Johnson Controls

Ducted Systems
Technical Services
Service Tips Letter

Letter: **ST-007-2018**

Date**:** May 09, 2018

To: All Ducted Systems Branch Service, Sales, and Training Managers
All Ducted Systems Distribution Service, Sales, and Training Managers

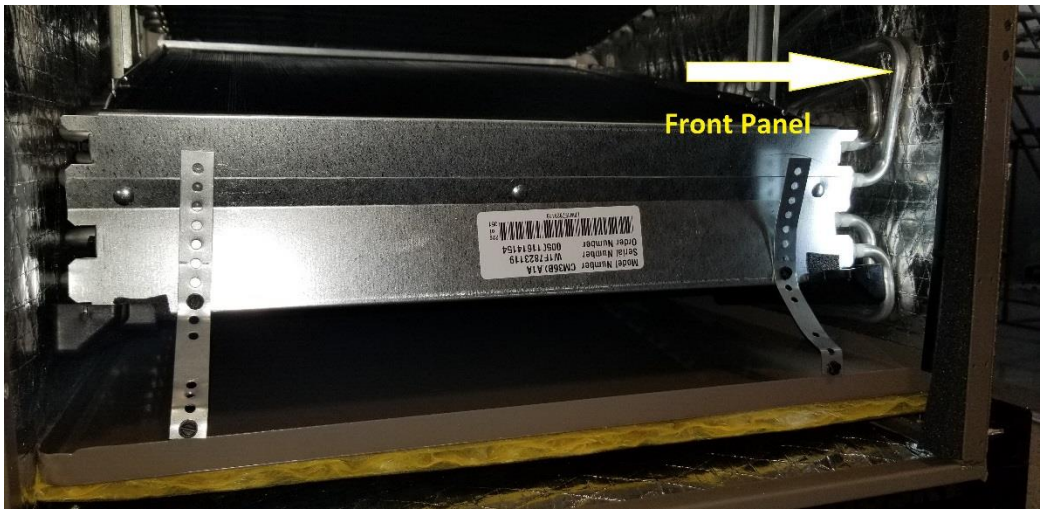
Subject: **Condensate dripping issue with Residential Early production model CM indoor coils applied in a horizontal application.**

Product: Residential CM Model cased coils: AP, AE, AVC, RFCX**22 air handling units.

Summary: This letter provides information about possible condensate dripping issue on early production residential model equipment listed above when applied in horizontal applications.

