

Curb Clips

Supplemental Installation Manual for Accessories

HE Rooftop

LE Rooftop

RD Rooftop

CA Rooftop



Curb Clip (Typical)

⚠ WARNING

RISK OF INJURY. OBSERVE ALL CODES AND THE FOLLOWING

This installation manual shows the suggested installation method. Additional measures may be required by local codes and standards.

Installation work must be done by qualified professional(s) in accordance with all applicable codes, standards and licensing requirements.

Any structural alterations necessary for installation must comply with all applicable building, health, and safety code requirements.

Use this product only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.

Pinch points occur where DOAS unit base drops into curb clips. Keep hands away!

Roof curb itself must be securely attached to the roof structure, since the Curb Clips connect to the roof curb and not directly to the building structure.

Use of these curb clips does not imply that installation meets the requirements of specific local codes, and independent evaluation by a competent and licensed professional may be necessary in order to meet applicable local codes.

⚠ CAUTION

RenewAire Curb Clips and application recommendations are provided “as is” and without warranty of any kind.

There is no industry standard for proper design of wind restraints for mechanical equipment on roofs, nor are there uniform code requirements for such of wind restraint by building codes. In the absence of such standards or requirements, RenewAire LLC has made a good-faith effort to design wind restraints for its products. If additional assurance of fitness for a specific application is required, a design professional properly certified by an authority having jurisdiction should be consulted.

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1.0 OVERVIEW

RenewAire has for many years recommended that its rooftop units be fastened securely to the roof so that the equipment stays in place under extreme wind loads. Most rooftop-mounted HVAC equipment is not heavy enough to remain in place under design wind loads without being mechanically fastened to the building. When rooftop HVAC equipment moves due to severe wind conditions, the result is damage to the equipment and the building. However, the HVAC industry in general is only beginning to address this concern and there are few standards or guidelines to assist engineers and contractors.

RenewAire's Curb Clips are an engineered, convenient and weather-tight method of attaching RenewAire units to roof curbs, and are suitable for most applications in climate zones with basic wind speeds of 90 mph (virtually all of the United States, except for coastal hurricane regions).

RenewAire's Curb Clips do not protect the units itself from damage due to flying objects. RenewAire units have not been tested for intrinsic wind resistance and specific wind events might damage or even remove doors or inlet/outlet hoods.

1.1 DESIGN CRITERIA

RenewAire's Curb Clips are designed to keep the unit and roof curb attached to the roof, in most applications, in zones with 90 mph basic wind speeds, on roofs up to 60' in height, with the DOAS unit in any location on that roof. ASCE Standard 7-05 (Section 6.5.15.1) was the source of the basic engineering procedure and was adapted in order to calculate the loads acting on the DOAS (as a unit) under such conditions.

2.0 INSTALLATION

2.1 GENERAL INSTALLATION

Curb clips should be installed:

- **AFTER** installation of the roof curb and
- **BEFORE** installation of the DOAS.

1ST STEP: INSTALL CURBS.

See page 7 for RenewAire minimum attachment schedule.

Complete installation of roofing and flashing per standard practice.

2ND STEP: INSTALL CURB CLIPS.

Position the clips as shown in the drawings for specific ERV models. See following pages.

Fasten each clip to the curb with (3) #10-16 x 3/4" self drilling screws (SDS) through the provided holes in the clips.

Install the gasket tape (provided with the curb). Put gasket tape on top perimeter of the curb. Run it over the top of the clips.

3RD STEP: INSTALL ERV UNIT.

Make sure necessary ducts are installed in the curb before installing unit

Place the RenewAire ERV on the curb—the ERV base rails should drop into the Curb Clips.

Drive (2) 1/4-14 x 2 1/2" (or 3 1/2" for LE units) SDS through the clearance holes in each wind clip, through the ERV base rails, and into the back of the Curb Clip. Drive the screws snug.

IMPORTANT: EACH SCREW MUST DRIVE FIRMLY THROUGH THE BACK OF THE CURB CLIP (SEE DETAILS ON FOLLOWING PAGES).

2.2 MINIMUM CURB ATTACHMENT TO ROOF

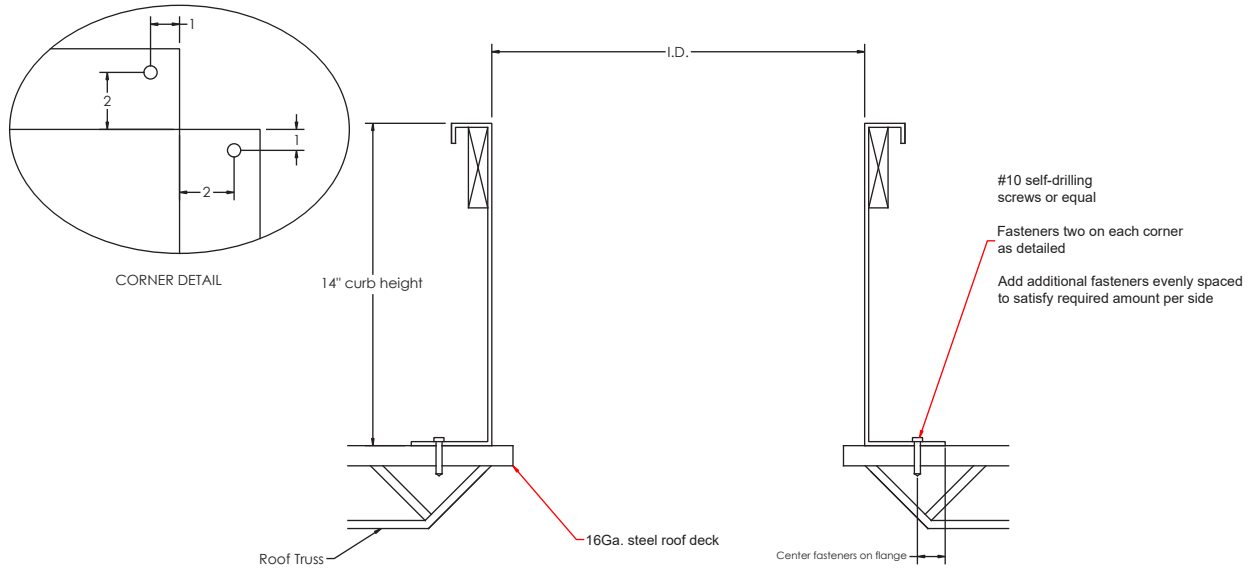


FIGURE 2.2.0 CURB ATTACHMENT TO ROOF

FASTENER REQUIREMENTS: 16GA STEEL ROOF DECKING						
MODEL	EACH LONG SIDE		EACH SHORT SIDE		TOTAL # OF SCREWS	SCREW SPECIFICATION
	I.D.	# OF SCREWS	I.D.	# OF SCREWS		
HE07RT	36-3/4"	6	8-3/8"	3	18	#10 Minimum. Select length sufficient to fully engage threads in roof decking.
HE10RT	36-3/4"	6	14-1/2"	4	20	
HE15RT	45"	6	24-3/8"	4	20	
HE20RT	45"	6	34-1/8"	5	22	
HE3XRT	53-1/8"	6	50-3/8"	6	24	
HE4XRT	72-5/8"	8	50-3/8"	6	28	
HE6X-8XRT	99-1/4"	14	72-1/4"	12	52	
RD2XRT	84-1/2"	12	33-1/4"	8	40	
RD4XRT	86-3/4"	19	82-1/2"	12	62	
LE5XRT	91-1/2"	15	60-1/2"	10	50	
LE6XRT	111-1/2"	20	60-1/2"	10	60	
LE8XRT	151-1/2"	25	60-1/2"	10	70	
LE10XRT	191-1/2"	32	60-1/2"	10	84	
CA2XRT	33-7/8"	4	28-7/8"	4	16	
CA3XRT	53-3/4"	6	28-7/8"	4	20	
CA4XRT	73-3/8"	8	28-7/8"	4	24	

FIGURE 2.2.1 FASTENER REQUIREMENTS

2.2.1 For Other Fastener/Roof Deck Combinations

This curb-to-roof attachment method has been evaluated for installation on a 16 ga. steel deck, to withstand wind forces in zones with 90 mph basic wind speeds, on roofs up to 60' in height, with the ERV installation in any location on that roof.

The Fastener Requirements Chart above applies to a 16GA steel roof deck, with #10 TEK screws or better. With this fastener/roof substrate combination, the fastener pullout rating is 708 lbs, and the fastener shear rating is 1540 lbs.

For other roofing substrates, determine the pull-out and shear ratings for that substrate. If pull-out and shear ratings are less than those shown above, increase the number of fasteners used to provide the same total pull-out and shear strength for each side of the curb.

