Skylo™ 2" Walkable Suspension System

Assembly and Installation Instructions

Hardware to Be Purchased Separately:

- **3/8"-16 threaded rod for suspension from structure**

IMPORTANT: Do **not** remove the suspension system from the carton until you have read these instructions in their entirety.

1. SYSTEM OVERVIEW

1.1 Skylo™ Walkable Ceiling Systems are designed and constructed to support the weight of personnel and equipment. These systems provide interstitial space for HVAC systems, lighting, and other utilities, allowing for easy maintenance without compromising the cleanroom environment of the space below. This reduces downtime and eliminates the need for scaffolding or lifts. The diagram in ***(Fig 1)*** provides an overview of the Skylo suspension system components, clips, and accessories.

IMPORTANT: Skylo brackets are designed for use exclusively with Skylo ceiling systems. They are engineered for specific duty loads as specified in the load charts provided in the Skylo data pages.

The Skylo system shall be designed and certified by a Professional Engineer (PE) licensed in the jurisdiction where the project is located and must comply with all applicable building codes, standards, and regulations.

Armstrong is not liable for improper use or installation of Skylo components. Refer to Section 4 for allowable load information for the suspension system.

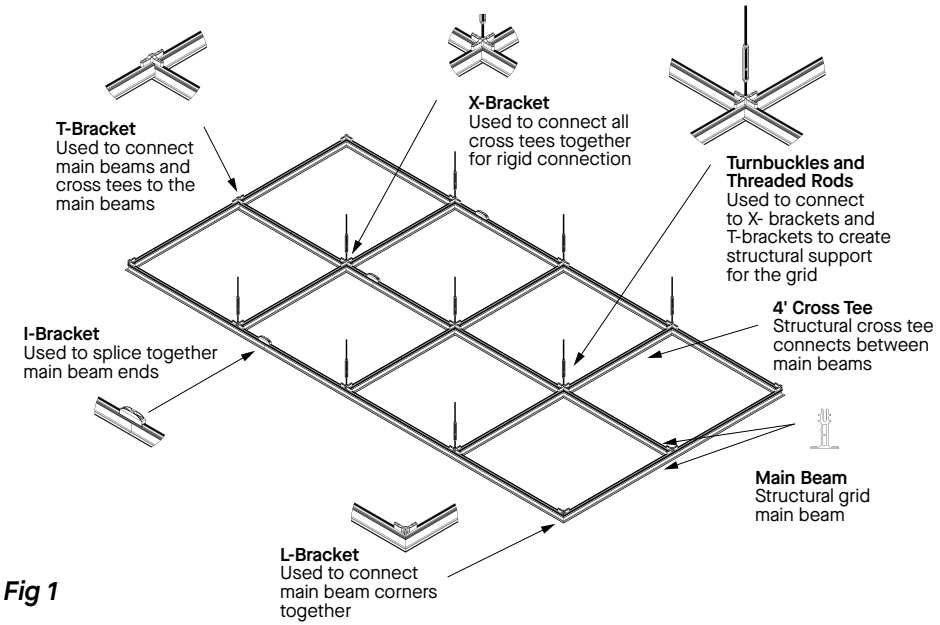

Fig 1

1.2 Skylo Walkable Ceiling Systems are designed to be installed with 3/8"-16 threaded rod suspended from structure.

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1.3 Plan the installation layout by marking the locations of hanger rods, main beams, and cross tees. Identify any mechanical equipment or utilities that will be supported overhead and could obstruct ceiling installation.

Follow the specified locations for threaded rods, hangers, main beams, and cross tees as directed by the specifying architect or engineer.

When plumb threaded rod drops are not possible, suitable subframing (trapeze) may be required ***(Fig 2)***. This sub- or trapeze framing must be specified by a structural engineer to ensure that all members are adequately designed to support the designed loads.

