

SLS0159

A delicately scaled, modular system of interconnected elements and suspended LED luminaires.

suspenders[®]

custom assembly instructions

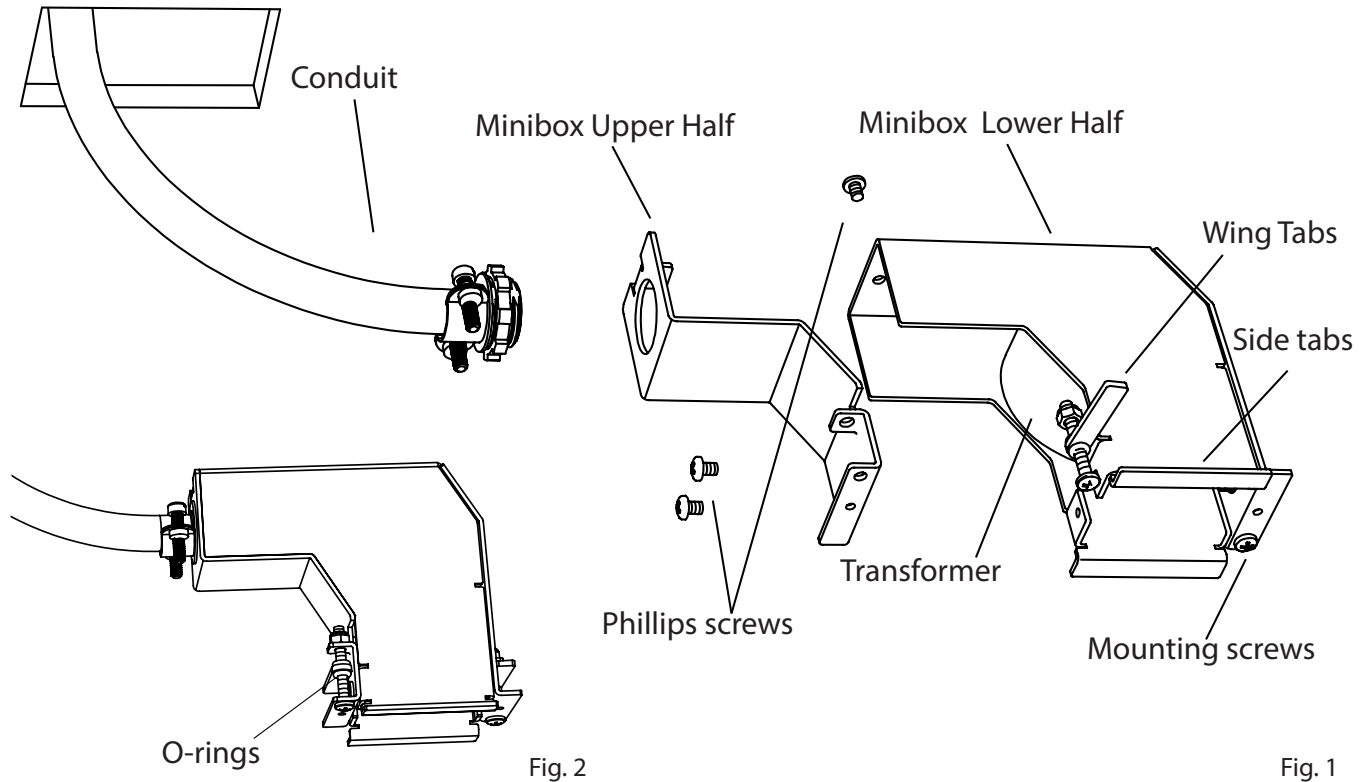
SONNEMAN[®]
A WAY OF LIGHT

Suspenders® Product Information and Warnings

Important

- **Always disconnect the power before installing or replacing Luminaires and before cleaning or other maintenance.**
- **Consult a qualified, licensed electrician to ensure correct branch circuit conductor.**
- Please read all included assembly instructions and warnings carefully before installation. Contact Customer Service if you have any questions or concerns. Before installation, please confirm that the fixture is compatible with your supply voltage and dimming system, if present.
- LEDs are highly sensitive electronic devices, and must be treated with care. Do not open any factory sealed compartments, and avoid touching the LEDs with your hands or any object.
- Although all our fixtures are equipped with protective devices, LED electronic systems are vulnerable to power surges and supply variations. Do not install LED fixtures on the same circuit as any motors, appliances, or HVAC systems.
- Do not remove or bypass any LED Driver or Transformer that is provided with the fixture, and do not replace or substitute with another power supply.
- Remote Transformer installation must be done by a licensed electrician and in accordance with local building and electrical codes. Remote installations should be in an accessible location, as close to the fixture as possible. The appropriate wire gauge must be used to limit the voltage drop to no more than 5%.
- Fixtures must be wired in parallel on independent leads; do not "daisy chain" multiple fixtures together or wire them in series.
- All factory-made splices and connections must remain intact. LED circuits are carefully designed and built, and improper connections may damage the fixture.
- Any mounting hardware is provided for your convenience and should be used with discretion. Always use the appropriate hardware for the mounting surface.
- To avoid excessive voltage drop, the longest electrical path from the Power Feed to the furthest Luminaire should not exceed 30 feet.
- Suspenders® transformers can be loaded up to 80% of their rated wattage.
- Suspenders® transformers feature short-circuit protection with automatic recovery, and will resume operation once the short-circuit condition is removed.
- Suspenders® transformers have 24VAC output, and are dimmable with Electronic Low Voltage dimmers ONLY.
- Suspenders® must be installed in dry locations ONLY.

