

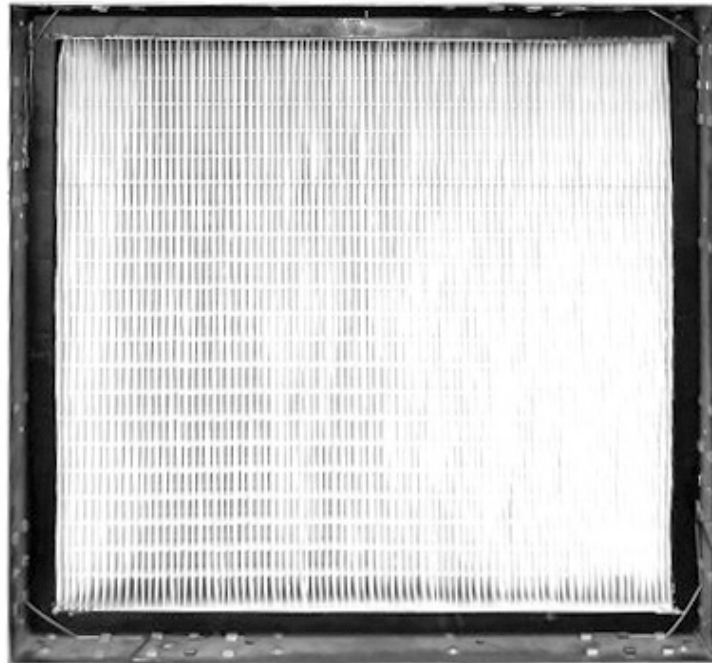


TRANE®

Installation Manual

Air Filter Replacement

*IntelliPak™ II 90-162 Ton Rooftop and
Casings A-C Air Handler Units*



Model Number:

S*HJ090-162

W*HC Casings A-C

May 2008

RT-SVN10B-EN



Warnings and Cautions

Warnings, Cautions and Notices. Note that warnings, cautions and notices appear at appropriate intervals throughout this manual. Warnings are provide to alert installing contractors to potential hazards that could result in personal injury or death. Cautions are designed to alert personnel to hazardous situations that could result in personal injury, while notices indicate a situation that may result in equipment or property-damage-only accidents.

Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

ATTENTION: Warnings, Cautions and Notices appear at appropriate sections throughout this literature. Read these carefully.

⚠ WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE: Indicates a situation that may result in equipment or property-damage only accidents.

⚠ WARNING **Ground Wire!**

All field-installed wiring must be completed by qualified personnel. All field-installed wiring must comply with NEC and applicable local codes. Failure to follow this instruction could result in death or serious injuries.

⚠ WARNING **Grounding Required!**

Follow proper local and state electrical code on requirements for grounding. Failure to follow code could result in death or serious injury.

Literature Change History

RT-SVN10B-EN (May 2008)

Updated to include Evaporative-Cooled condenser models.

RT-SVN10A-EN (August 2007)

Updated instruction manual for air filter replacement for IntelliPak™ II 90-162 Ton Rooftop and Casings A-C Air Handler Units.

Replacing Prefilters in the Final Filter section

These instructions are for replacing a prefilter (typically referred to as "Throw away", "Cleanable Wire Mesh", and "High Efficiency Throw away" filters) used in combination with a Bag-type or Cartridge filter into AAF 16 ga. galvanized holding frames (also known as a Universal Holding Frame- UHF).

Prefilters need to be replaced more often than the Final filters. The frequency depends on the dust loading conditions that exist in your building.

Replacing Final Filters

Trane offers several options for final filters, including

- Bag-type Filters
- Standard temperature rated Cartridge Filters
- High temperature rated Cartridge Filters
- Low Pressure Drop Filters
- Standard temperature rated HEPA Filters
- High temperature rated HEPA Filters

Additionally, each of the final filters has an accompanying prefilter. Instructions on replacing a dirty prefilter is included in this document; they can be found in the first section, entitled, "Replacing Prefilters in the Final Filter Section.

Instructions for replacing final filters can be found in the "Replacing Final Filters in the Final Filter Section". HEPA filters have a different installation procedure; see "Replacing HEPA Filters".