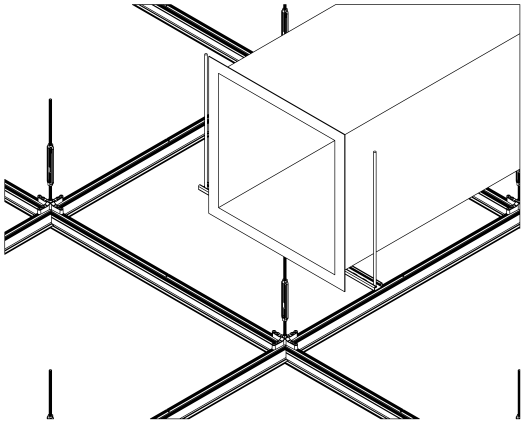


Fig 2

2. CEILING PERIMETER

2.1 Install threaded rods along the wall at the ceiling perimeter. The Skylo Main Beam is used as the ceiling perimeter member, running parallel to the wall. The main beam is suspended from the threaded rods using T-brackets. Maintain a minimum clearance of 1" between the wall and the perimeter main beam to allow for proper turnbuckle adjustment ***(Fig 3)***. Use wall molding to create a seal with the perimeter main beam flange. Fasten the perimeter wall molding with an appropriate fastener suitable for the wall substrate.

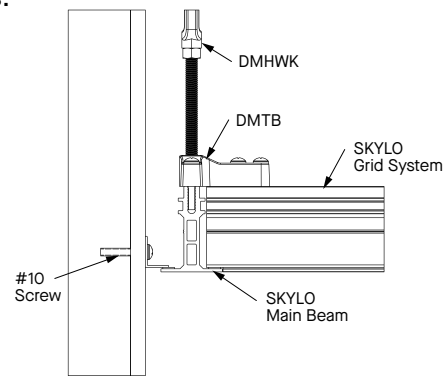


Fig 3

2.2 All cross tees and main beams are to be connected to the perimeter main beam with a T-Bracket (DMTB), using the provided 1/4"-20 screws ***(Fig 4)***. Screws must be fully seated but not over-torqued (maximum 100 in-lb) to avoid damage to the threaded channel. Perimeter main beams are joined together using a Main Beam Splice.

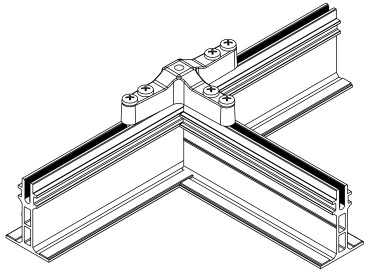


Fig 4

NOTE: Perimeter cross tees can be butt-cut to ensure face alignment at nonstandard grid spacings. At corners, perimeter main beams shall be mitered and joined together using an L-Bracket (DMLB) ***(Fig 5)***.

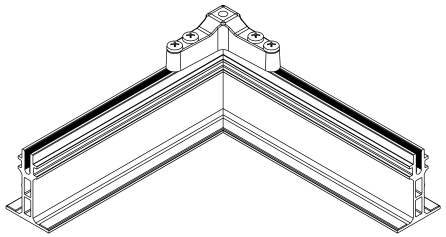


Fig 5

3. CEILING FIELD

3.1 Install 3/8"-16 threaded rod hangers into the supporting structure, following anchor manufacturer's recommendations. Threaded hanger rods must be installed plumb with the X-Bracket (DMXB) in all main beam-to-cross tee intersections at 4' O.C., unless otherwise specified.

3.2 As an alternate to stick framing, the ceiling suspension system may be prefabricated in panelized 4' × 12' modules using a jig table or template. A jig can be used to align and square the main beams and the cross tees within each module. The X-Bracket (DMXB) and I-Bracket (DMIB) feature alignment stubs on the underside to aid self-squaring. For each module, Skylo main beams are spaced 4' O.C. ***(Fig 6)***.

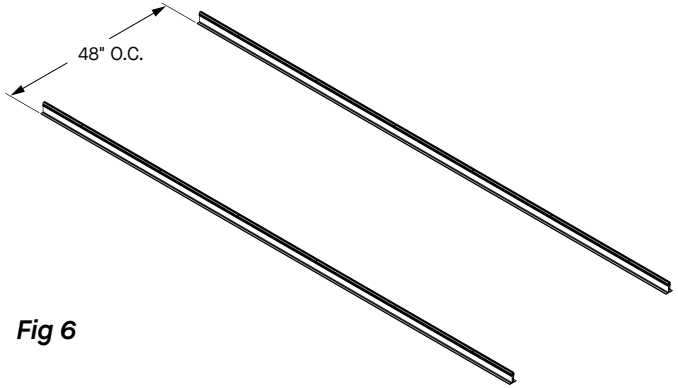


Fig 6

NOTE: The main beams are symmetrical. The 4' cross tees are placed 2' or 4' O.C. ***(Fig 7)*** and are aligned to the notches located at the top of the main beams. Main beams are notched every 2' O.C. starting at 1' from the end to facilitate faster installation, and eliminate the need for jobsite measuring and marking.

