

SLS1144

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

# suspenders<sup>®</sup>

## Custom Assembly Instructions

**SONNEMAN<sup>®</sup>**  
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 - Install Power Feed

### Shallow Single Double Power Feed Installation (Fig. 1):

1. Shut off power to the **outlet box**.
2. 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%.
3. 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 outlet box wire (green or uncoated) to the mounting plate using the green screw.
  - d. 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.
  - e. Carefully place connections in outlet box.
4. Attach the **mounting plate** to the outlet box using the two (2) **screws**.
5. Attach Power Feed to mounting plate. Secure using **set screws** and included **Allen key**.
6. To adjust orientation of bushings: Loosen set screws using included Allen key and rotate Power Feed to the desired position.

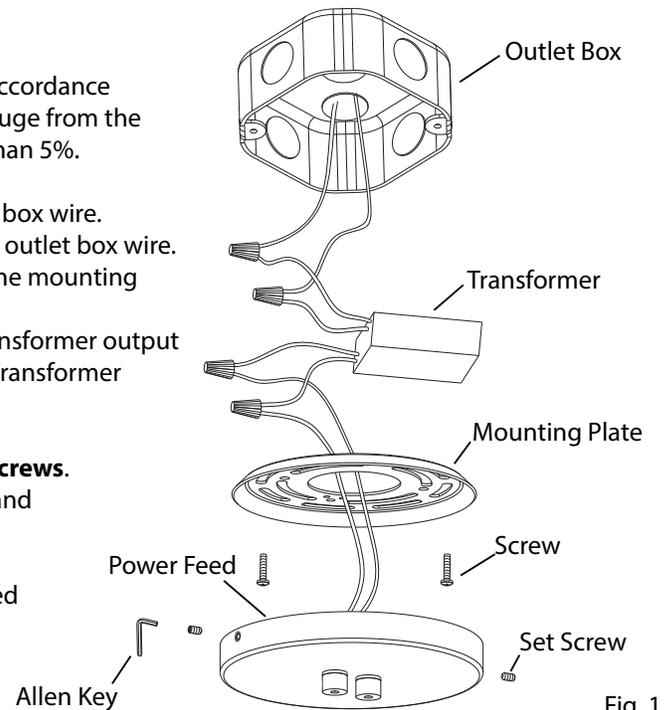


Fig. 1

### Note

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

## Canopy Locations

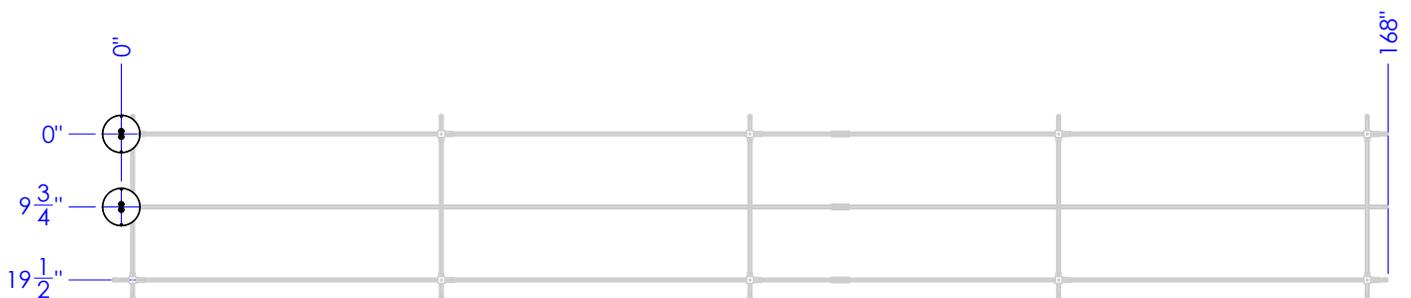
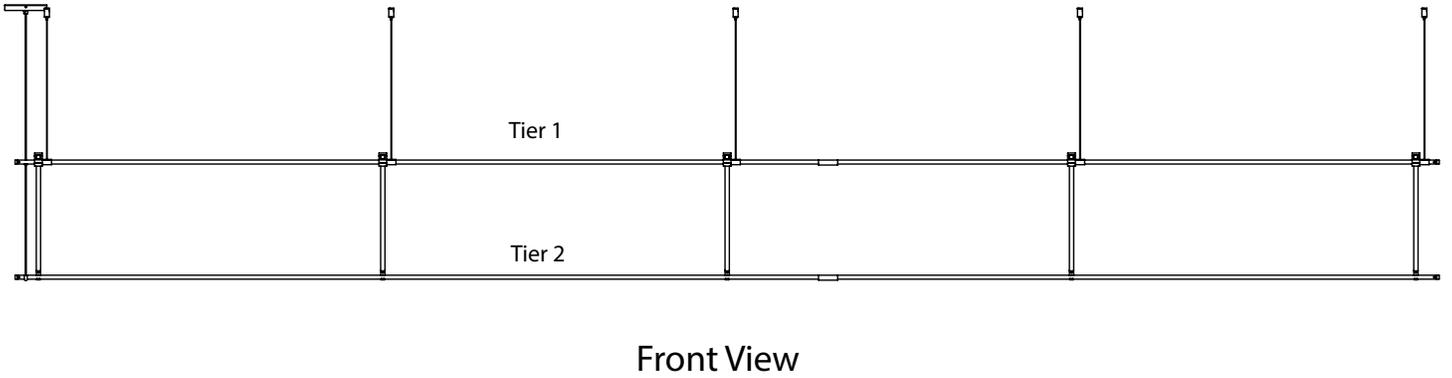
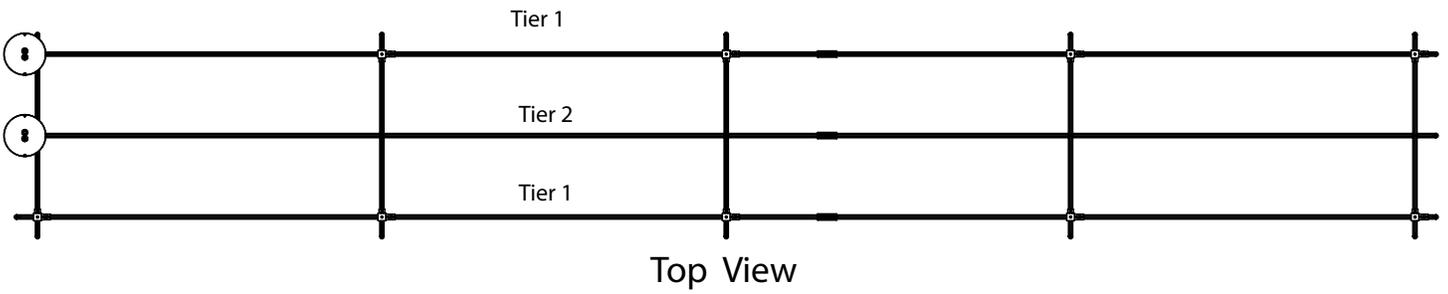


Fig. 2

### Tier Definitions



Front View



Top View

Fig.3

## Step 2 - 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. 4)
2. If desired, the spacer clip can be removed using a Phillips screwdriver. (Fig. 5)

