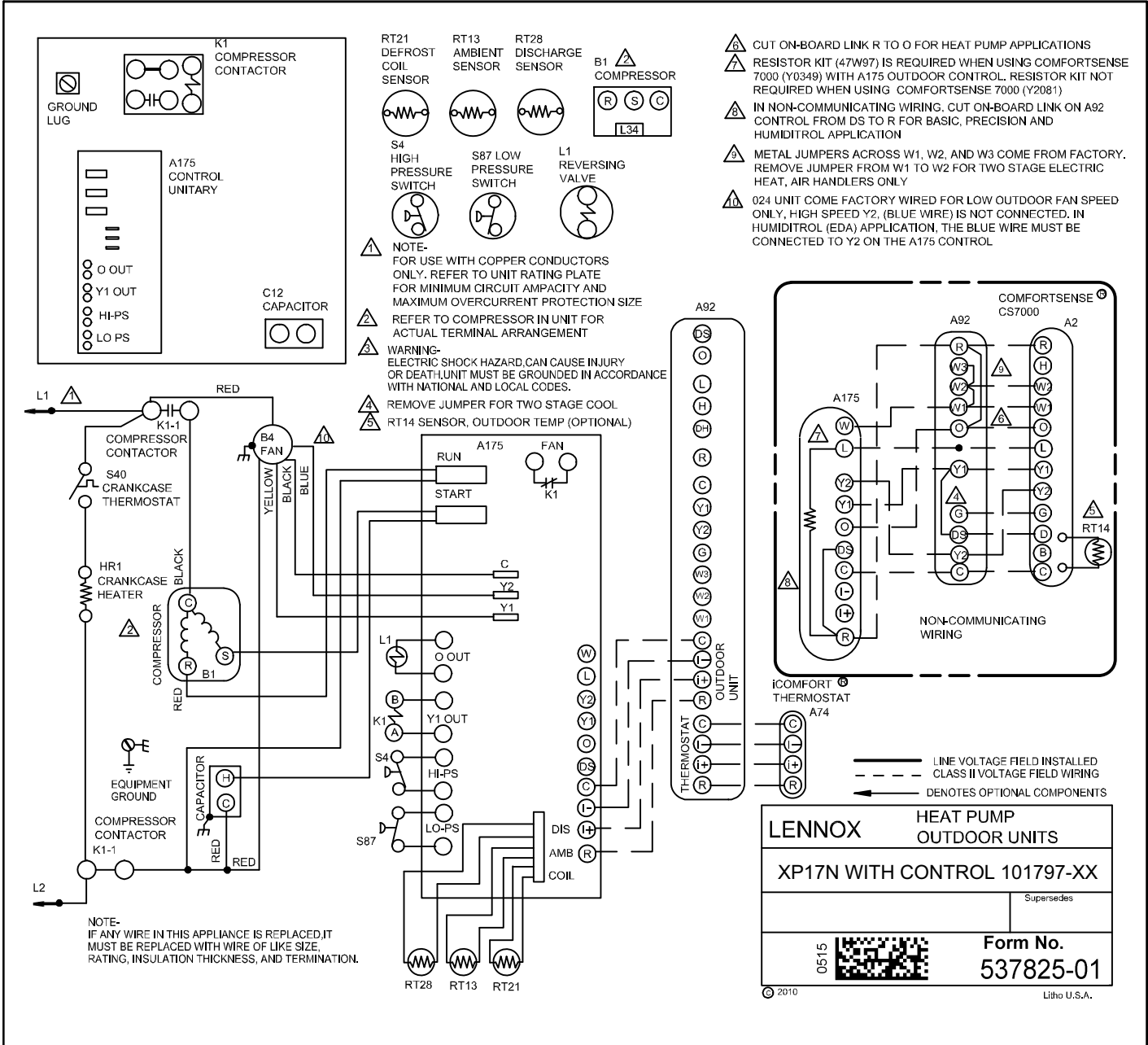


FIGURE 3. Typical XP17N Wiring with White-Rodgers Control

TABLE 4. XP21N Fan RPM for ECM Motors



ECM MOTOR

Model Number	Stage 1 RPM	Stage 2 RPM	EDA Stage RPM
XP21N-XXX-230-01	700	825	250

NOTE - THE FAN MOTOR RPM IS FACTORY-SET AND CANNOT BE ADJUSTED. THE ECM MOTOR SPEED (FAN PROFILE) STRING WILL NOT APPEAR ON THE 7-SEGMENT DISPLAY. THE FAN PROFILE THAT IS DISPLAYED APPLIES ONLY TO EBM MOTOR APPLICATIONS.