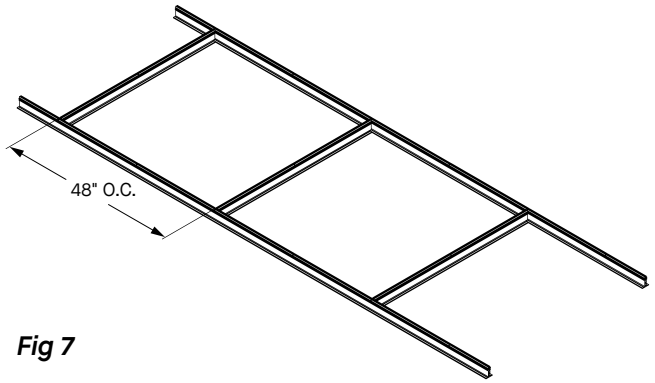


Fig 7

3.3 Insert X-Bracket (DMXB) at every intersection of main beam and cross tee. The DMXB is secured to the main beam and cross tee using the provided 1/4"-20 screws ***(Fig 8)***. Screws must be fully seated but not over-torqued (maximum 100 in-lb), to to prevent thread damage.

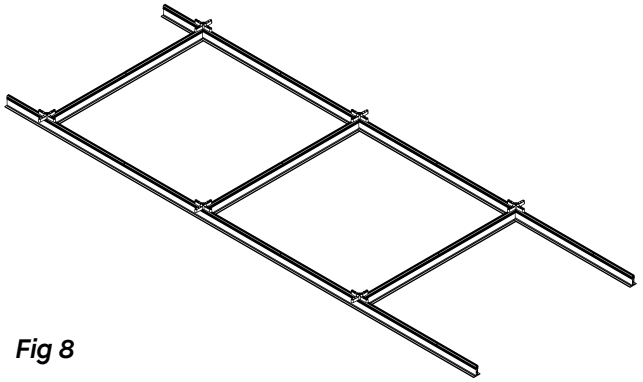


Fig 8

3.4 Cut threaded rod hanging from the deck 11" above the finished ceiling height. Install threaded rods, nuts, and turnbuckles into the X-Bracket (DMXB) every 4' O.C. The threaded starter-rods must be fully engaged with the DMXB and it is recommended that three threads are exposed in the turnbuckle ***(Fig 9)***.

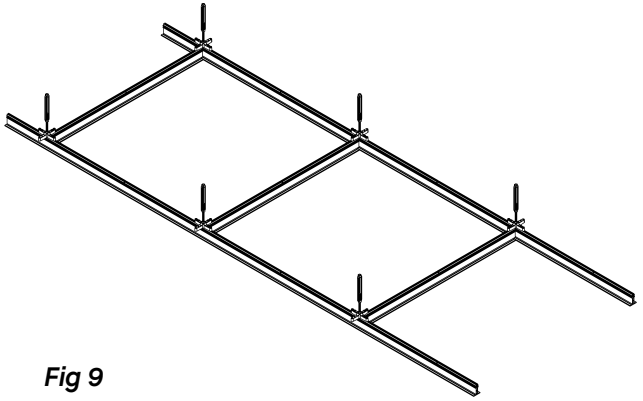


Fig 9

NOTE: Threaded starter rods are directional — with 1" of right-hand (RH) threads inserted into the X-Bracket and 3" of left-hand (LH) threads inserted into the turnbuckle.

A LH jamb nut is provided and must be installed onto the threaded starter rod before attaching to the turnbuckle.

3.5 Raise each module to the threaded rod drops and attach using the turnbuckles ***(Fig 10)***. Ensure at least three threads are exposed inside the turnbuckle from the ceiling rod drop. Failure to meet this requirement can compromise the integrity of the system. The ceiling height can be adjusted using the turnbuckles ***(Fig 11)***. After ceiling height is set and leveled, lock the turnbuckle in place using the jamb nut on the threaded starter rod.