Step 1: Power Feed



1. **For remote transformer use:** The **Transformer** must be installed in an accessible location in accordance with local electrical codes. You must use the appropriate wire gauge from the Transformer to the Power Feed to limit the voltage drop to less than 5%.
2. Shut off power to the branch circuit conductor.
3. Cut an opening in the mounting surface (minimum 3/8" thick) that measures 1.5" wide by 2.75" high. (Fig. 1)
4. Pull **1/2 trade size flexible metal conduit or building cable** through the opening. (Fig. 1)
5. Remove the three **Phillips screws** and separate the Minibox into **upper and lower halves**. (Fig. 1)
6. Remove the knockout tab from the upper half and attach the cable/conduit to the knockout opening using appropriate connectors (Note: Cable/conduit and connectors not included). (Fig. 1)
7. Make appropriate electrical connections using wire nuts:
 - a. Connect the Transformer's live wire (black) to the live outlet box wire.
 - b. Connect the Transformer's neutral wire (white) to the neutral outlet box wire.
 - c. Connect the ground wire (green) to the outlet box ground screw.
8. Flip **wing tabs** inward so that the Minibox will fit into the drywall opening. (Fig. 2)
9. Reattach upper and lower halves by installing the three Phillips screws removed previously. (Fig. 1)
10. Loosen the two **mounting screws** on the front face of the Minibox until the gap between the wing tabs and the **side tabs** is greater than the thickness of the mounting surface. (Fig. 1)
11. Flip wing tabs inward so that the Minibox will fit into the drywall opening. (Fig. 2)
12. Slide **O-rings** along mounting screws so that they are flush against the wing tabs. (Fig. 2)

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13. Feed the Minibox into the wall opening at a slight angle (Fig. 3) until the **side tabs** are pressed against the mounting surface. (Fig. 3) While keeping the side tabs pressed against the mounting surface, secure the Minibox to the mounting surface by

tightening the two **mounting screws**. (Fig. 4)

14. Make appropriate electrical connections using wire nuts: Connect one of the black Power Feed wires to one of the transformer output wires. Connect the other black Power Feed wire to the second transformer output wire. Carefully place connections in the Minibox. (Fig. 5)

