

<p align="center">Warren Electric Heaters Model WRC series</p>	<p align="center">INSTALLATION INSTRUCTIONS Date: 10/21/2009</p>	<p align="center">Air Handler Model</p> <p align="center">FF1D 018-036 FF1E 018-036 FSA 018-036 FWM 018-036</p>
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GENERAL

This Warren Technology Electric heater is engineered, designed, and approved to be installed in the Carrier FF1D, FFE 018-060 series Air Handlers; and International Comfort Products FSA. FWM 018-036 series Air Handlers. *Before proceeding, check the heater label for correct voltage and KW requirements.*

Installation and servicing should be performed by trained service personnel. Before installing the heater, inspect thoroughly for shipping damage. *Notify the shipper immediately if any damage is found.* **Check** all porcelain insulators and element wire to see that none have been deformed or broken. **Clean** all dirt, dust, an moisture from equipment. **Check** for proper clearance of live parts, between phases and to ground. **Make sure** that all required barriers are in place. **Check** that conductors run in multiple to insure that they are properly phased.

WARNING

Before performing service or maintenance operations on system, turn off all main power switches. There may be more than one disconnect. Turn off accessory heater power switch if applicable. Electrical shock can cause personal injury. **TAG DISCONNECT SWITCH(ES) WITH A SUITABLE WARNING LABEL.**

Note: Factory shipped Air Handlers without heaters require a field installed control kit or heater. Control kits are assembled and factory-wired for easy installation.

HEATER INSTALLATION

A. INSTALL ELECTRIC HEATER ASSEMBLY

- 1) Refer to base unit instructions as required.
- 2) Make sure power to unit is off.
- 3) Remove access panel of fan-coil unit.
- 4) Slide the heater assembly into the blower access opening of unit so that the mounting plate of the heater is with the base unit. Secure with (2) sheet metal screws provided.
- 5) Route blower motor power leads up through hole in bottom of heater package. Connect **YELLOW common** wire to piggyback common terminal on transformer (see fig.1).
- 6) Connect **BLACK (HI)** or **RED (LOW)** speed tap wire to the quick connect male tab from the heater (see fig. 1). See equipment manual for proper speed tap selection. Wire tie any loose wires close to the blower.
- 7) Route thermostat leads through small knockout in top of unit.
- 8) Make low-voltage splice connections in low-voltage control box.

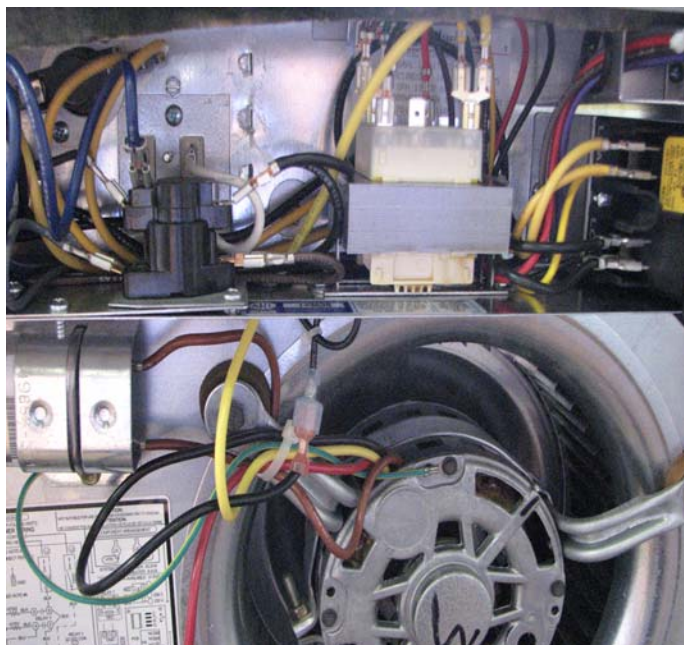



Fig. 1 Speed tap wire & Transformer electrical connections

- 9) Connect power supply through knock out in top of unit and connect to line side of disconnect. Connect ground wire to ground lug. Refer to wiring diagram to make connections.
- 10) Remove disconnect pullout from heater.
- 11) Replace access panel.
- 12) Insert disconnect pullout through hole in access panel

USER CAUTION: The use of improperly selected air filters/ and or operation with dirty filters may result in insufficient airflow which may result in abnormal operation of electric heaters and tripping of temperature safety limits. Also, insufficient airflow will degrade the efficiency of the system (SEER rating) and excessive wear and premature failure of the system compressor may result. Other conditions, such as undersized or obstructed ductwork, may also cause insufficient airflow. It is recommended that a qualified technician be consulted to ensure proper airflow and air filtration selection and application. See (www.lowairflow.com) for more information.

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ELECTRICAL CONNECTIONS

All electrical connections, wire sizes, types, and conduit sizes shall meet the National Electrical Code and State and/or Local Codes.

Refer to Air Handler Unit instructions for recommended wiring procedures and applicable fan speed settings.

Connect all power and control leads, including quick-connect plugs as shown in heater schematic diagram. All connections should be made inside the air handler and comply with the National Electric Code, and/or State/Local Codes. Heaters with factory installed fuses or circuit breakers may be installed on a branch circuit protected by either a fuse or circuit breaker. For all other heaters, the branch circuit must be protected by a fuse or circuit breaker supplied by others.

Be sure that *ALL* electrical terminal connections, clamps, screws, etc. are tight before proceeding. *Check operation as described in the Start-up section.*

DUCT CONNECTIONS

To assure maximum fan efficiencies and to avoid limit switch cycling, duct connections should conform to ASHRAE and/or SMACNA recommendations.

START-UP AND CHECK-OUT

1. Refer to base unit installations instructions as required.
2. Check for loose terminal connections.
3. Check that all fuse and circuit breaker circuit interrupting ratings are adequate.
4. Turn on unit and heater power.
5. Set thermostat to call for heat.
6. Check operation of heater, comparing rated amperage against actual amperage for conformance.
7. Check that air flow across heater is at or above recommended. Adjust as required.
8. Verify amp draws of all sequence of controls.
9. Any modifications or repairs to this equipment without written permission from the factory will be done at the installers own risk and expense.

SERVICE

Fuses/Circuit Breakers - malfunction will interrupt power to the unit. *Check for cause of failure, correct and replace fuses or reset circuit breaker.*

Sequencer - malfunction will cause heater to not come on or run continuously. *Replace faulty sequencer.*