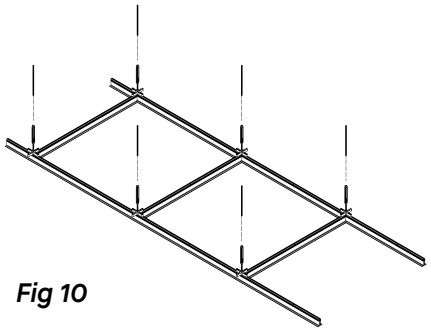


Fig 10

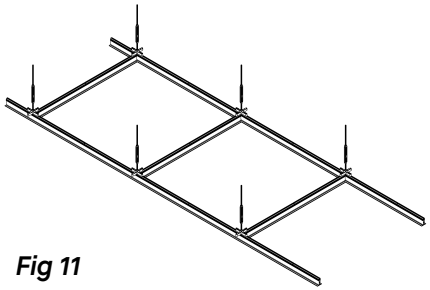


Fig 11

NOTE: The 12' × 4' modules are directional. One end of the module will have the turnbuckles and the other ends will not. Ensure the modules are the correct direction before suspending.

3.6 Suspend the other modules in the same row, adjusting the height and level of each module as you proceed ***(Fig 12)***. At locations where the main beam ends butt together, install the main beam splice using the provided 1/4"-20 screws. Screws must be fully seated, but not over-torqued (maximum 100 in-lb), to avoid damage to the threaded channel.

NOTE: It is acceptable to align splices throughout the installation; staggering is not required. However, each splice must be supported by a threaded rod support within 12" of the splice.

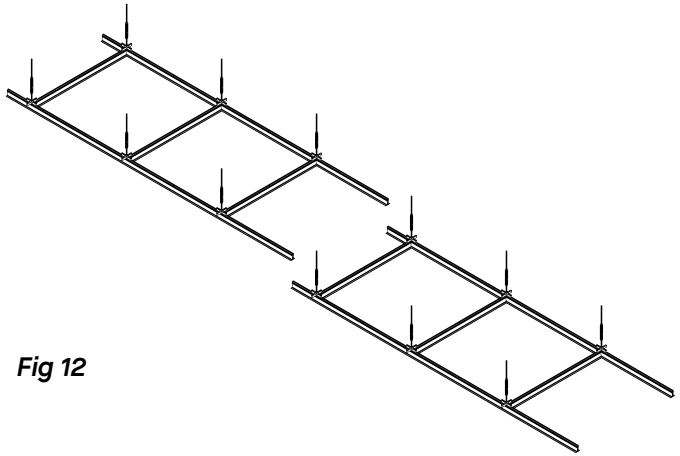


Fig 12

3.7 Ensure the Main Beam Splice (DMMBS) is roughly centered, and install 3 screws into each main beam ***(Figs 13A & 13B)***.