15. Attach **mounting bracket** to Minibox with two mounting screws. (Fig. 5)

16. Attach **Power Feed** to mounting bracket. Secure using **set screw** and included **Allen key**. (Fig. 6)

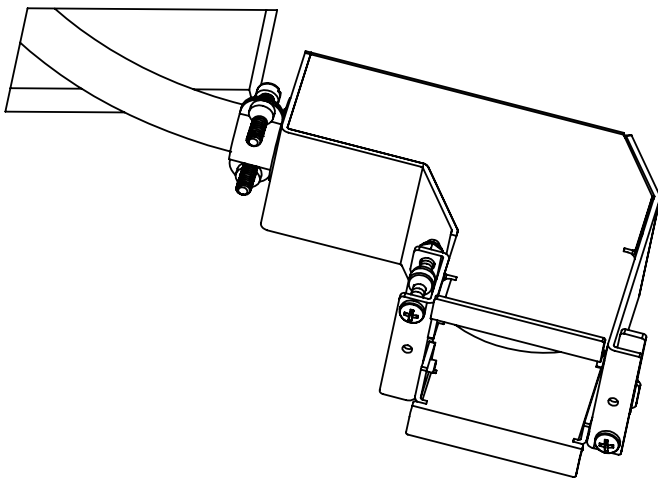


Fig. 3

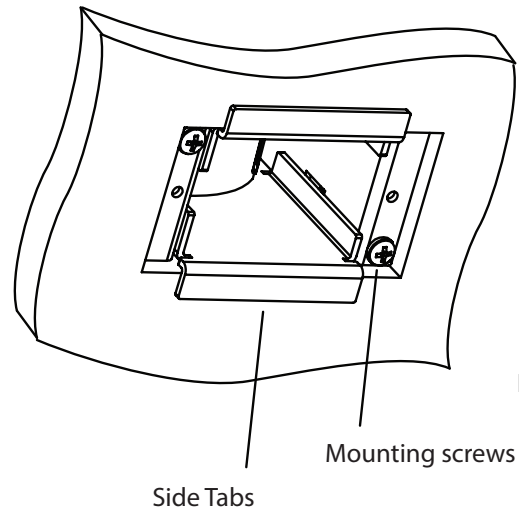


Fig. 4

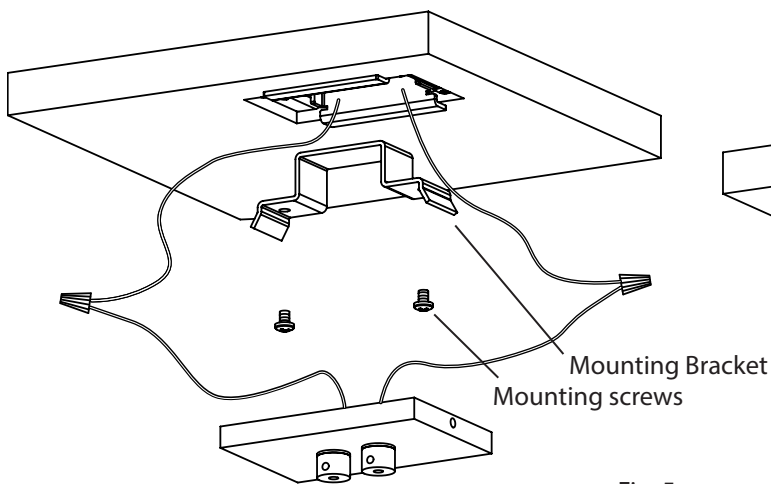


Fig. 5

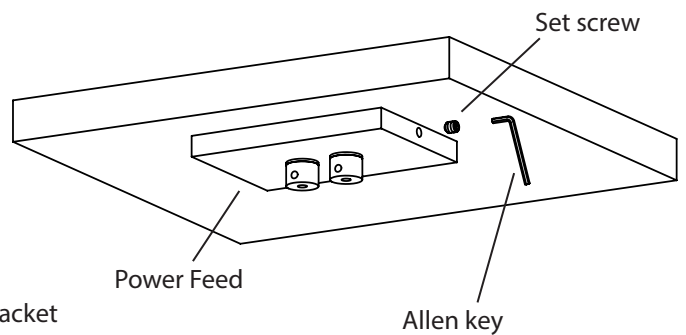


Fig. 6

Note

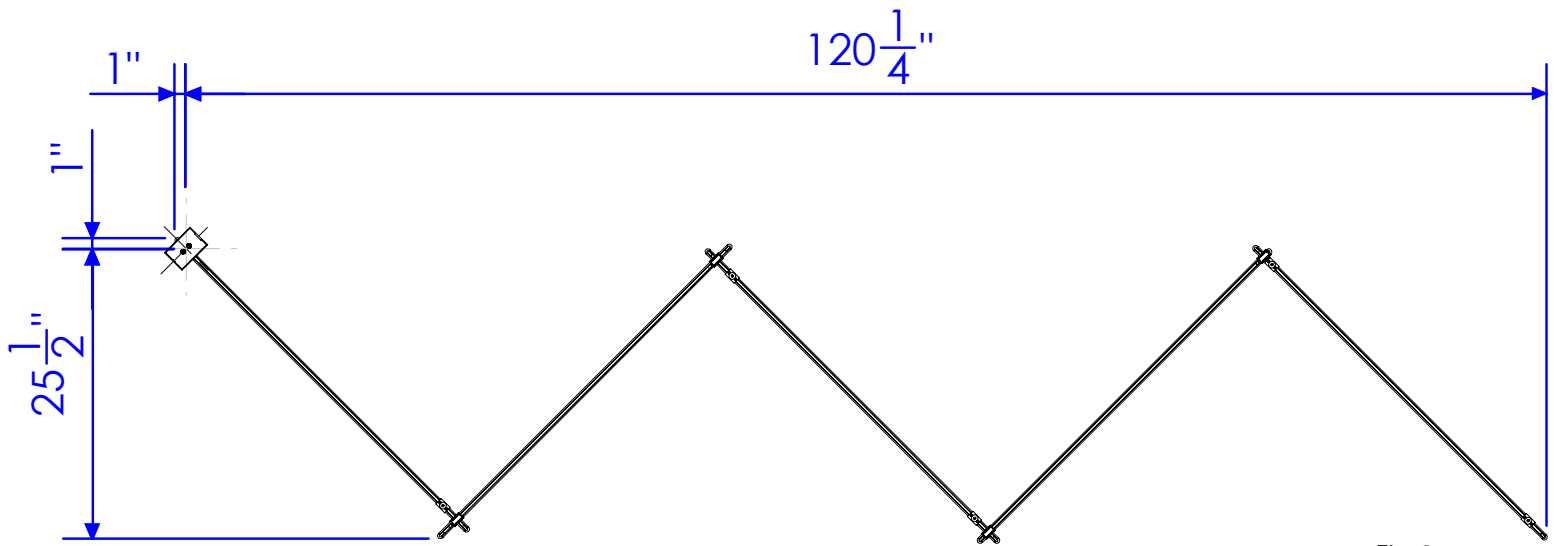
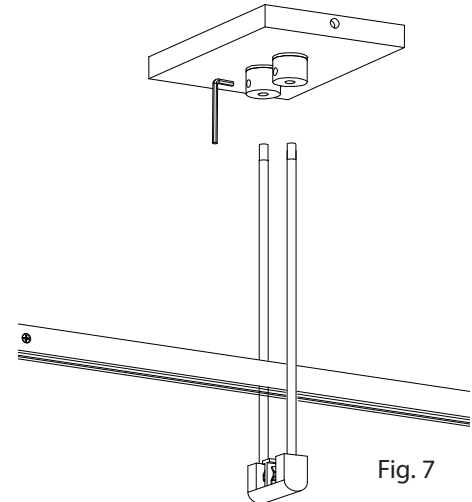
- This fixture is dimmable with **Electronic Low Voltage (i.e., Trailing-Edge/Reverse Phase) type dimmers ONLY.**