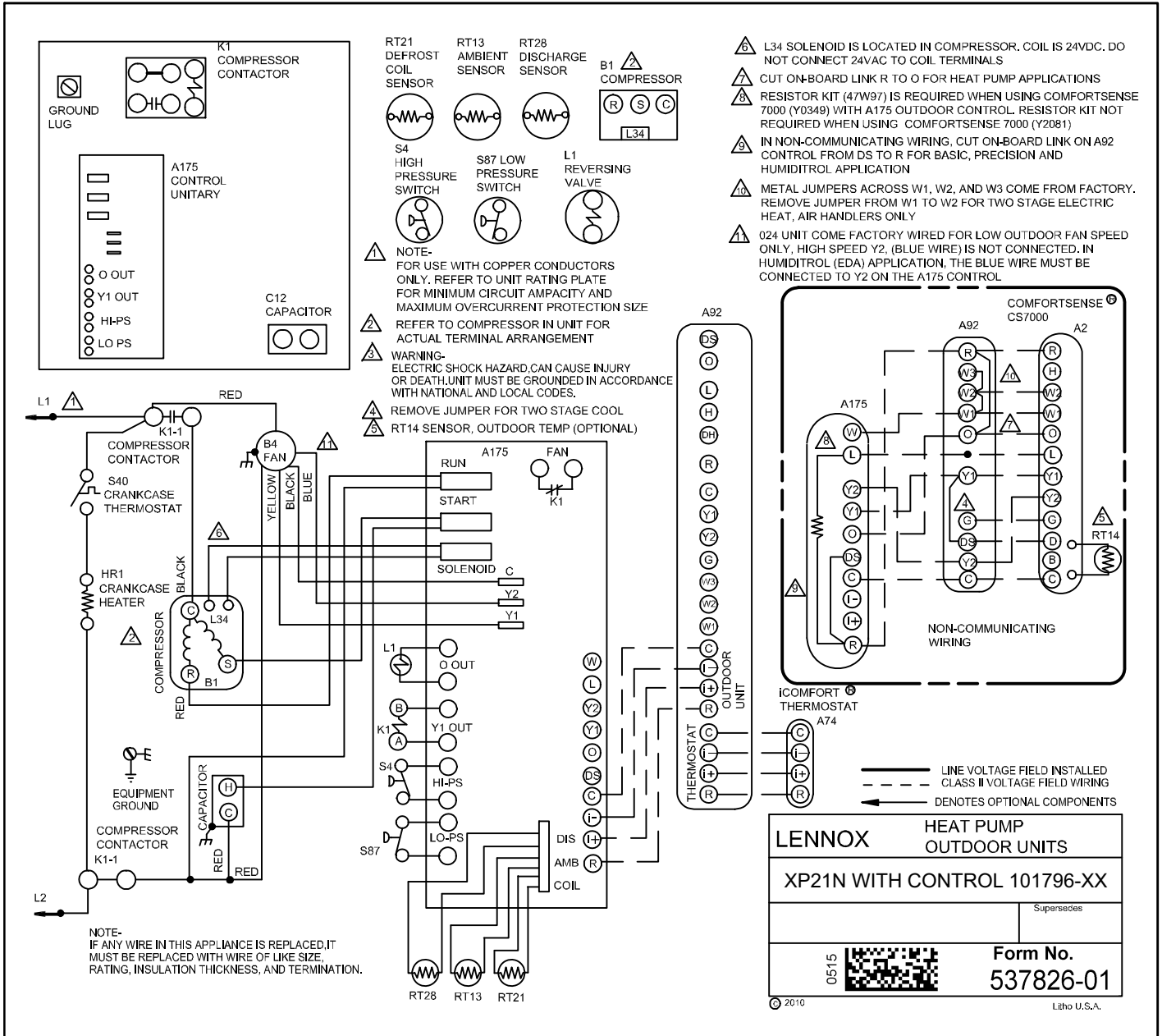


FIGURE 4. Typical XP21N Wiring with White-Rodgers Control