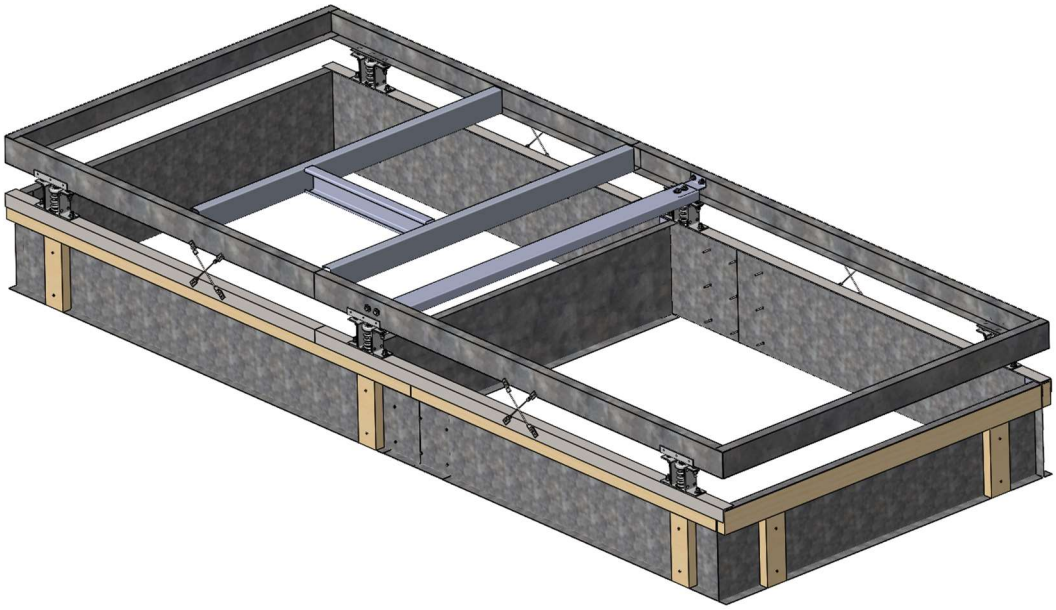
KINETICS Noise Control®

KSCR3.0 INSTALLATION INSTRUCTIONS
PARTIALLY ASSEMBLED PROCEDURE

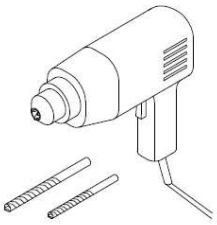


614.889.0480

kineticsnoise.com

6300 Irelan Place | Dublin, OH 43017

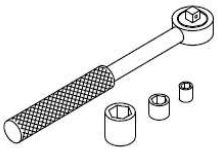
1. Required Installation Hardware and Tools Not Provided

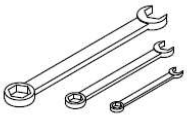


Drill /Driver & Bits

Tape Measure

Additional #8 Self-Drilling Screws May be Required





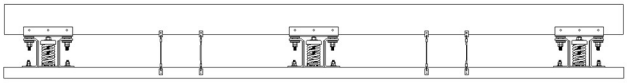
1/4", 3/8" & 9/16" Sockets & Wrenches

2. Unpacking the KSCR3.0

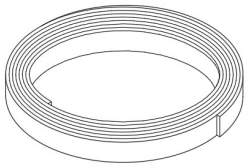
A. Carefully unpack the KSCR and lay out the contents for identification. Use the typical packing list below to make sure all parts are present.

NOTE: *Promptly report any shipping damage to the carrier and report any missing parts to the vendor.*

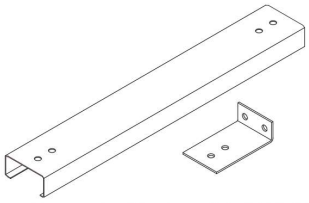
TYPICAL PACKING LIST



Rail Assembly: 1 Per Side Marked A, B, C & D
(not all rails may have isolators, mounting angle and cable kits as shown)

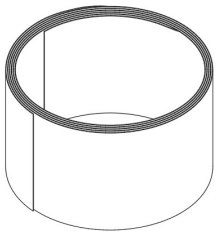


Foam Weather Seal
24.025-02

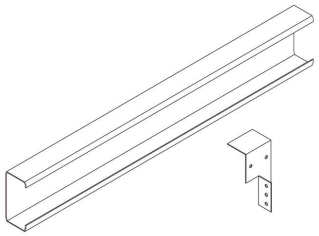


Cross Brace (cut to length) # 54.009-01
Bracket (2 per cross brace) # 35.056-01
(If required)

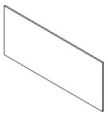
Cross Brace Hardware (per cross brace)
(If required)



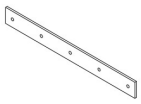
EPDM Weather Seal
24.200-02



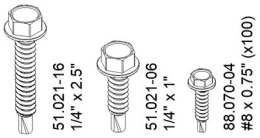
Flex Connector Support (cut to length) #54.009-01
Bracket (2 per support) # 35.054-01
(If required)



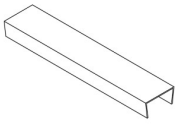
Upper Rail Splice Plate
54.048-08
(If required)