Step 2: Power Feed Hanger

Double Rod Power Feed Hanger:

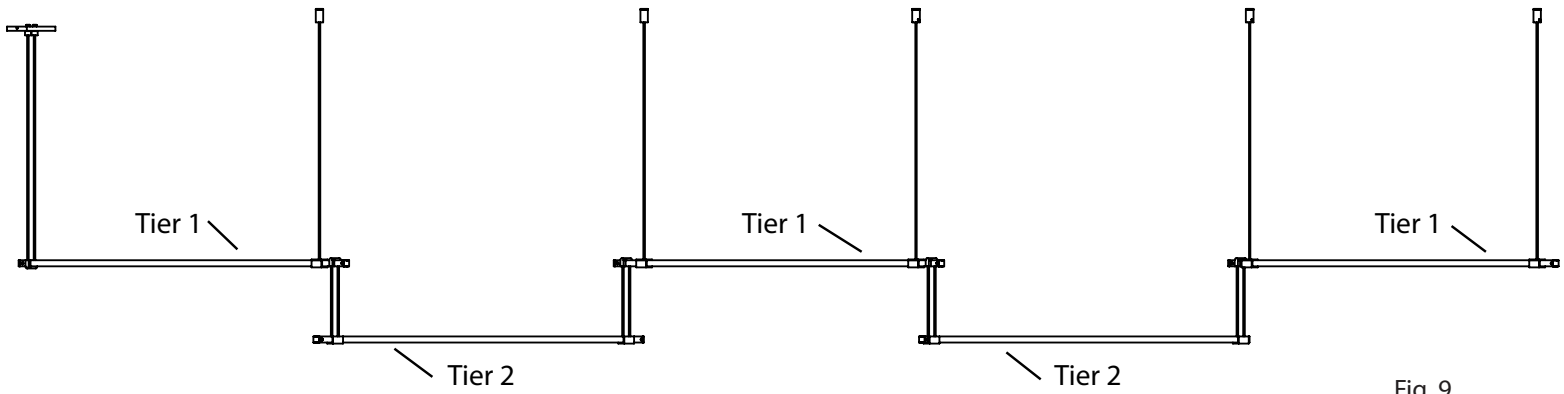
Install the Double Rod Power Feed Hanger onto the Power Bar by pressing down firmly on the top of the Power Bar, while pressing up on the bottom of the Hanger, until the Power Bar clicks into place. (Fig. 7)

1. Cut the rods to the desired length, and use the included sandpaper tool to remove 10mm (3/8") of the paint from the end of each rod.
2. Insert the rods into the Power Feed bushings. Secure by tightening the set screws with the included Allen key.



Reflected Ceiling Plan

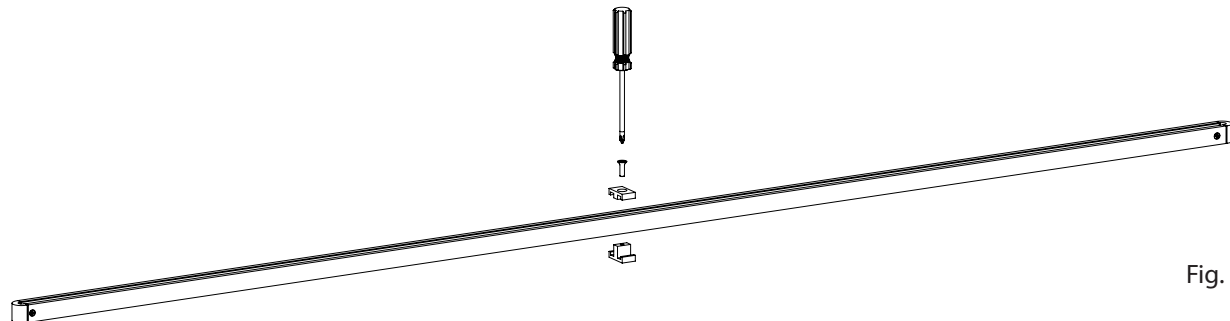
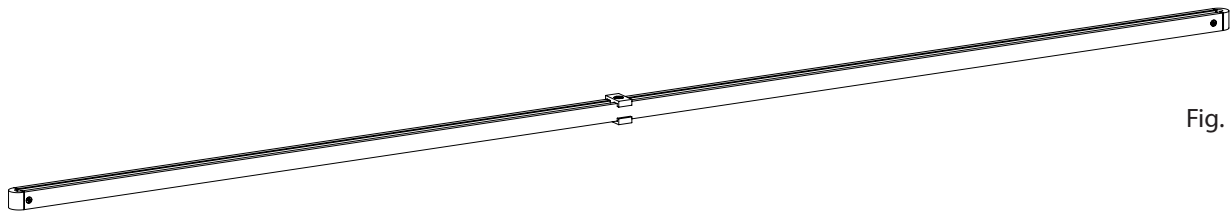
Tiers