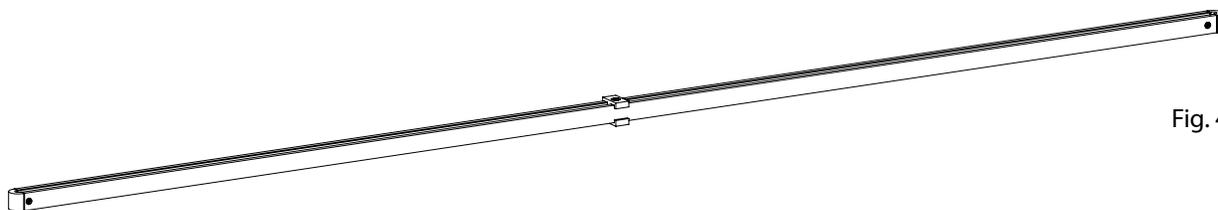


Fig. 4

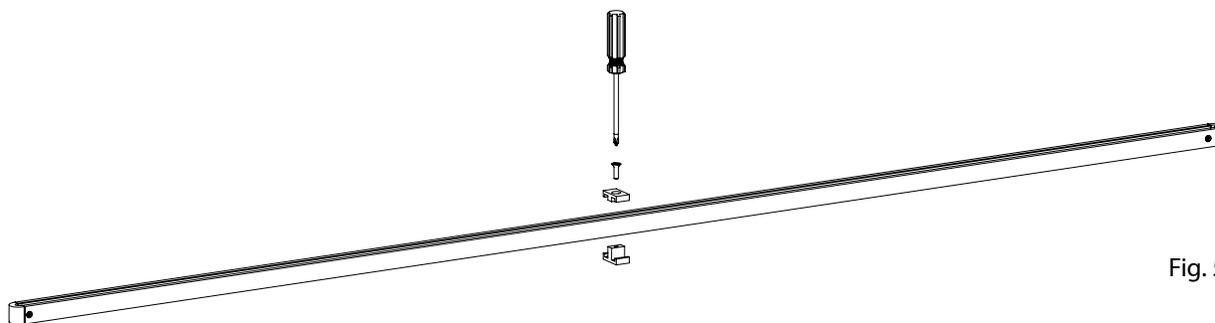


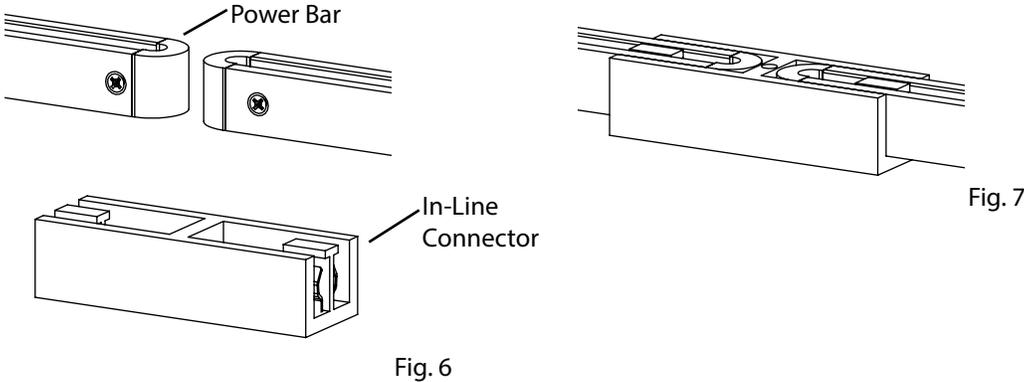
Fig. 5

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**STEP 3 - In-Line Connectors**

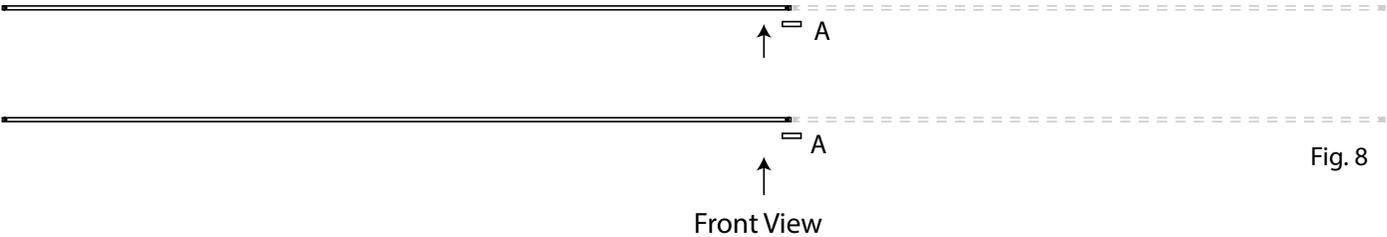
**In-Line Power Bar Connector:**

1. Align **In-Line Connector** with **Power Bar** (Fig. 6) and press down firmly on the top of the Power Bars, while pressing up on the bottom of the Connector until the Power Bars clicks into place (Fig. 7).