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Replacing Prefilters in the Final Filter Section

1. Remove dirty prefilters

Figure 1. In order to remove the filters, unhook the clip which secures the prefilter frame



- a. To remove the dirty prefilters in preparation for replacement, unhook the clips which restrain the prefilter frame within the UHF (Figure 1). A single clip should be installed at each of the four corners of 24x24" filter frames (60 clips total), and in two corners of a 12x24" frame (14 clips total). Remove the prefilter from the UHF. **DO NOT REMOVE THE CLIPS FROM THE UHF.**

2. Check that all clips are present and reinstall if necessary
 - Quantities of clips needed per filter for this application can be found in the following chart. Please ensure that the rack has the appropriate number of clips per filter rack cell. If clips are missing, more clips can be obtained through American Air Filter, International (1-800-477-1214).

Table 1. Required clips needed per cell in the UHF

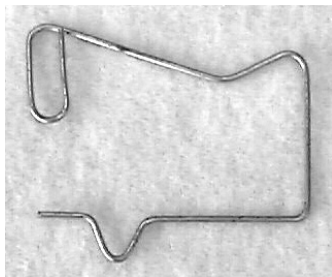
Final Filter Type	C-86 Trane PN X4509_0623_010 AAF PN 315-004-000 used for prefilter installation				C-89 Trane PN X4509_0626_010 AAF PN 315-004-006 used for prefilter installation			
	Tons	Casing	Size	No.	Tons	Casing	Size	No.
DriPak 2000	90/100	A-C	24x24x2	4	90	N/A	N/A	
			12x24x2	2				
	105/118	N/A	24x24x2	4	105	N/A	N/A	N/A
			12x24x2	2				
	120/128	N/A	24x24x2	4	120	N/A	N/A	N/A
			12x24x2	2				
	130/140	N/A	24x24x2	4	130	N/A	N/A	N/A
			12x24x2	2				
	150/162	N/A	24x24x2	4	150	N/A	N/A	N/A
			12x24x2	2				

Replacing Prefilters in the Final Filter Section

Table 1. Required clips needed per cell in the UHF

Final Filter Type	C-86 Trane PN X4509_0623_010 AAF PN 315-004-000 used for prefilter installation				C-89 Trane PN X4509_0626_010 AAF PN 315-004-006 used for prefilter installation			
	Tons	Casing	Size	No.	Tons	Casing	Size	No.
Varicel I (standard and high temp)	90/100	A-C	24x24x2	4	90	N/A	N/A	N/A
			12x24x2	2				
	105/118	N/A	24x24x2	4	105	N/A	N/A	N/A
			12x24x2	2				
	120/128	N/A	24x24x2	4	120	N/A	N/A	N/A
			12x24x2	2				
	130/140	N/A	24x24x2	4	130	N/A	N/A	N/A
			12x24x2	2				
	150/162	N/A	24x24x2	4	150	N/A	N/A	N/A
			12x24x2	2				
Varicel V	90/100	A-C	24x24x2	4	90	N/A	N/A	N/A
			12x24x2	2				
	105/118	N/A	24x24x2	4	105	N/A	N/A	N/A
			12x24x2	2				
	120/128	N/A	N/A		120	N/A	24x24x4	4
							12x24x4	2
	130/140	N/A	N/A		130	N/A	24x24x4	4
							12x24x4	2
	150/162	N/A	N/A		150	N/A	24x24x4	4
							12x24x4	2

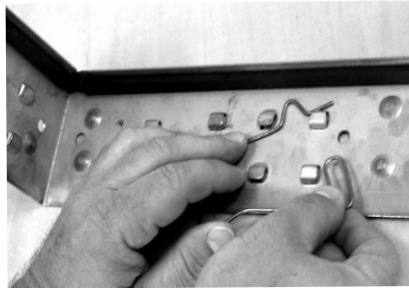
Figure 2. AAF C-86 Clip



- If reinstallation of clips is necessary, utilize the following procedure. It will be the same for both C-86 and C-89 clips. If clip reinstallation is not necessary, proceed to step 3.
- a. Remove the final filters from the UHF