Step 3: Power Bars

Linear Power Bar Assembly:

1. The Linear Power Bar comes with a spacer clip pre-installed at the center of the Power Bar. (Fig. 10)
2. If desired, the spacer clip can be removed using a Phillips screwdriver. (Fig. 11)



Step 4: Ceiling Hangers

Cable Ceiling Hanger Assembly:

1. Install the mounting bracket to the ceiling with anchor and screw, then screw the post onto the mounting bracket. (Fig. 12)
2. Pass the Ceiling Hanger cable through the Power Bar, then through the center hole of the cover, making sure the counter-sunk holes on the cover are facing up. Attach the cover to the Ceiling Hanger using the two small Phillips screws. (Fig. 13)
3. Insert the cable into the post and adjust to the desired length: to shorten, push the cable up; to lengthen, push in the plunger while pulling down on the cable, release the plunger to lock. Cut off the excess cable where it exits the post. (Fig. 14)

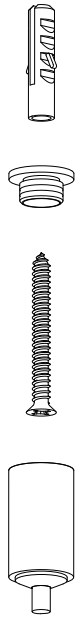


Fig. 12

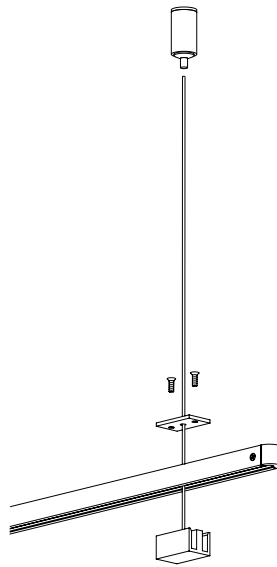


Fig. 13

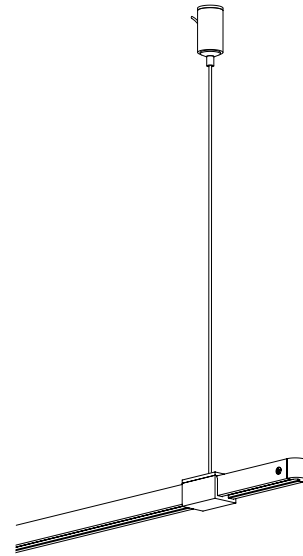


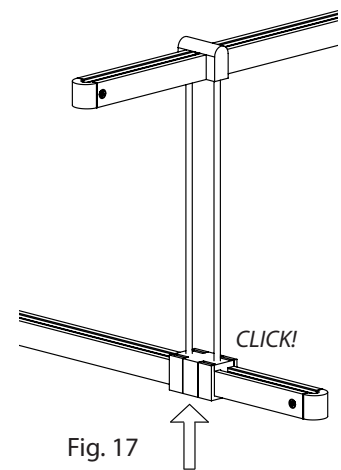
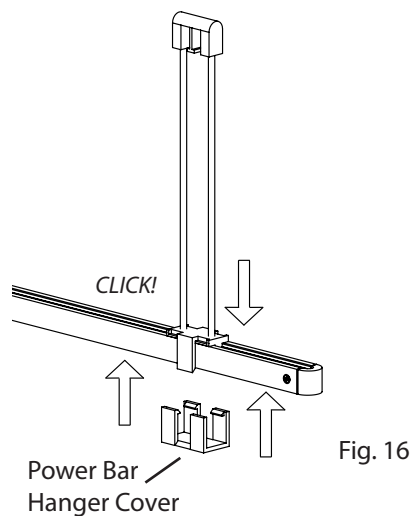
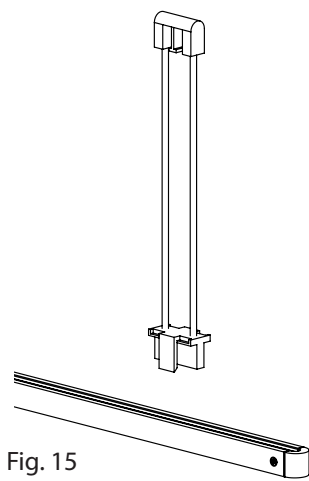
Fig. 14

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Step 5: Power Bar Hangers

Perpendicular Power Bar Hanger:

1. Press down firmly on the top of the Power Bar Hanger, while pressing up on the bottom of the Power Bar, until the Power Bar Hanger clicks into place. (Fig. 15)
2. Push up on the bottom of the **Power Bar Hanger Cover**, while pressing down on the bottom of the Power Bar, until the Power Bar Hanger Cover clicks into place. (Fig. 16)
3. Attach the second Power Bar the same way as for the Parallel Power Bar Hanger.
4. To remove the Power Bar Hanger Cover:
Spread the Power Bar Hanger Cover apart using the index and middle finger of each hand and pull down on the cover while pushing up on the Power Bars with the thumbs.



