

Unitary Products Technical Services Service Letter

Letter:	YS-016-2016
Date:	September 30, 2016
To:	All Unitary Products Branch Service, Sales, and Training Managers All Unitary Products Distribution Service, Sales, and Training Managers
Subject:	Condensate Management Issue on CM64D Split System Coils
Product:	CM64D Split system indoor coil
Summary:	Horizontal left hand installation condensate management

This letter is to advise the condensate management kit for the CM64D coils installed in horizontal left applications and experiencing condensate blow off is now available to order through Source 1 under part number S1-37339455001. This kit should be available for shipment by mid October.

New split system indoor coils began shipping to distribution in late 2015 as part of our new platform product transition. These coils are all aluminum construction and an N coil configuration. New platform single piece air handling units utilize these same design coils as well.

After split system coil product launch we received several isolated reports of condensate not being captured by the drain pan and leaking into the coil cabinet. All of the investigated cases involving the CM64D coil condensate management issue were installed in the horizontal left configuration.

The CM64D coil is designed with a top baffle that contains a built in trough that runs the entire depth of the coil. The purpose of this trough is to catch condensate and divert it to the front or rear plastic condensate channels which then direct the condensate down to the mid portion of the horizontal drain pan. During our investigation it was discovered that under some conditions, high airflow will blow condensate out of the coil top baffle. We have also witnessed condensate carried up and over the plastic condensate channels which is then blown into the coil cabinet in lieu of the horizontal drain pan.

This condensate management issue is NOT experienced on every coil. Duct size, blower speed, external static pressure, level of relative humidity, etc all contribute to condensate management.

We have designed a horizontal left condensate management kit that must be installed on coils experiencing condensate blow-off when installed in the horizontal left configuration. The kit contains several gaskets, a front and rear shield trough, a rear condensate channel guard, a condensate shield, screws and instructions. While not approved at this time, we are also looking at the application of this kit on other coils and air handlers that are experiencing this issue. We are also in the process of updating the design of the product to incorporate the kit into production and will provide more information when available.

SELF TAPPING SCREW REAR SHIELD TROUGH FRONT (4 EACH) (1 EACH) SHIELD TROUGH (1 EACH) 3" x 1.5" REAR CONDENSATE FOAM CHANNEL GASKET GUARD -(4 EACH) (1 EACH) 8.5" X 3.5" CONDENSATE FOAM SHIELD GASKET (1 EACH) (1 EACH) A0589-001

A picture of the kit components is shown below and a copy of the installation instructions for the kit is attached for your review.

To install this kit you must be able to slide the coil assembly half way out of the coil cabinet. This YS letter provides 2 hours labor and credit for the kit part number S1-37339455001 on a fix on fail basis. Since the coil must be partially removed from the coil cabinet it is possible under certain conditions/installations additional labor may be necessary. This will be handled on a case by case basis. Contact UPG Residential Distributor Technical Support if additional support is necessary.

Casey McConnaughy Field Service Supervisor Johnson Controls Unitary Products Mark Freund Sr. Manager, Residential Field Service Johnson Controls Unitary Products

FIELD KIT INSTALLATION MANUAL HORIZONTAL LEFT CONDENSATE MANAGEMENT KIT (S1-37339455001) FOR USE WITH MODELS: CM64D

INSTALLATION

This kit is a supplement to aid in condensation management for residential CM64D MaxAlloy indoor coils in horizontal left configuration. This kit is specific for blow through applications (gas furnace) and not for draw through applications (modular blowers). In some installations and certain conditions without the installation of this kit, condensation from the coil assembly could be carried by airflow away from the proper condensate channels and / or drain pan which may not allow proper condensate disposal.

TABLE1: Kit Contents

Item	
3" X 1.5" Foam Gaskets	
8.5" X 3.5" Foam Gasket	
Rear Condensate Channel Guard	
Rear Shield Trough	
Front Shield Trough	
Condensate Shield	
#8 X 1/2" Self Tapping Screws	
Instruction Sheet	

The recommended installation of this kit is prior to full installation of the coil assembly. This allows access to all sides of the coil assembly in order to attach the kit components. At the least, the indoor coil must be able to slide half way out of the unit cabinet for installation of the rear condensate channel guard. The front and rear shield trough pieces can be installed with the indoor coil completely in place. On split system indoor coils, the supply air plenum may need to be removed for top of coil access. See Figure 1 for identification of kit components.



