

# AXIOM® Knife Edge® Perimeter Trim

## Assembly and Installation Instructions

### 1. GENERAL

#### 1.1 Description

Axiom Knife Edge is a perimeter trim system designed for use with any of the Armstrong suspension systems. Field fabrication is limited to component assembly, straight cuts, and minor adjustments to accommodate differences between design dimensions and actual field conditions.

Two versions of the product are available. AXKE2STR and AXKE5STR are designed for use with acoustical lay-in or Tegular panels and drywall. AXKEV2STR is for use with full panel installations of the Vector® family of products.

These instructions are divided into five sections detailing material delivery and identification, component assembly, AXKE2STR and AXKE5STR installation, AXKEV2STR installation, and final detailing. Please carefully review all appropriate sections before proceeding with installation.

### 2. MATERIAL DELIVERY AND IDENTIFICATION

#### 2.1 Delivery

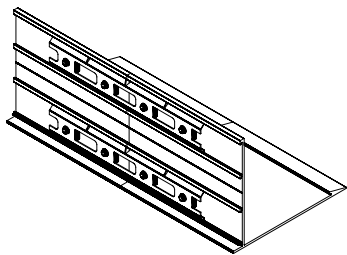
Axiom Knife Edge components and hardware are delivered to the job site in custom designed packaging. Exercise appropriate care to protect the finished surfaces of the channel trim.

#### 2.2 Review

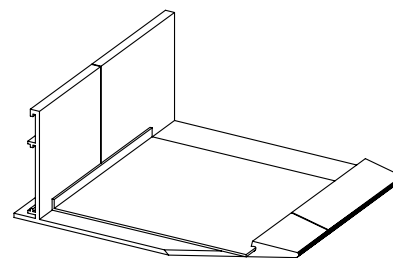
Review the packing slip to ensure that the complete order has been delivered to the site.

### 3. COMPONENT ASSEMBLY

#### 3.1 Splice Plates and Alignment Clips



AXKE5STR – 5" Axiom Knife Edge with Splices



AXKEALIGN – Alignment Plate

Steel splice plates are used to align and secure all joints between sections of Axiom Knife Edge trim. Alignment clips serve to position the outer edges of the trim sections. Each joint will require one splice plate and one alignment clip. Splice plates are secured to the trim sections using factory-installed setscrews. Where desired, it may be beneficial to caulk or tape the backside of the vertical joints to prevent light transmission.

#### Typical procedure

**3.1.1** Position the splice plate (AX4SPLICE) so that it is roughly centered on the joint between trim sections.

**3.1.2** Tighten the four setscrews to secure the splice to the trim. CAUTION: Do not overtighten these screws to the point where they distort the face of the trim.

**3.1.3** Install the Alignment Clip (AXKEALIGN) by inserting the flat end into the groove located behind the leading edge of the trim. Press the back end of the clip down to lock in position.

#### 3.2 Corner Assembly

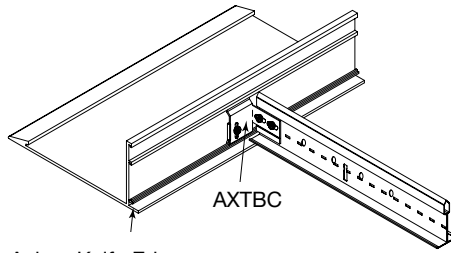
Factory-assembled inside and outside corners come pre-mitered, bonded, and finished. The legs of the corner measure 12" along the edge of the flange that supports the suspension system. Corner sections are installed using AX4SPLICEB splice plates and Alignment Clips (AXKEALIGN) at each joint.

#### 3.3 T-Bar Connector Clips – Suspended Ceilings

T-Bar Connector Clips are used to attach the Axiom Knife Edge trim to the supporting suspension system members.

These two-piece clips are supplied as an assembled unit with the steel locking screw factory installed. One clip is required at each location where the suspension system intersects the channel trim.

**NOTE:** For installation of T-Bar Connector Clips in drywall applications, refer to the Drywall Trim Section.



Axiom Knife Edge  
AXTBC – T-Bar Connector Clip

T-Bar Connector Clips are attached to the suspension system members using screws supplied by the installer. Framing screws (#6 x 7/16" or 1/2" lg.) are typical. Special conditions such as open cell installations may dictate the use of alternate methods of attachment.

