

FORMATIONS™ with Drywall Suspension System

Assembly and Installation Instructions

1. DESCRIPTION

1.1 Formations™ with Drywall Suspension System Kits are pre-manufactured kits designed to make job site installation quick and easy. They use 5/8" drywall and range in size from 4' x 4' to 14' x 14'.

1.2 Included in the kit are:

- Axiom One-piece Drywall Trim with factory-cut end details to form a cloud to the required size
- Drywall suspension components cut-to-length to provide 24" spacing between framing components
- Aircraft cable, cut to 10' length, plus cable hardware, in the amount required for the installation
- StrongBack™ Carrying Channel, cut-to-length to accommodate installation of the aircraft cable, 24" (12" on 4' wide clouds) from the vertical face of the Axiom trim
- Axiom splices to join together sections of Axiom trim
- Axiom Connector Clips to join suspension system components to the Axiom trim
- 8" pieces of AXDWT for placement where support framing from behind is required
- Axiom component diagram to properly position perimeter trim sections

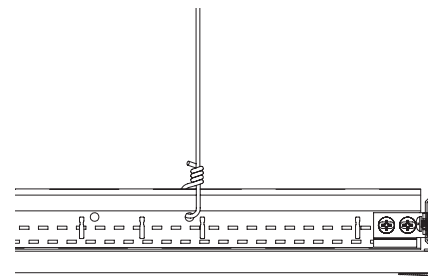
NOTE: Pop rivets, screws, and hardware required for attachment to the structure are not included. 5/8" drywall is not included in the kit.

Kits contain all of the components required to construct and hang a complete cloud except for the drywall and the screws or pop rivets needed to attach the clips to the suspension system members.

1.3 Most building codes require non-structural building components to be restrained. Armstrong also recommends restraint in accordance with local building code requirements. Please consult with the building code professional having jurisdiction over the project to determine appropriate restraint requirements for this installation. Restraints are not included in this kit.

1.4 Formations, as with other architectural features located in the ceiling plane, may obstruct or skew the existing or planned fire sprinkler water distribution pattern, or possibly delay the activation of the fire sprinkler or fire detection system. Designers and installers are advised to consult a fire protection engineer, NFPA 13, and their local codes for guidance on the proper installation techniques where fire detection or suppression systems are present.

2. INSTALLATION



Drywall Interface

3. PRE-ASSEMBLY

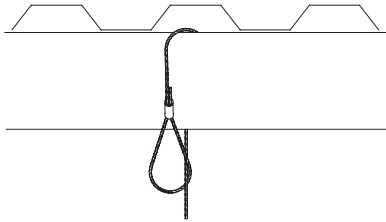
3.1 Study the layout drawing for the cloud and verify that kit contents are complete. Call 800-840-8521 to request replacements for missing components.

3.2 Review the location of the StrongBack Carrying Channels. They will be located 2' from the longest side of the cloud and then 4' on center (note that in some instances, this pattern will result in two StrongBack Carrying Channels being positioned 2' from one another at the center of the cloud).

4. ATTACH HANGING CABLES TO STRUCTURE

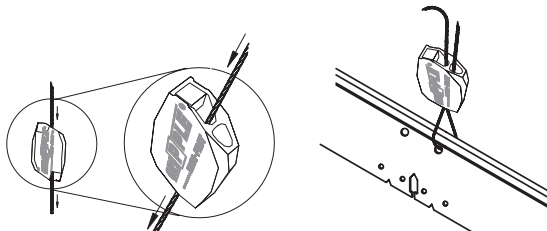
4.1 Hanging cables (item AC1210) are located along the length of the StrongBack™ Carrying Channel starting 1' from the end (2' from the edges of the cloud) and then 4' on centers (note that in some instances, this pattern will result in two hanging cables being positioned 2' from one another at the center of the cloud).

4.2 Hardware for the attachment of the cable to the building structure is not provided. Cables are fitted with a loop at one end that is to be cinched to mounting hardware appropriate for the surface to which it is attached. Select hardware that will be capable of supporting a minimum of 200 pounds.



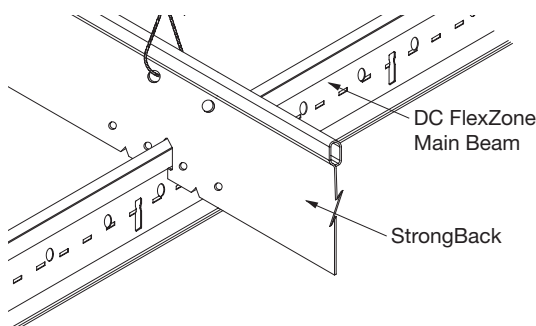
5. HANG STRONGBACK CHANNELS

5.1 Attach the Axiom® StrongBack Hanging Channels (items SH4, SH6, SH8, SH10, SH12) to hanging cables using the adjustable “Quick Loop” connectors (item ACHC) provided with the kit. Insert the cable through one end of the connector and then through the appropriate hanger wire hole on the support channel. Slide the cable back through the “Quick Loop” connector and adjust to the correct elevation. Follow the instructions provided with the connectors if it becomes necessary to release the cable from the connector.