**Tiers 1 & 2**

Locate the In-Line Power Bar Connector and Power Bars for Tiers 1 & 2 as shown in Fig 8. Follow instructions from step 2 and 3.

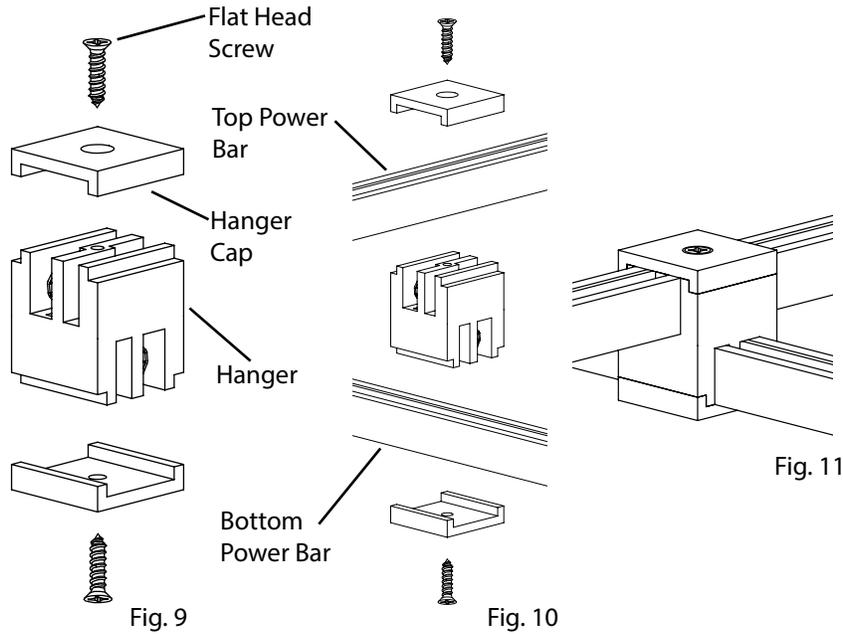


Power Bar Hangers		Power Bars
A = 1XB031B00K		= 1XC01XX96K
		= 1XC01XX72K

**STEP 4 - Power Bar Hangers**

**Flush Perpendicular Power Bar Hanger:**

1. Remove **Flat Head Screws** and both **Hanger Caps** (Fig. 9).
2. Align **Power Bars** with **Hanger** (Fig. 10). Press down firmly on the top of the **Top Power Bar** and bottom of **Bottom Power Bar** until the Power Bars clicks into place. Reattach **Hanger Cap** with **Flat Head Screw** (Fig. 11).



**Tier 1**

Locate the Flush Perpendicular Power Bar and Power Bars for Tier1 as shown in Fig 12. Follow instructions from step 4.