2.3 HE07RT

Use Curb Clip Kit PN 1XHECC

Kit includes:

(6) Curb Clips PN 140175

(18) #10-16 x 3/4" self-drilling screws

(12) 1/4 -14 x 2 1/2" self-drilling screws

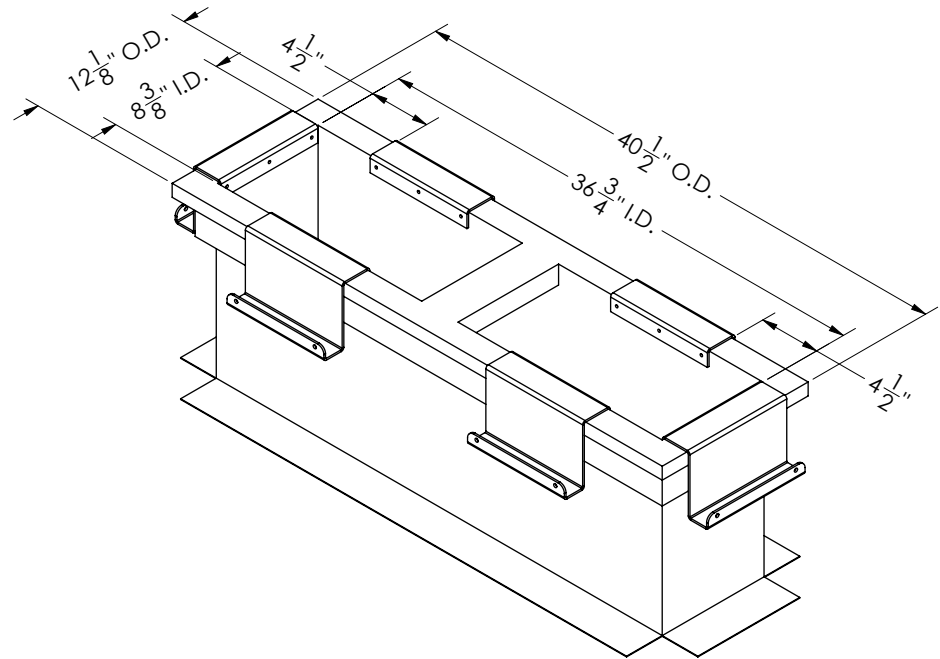


FIGURE 2.3.0 HE07 CURB CLIP PLACEMENT

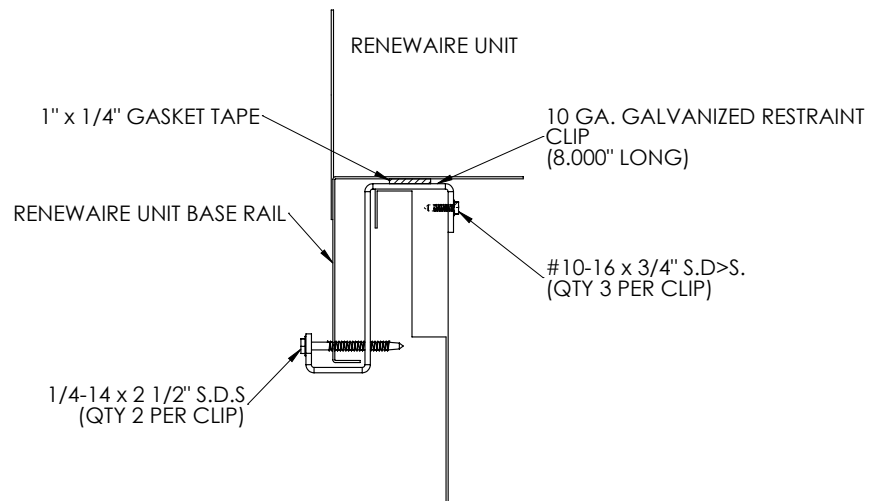


FIGURE 2.3.1 HE07 CURB CLIP INSTALLATION

2.4 HE10RT

Use Curb Clip Kit PN 1XHECC

Kit includes:

(6) Curb Clips PN 140175

(18) #10-16 x 3/4" self-drilling screws

(12) 1/4 -14 x 2 1/2" self-drilling screws

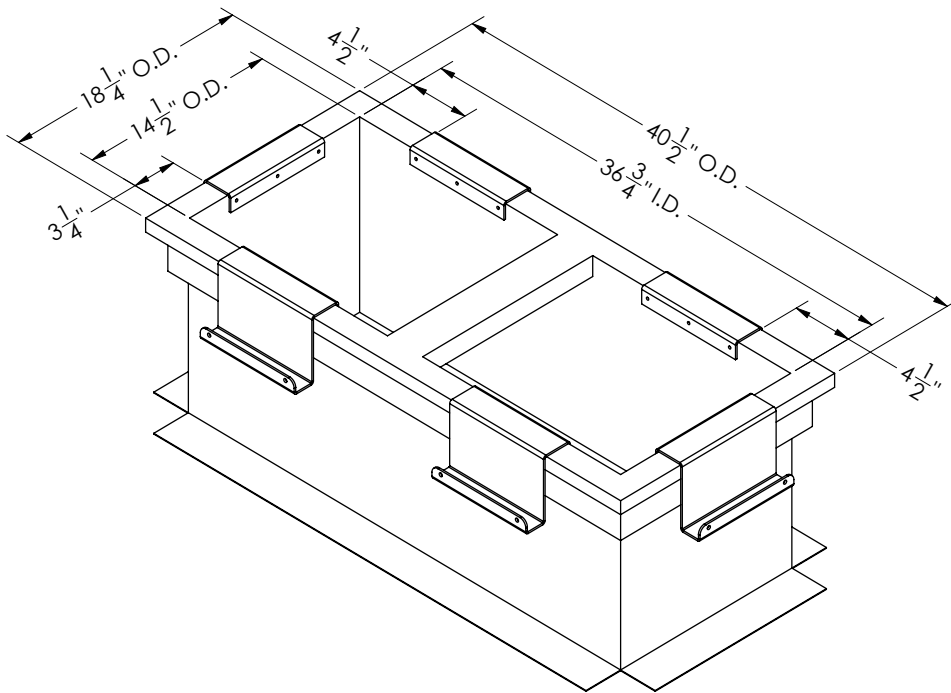


FIGURE 2.4.0 HE10 CURB CLIP PLACEMENT

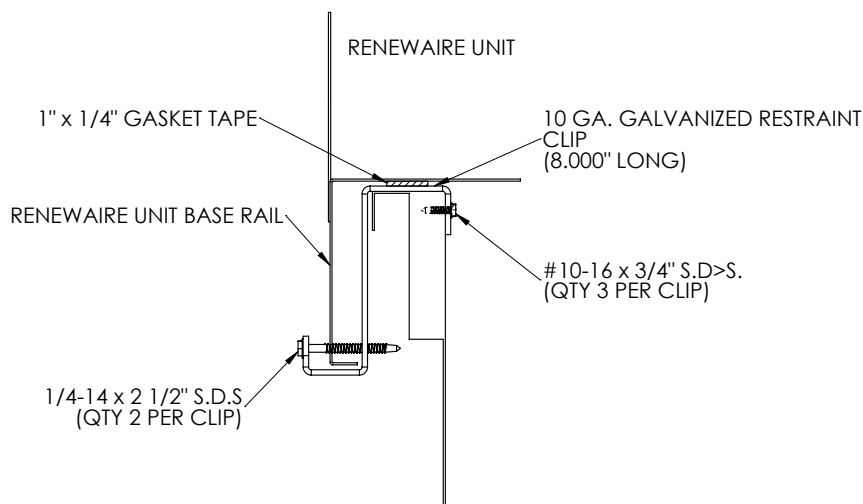


FIGURE 2.4.1 HE10 CURB CLIP INSTALLATION

2.5 HE15RT

Use Curb Clip Kit PN 2XHECC

Kit includes:

- (6) Curb Clips PN 140175
- (18) #10-16 x 3/4" self-drilling screws
- (12) 1/4 -14 x 2 1/2" self-drilling screws

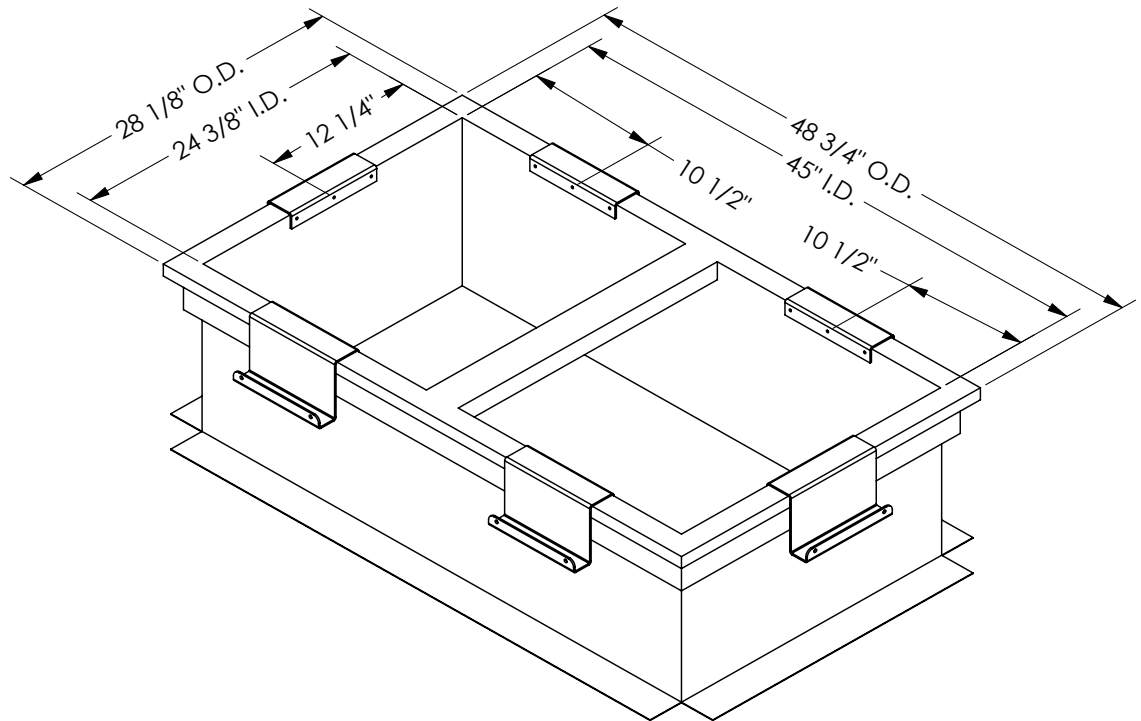


FIGURE 2.5.0 HE15 CURB CLIP PLACEMENT

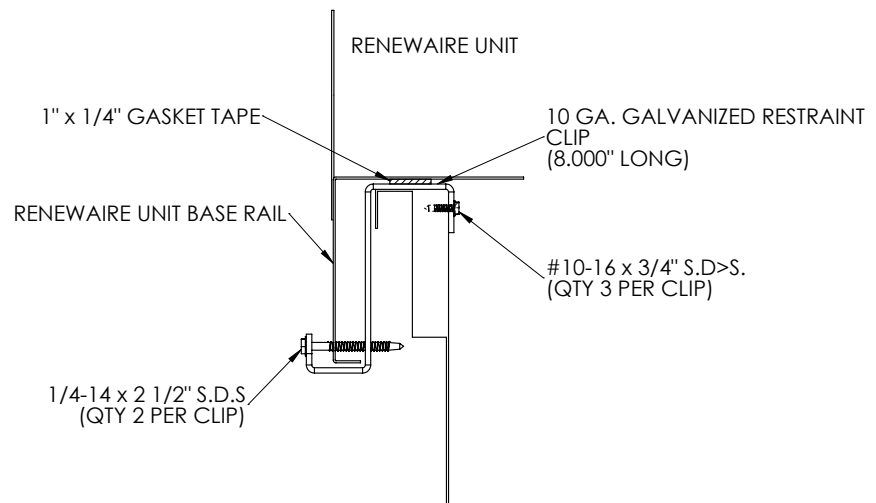


FIGURE 2.5.1 HE15 CURB CLIP INSTALLATION

2.6 HE20RT

Use Curb Clip Kit PN 2XHECC

Kit includes:

(6) Curb Clips PN 140175

(18) #10-16 x 3/4" self-drilling screws

(12) 1/4 -14 x 2 1/2" self-drilling screws

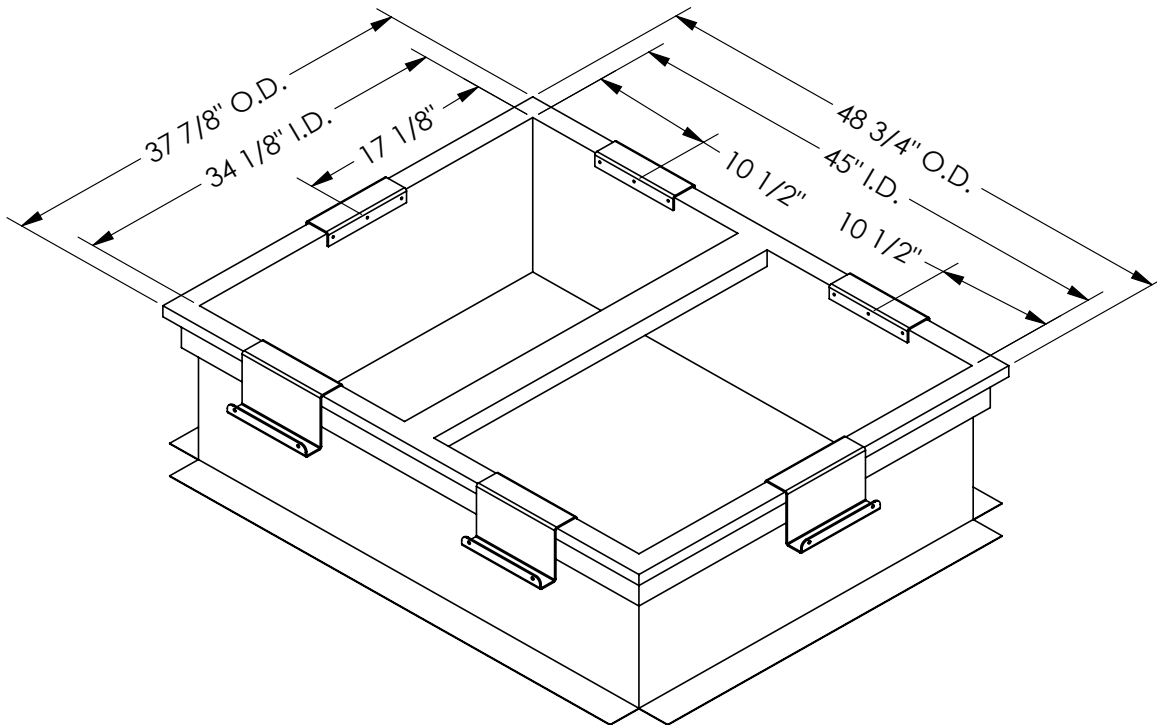


FIGURE 2.6.0 HE20 CURB CLIP PLACEMENT

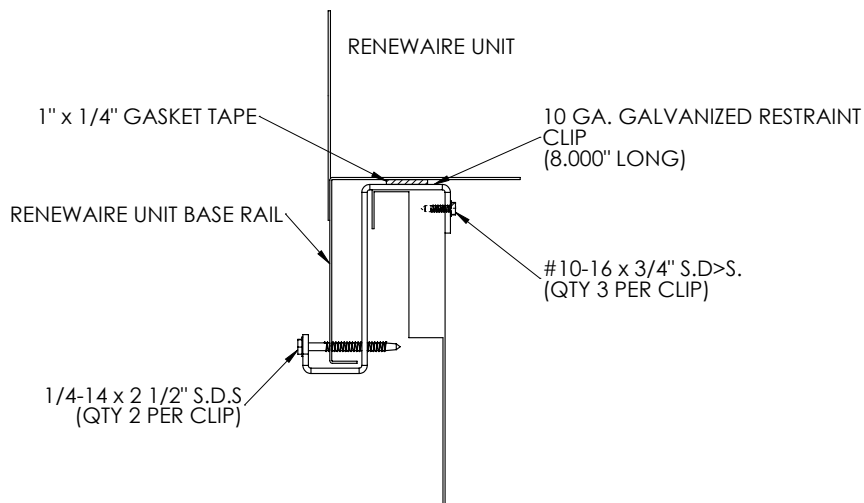


FIGURE 2.6.1 HE20 CURB CLIP INSTALLATION

2.7 HE3XRT

Use Curb Clip Kit PN 3XHECC

Kit includes:

- (8) Curb Clips PN 140178
- (24) #10-16 x 3/4" self-drilling screws
- (16) 1/4 -14 x 2 1/2" self-drilling screws

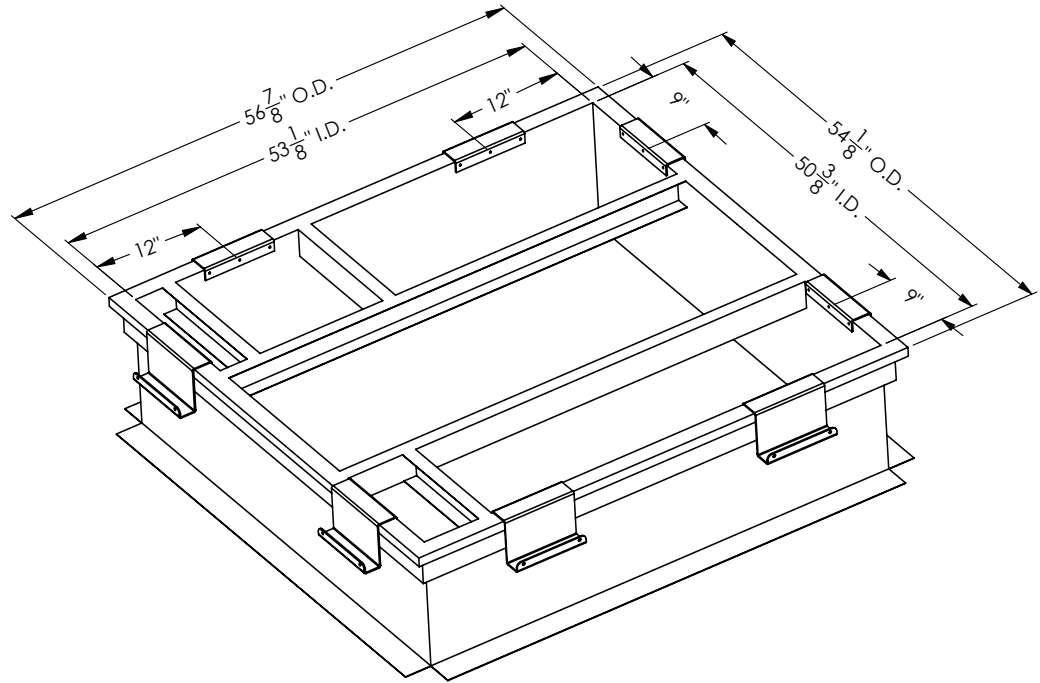


FIGURE 2.7.0 HE3X CURB CLIP PLACEMENT

NOTE: It may be necessary to temporarily remove the two short crossbars (duct supports) in order to install the Curb Clips.

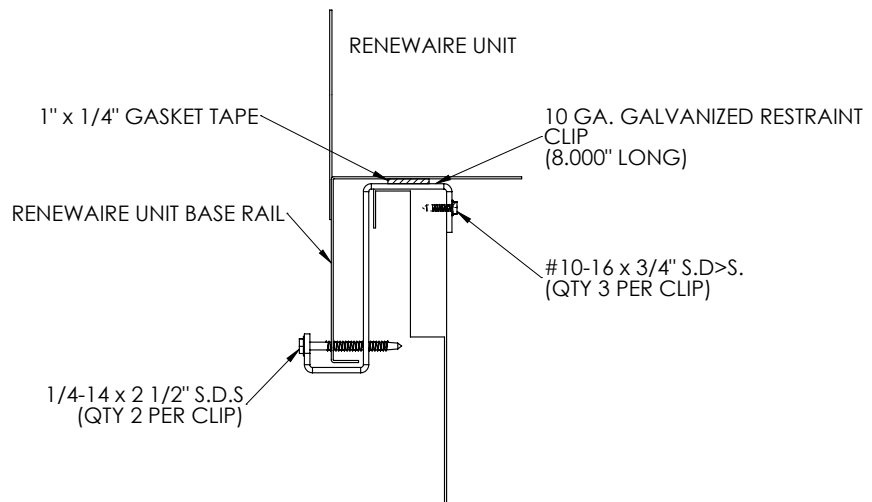


FIGURE 2.7.1 HE3X CURB CLIP INSTALLATION

2.8 HE4XRT

Use Curb Clip Kit PN 4XHECC

Kit includes:

(12) Curb Clips PN 140178

(36) #10-16 x 3/4" self-drilling screws

(24) 1/4 -14 x 2 1/2" self-drilling screws

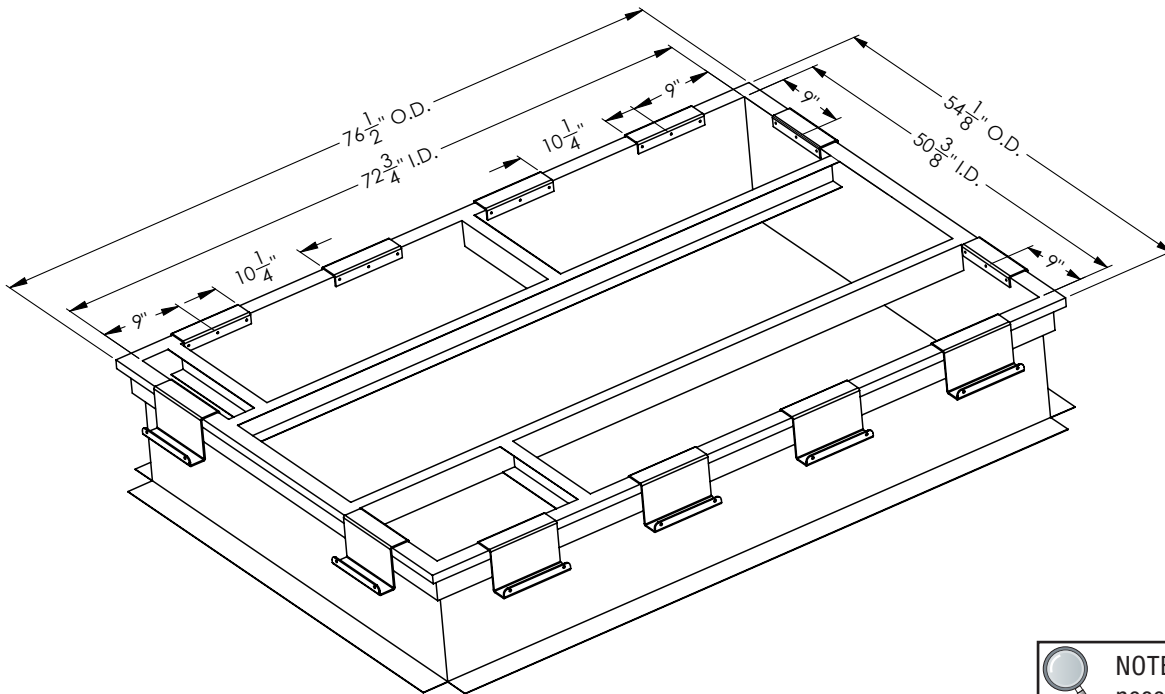


FIGURE 2.8.0 HE4X CURB CLIP PLACEMENT

NOTE: It may be necessary to temporarily remove the two short crossbars (duct supports) in order to install the Curb Clips.

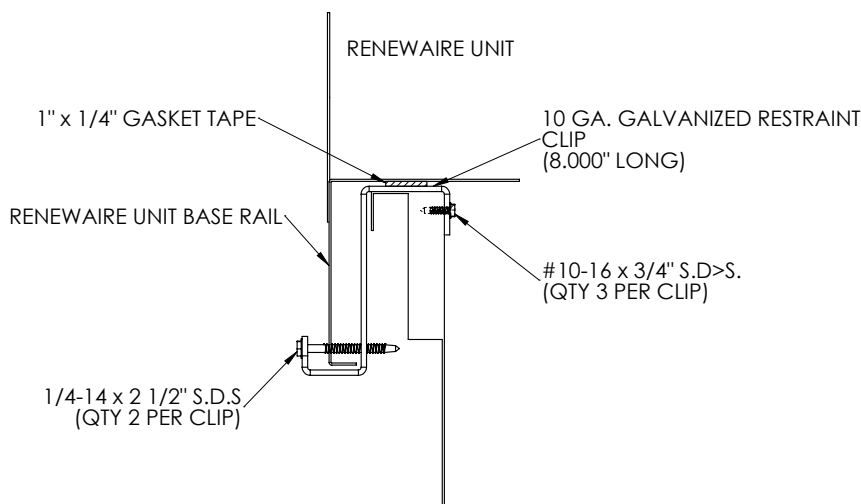


FIGURE 2.8.1 HE4X CURB CLIP INSTALLATION

2.9 HE6XRT, HE7XRT, HE8XRT

Use Curb Clip Kit PN 68XHECC

Kit includes:

- (18) Curb Clips PN 140179
- (54) #10-16 x 3/4" self-drilling screws
- (36) 1/4 -14 x 2 1/2" self-drilling screws

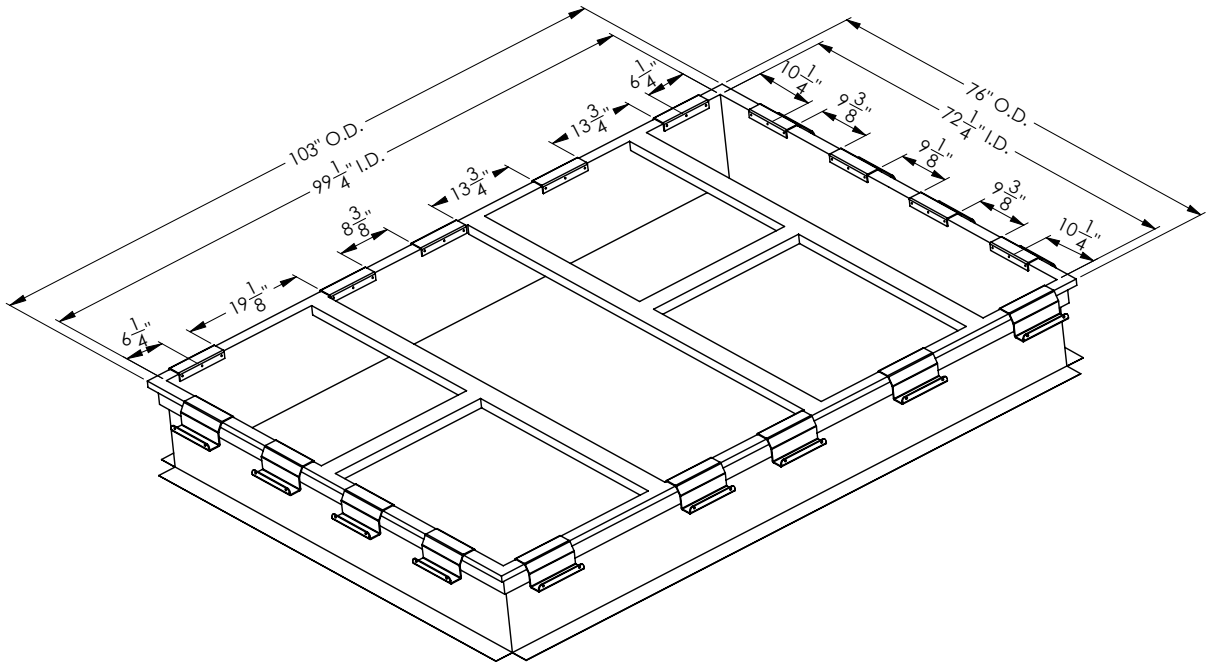


FIGURE 2.9.0 HE6X, HE8X CURB CLIP PLACEMENT

NOTE: It may be necessary to temporarily remove the two short crossbars (duct supports) in order to install the Curb Clips.

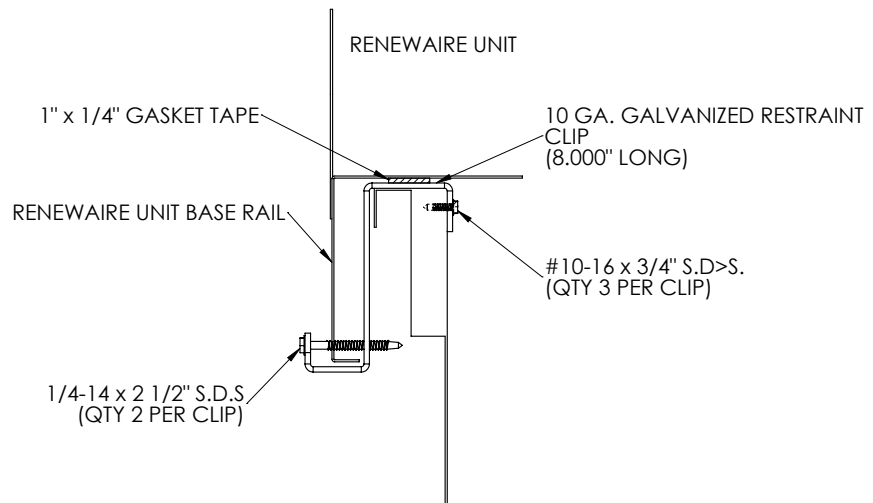


FIGURE 2.9.1 HE6X, HE8X CURB CLIP INSTALLATION

2.10 LE5XRT

Use Curb Clip Kit PN 5XLECC

Kit includes:

(14) Curb Clips PN 140160

(42) #10-16 x 3/4" self-drilling screws

(28) 1/4 -14 x 3 1/2" self-drilling screws

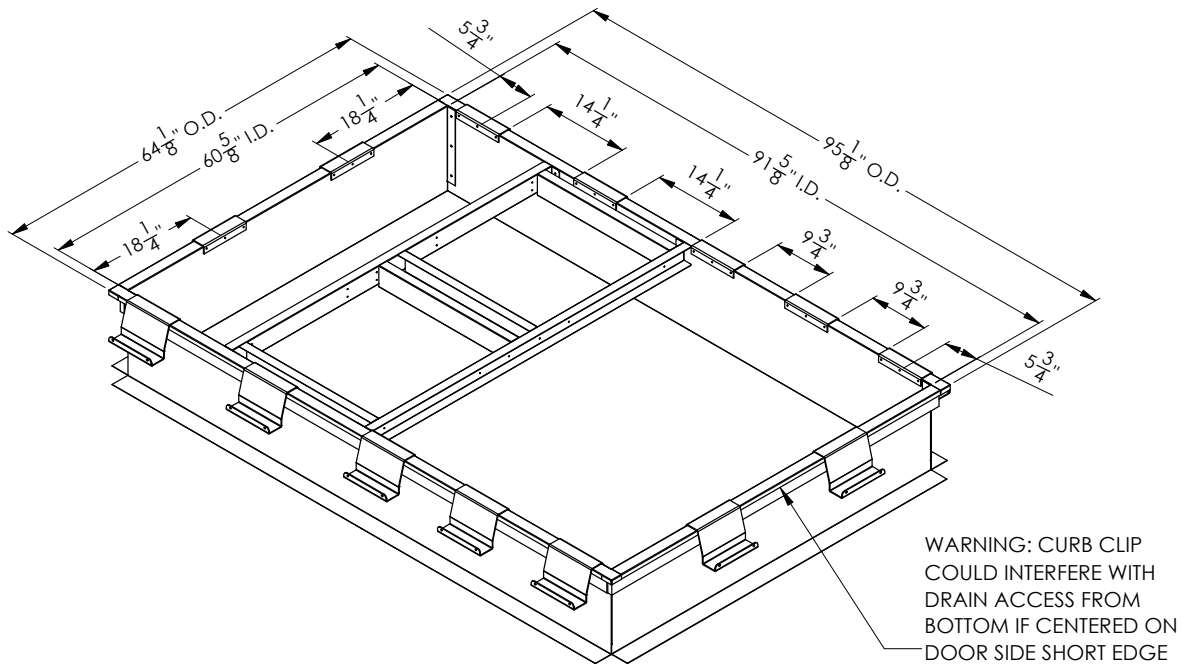


FIGURE 2.10.0 LE5X CURB CLIP PLACEMENT

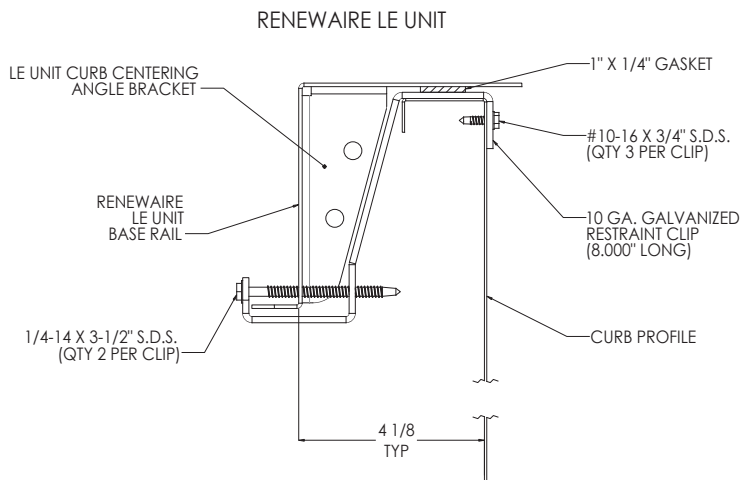


FIGURE 2.10.1 LE5X CURB CLIP INSTALLATION

2.11 LE6XRT

Use Curb Clip Kit PN 6XLECC

Kit includes:

- (16) Curb Clips PN 140160
- (48) #10-16 x 3/4" self-drilling screws
- (32) 1/4 -14 x 3 1/2" self-drilling screws

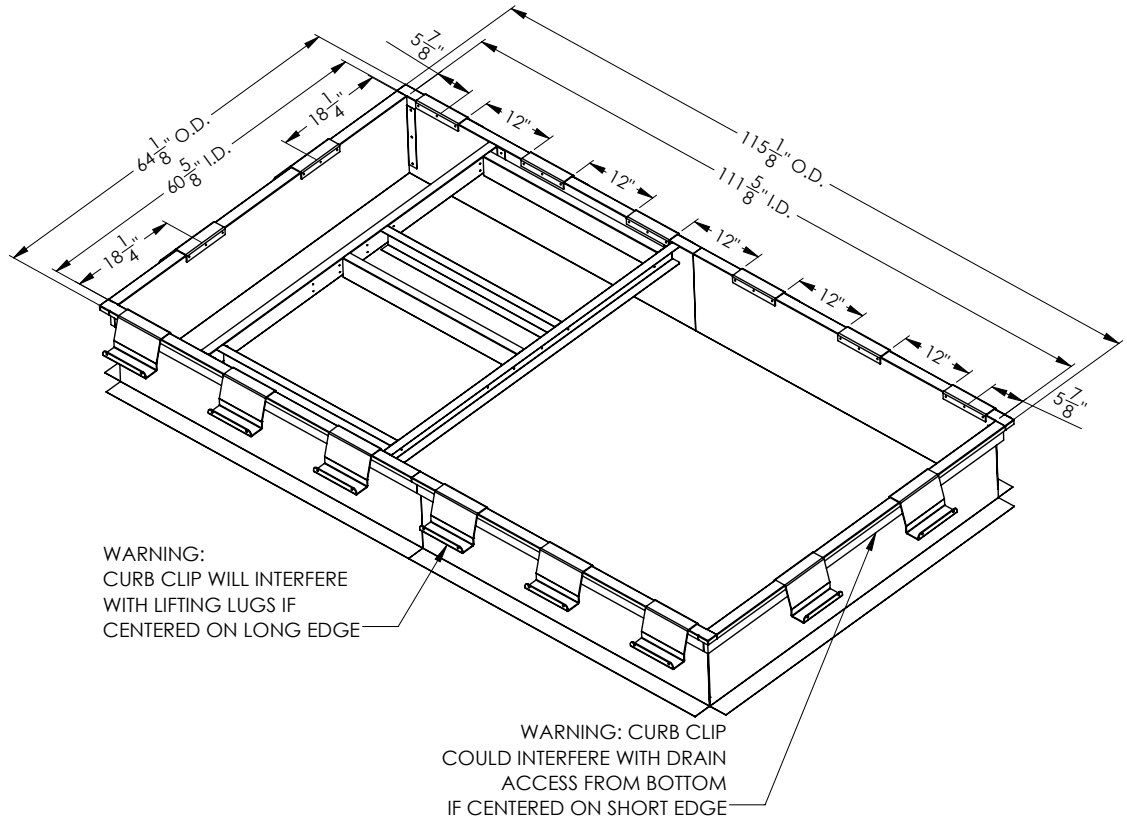


FIGURE 2.11.0 LE6X CURB CLIP PLACEMENT

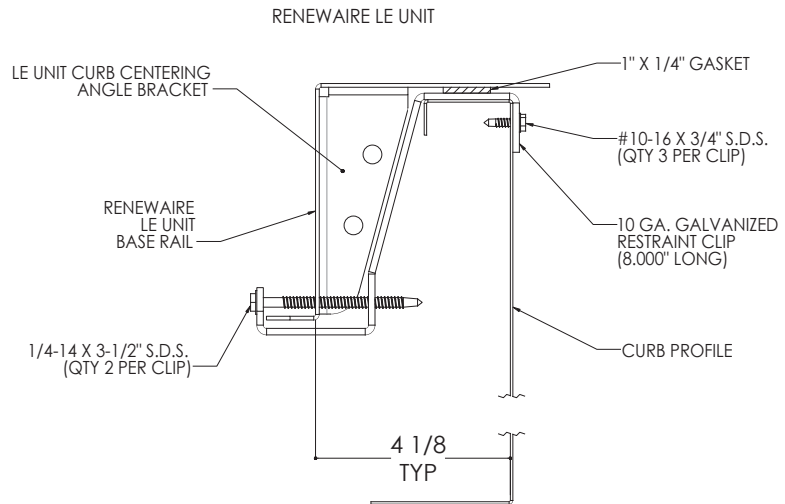


FIGURE 2.11.1 LE6X CURB CLIP INSTALLATION

2.12 LE8XRT

Use Curb Clip Kit PN 8XLECC

Kit includes:

(20) Curb Clips PN 140160

(60) #10-16 x 3/4" self-drilling screws

(40) 1/4 -14 x 3 1/2" self-drilling screws

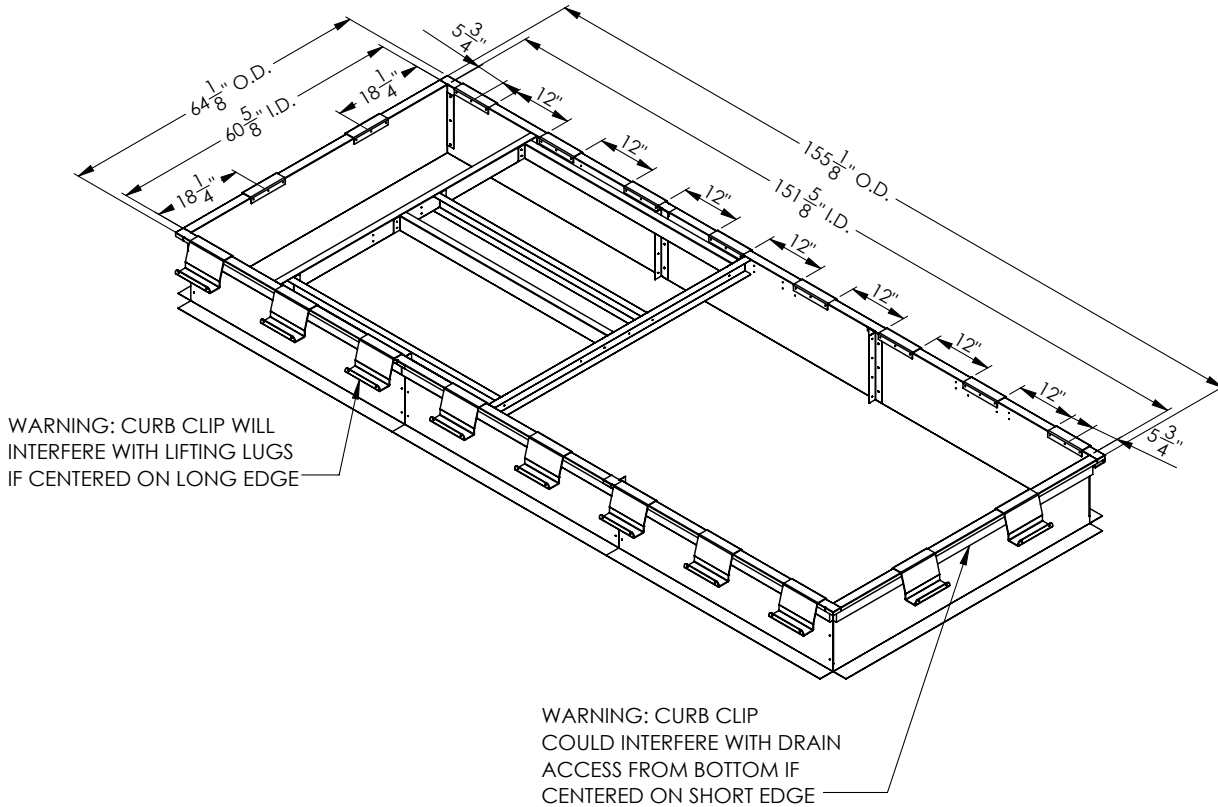


FIGURE 2.12.0 LE8X CURB CLIP PLACEMENT

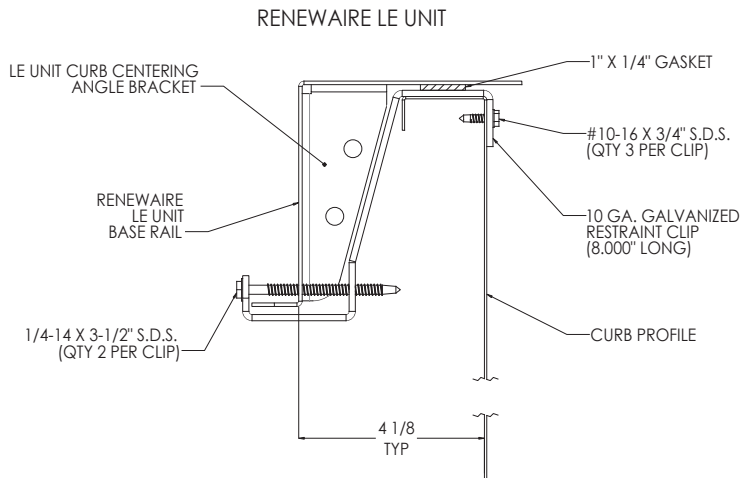


FIGURE 2.12.1 LE8X CURB CLIP INSTALLATION

2.13 LE10XRT

Use Curb Clip Kit PN 10XLECC

Kit includes:

(24) Curb Clips PN 140160

(72) #10-16 x 3/4" self-drilling screws

(48) 1/4 -14 x 3 1/2" self-drilling screws

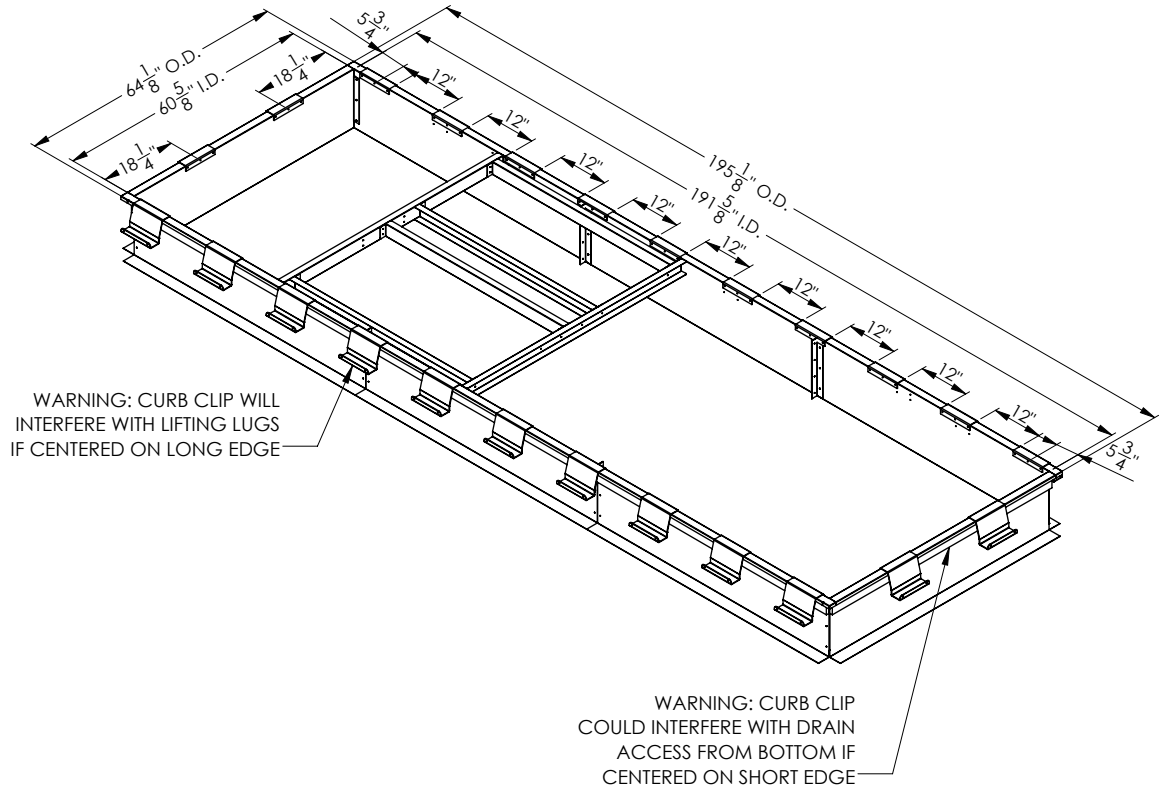


FIGURE 2.13.0 LE10X CURB CLIP PLACEMENT

RENEWAIRE LE UNIT

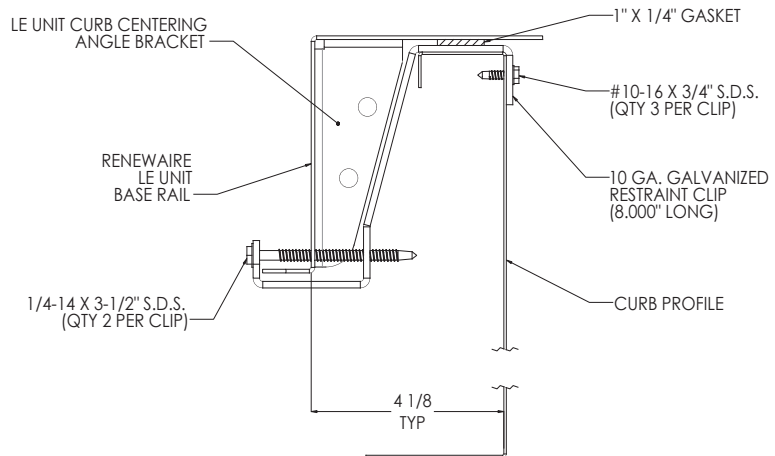


FIGURE 2.13.1 LE10X CURB CLIP INSTALLATION

2.14 RD2XRT

Use Curb Clip Kit PN 2XRDC

Kit includes:

(12) Curb Clips PN 163062

(36) #10-16 x 3/4" self-drilling screws

(24) 1/4 -14 x 2 1/2" self-drilling screws

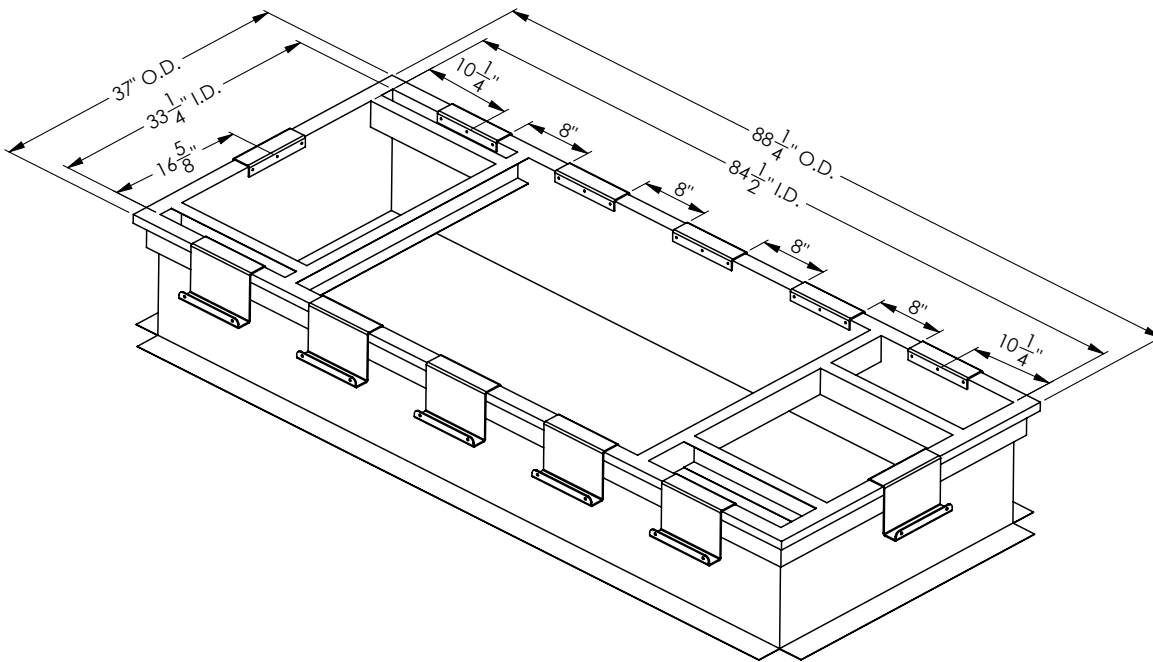


FIGURE 2.14.0 RD2X CURB CLIP PLACEMENT

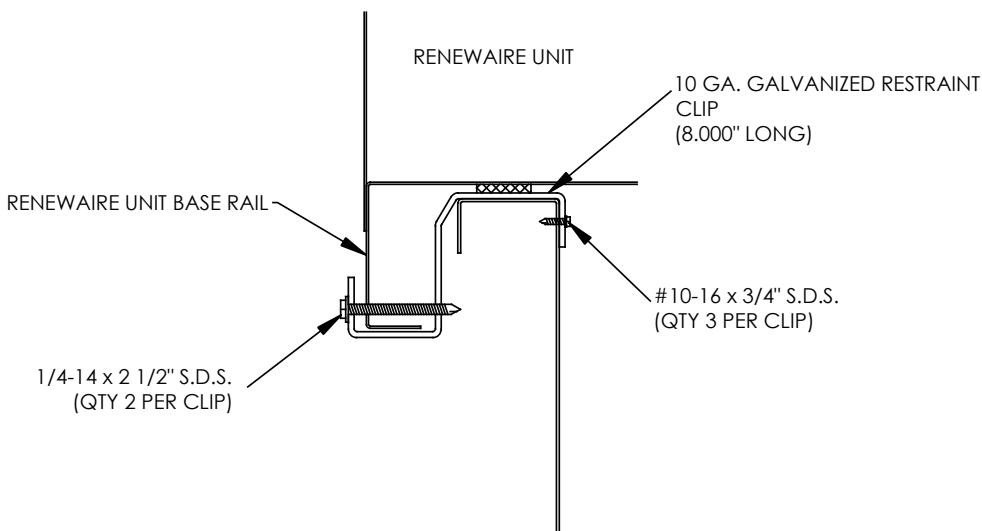


FIGURE 2.14.1 RD2X CURB CLIP INSTALLATION

2.15 RD4XRT

Use Curb Clip Kit PN 4XRDCC

Kit includes:

(16) Curb Clips PN 163060

(48) #10-16 x 3/4" self-drilling screws

(32) 1/4 -14 x 2 1/2" self-drilling screws

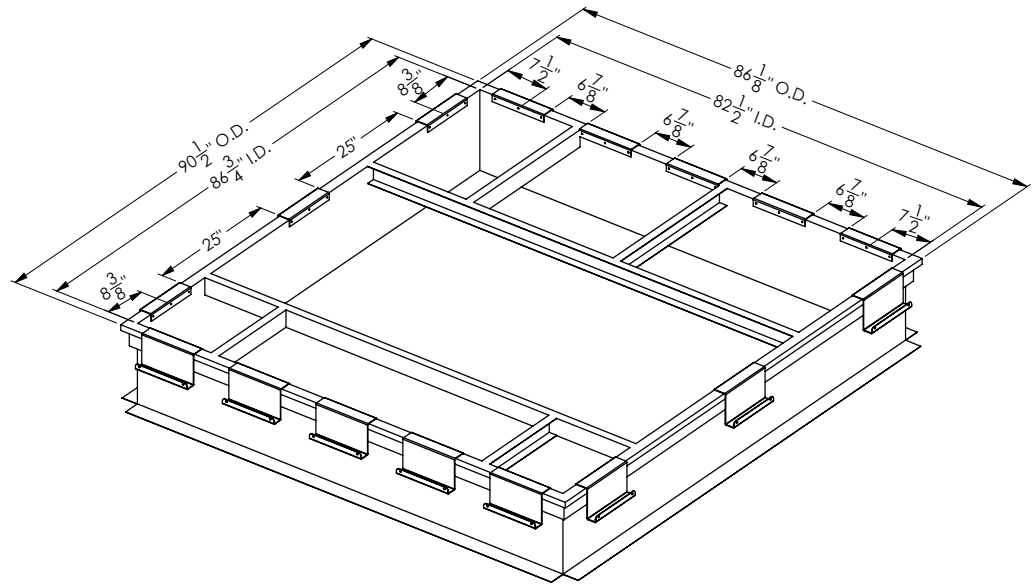


FIGURE 2.15.0 RD4X CURB CLIP PLACEMENT

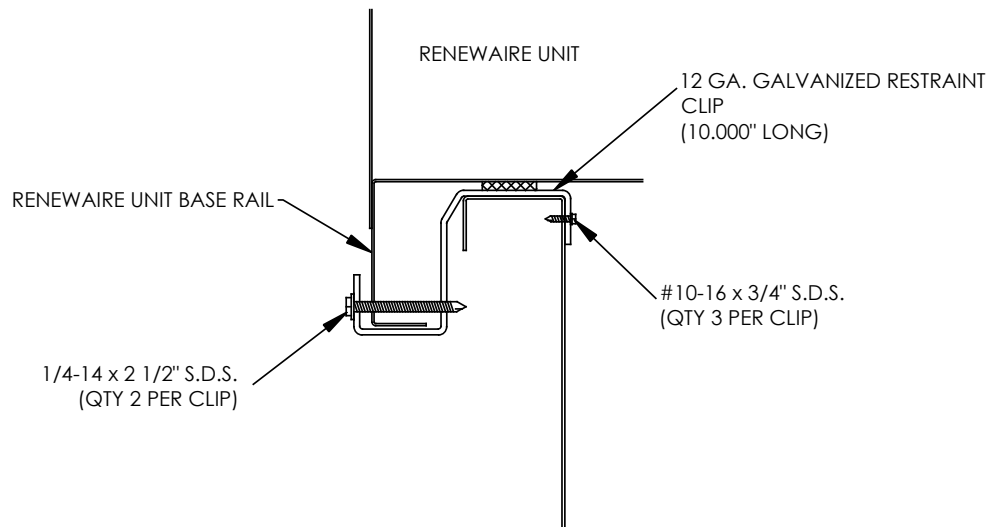


FIGURE 2.15.1 RD4X CURB CLIP INSTALLATION

2.16 CA2XRT

Use Curb Clip Kit PN 2XHECC

Kit includes:

(6) Curb Clips PN 140175

(18) #10-16 x 3/4" self-drilling screws

(12) 1/4 -14 x 2 1/2" self-drilling screws

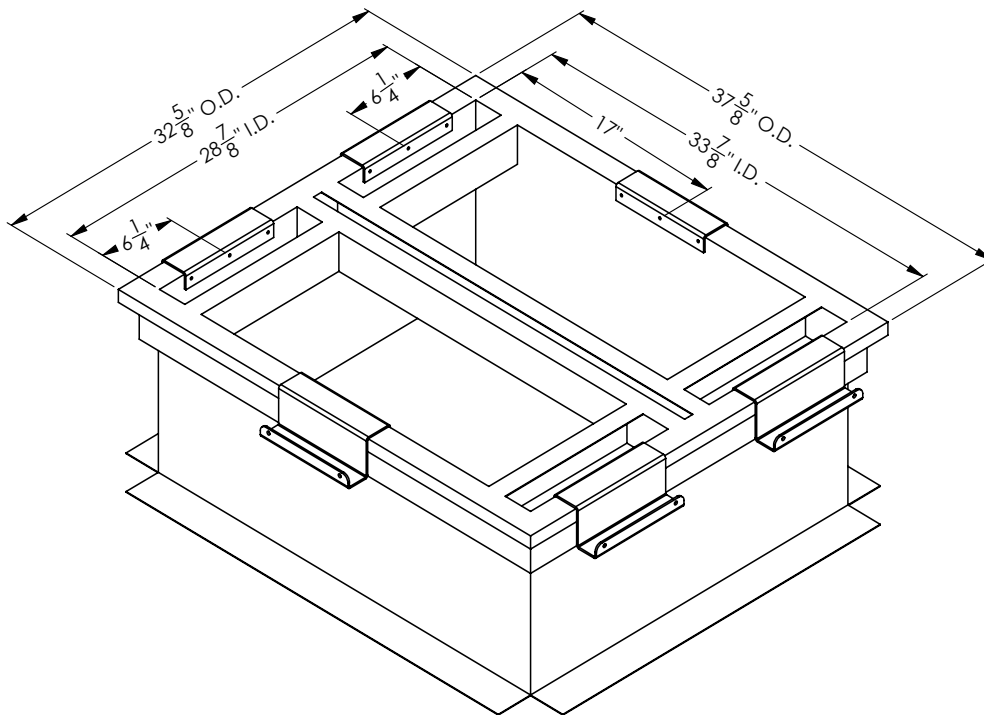


FIGURE 2.16.0 CA2X CURB CLIP PLACEMENT

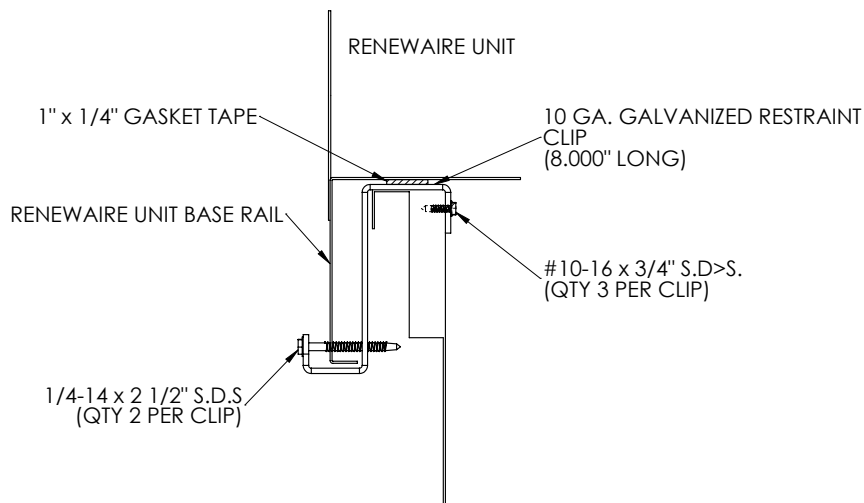


FIGURE 2.16.1 CA2X CURB CLIP INSTALLATION

2.17 CA3XRT

Use Curb Clip Kit PN 3XHECC

Kit includes:

(8) Curb Clips PN 140178

(24) #10-16 x 3/4" self-drilling screws

(16) 1/4 -14 x 2 1/2" self-drilling screws

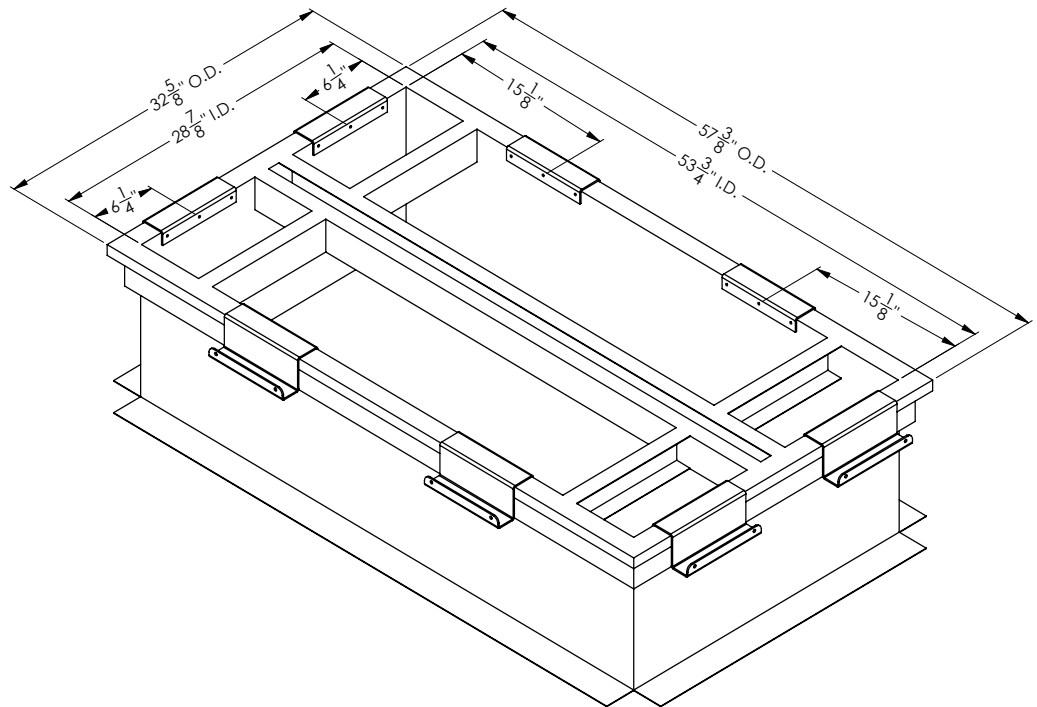


FIGURE 2.17.0 CA3X CURB CLIP PLACEMENT

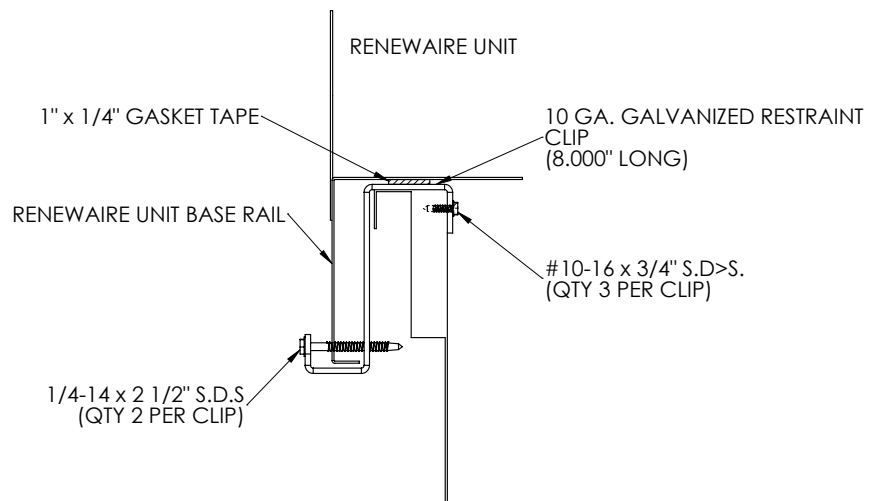


FIGURE 2.17.1 CA3X CURB CLIP INSTALLATION

2.18 CA4XRT

Use Curb Clip Kit PN 4XHECC

Kit includes:

(12) Curb Clips PN 140178

(36) #10-16 x 3/4" selfdrilling screws

(24) 1/4 -14 x 2 1/2" self-drilling screws

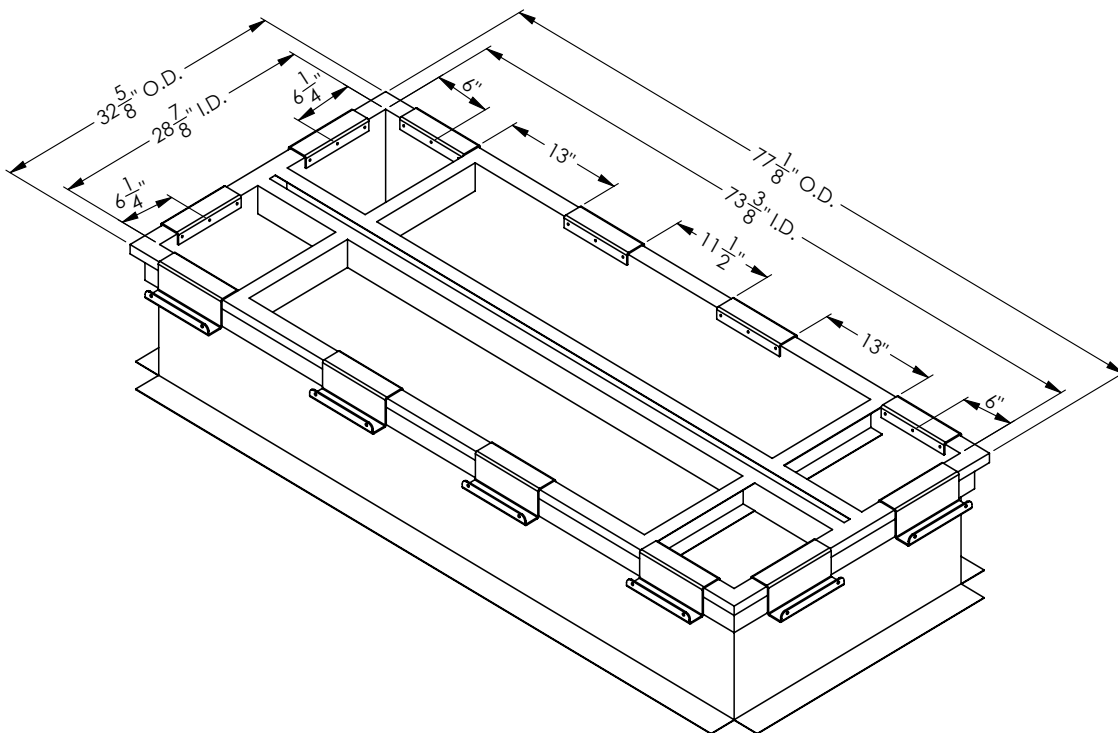


FIGURE 2.18.0 CA4X CURB CLIP PLACEMENT

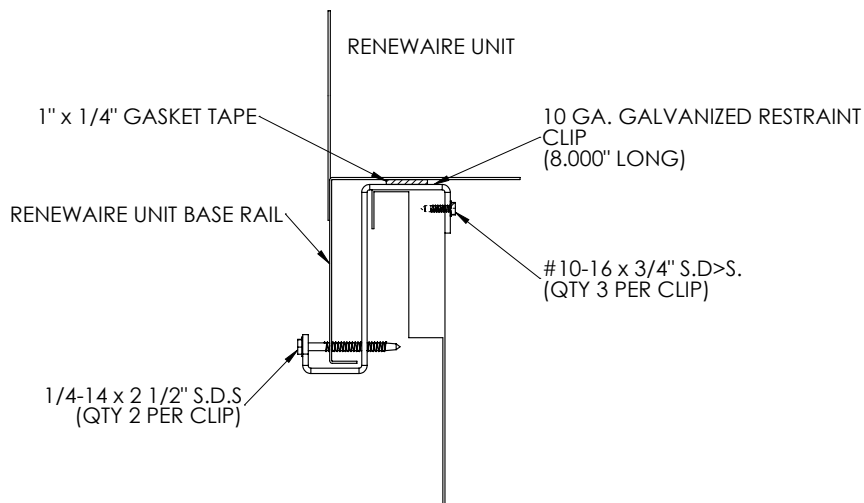


FIGURE 2.18.1 CA4X CURB CLIP INSTALLATION



About RenewAire

For over 40 years, **RenewAire** has been a pioneer in enhancing indoor air quality (IAQ) in commercial and residential buildings of every size. This is achieved while maximizing sustainability through our fifth-generation, static-plate, enthalpic-core **Energy Recovery Ventilators (ERVs)** that optimize energy efficiency, lower capital costs via load reduction and decrease operational expenses by minimizing equipment needs, resulting in significant energy savings. Our ERVs are competitively priced, simple to install, easy to use and maintain and have a quick payback. They also enjoy the industry's best warranty with the lowest claims due to long-term reliability derived from innovative design practices, expert workmanship and **Quick Response Manufacturing (QRM)**.

As the pioneer of static-plate core technology in North America, RenewAire is the largest ERV producer in the USA. We're **committed to sustainable manufacturing** and lessening our environmental footprint, and to that end our Waunakee, WI plant is 100% powered by wind turbines. The facility is also one of the few buildings worldwide to be LEED and Green Globes certified, as well as having achieved ENERGY STAR Building status. In 2010, RenewAire joined the Soler & Palau (S&P) Ventilation Group in order to provide direct access to the latest in energy-efficient air-moving technologies. For more information, visit: renewaire.com

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