See detail drawings (page 3) for alignment of the connector clip with the suspension system member.

#### Typical procedure - Suspended Ceiling Installations

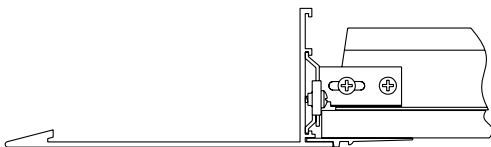
**3.3.1** Cut suspension system to length

**3.3.2** Attach clip to suspension system member

**3.3.3** Engage clip in channel bosses and tighten locking screw

#### 3.4 Drywall Trim

Drywall trim is used to finish the edges of gypsum panels that are applied to drywall suspension system finished with Axiom® Knife Edge® trim. Axiom drywall trim sections are factory formed to fit into the groove inside Axiom Knife Edge.



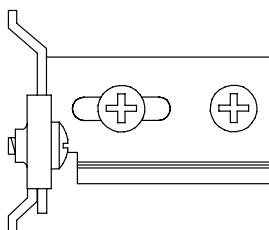
AXDWT in AXKE2STR – Knife Edge  
with Drywall Bottom Trim

Axiom drywall trim is set in place, then fastened using standard drywall screws applied through the taping flange of the trim into the drywall suspension system.

After installation, the trim is finished using standard drywall materials and techniques. Normally, the drywall and Axiom Knife Edge is then painted to meet job requirements.

#### 3.5 T-Bar Connector Clip Installation – Drywall

**IMPORTANT NOTE:** Use only the AX-V-TBC T-Bar Connector Clip for drywall applications.



AX-V-TBC

**3.5.1** Cut the clip off 1/16" above the score line for application of 1/2" drywall. Cut 3/16" above the score line (halfway between the score line and the bottom of the screw slots) when using 5/8" drywall.

**3.5.2** Attach the modified AX-V-TBC clips to the drywall suspension system using two framing screws for each clip.

**3.5.3** Install the Axiom Knife Edge trim and tighten clamping screws.

#### Typical Procedure - Drywall Applications

**3.5.4** Install drywall suspension system and Axiom Knife Edge trim

**3.5.5** Attach drywall to the system

**3.5.6** Install Axiom drywall trim

**3.5.7** Tape and finish drywall

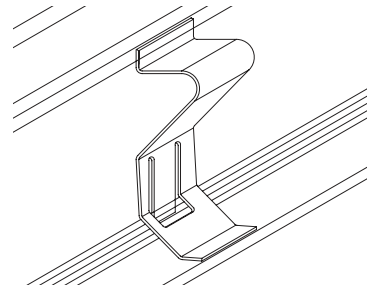
**3.5.8** Paint

#### 3.6 Hold Down Clip for Metal Panels

**3.6.1** Use the AXSPTHDC clip to hold the face of cut metal panels down on the flange of the Axiom trim.

**3.6.2** One clip will be required for about every foot of cut panel edge.

**3.6.3** Insert the top of the clip into the Axiom trim first, then press up on the clip and engage the lower end.



AXSPTHDC – Hold Down Clip

## 4. GENERAL INSTALLATION PROCEDURES

**4.1** Lay out and install the suspension system according to the reflected ceiling plan.

**4.1.1** Plan your suspension system layout to maximize the length of cross tees that will support Axiom Knife Edge components.

**4.1.2** Suspend the system using minimum #12 gauge steel wire spaced no more than four feet on center along the main beams. Additional wires may be required within eight inches of the cut ends of all suspension system components in areas where severe seismic activity is possible.

#### 4.2 Brace and square the suspension system.

**4.2.1** Although not absolutely necessary, bracing will greatly increase the speed and accuracy of completing the remainder of the installation, and is highly recommended.

**4.2.2** The suspension system can be braced diagonally to the structure above using either splayed wires, or rigid bracing members such as angles or cold rolled channels. In either case, install bracing in the plane of both main beams and cross tees.

**4.2.3** Squaring can be accomplished by temporarily clamping a rigid member (main beam or wall angle) diagonally across the topside of the suspension system to maintain 90° alignment of the main beams and cross tees.