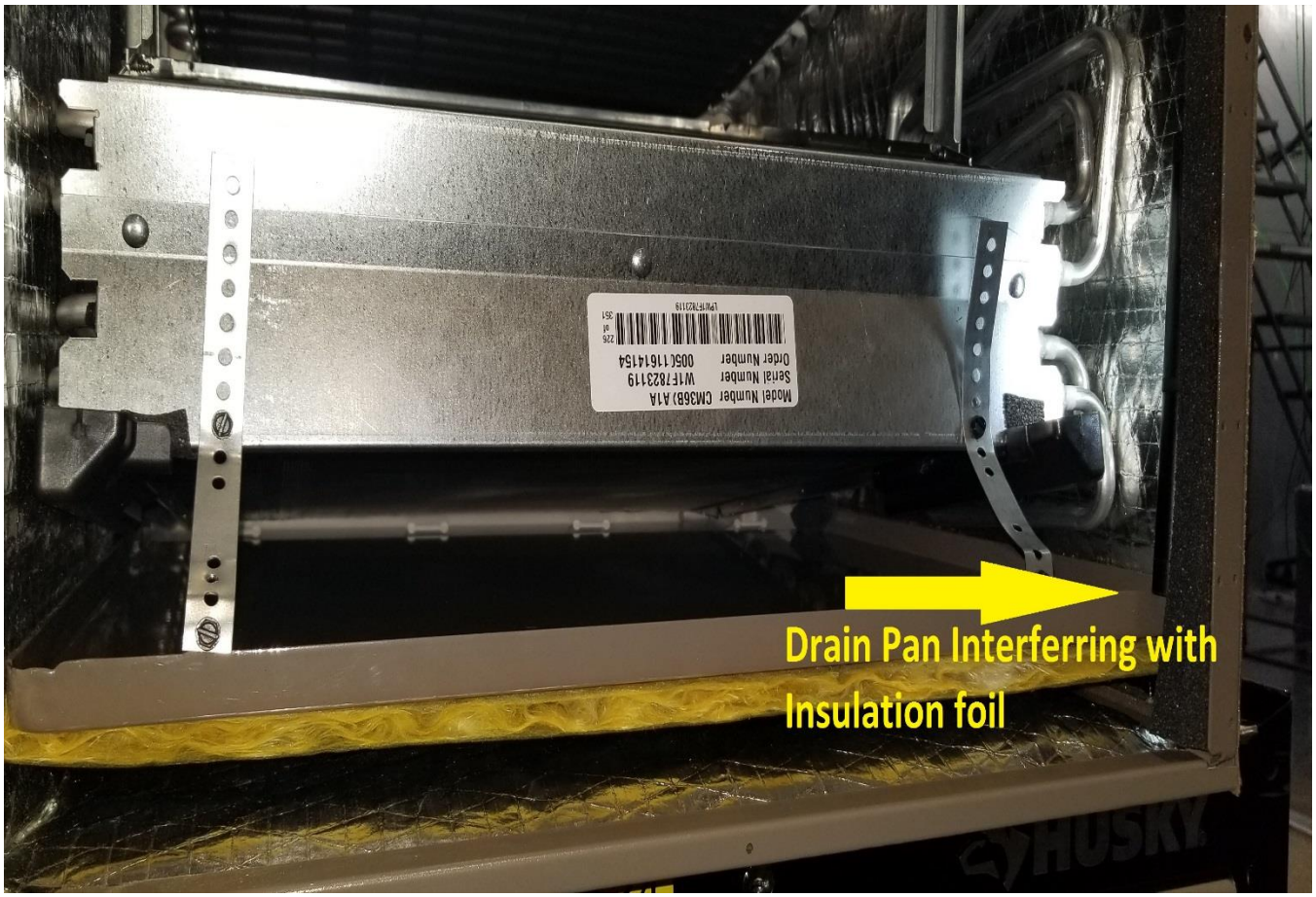
We have received some reports of condensation dripping from the distributor assembly, distributor tubes, suction header and the TXV body of the residential indoor model CM coil when applied in a horizontal application. The reports indicate small amounts of condensation not being captured by the horizontal drain pan, but falling past the pan into the coil cabinet.

Through our investigation, we discovered that the distributor assembly, tubes, suction header and TXV body of the coil may be pressing against insulation of the front panels of the coil case, which is shown below.