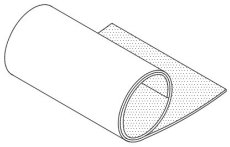
EPDM Weather Seal
Cover Strip # 53.125-05



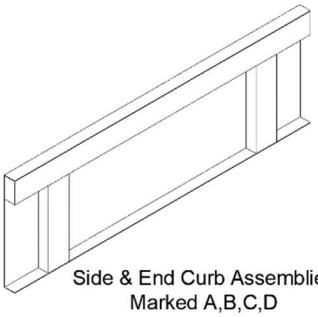
Self-Drilling Screws



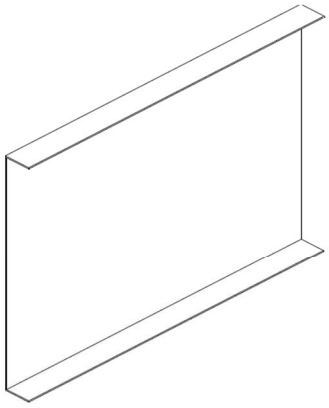
Flashing # 44.015-01



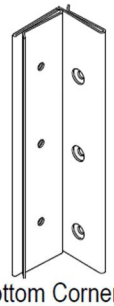
Adhesive Double-Sided Tape
63.010-16



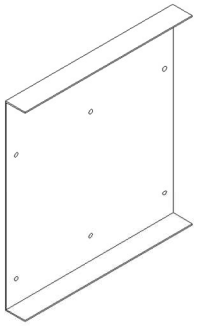
Side & End Curb Assemblies
Marked A,B,C,D



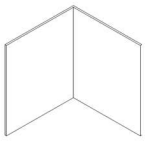
Bottom Cross Brace (cut to length) #M9705035 Bracket
(x2 each cross brace) # 88.062-01
(if required)



Bottom Corner Bracket (x4) #
53.140-02



Lower Curb Splice Channel -
M-9602247
(if required)



Top Rail Corner Bracket (x4)
53.135-06

614.889.0480
kineticsnoise.com
6300 Irelan Place | Dublin, OH 43017

3. Splicing the KSCR3.0 (If Required)

NOTE: If none of the curb sides are longer than 10 feet, skip this step.

A. Locate two sides with the same side rail identifier (Rail A, B, C, D). Remove from the shipping carton (2) lower curb splice channels, and (2) upper rail splice plates. Butt the two side members to be spliced together so that the squared off ends of both the upper rail and the bottom curb contact one another. Using the #8 SELF-DRILLING screws provided, screw the lower curb members together as shown in figure 3.1.

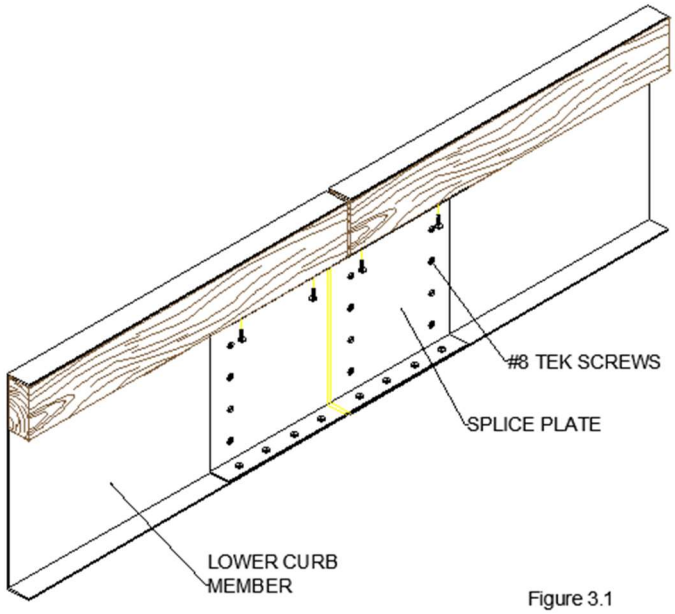


Figure 3.1

B. Splice the upper rail sections together using the splice plate provided as shown in figure 3.2. Plate the splice plate on the inside of the top rail. Secure in place with eight (8) ¼" x 1" self-drilling screws per splice, drilled from the outside in.

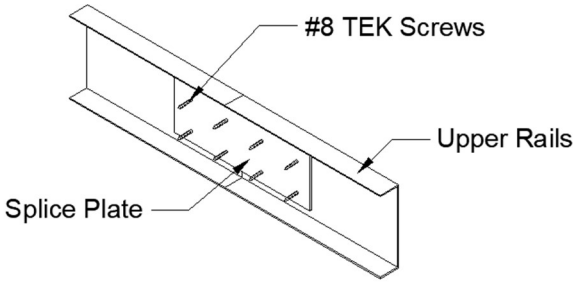
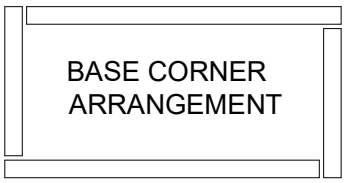


Figure 3.2

4. <u>Assemble Curb Corners</u>

NOTE: One end of the curb is marked on the submittal drawings (condenser end, return end, etc.) to aid in assembling the curb sides in the correct order to ensure proper loading and optimum performance of the springs. This end rail may be rail B. This also allows the curb to be installed on the roof in the proper orientation.