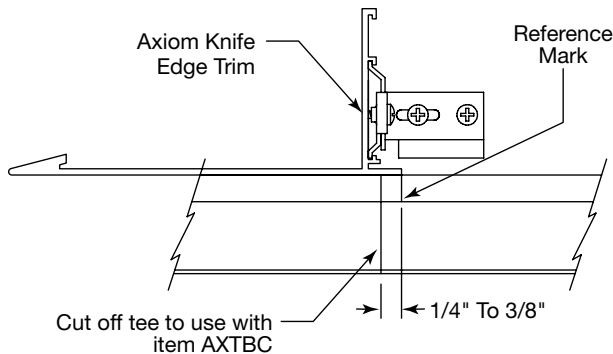
**4.2.4** An alternate method is to cut scrap suspension system components to fit diagonally into the ceiling module. When installed in pairs, these short braces are effective during layout and installation, and can be reinstalled on top of the ceiling panels to maintain alignment of the system.

**4.2.5** For small installations, it may be preferable to assemble, mark, and cut the suspension system components on the floor, and then suspend and brace the suspension system.

### 4.3 Assemble and position the Axiom® components on top of the suspension system.

**4.3.1** Temporarily assemble the Axiom components resting on top of the suspension system. Check alignment and clamp the components in place.

**4.3.2** Mark the location where the open side of the Axiom trim rests on the suspension system members. This mark will be used for initial alignment of the T-Bar Connector Clip.

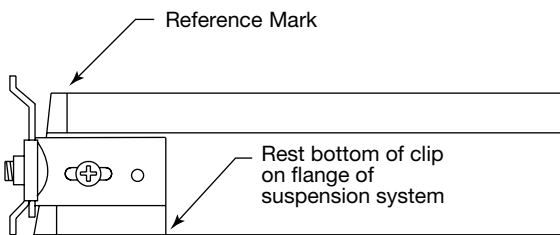


**4.3.3** Make a second mark approximately 1/4" closer to the face of the Axiom trim. This second mark is where the suspension system members will be cut.

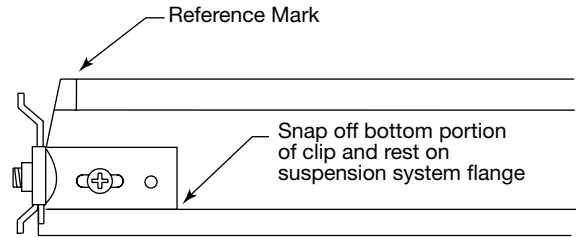
**4.3.4** Remove the Axiom components and cut the suspension system members as marked.

**4.3.5** Follow these guidelines for vertical location of the clips on the web of the suspension system members:

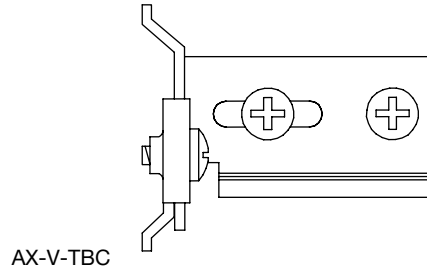
1. T-Bar suspension system that will rest on the lower flange of the Axiom trim



2. Silhouette®, Interlude®, Sonata®, and Trimlok® (systems with a 5/16" shoulder height) and 5/8" concealed tile on Prelude® suspension systems



3. MetalWorks™ Vector® (cut panels) and 3/4" concealed tile



4. Ultima®, Optima®, and WoodWorks® Vector (cut panels)

**4.3.6** Attach the clips by aligning the end of the elongated hole with the reference mark on the suspension system and inserting a standard framing screw into the center of the slot.

### 4.4 Install the Axiom Trim

**4.4.1** Hang the sections of channel trim onto the suspension system by engaging the top ear of the connection clips under the boss of the channel trim. Slide the back plate downward to engage the lower boss on the trim and secure by tightening the locking screw.

**4.4.2** Complete the installation of all channel trim sections. Install and secure the splices and alignment plates.

**4.4.3** Make adjustments as necessary to properly align the complete installation. Insert a second framing screw in each of the connection clips.

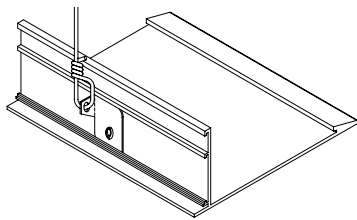
### 4.5 Add additional hanger wires as required.