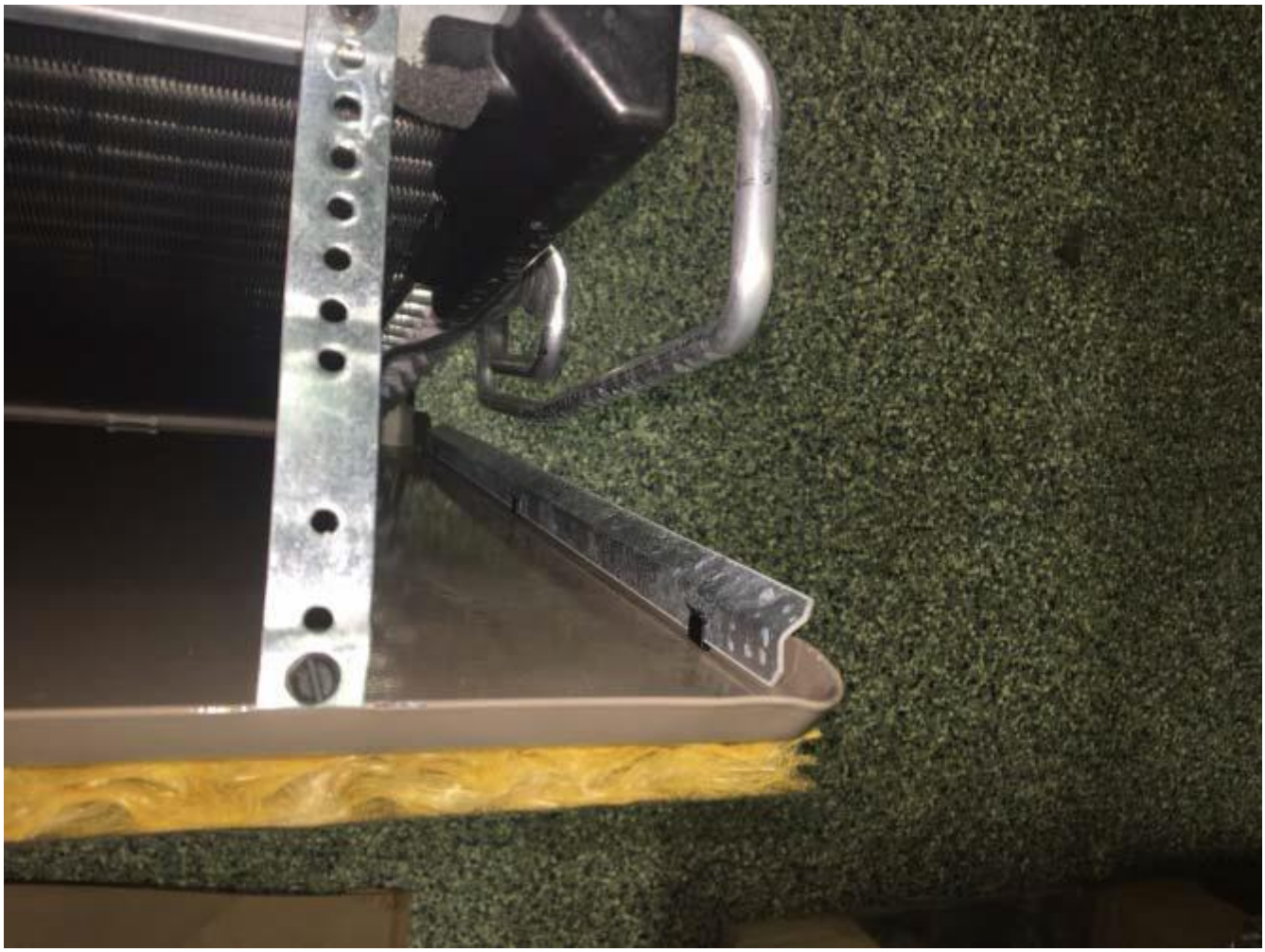


When condensation is formed during normal operation, the condensation has the ability to make contact with the insulation face and travel down the foil surface. Due to the design of the first generation horizontal drain pan, the drain pan may be unable to capture all of the condensation coming off the front of the coil.

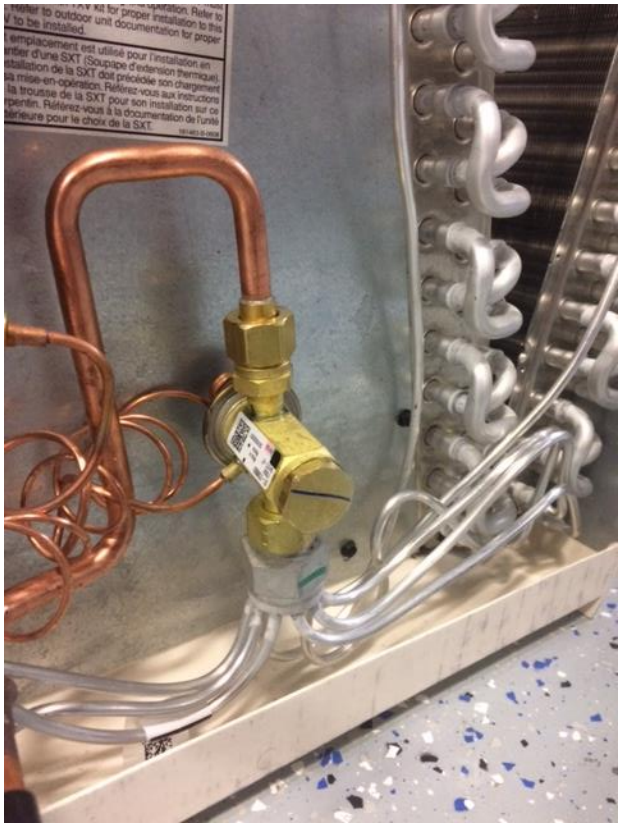
Based on these findings, Design Engineering implemented a wider horizontal condensate drain pan in July of 2017. The drain pan can be identified by the edge connected to the horizontal pan straps. The first generation drain pans had a 45-degree edge. The current drain pan has a 90-degree edge. The drain pan edge was changed to improve condensate management within the pan. Shown below is a picture of the current drain pan that now has an interference fit with the insulation on the back coil cabinet and front panel. Coils produced in August 2017 (W1H7) and later contain the new wider drain pan.