A. Remove from the shipping carton four (4) bottom corner brackets. Refer to the figure at the right and not the orientation of the curb sides at the corners. With the corners oriented in this way, stand two adjacent sides up at a time and slide a corner bracket onto the two curb sections as shown in figure 4.1 & 4.2. Do this at all four corners. Once the corner brackets are fully seated, secure side panels using six (6) ¼" x 1" self-drilling screws at each corner.



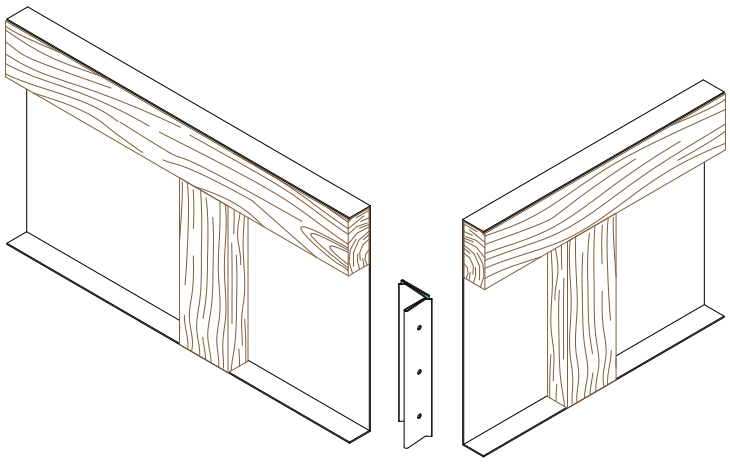


Figure 4.1

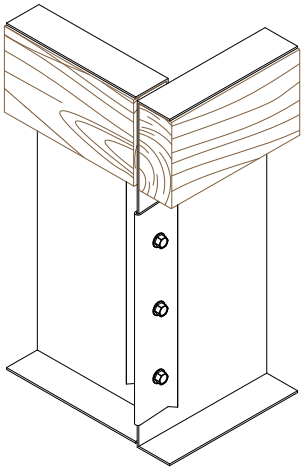
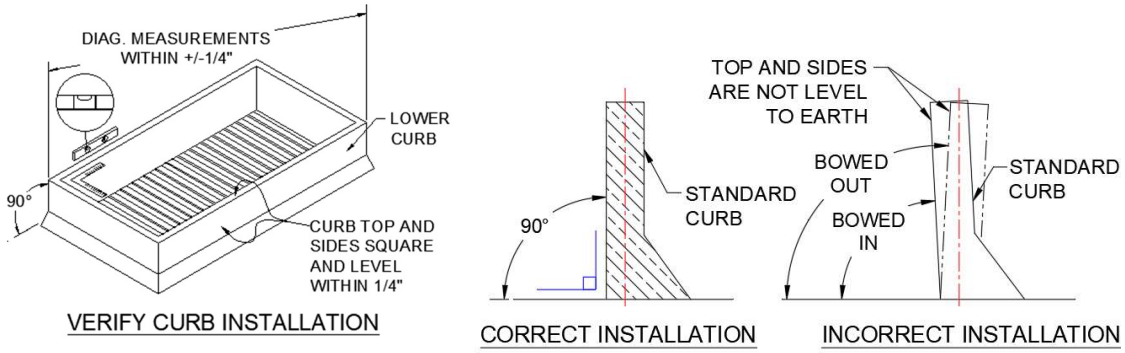


Figure 4.2

B. Position the curb in the final installation location and verify the curb assembly.
   1) The top of the roof curb must be square and level with +/- ¼".
   2) Curb sides must be square and level withing +/- ¼"
   3) Corner-to-corner, diagonal measurement must be equal within +/- ¼"

IMPORTANT! *Do not use the gaskets which may be furnished by the equipment manufacturer for the top of the curb, or which may be attached to the bottom of the equipment.* **Failure to remove or using manufacturer's gasket material may result in deformation of the upper isolation rail.**



5. Installation of Lower Cross Bracing (if supplied)

A. If cross bracing is required for this installation, it will be shown on the submittal drawing.

B. Remove the lower cross braces from the shipping skid. The lower cross brace is to be field located at the approximate center of curb / field splice as shown in figure 5.1. Screw into place using the two (2) sheet metal angles and #8 SELF-DRILLING screws. Should this location cause interference with the ductwork, relocate the cross brace as near as possible to the center of the curb, but avoiding the ductwork.

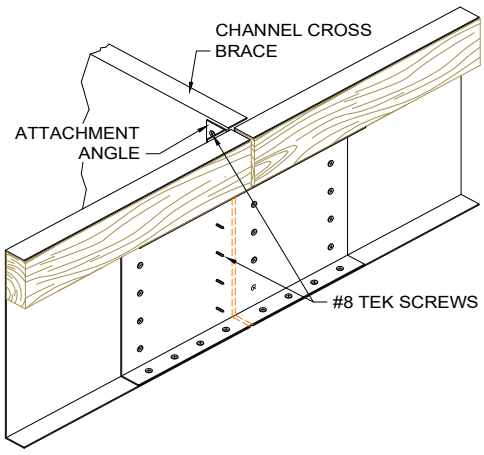
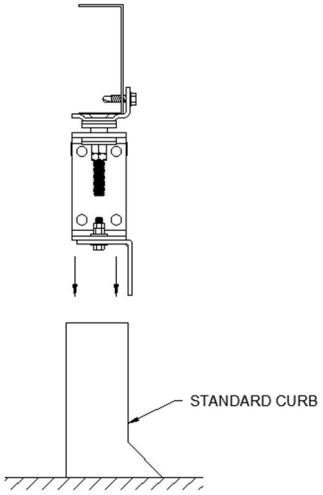