**4.5.1** The manufacturer requires that Axiom systems and their supporting suspension systems be installed and supported in a manner that complies to all applicable codes and standards. Typically, this will require the use of #12 gauge galvanized, soft annealed steel wire or equivalent. Specification and approval of alternate materials should be by design professionals familiar with the project. Mechanics should exercise care in the application of hangers to minimize the visual impact on the finished installation. Wire wraps should be tight and neat, and where appropriate, the wires may be painted to blend into the background as much as possible.

**4.5.2** Main beams must be supported 4' on center or by calculation based on actual ceiling weight.

**4.5.3** Cross tees located on each side of a joint in the channel trim and then at 4' centers must be supported by wires located no more than 12" from the perimeter trim.

**4.5.4** For installations using Armstrong WoodWorks® panels, you must have two hanger wires connected to Hanging Clips (AX2HGC) on each section of Axiom® Knife Edge® trim. One hanging clip and wire is required for each welded corner.



AX2HGC – Hanging Clip

## 5. INSTALL RESTRAINT/SEISMIC BRACING

**5.1** Restraint for clouds installed on projects where anticipated seismic activity will be light (IBC seismic design categories A & B) can be accomplished by installing a pair of crossed cables 2' in from each edge of the assembly. These cables should attach to the support channels and be sloped no more than 45° from horizontal.

**5.2** In areas where anticipated seismic activity will be moderate to severe, the crossed cables should be replaced with a bracing system more appropriate for the forces that will be encountered.

**5.2.1** Testing conducted at the Structural Engineering Earthquake Simulation Laboratory, located at the State University of New York - Buffalo campus, produced satisfactory results with rigid bracing fabricated from 1/2" EMT conduit.

**5.2.2** The tested bracing system consisted of a vertical member extending from the support channel to the structure above near each corner of the cloud. These members were positioned at the main beam/support channel intersections closest to the corners of the assembly. Two additional members were fastened to the bottom of the vertical and extended to the structure at an angle not exceeding 45° from horizontal. These members were parallel to the sides of the cloud.

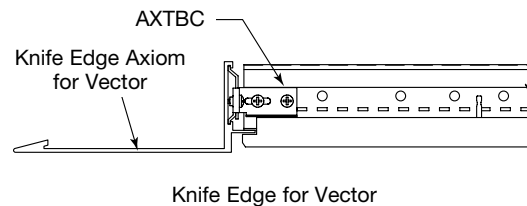
**5.2.3** Restraint/bracing systems should be approved by the project design team and reviewed with the local building department.

## 6. INSTALL CEILING PANELS, TILE, OR DRYWALL

**6.1** Cut and install tiles or panels using standard procedures for the specified products.

**6.2** Treat exposed cut edges of ceiling panels as detailed in the project specifications.

## 7. AXIOM KNIFE EDGE FOR VECTOR®



**7.1** Axiom Knife Edge for Vector is only appropriate for square or rectangular applications that feature all full-size panels.

**7.2** Cut and install the suspension system to maintain precisely 23-1/16" between the outer edge of the 15/16" T-Bar suspension system and the inner edge of the Axiom trim.

**7.3** The correct length for the Axiom trim, when measured along the inside edge, will be 15/16" less than the nominal dimension of the full panel installation.

**EXAMPLE:** The nominal dimension of a four panel wide cloud would be 96". The Axiom trim should be cut to 95-1/16" measured along the inside edge of the flange that supports the suspension system.

**7.4** Use standard AXTBC clips to attach the trim to the suspension system.

**7.5** Brace the suspension system to structure as required by local codes and to maintain straight and square alignment.

## 8. FINAL DETAILING

**8.1** Check and adjust the alignment of Axiom components and ceiling panels.

**8.2** Clean exposed surfaces as required. Painted Axiom components may be wiped down with a mild household cleaner to remove fingerprints, oil, etc.

**8.3** Touch up painted components as required.

**8.4** Axiom components with drywall are typically painted after assembly, taping, and finishing.

**8.5** For light cove applications, a white latex chalk or tape should be applied to the inside of all seams, if light leaks are apparent.

## MORE INFORMATION

For more information, or for an Armstrong Ceilings representative, call 1 877 276 7876.

For complete technical information, detail drawings, CAD design assistance, installation information, and many other technical services, call TechLine customer support at 1 877 276 7876 or FAX 1 800 572 TECH.

For the latest product selection and specification data, visit [armstrongceilings.com/commercial](http://armstrongceilings.com/commercial).

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