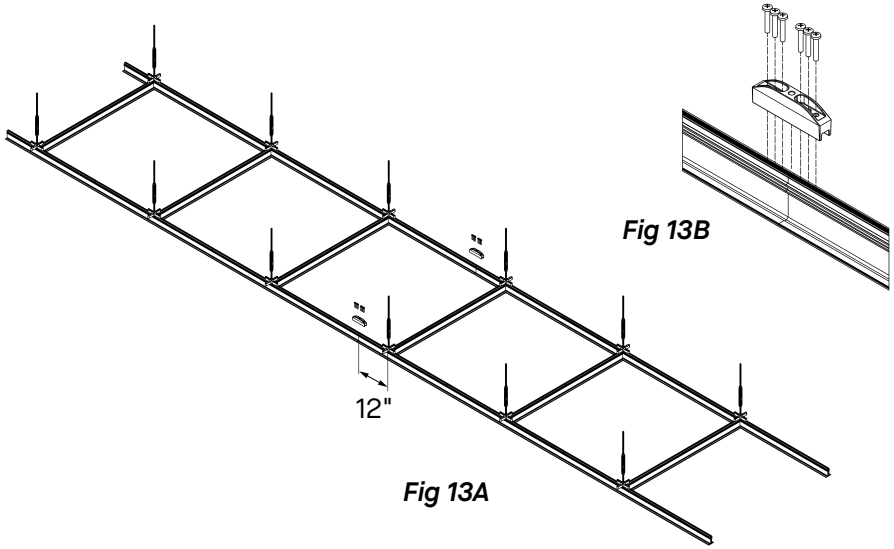


Fig 13B

Fig 13A

3.8 Depending on layout, it may be required to install off-module cross tees ***(Fig 14)***. Secure the cross tee at every intersection using a T-Bracket (DMTB) and the provided 1/4"-20 screws ***(Fig 14B)***. Screws must be fully seated but not over-torqued, to avoid damage to the threaded channel.

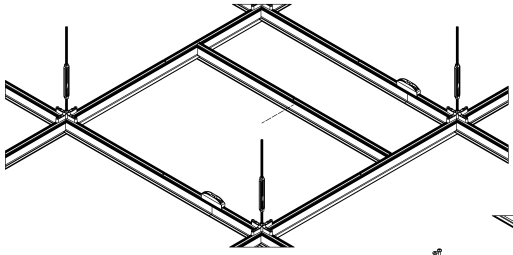


Fig 14A

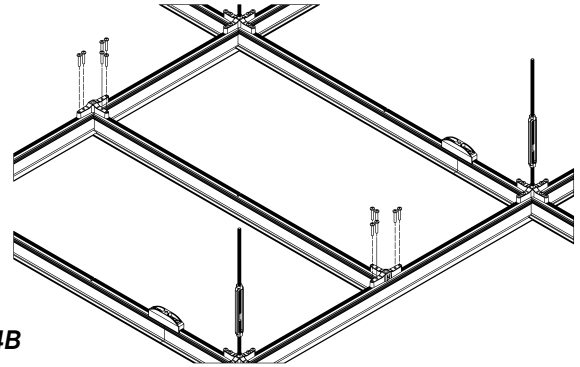


Fig 14B

3.9 Each run of modules is installed 4' apart, with 4' cross tees connecting adjacent runs. Insert the 4' cross tee between the modules and slide under the X-Bracket (DMXB) ***(Figs 15A & 15B)***.

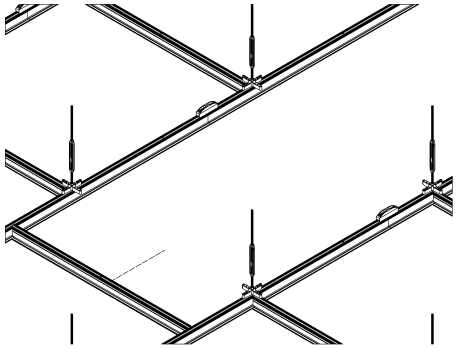


Fig 15A

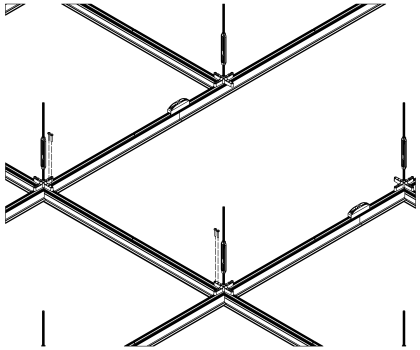


Fig 15B

3.10 Secure each 4' cross tee to the main beam at every intersection using X-Bracket (DMXB) and the provided 1/4"-20 screws ***(Fig 16)***. Screws must be fully seated but not over-torqued (maximum 100 in-lb), to prevent damage to the threaded channel.

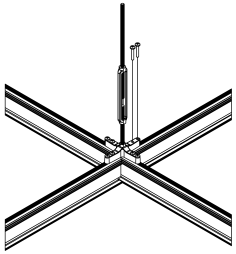


Fig 16

4. LOAD CHARTS

Skylo Walkable Ceiling Systems support a uniform load using 3/8"- 16 threaded hanging rods at 4' × 4' connection points. For all structural load data please refer to the Skylo Data Pages, found at: ww.armstrongceilings.com/skylo

5. SEISMIC CONSIDERATIONS

There are multiple recommended options for bracing the Skylo system against lateral seismic loading ***(Figs 17A, 17B, 17C)***. The seismic analysis and lateral bracing shall be designed and certified by a Professional Engineer (PE) licensed in the jurisdiction where the project is located, and must comply with all applicable building codes, standards, and regulations.