Figure 5.1

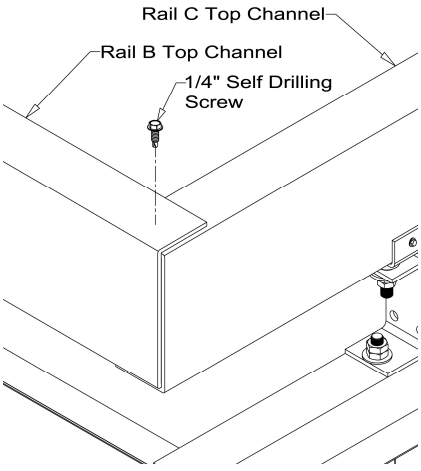
6. Installation of KSCR Rails on the Curb

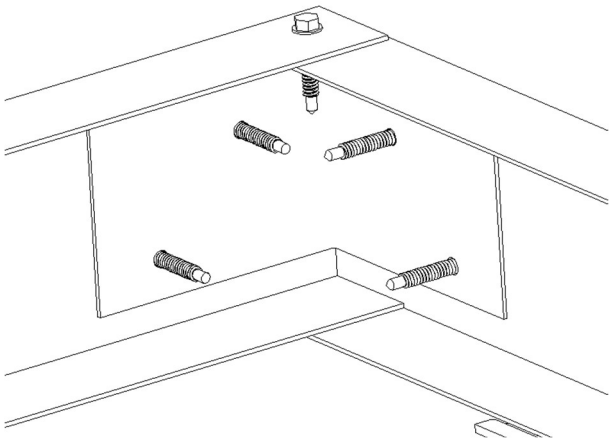
A. Refer to the submittal drawings to determine which rail will be installed on each side of the curb. Note that not all KSCR rails may have isolators with a mounting angle.



B. Set rails A & C on the curb with the vertical leg of the mounting angle on the outside of the curb. Attach the rail to the curb by installing four (4) ¼" x 2.50" self-drilling screws through the vertical leg of the mounting angle and into the curb wall below each KCI isolator.

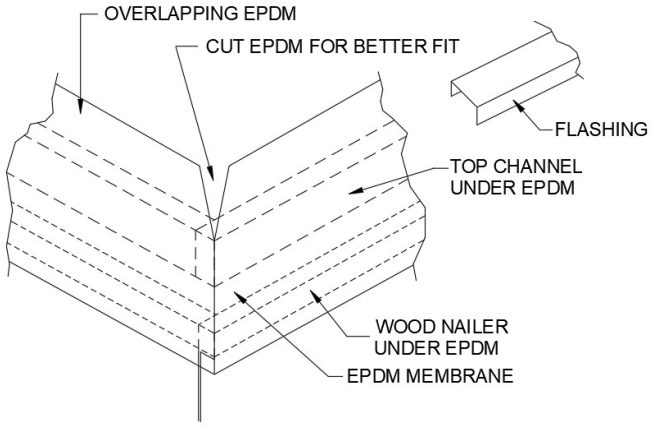
C. Slide rails B & D into place on the ends. Note that the top channels will overlap in the corners as shown below. Install a ¼"-1" self-drilling screw through the top flanges of the overlapping top channels, and then fasten the provided corner bracket to the inside of the corner connection with 4 ¼"-1" self-drilling screws as shown (screw placement is not critical as long as 2 screws are installed each side of the corner bracket).





7. **Installation of KSCR EPDM Weather Seal**

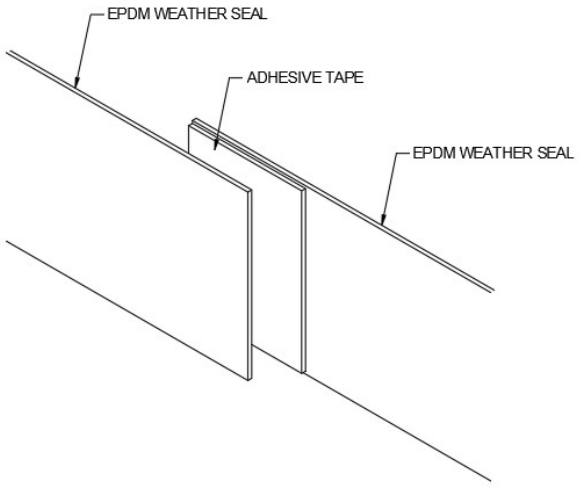
A. Install the EPDM material around the perimeter of the isolation rail by draping it across the top channel, leaving enough material to later connect the bottom edge to the curb's wood nailer below the isolation rails. Avoid cutting the material and arrange it to allow any joints to fall away from the corners. Pull the material to provide a good fit around the base. Trim the material on the inside of the corners as indicated below to allow a smooth fit of the provided flashing over the KSCR top channel to retain the EPDM.