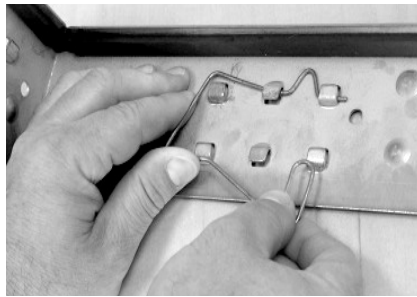
Replacing Prefilters in the Final Filter Section

Figure 3. The first row of knockouts nearest to the gasket should be used, as shown below



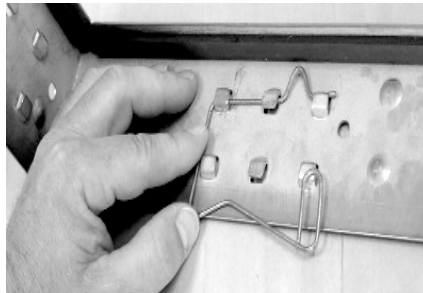
- b. Insert the straight end of the C-86 (for 2" thick prefilters) or C-89 (for 4" thick prefilters) clip between the 2 knockouts furthest from the corner, as shown in Figure 3.

Figure 4. Push clip over the third knockout



- c. Insert the straight end of the C-86 (for 2" thick prefilters) or C-89 (for 4" thick prefilters) clip between the 2 knockouts furthest from the corner, as shown in Figure 3.

Figure 5. Correctly installed clip



- d. The clip installation is now complete. The clip should now be "trapped" within the 3 knockouts, as shown in [Figure 5](#).

3. Install new filters.

- a. Next, insert the prefilter into the frame directly onto the face of the final filter.

Replacing Prefilters in the Final Filter Section

- b. After both filters have been placed into the frame, grasp the loose end of the C-86 or C-89 clip and place it over the prefilter frame, so that the clip secures the filters into the frame. See [Figure 6](#). Repeat for the remaining clips.

Figure 6. Place the end of the clip over the filter frame, securing the filter to the frame

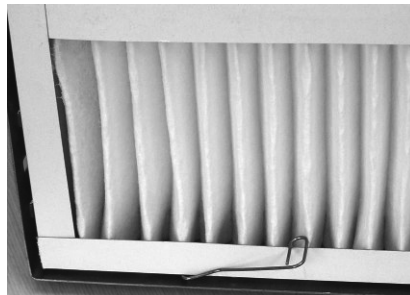


Figure 7. Fully installed filters



- c. The filters should now be securely installed into the frame, as shown in [Figure 7](#).



Replacing Final Filters in the Final Filter Section

Prefilters need to be replaced more often than the Final filters (Bag-type, Cartridge, or HEPA filters). The frequency depends on the dust loading conditions that exist in the building.

Replacing Filters Other than HEPA (Bag-Type filters w/prefilters, Cartridge Filters w/prefilters (both standard and high temperature versions) and Low Pressure Drop Filters w/prefilters

These instructions are for replacing a single header final filter (for instance, an AAF DriPak 2000 Bag-type Filter, AAF VariCel I Cartridge Filter or AAF VariCel V Low Pressure Drop Filter) into AAF 16 ga. galvanized holding frames (also known as a Universal Holding Frame- UHF).

1. Remove dirty final filters.

To remove the dirty final filters in preparation for replacement, unhook the clips (C-70, [Figure 8](#)) which restrain the final filter header within the UHF (Figure 2). A single clip should be installed at each of the four corners of 24x24" filter frames (60 clips total), and in two corners of a 12x24" frame (14 clips total). Remove the final filter from the UHF. **DO NOT REMOVE THE CLIPS FROM THE UHF.**

If any C-70 clips are missing, more can be obtained from American Air Filter, International (1-800-477-1214). Reinstallation procedure for these clips can be found in the following section. If no clips are missing, proceed to step 3.