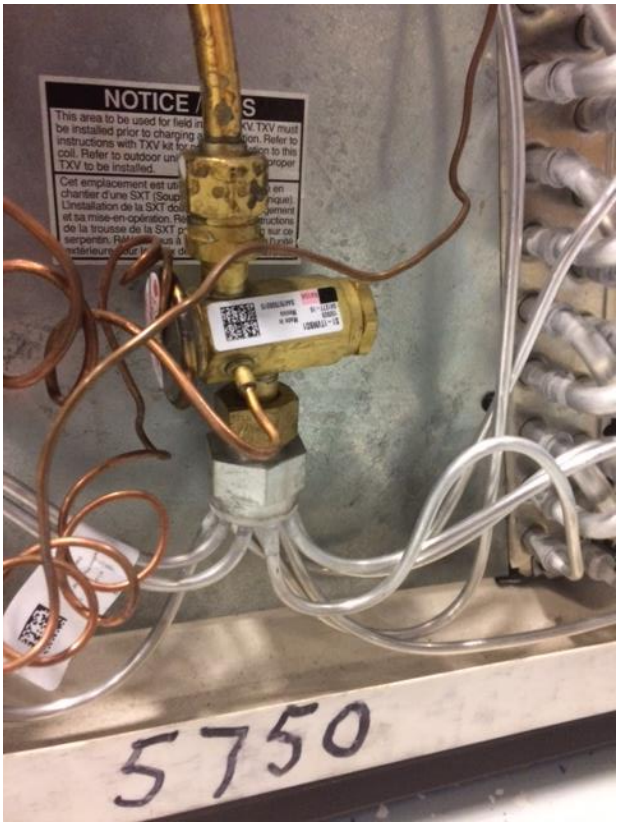
A component that can assist with managing the condensation into the horizontal drain pan when applied in horizontal applications is the “Horizontal Pan Angle Flange” and 3 “S-clips.” This item can be found in Source1 kits S1-37339479001, S1-37339472001, S1-37339473001, and S1-37339475001. Install the pan angle by following the installation instructions included with the Source 1 kit. For most applications, the pan angle must be cut to the correct length. Condensate will be more effectively captured and directed into the horizontal drain pan. See photo below of the Horizontal Pan Angle Flange after installed onto the drain pan edge.



Another issue that may lead to condensate not managed properly, is the installation of the TXV to the distributor body. The improper orientation or position of the TXV can allow it to protrude into the insulation on the door panel. This may cause the condensate on the foil surface to drain around the pan. When installing the TXV, make sure that the TXV body is oriented parallel to the delta plate as shown in the unit installation manual. See photos below.



INCORRECT INSTALLATION



CORRECT INSTALLATION

We are working on a solution for the condensate dripping issue on the CM indoor coil in the down-flow application. An ST letter will be published once we complete and implement the solution.

Feel free to contact the Residential DX Ducted System Technical Support team regarding this issue.

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