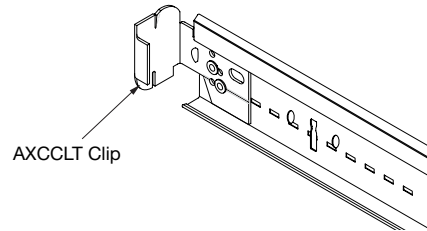


6. INSTALL MAIN BEAMS

6.1 Install drywall grid main beams into the appropriate notches on the StrongBack Hanging Channels. The first main beam will be 1' from the end of the channel and the remainder will be placed at 2' centers. Slide the main beam through the notches or bend the tab on one side of the notch out of the way so that the main beam can be installed from below. Bend the tab back into position under the bulb of the main beam.

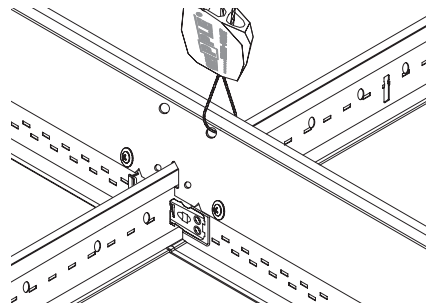


6.2 Attach Axiom Cross Tee Clips (item AXCCLT) to each end of each main beam by positioning as shown in the drawing below. The top of the clip should touch the bottom of the bulb of the suspension system and the end of the main beam should contact the thumb nail stop on the clip. Secure each clip with two pop-rivets or #8 sheet metal screws.

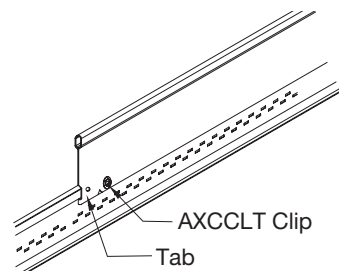


7. INSTALL TEES

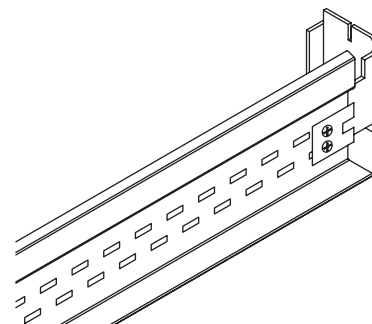
7.1 Install 2' cross tees between main beams. After all cross tees have been installed, slide the StrongBack Hanging Channel along the main beams so that it rests against the cross tees. Screw the support channel to the cross tees by inserting a #8 x 9/16" sharp point sheet metal screw into the holes on each side of the main beam as shown in the drawing below.



7.2 Bend the tabs at the ends of the StrongBack Support Channel as shown so that they will fit under the bottom of the bulb of the cross tees and secure with a #8 x 9/16" screw.



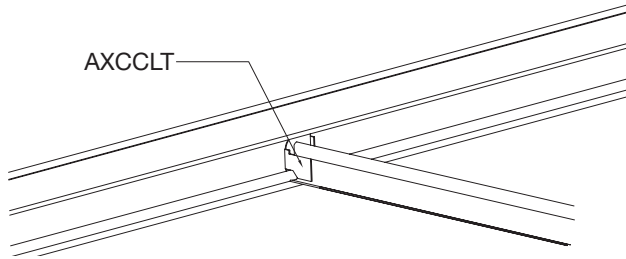
7.3 Cut away the end detail on the cross tees that will engage the Axiom trim. Attach an Axiom Cross Tee Clip to the end of each cross tee as shown.



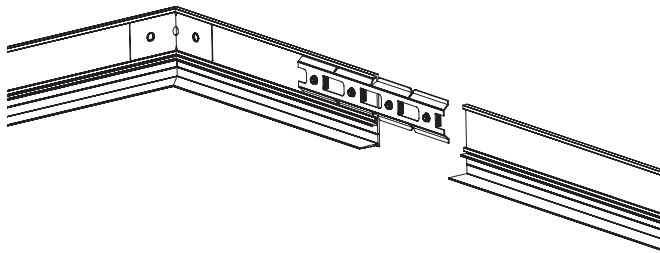
8. INSTALL AXIOM® TRIM

8.1 Use the assembly drawing provided to arrange the Axiom trim sections in the proper sequence. Mark the locations for the center line of the suspension system members on the inside of the trim as follows: The first cross tee or main beam should be located 24-5/16" from the ends of the trim. Remaining parts will be located 24" on center.