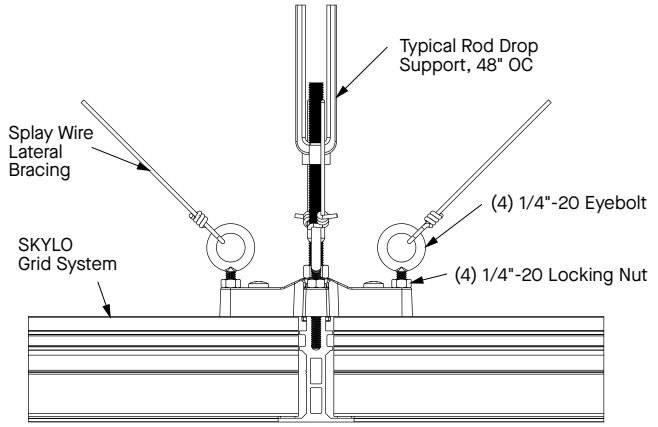


Fig 17A

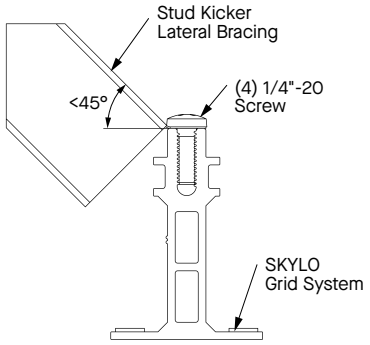


Fig 17B

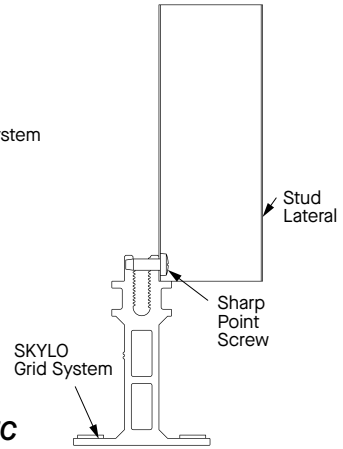


Fig 17C

6. HOLD-DOWN CLIPS

Hold-down Clips for the Skylo Ceiling System are screw-attached to the suspension system main beam and cross tee members with the provided 1/4"-20 screws. Screws must be fully seated but not over-torqued (maximum 100 in-lb), to prevent damage to the threaded channel. Depending on the panel thickness being installed, different hold-down clip sizes must be used ***(Fig 18A)*** or ***(Fig 18B)***.

Fig 18A

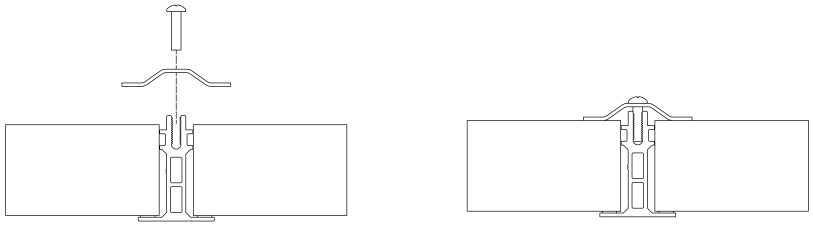
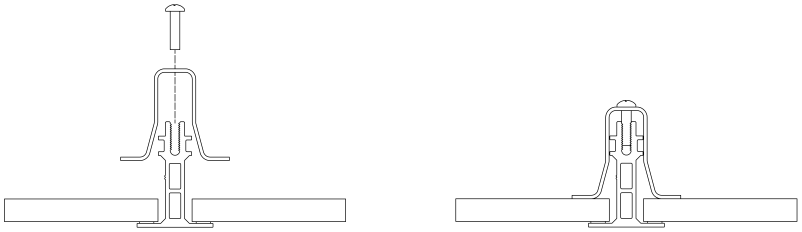


Fig 18B



MORE INFORMATION

For more information, or for an Armstrong Ceilings representative, call 877 276-7876.
For complete technical information, detail drawings, CAD design assistance, installation information, and many other technical services, call TechLine customer support at 877 276-7876.

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