Figure 8. C-70 Clip (AAF PN 315-004-003)

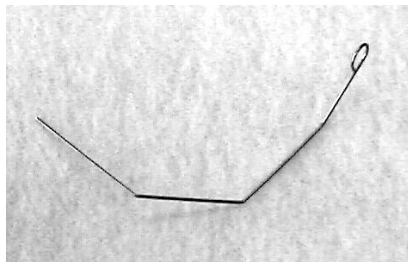


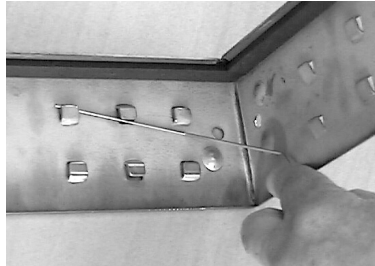
Figure 9. In order to remove the filters, unhook the clip which restrains the Final filter header within the UHF



Replacing Final Filters in the Final Filter Section

2. Reinstall missing filter clips if necessary

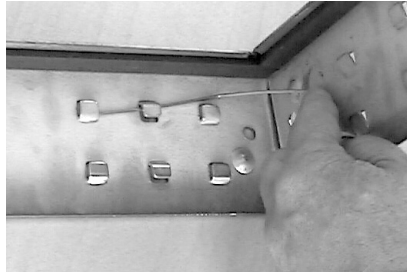
Figure 10. For single header final filters, use the first row of knockouts, as shown in Figure 9



The C-70 clip fits into the set of knockouts, which consists of 2 rows of 3 knockouts (Figure 3). The row of knockouts closest to the gasketing should be used.

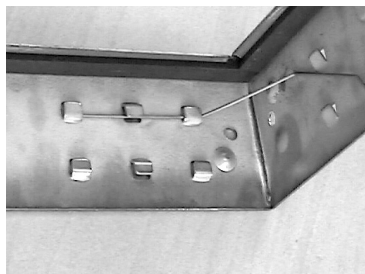
- a. Insert the straight end of the clip between the 2 knockouts furthest from the corner, as shown in Figure 10.

Figure 11. Push clip over the third knockout



- b. Using a moderate amount of pressure, force the clip over the third knockout (Figure 11).

Figure 12. Correctly installed latch



- c. The clip installation should now be complete. The latch should now be "trapped" within the 3 knockouts, but should be able to freely rotate (Figure 12).
- d. Repeat the installation process with the remaining latches.

3. Install new Final filters.

Figure 13. Filter in frame



- a. Insert the new Bag or Cartridge filter into the UHF (before a prefilter has been inserted). The bulk of the filter should extend through the frame, with only the header of the filter contacting the frame, as shown in Figure 13.

Replacing Final Filters in the Final Filter Section

- b. Grasp the loose end of the C-70 clip and place it over the filter header frame. Secure the clip behind a knockout as shown in [Figure 14](#). Repeat for all C-70 clips ([Figure 14](#)).

Figure 14. Secure the Bag or Cartridge Filter in the UHF with the C-70 clip

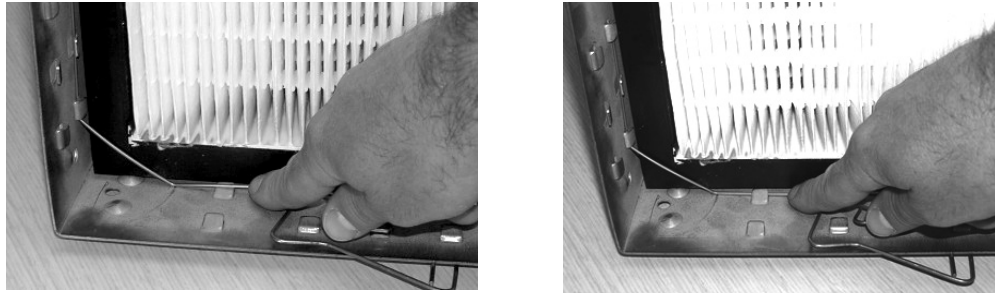
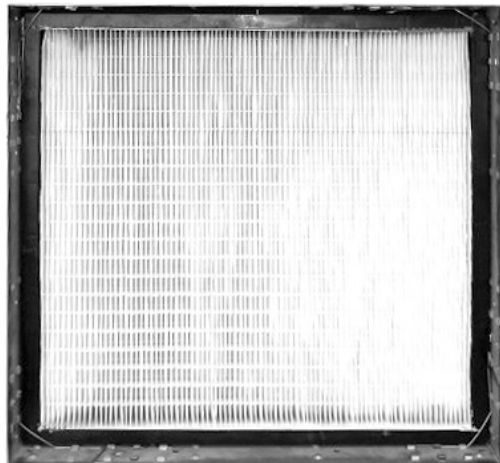