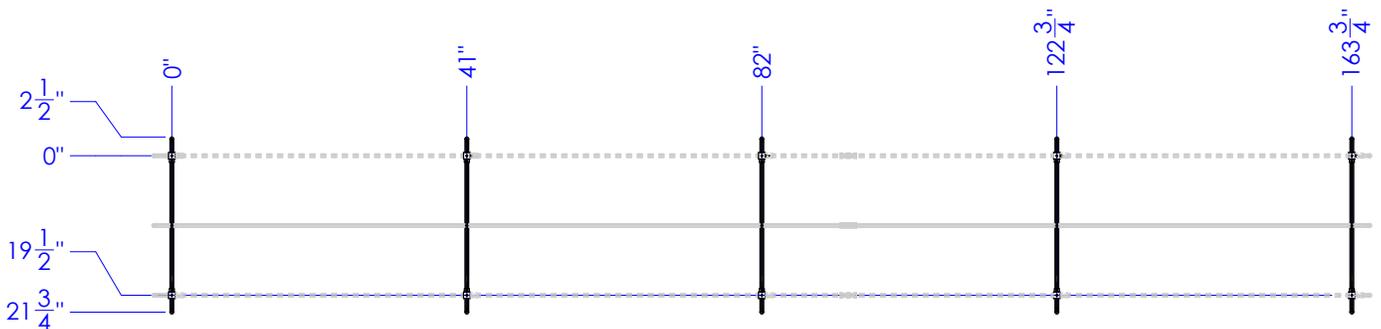
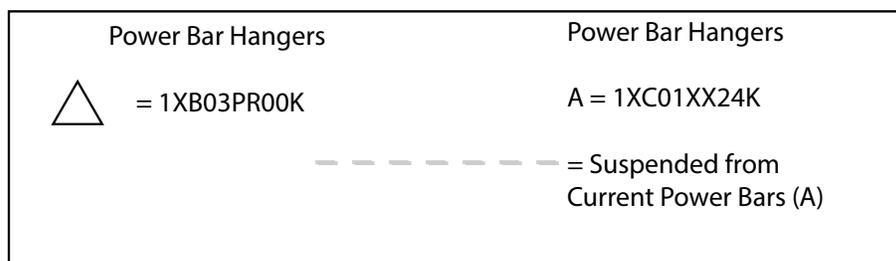


Fig. 12

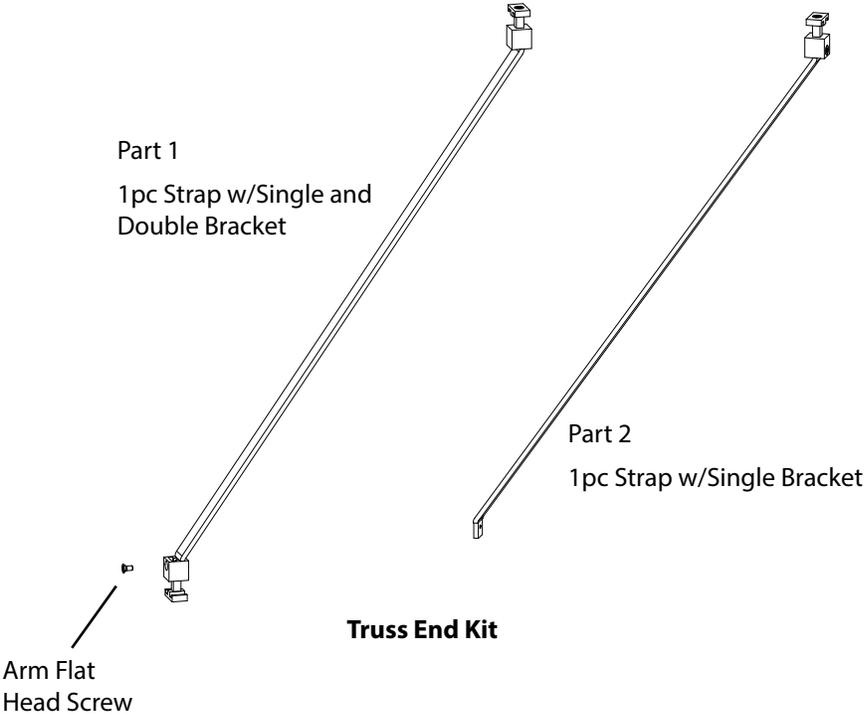
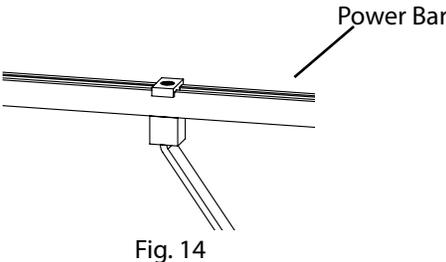
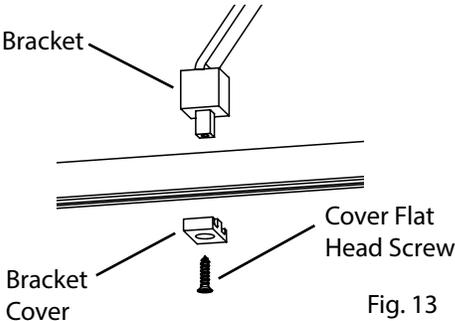