B. At the butt joint(s), cut the EPDM material so there is approximately a 4" overlap. Fold back the upper layer and clean the two surfaces that will be bonded together with a fully evaporating solvent such as alcohol.

NOTE: *Failure to clean these surfaces or the use of non-evaporating solvent like kerosene will result in an improper seal at this joint.*

C. Cut a piece from the supplied adhesive double-sided tape to match the overlap dimensions of the EPDM material. Sandwich it between the two layers in the overlapping area and firmly press the layers together.



D. Do not secure the bottom edge of the weather seal, at this time. This should not be done until the supported equipment is in place and the system has been adjusted.

8. <u>Installation of Top Cross Bracing (if supplied)</u>

A. If cross bracing is required for this installation, it will be shown on the submittal drawing.

B. Remove the cross-brace channel, a steel wall stud with two (2) holes at each end.

C. Determine the best location for cross bracing. It should be as close to the center of the span as possible while still clearing all ductwork. If more than one cross brace is required, they should be spaced evenly in the rails.

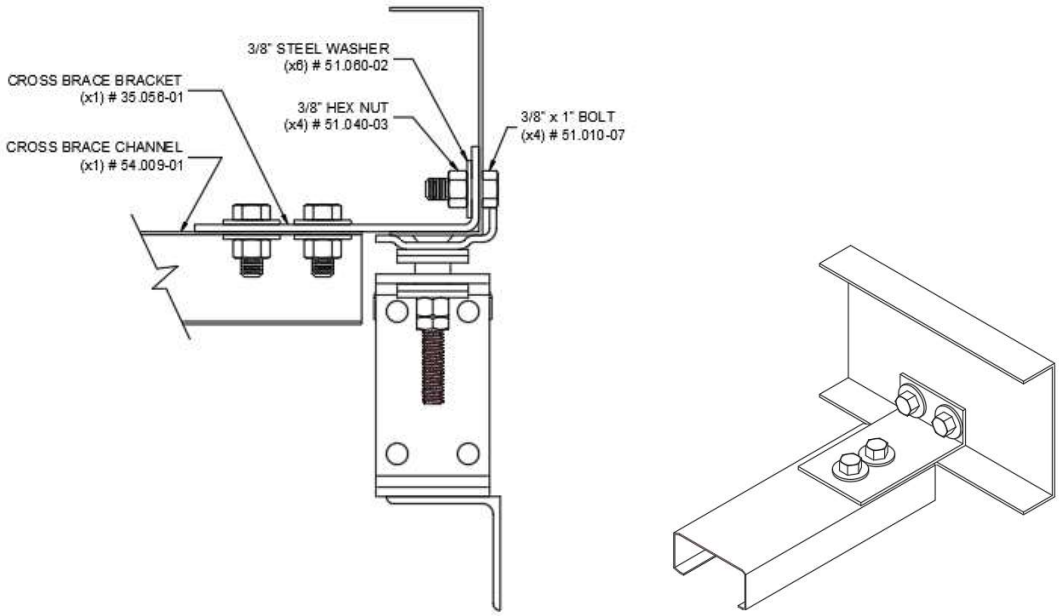
D. Attach cross-brace brackets to the ends of each cross brace using 3/8" hardware provided. Do not tighten bolts at this time.

NOTE: *Before drilling the top rail, verify that the cross brace will not interfere with ductwork. In addition, verify that the vertical dimension between the top of the cross brace and the top of the top rail is greater than the distance the equipment may protrude down between the top rails. Failure to do this may result in interference between the equipment and the isolation rails.*

E. Drill the top rail to match the mounting holes on the cross-brace bracket.

F. Attach each end of the cross bracing to the top rail using 3/8” hardware provided as shown below.

G. Verify alignment of isolation rail to curb and then **tighten all the bolts**.



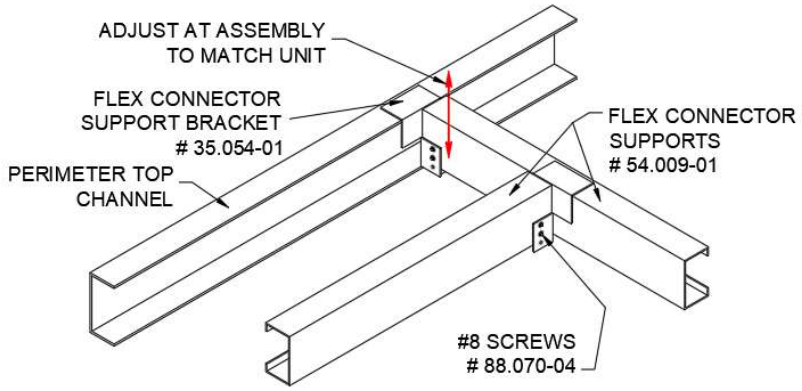
9. <u>Installation of Flex Connector Supports (if supplied)</u>

A. Refer to the submittal package for the location of flex connector supports.

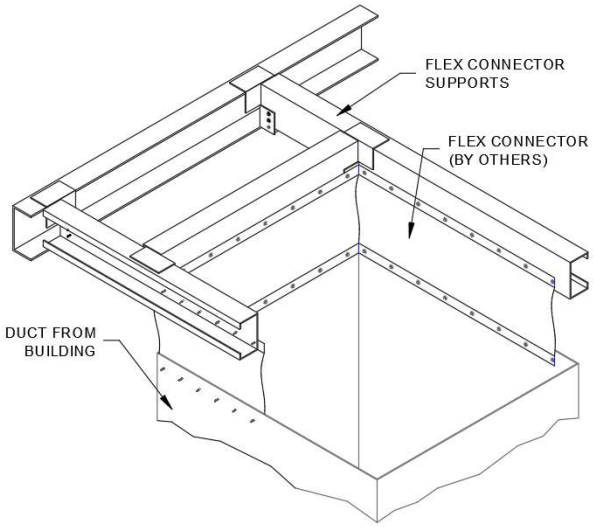
B. Attach the flex connector support brackets to flex connector support channels with the #8 self-drilling screws provided.