Tier 1:

Locate the Ceiling Hangers, Power Bar Hangers and Power Bars for Tier 1 as shown in Fig 18. Follow instructions from step 3, 4, and 5.

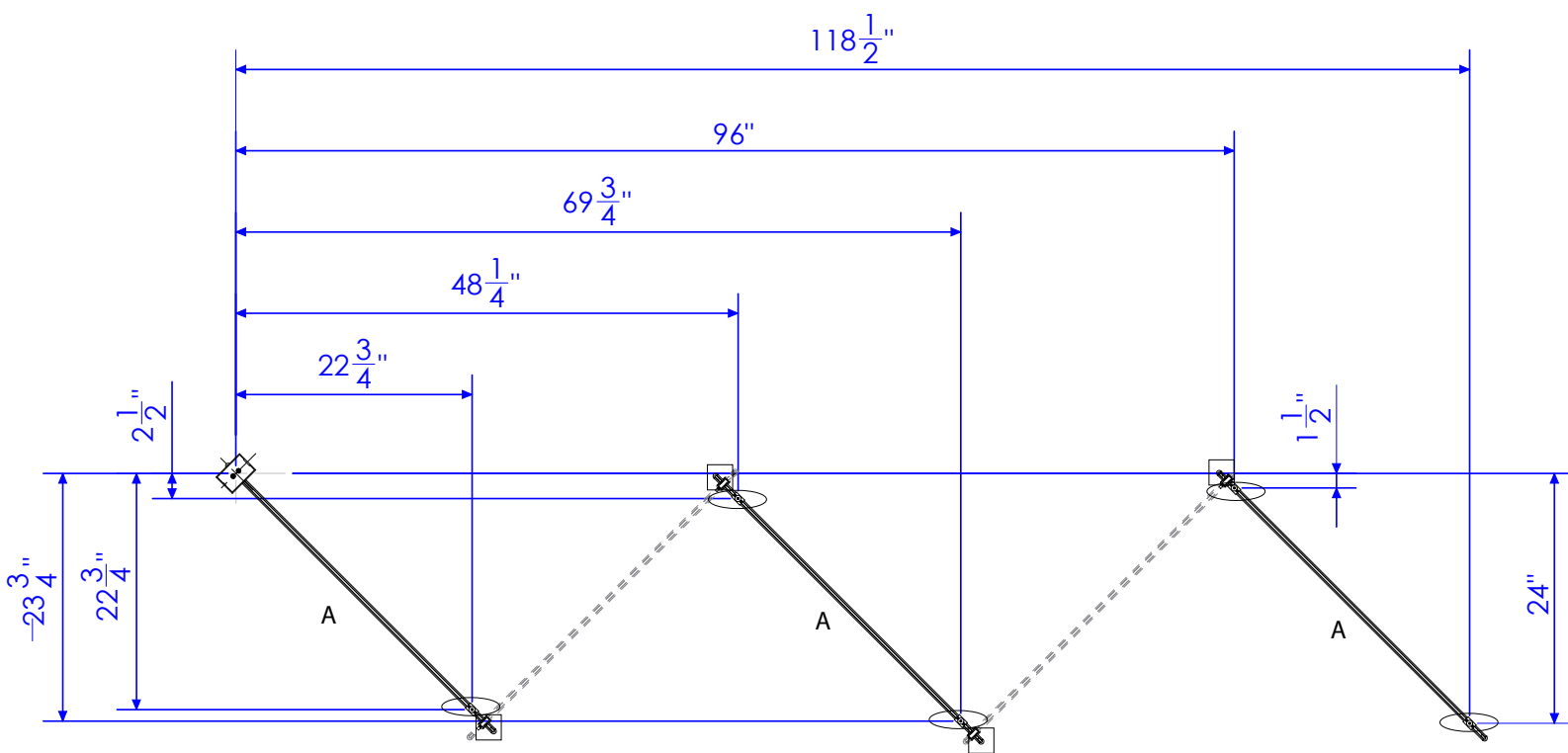




Fig. 18



Ceiling Hangers	Power Bar Hangers	Power Bars
 = 1XB02SB06K	 = 1XB03PR06K	A = 1XC01XX36K
	 = Suspended From Current Tier

Tier 2:

Locate the Ceiling Hangers, Power Bar Hangers and Power Bars for Tier 2 as shown in Fig 19. Follow instructions from step 3, 4, and 5.



