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Refrigerant Charge & Airflow Instructions

Efficient Heating and Cooling

The Split System Information section on the reward form must be completed for every CAC installation to qualify for this reward. Proper Airflow and Charge must be achieved on all CAC installations, however the Reward paperwork for Airflow and Charge is only mandatory for installations completed between May 15 and September 15. The Field Collection Form may be completed and attached to the Reward Application instead of filling in the Airflow and Charge data on the Reward Application. **If a furnace with an ECM is installed at the same time as the CAC, the Return Temp and Supply Temp do not need to be filled out on either the Reward Application or the Field Collection Form.**

Run system for 15 minutes to stabilize temperatures and pressures before taking temperature measurements.

AIRFLOW

Steps 1-3 must be completed on the Reward Application or the Field Collection Form. Steps 4-6 explain how to complete the Field Collection Form using it as a tool to ensure proper airflow is being achieved.

1 - Fill in the Return Air Dry Bulb Temperature taken before the air filter and in the center of the duct.

2 - Fill in the Return Air Wet Bulb Temperature taken before the air filter and in the center of the duct. The temperature should be taken using a wetted thermocouple.

3 - Fill in the Supply Air Dry Bulb Temperature taken after the evaporator coil and in the center of the duct.

4 - Fill in the Actual Temperature Split (Return Air db minus Supply Air db,).

5 - Fill the Target Temperature Split that is found by referring to the small table on the back side of the Field Collection Form and crossing the Return Air Dry and Wet Bulb temperatures.

6 - Fill in the difference between Actual Temperature Split and Target Temperature Split (Line 5 minus Line 6).

If the difference between Actual Temperature Split and Target Temperature Split is within +/-3°F the system has adequate airflow. If the difference is *less than* -3°F the system has too much airflow and a lower fan speed may be able to be selected for cooling. If the difference is *greater than* +3°F the system does not have enough airflow and the technician should take the appropriate steps to attempt to achieve proper airflow. Proper airflow can be accomplished by eliminating restrictions in the duct system, increasing the blower speed, cleaning filters, or opening registers. After corrective measures are taken, repeat measurement procedure and record final calculations to document airflow change. Allow the system to stabilize for 15 minutes before repeating measurement procedure.

REFRIGERANT CHARGE

Enter the type of refrigerant used on the "Refrigerant Kind" line

Steps 8-9 must be completed on the Reward Application or the Field Collection Form. Steps 10-13 explain how to complete the Field Collection Form using it as a tool to ensure correct charge.

8 - Fill in the Liquid Line Pressure (from gauge).

9 - Fill in the Liquid Line Temperature (thermocouple should be insulated from ambient air).

10 - Fill in the Liquid Saturation Temperature (from refrigerant gauge or using a pressure-temperature chart using the Liquid Line Pressure).

11 - Fill in Actual Subcool (Liquid Saturation Temperature minus Liquid Line Temperature, or Line 8-Line 9).

12 - Fill in Target Subcool (from manufacturer's specifications).

13 - Fill in the difference between Actual Subcool and Target Subcool (Line 10 minus Line 11).

If the difference between Actual Subcool and Target Subcool is within +/-3°F the system passes the refrigerant charge criteria. If the difference is *greater than* +3°F the system does not pass the required refrigerant charge criteria and the installer should add refrigerant. If the difference is *less than* -3°F the system does not pass the required refrigerant charge criteria and the installer should remove refrigerant. After the refrigerant has been added or removed, turn the system on and allow it to stabilize for 15 minutes before completing the measurement procedure again. Adjust refrigerant charge and repeat the measurement procedure as many times as necessary to pass the test.