C. Hang the flex connector supports either on the perimeter channel or to mating flex connector supports.

Note the relative heights of the equipment’s perimeter support area and the lips around its supply and return duct openings. Adjust the height of the flex connector supports to match these and form a positive seal (note: the maximum standard adjustment is 2” below flush).



D. Canvas flex connectors, provided by others, are to be attached between the installed flex connector supports and the duct from the building as shown below.

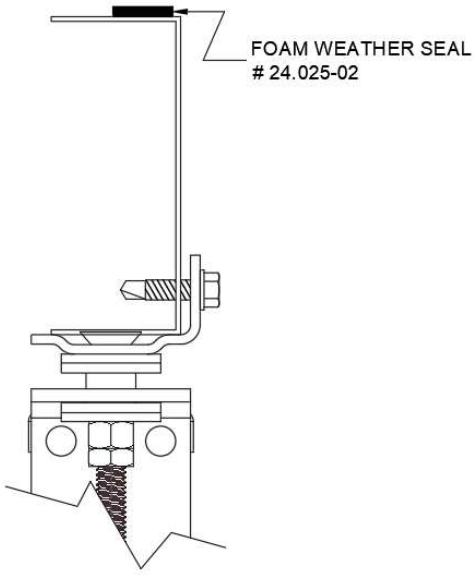


10. Installation of the Air Handling Unit

A. Check to be certain there is no factory applied gasket material on the underside of the equipment where contact will be made with the KSCR top rail.

WARNING: *Failure to remove manufacturer's gasket material voids KSCR warranty*

B. Install the provided foam weather seal to the top surface of the perimeter channels and along the flex connector support channels prior to setting the air handler.



C. Position the air-handling unit onto the top of the KSCR.

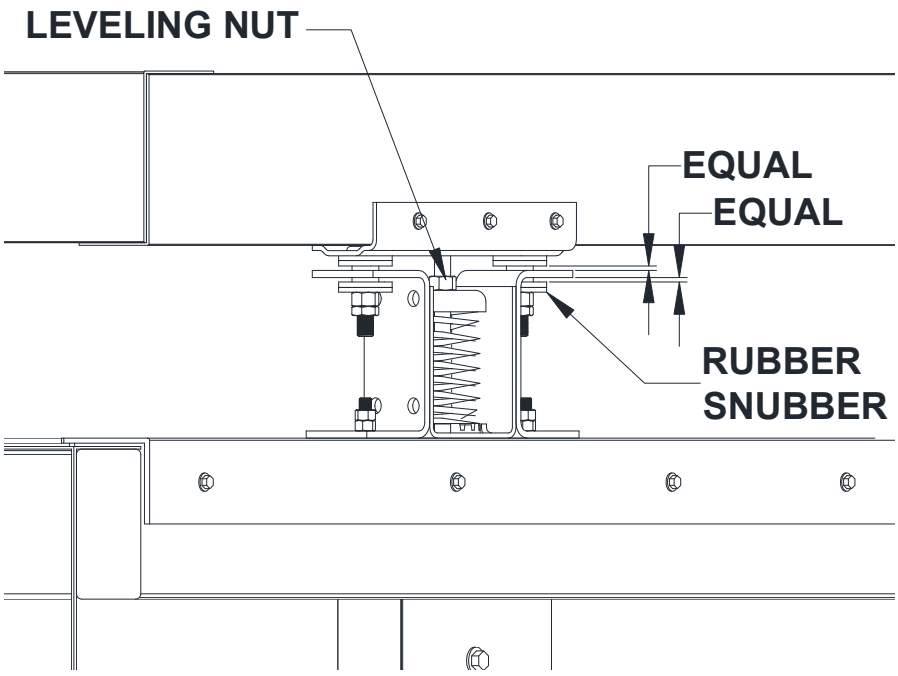
WARNING: *The air hander must be lowered slowly and kept level so it engages the KSCR top rails evenly or damage to the KSCR may result. The air handler must be installed as one unit and not in sections. Do not attempt to drag the air handler across the KSCR during installation, or damage to the KSCR may result.*

11. Isolator Adjustment Procedure

NOTE: *Before adjusting the KSCR isolators, it is necessary that the supported equipment be brought up to its operating weight. If the unit is to be filled with a fluid, this should be done prior to the final adjustment of the isolators.*

NOTE: *DO NOT loosen the double-restraint-nuts below the rubber snubber elements. Doing so may result in the permanent deformation of the KCIs and KSRs.*