Fig. 19

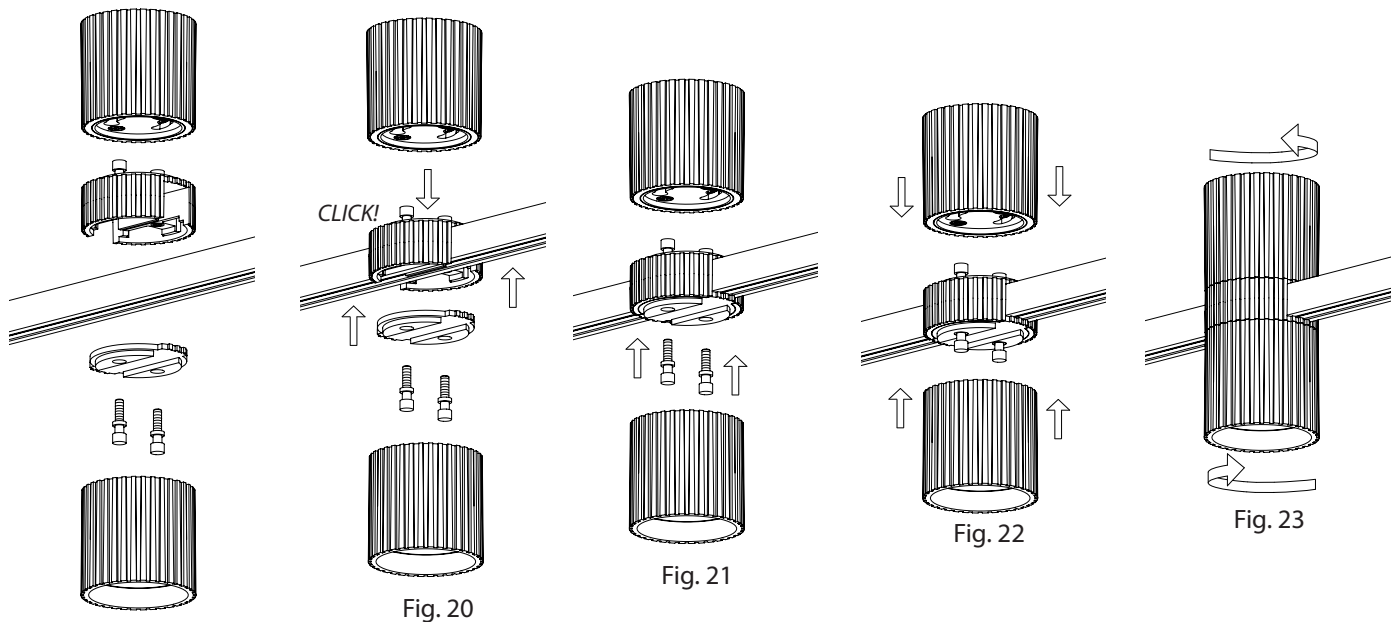
Ceiling Hangers	Power Bar Hangers	Power Bars
 = 1XB02SB06K	 = 1XB03PR06K	A = 1XC01XX36K

Step 6: Power Bar Attachments

Applies to Components:
1XB04CH00K 1DXXXCH03K

Connecting a Suspenders Precise Bar-Mounted Hub for Duplex Light Engines to a Power Bar:

1. Place the Hub over the Power Bar.
2. Press down firmly on top of Hub, while pressing up on the bottom of the Power Bar, until the Hub clicks into place. (Fig. 20)
3. Attach the Hub Cover to the Hub, making sure the counter-sunk holes on the cover are facing inward. Secure using two small Thumb Screws. (Fig. 21)
4. Install the Cylinder Light Engine to the Hub by inserting the contacts on the Hub into the slots on the Light Engine (Fig. 22), then twisting the Light Engine to the ends of the slots. (Fig. 23)



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Step 7: Trims

Connecting a Trim to a Cylinder Light Engine:

- 1.) Screw Trim Rings into the top and bottom Cylinder Light Engines. (Fig. 24)
 - Glass Drum Diffuser Trim (Fig. 24)
 - Flood Lens Trim (Fig. 25)