FIGURE 1: Kit Components for Coil

- 1. Remove the coil door, and slide coil assembly half way out of unit cabinet.
- 2. Remove the lower screw from the rear plastic condensate channel.
- 3. Place the rear condensate channel guard into position and re-install screw removed in step #2.
- 4. See Figure 2 for installed rear condensate channel guard.



FIGURE 2: Rear Condensate Channel Guard Installed

- 5. Remove screws from indoor coil top baffle that are securing the front and rear horizontal drain pan straps.
- 6. Install a foam gasket piece to the underneath side of each shield trough. Place the foam seal by the screw holes in the shield trough, and wrap the foam seal to the inside of the channel. See Figure 3 for reference.



FIGURE 3: Shield Trough Foam Gasket Piece

7. Position each shield trough down into each plastic condensate channel. Ensure the shield trough is in the correct position with the lower screw hole in each channel lined up with the screw hole in the coil top baffle where the horizontal pan straps were secured. Use caution to locate and install the lower screw of each shield channel into the top baffle. Leave the horizontal pan straps disconnected at this time. See Figure 4 for reference.



FIGURE 4: Shield Trough Located With Lower Screw Hole

8. With each shield trough in the correct place as located with the horizontal pan strap screws, drill a #8 X ½" self-tapping screw into the top hole in each shield trough through the coil top baffle. See Figure 5 for reference.



FIGURE 5: #8 X ½" Self-tapping Screw Secures Shield Trough To Coil Top Baffle

- 9. With each shield trough now completely secured, remove the lower screw that previously fastened the horizontal pan strap to the coil baffle from each shield trough.
- 10. Place a foam gasket strip on each shield trough. Start each gasket piece directly under the coil top baffle drain channel, wrap the gasket down under, and then up as shown in Figures 6 and 7. This action seals the plastic condensate channel to the drain channel built into the coil top baffle.



FIGURE 6: Installing Seal On Plastic Condensate Channel and Drain Channel



FIGURE 7: Sealing Plastic Condensate Channel To Drain Channel

NOTICE

Use caution to locate and install the lower screw in each horizontal pan strap, shield trough screw hole, and into the coil top baffle.

11. With the foam gasket in place, the horizontal pan strap holes cannot be visually located. Each horizontal drain pan strap can be installed in accordance with the following: The rear strap should show 3 holes below the attachment screw, the front strap should show 4 holes below the attachment screw. This action raises the pan and provides better drainage of the condensation collected in the horizontal pan.

See Figure 8 showing completed modifications.



FIGURE 8: Horizontal Drain Pan Strap Installed

12. Place coil completely back into unit cabinet.

NOTICE

Wrap insulation around the flanges to prevent moisture from condensing on the backside of the shield causing additional water to occur in the cabinet during cooling operation.

- 13. Use the 8.5" X 3.5" foam seal insulation and apply to the back of the condensate shield. Wrap the insulation around the flanges.
- 14. See Figure 9 for the foam application.



FIGURE 9: 8.5" X 3.5" Foam Seal Insulation On Back Of Condensate Shield

15. Install the condensate shield by attaching it to the front cabinet brace of the coil assembly. Use the measurements in Figure 11, and mark hole locations on the cabinet brace to install the condensate shield. The condensate shield should be flush with the cabinet brace edge so that it does not interfere with the installation of the front access panel.



FIGURE 10 Mark Cabinet Brace



FIGURE 11: Hole Locations On Cabinet Brace To Install Condensate Shield

16. Use two #8 X ½" self-tapping screws and connect the condensate shield to the cabinet brace. Ensure that the spout of the condensate shield directs the condensation into the horizontal drain pan. Install the spout so that it rests on the inside of the horizontal pan lip to direct drainage into the pan. See Figure 12 for the condensate shield installation.



- FIGURE 12: #8 X ½" Self-tapping Screws Connect Condensate Shield To Cabinet Brace
- 17. Reinstall all panels previously removed. Restore equipment to operation.

NOTES

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