8.2 Twist the grid member, with the Axiom Cross Tee Clip attached, and engage it into the bosses on the Axiom trim. Hold the tab on the clip with a pair of pliers and lock in place by twisting in the clockwise direction.



8.3 Repeat this process for all clips. Adjust the position of the installed suspension system members by tapping to align with center line reference marks.



8.4 Connect sections of Axiom trim with splice plates as required. The supplied assembly drawing will show the correct quantity and location for splice plates. Corner splices must be bent to 90° before assembly.

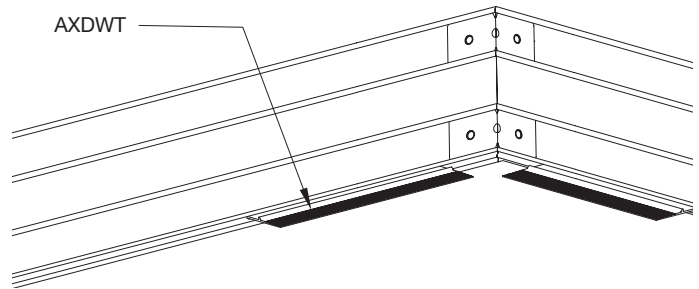
8.5 To eliminate excessive taping joints on smaller sized clouds, the last piece of Axiom trim can be left off, allowing the drywall to slide into place.

8.6 DO NOT OVERTIGHTEN SETSCREWS. Excessive torque will result in deformation of the trim that will show on the finished surface.

9. INSTALLING DRYWALL

9.1 Drywall can be cut to size and slid into place from the end of smaller clouds requiring less cutting of the drywall. Once in place, the final side of the Axiom can be installed and tightened from above. Now you are ready to screw the drywall in place.

9.2 First, place the 8" pieces of AXDWT behind the drywall in the groove on the Axiom as shown below. This will provide backing to screw the taping flange between framing members and at Axiom splice joints. There should be two in each corner and one between each cross tee as shown.



9.3 Using #6 fine thread drywall screws, attach drywall to framing no less than every 12".

9.4 Once complete, you are ready to tape, spackle, sand, and finish. Fiberglass self-adhesive drywall tape will cut taping time and help to avoid possible cracking.

9.5 The Axiom Perimeter trim is prepped and ready for primer and paint.

10. INSTALL RESTRAINT/SEISMIC BRACING

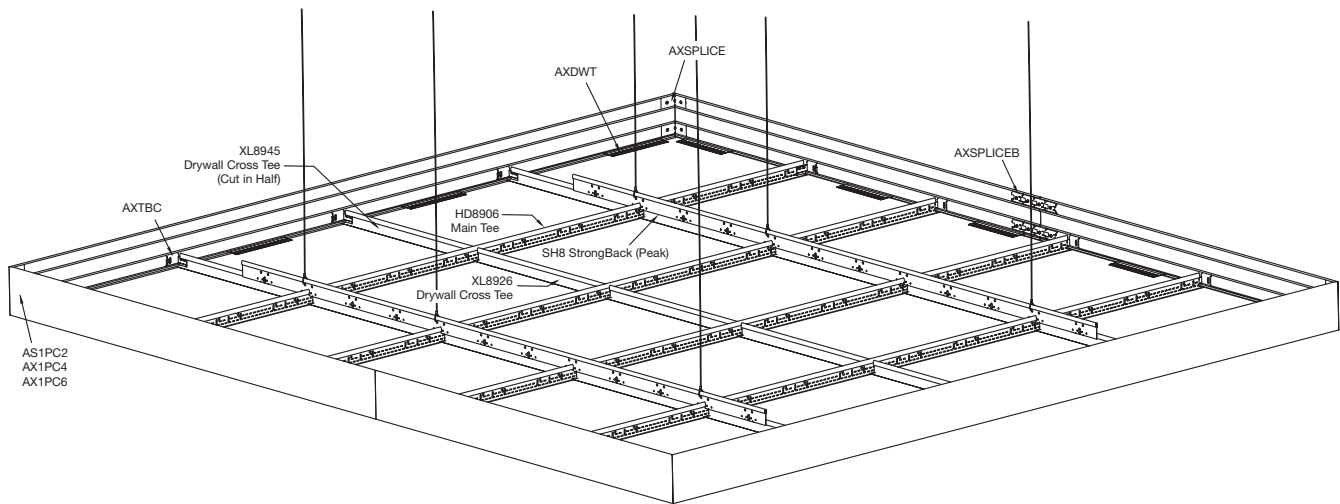
10.1 Restraint for clouds installed on projects where anticipated seismic activity will be light (IBC seismic design categories A & B) can be accomplished by installing a pair of crossed cables 2' in from each edge of the assembly. These cables should attach to the support channels and be sloped no more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

10.2 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.

10.3 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.

10.4 The tested bracing system consisted of a vertical member extending from the support channel to the structure above 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.

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



MORE INFORMATION

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

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

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BPLA-297902-413

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