Applies to Components:
1XZ010002K 1XZ010003K

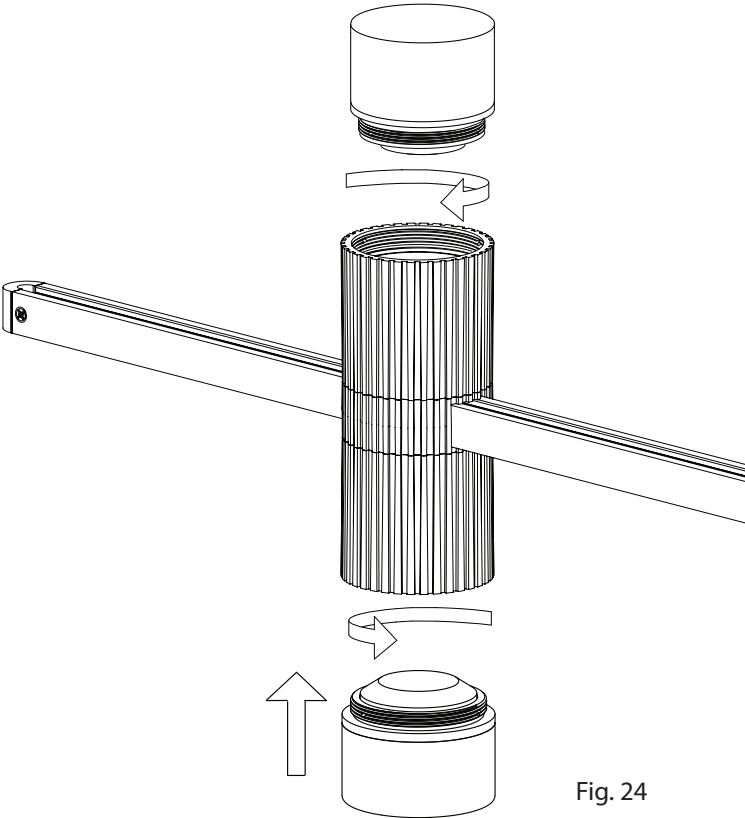


Fig. 24

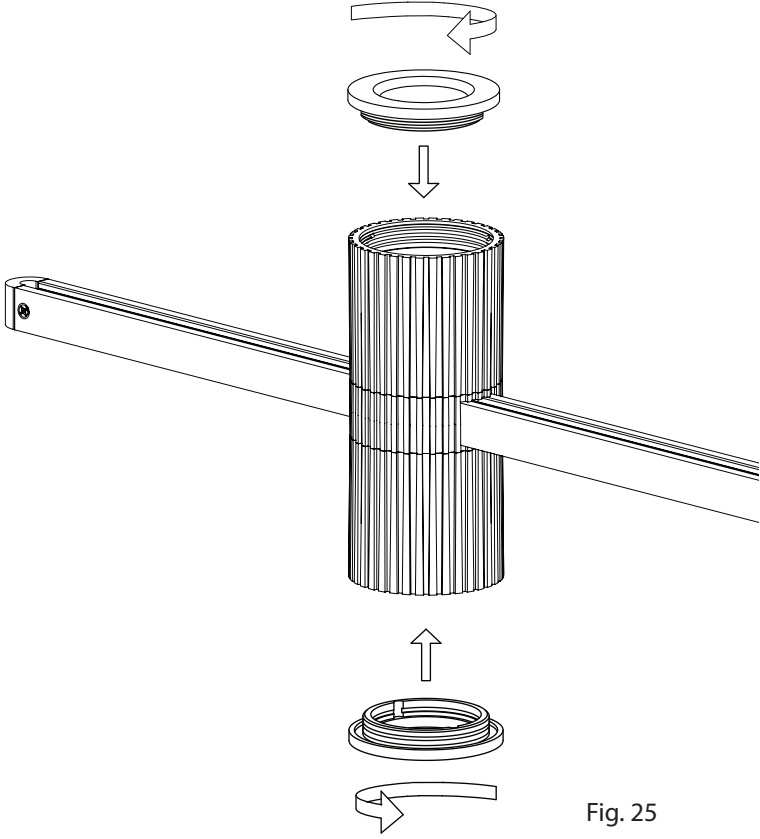


Fig. 25

Luminaire Locations

Locate Cylinder Light-Engines/Trims (1XZ010002K and 1XZ010003K) as shown in Fig 26. Follow instructions from step 6 and 7.

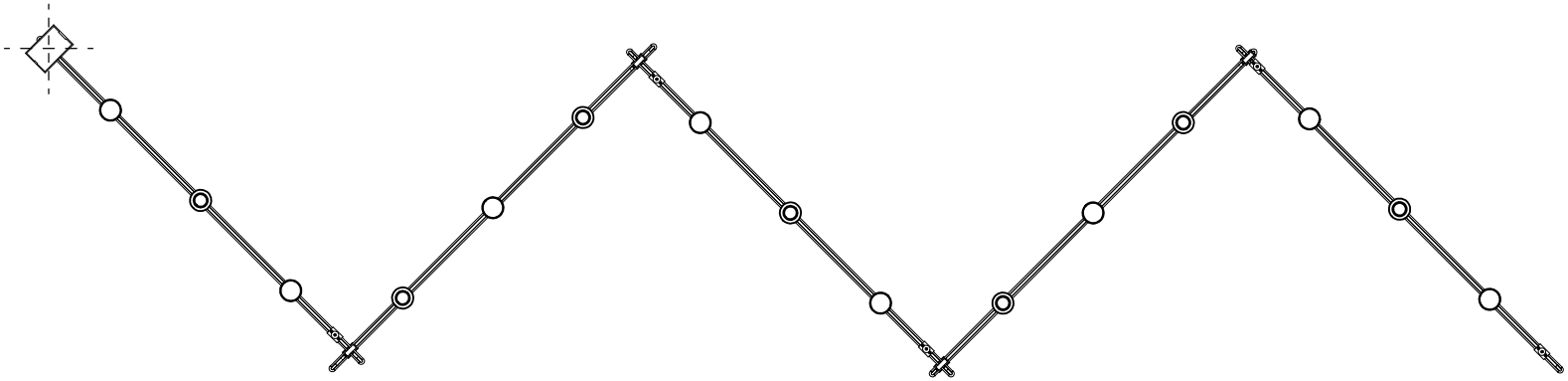


Fig. 26