A. Going around the KSCR, adjust each isolator by turning the leveling nut 1 to 2 turns clockwise.

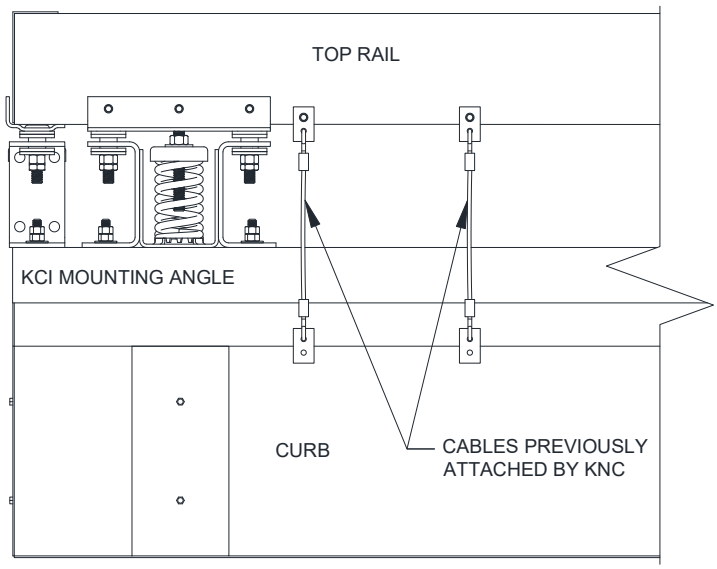


B. Continue around the KSCR, turning the leveling nut 1 to 2 turns clockwise on each isolator until the gap between the isolator housing and the faces of the rubber snubbers are equal on the top and bottom. Confirm that the equipment is now level within the manufacturer's specifications.

12. Cable Kit Installation (if supplied)

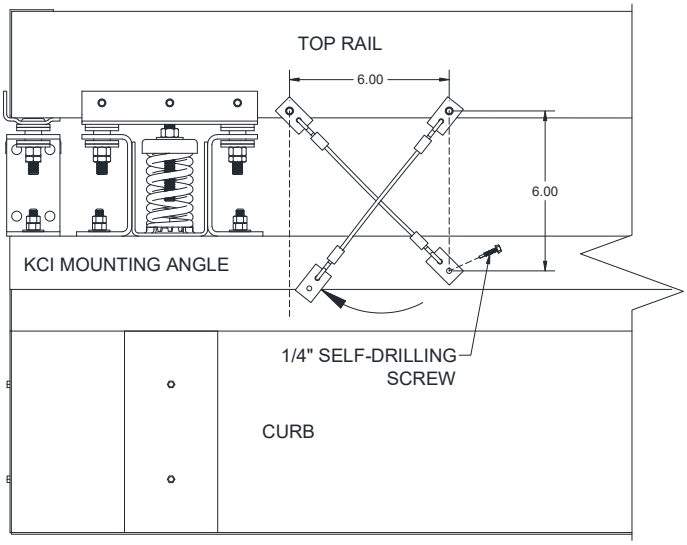
****DO NOT COMPLETE THIS STEP UNTIL ASSEMBLY IS COMPLETE AND SPRINGS HAVE BEEN ADJUSTED****

A. Cable kits will arrive factory installed to the top rail only.



Swing the cable to a 45-degree orientation, so the bottom bracket is in-line with the opposite cable top bracket. (This may require loosening the upper screws.) A good method to align the cable is to measure 6” down from the center of the top fastener.

B. Using the supplied 1/4" x 1.00” self-drilling screw, secure the bottom cable brackets to the KCI Mounting Angle, in an X pattern shown below.



Repeat these steps until all cable kits are secured.

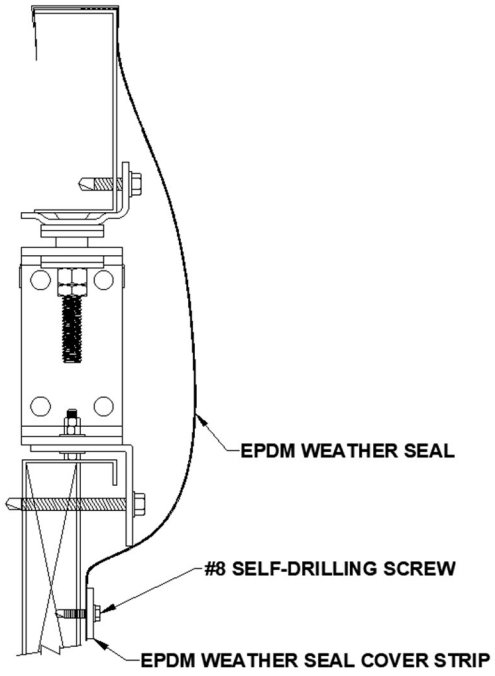
13. <u>Final Installation and Testing</u>

A. Secure the curb to the roof (reference section 14. Suggested Methods of Attachment). If a seismic and/or wind analysis has been performed, use the quantity, size and type of fasteners specified by the calculations.

B. Flash the lower curb into the roof in a typical fashion. Roofing/flashing material by others.

C. Attach the bottom edge of the EPDM weather seal to the wood nailer on the curb below the KSCR mounting angle (overlapping the roof flashing) and secure it with the EPDM weather seal cover strips and #8 self-drilling screws provided. After completing the connection, the excess EPDM weather seal can be trimmed.