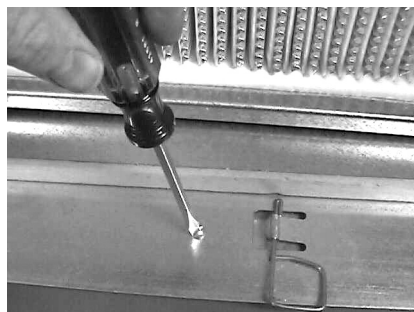
Figure 15. Correctly installed Final Filter with C-70 clips



Replacing HEPA Filters

1. Remove UHF in preparation for HEPA replacement.

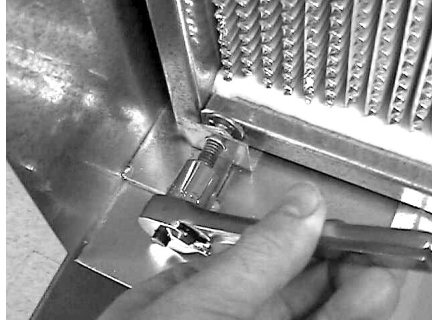
Figure 16. Remove the four screws that attach the UHF to the AstroFrame so that the UHF can be removed



- a. After the prefilter has been removed for replacement, remove the four screws that attach the UVF to the AstroFrame ([Figure 16](#)). Slide the UHF out of the AstroFrame.

Replacing Final Filters in the Final Filter Section

Figure 17. Loosen the bolts which restrain the HEPA filters within the AstroFrame



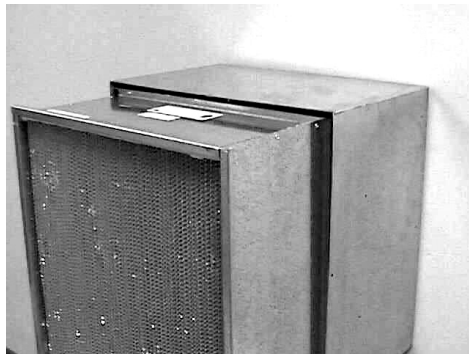
- b. Loosen the bolts on the latches which hold the HEPA filter within the AstroFrame. A 9/16" socket/ratchet or equivalent wrench can be used (Figure 17).
- c. Remove the latches the bolts pass through by sliding the latches out of the slot (Figure 18). Slide the HEPA filter out of the AstroFrame.

Figure 18. Remove the latch the bolt passes through



2. Install HEPA filter

Figure 19. Air leaving side of HEPA filter is inserted into the AstroFrame



- a. Insert the HEPA filter into the AstroFrame. The filter should be installed with the gasketed or gel seal (air leaving side) end first (Figure 19). Push the filter all the way into the frame, until the filter contacts the end flange of the frame (Figure 20).

Replacing Final Filters in the Final Filter Section

Figure 20. Once the HEPA is fully inserted into the AstroFrame, the latch holding slots should be clearly accessible at each of the corners

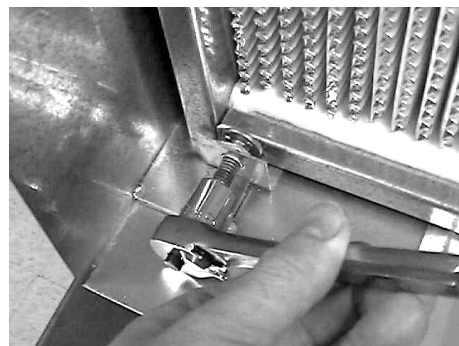


- b. Slide the latches into the latch holding slots, located at each corner of the filter. The latches should be slid as far towards the corner as possible. This may require loosening the bolt on the end of the latch to allow for clearance into the slot (Figure 21).

Figure 21. Addition of HEPA holding latches to the AstroFrame



Figure 22. Tighten bolts with 9/16" socket or equivalent



- c. Once all four latches have been installed, tighten the bolts on the latch with a 9/16" socket/ratchet or equivalent wrench (Figure 22). When tightening bolts, alternate between the bolts often, so that the filter is seated evenly within the frame. The filter is properly seated when the gasketing material is compressed approximately $\frac{1}{2}$ of its original thickness.



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For more information, contact your local Trane office or e-mail us at comfort@trane.com

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