D. Attach the equipment to the KSCR per the equipment manufacturer's recommendations. If a seismic and/or wind analysis has been performed, use the quantity, size and type of fasteners specified by the calculations. Attachment hardware will perforate the EPDM weather seal. In some circumstances, standard bolts/nuts/washers will be specified for equipment-to-curb attachment. The interior of the curb must be accessible in these circumstances.

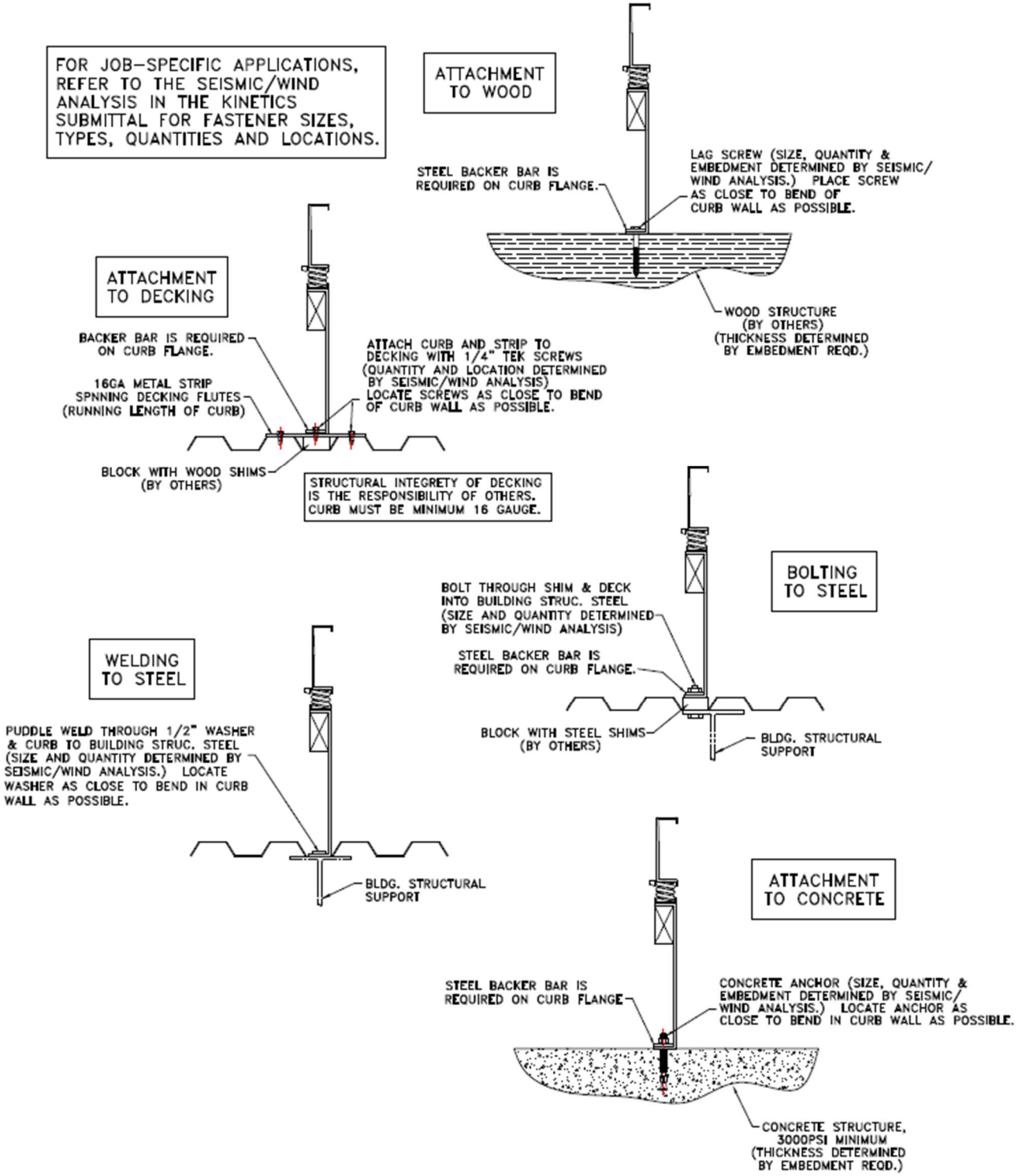


E. Once the installation is complete, before the lifting equipment is permitted to leave the site and before interior ceiling tiles or other water damageable items are installed, spray the unit and the KSCR with water to check for and correct any leaks.

WARNING: *If the crane is dismissed before the above inspections and leak testing are completed, the manufacturer is not responsible for any cost to repair or modify the KSCR, including labor, materials, or crane rental.*

NOTE: *In the event the installation of the KSCR is not completed in accordance with these instructions, the manufacturer will not accept any responsibility for malfunction of the KSCR, damage to the KSCR or damage to any associated equipment or structure resulting from the installation.*

14. Suggested Methods of Attachment



614.889.0480
kineticsnoise.com
6300 Irelan Place | Dublin, OH 43017

15. <u>Recommended Backer Bar Size</u>

A. Install with side A flush with the curb wall, and side B facing away from the unit.

B. Size mounting hole to be 1/16” larger than fastener diameter.

C. Backer bars will be provided if a seismic/wind analysis has been performed.