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### STEP 5 - Truss Hangers

**To assemble Truss Power Bar Hanger components:**

- 1. Remove **Cover Flat Head Screw** and **Bracket Cover** and align **Power Bar** with the **Bracket** (Fig. 13).
- 2. Insert **Power Bar** onto the **Bracket** and reattach the **Bracket Cover** with **Flat Head Screw** (Fig. 14).
- 3. Repeat step 1 and 2 for each **Bracket**.



**To assemble Truss Power Bar Hangers and Power Bars:**

1. Install Part 1 of the **Truss End Kit** to section A and C on **Power Bars** for Tiers 1 and 2 (Fig. 15)
2. Install Part 2 of the **Truss End Kit** to section B and C on **Power Bars** for Tiers 1 and 2 (Fig. 15).
3. Repeat steps 1-2 for all remaining **Truss End Kits**.

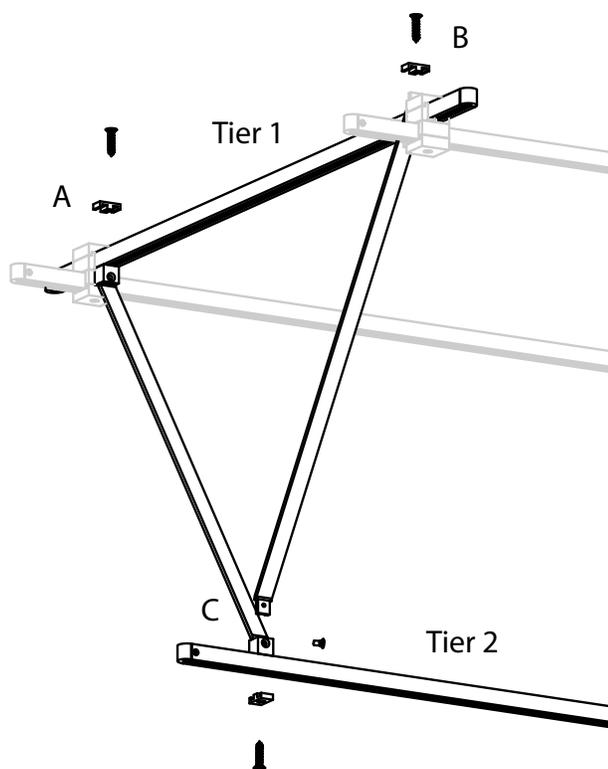


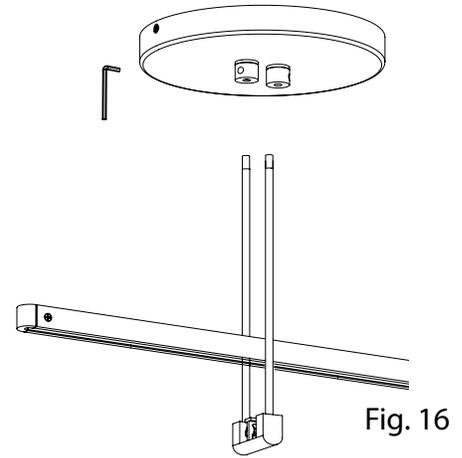
Fig. 15

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## STEP 6 - Power Feed Hangers

### Double Cord Power Feed Hanger:

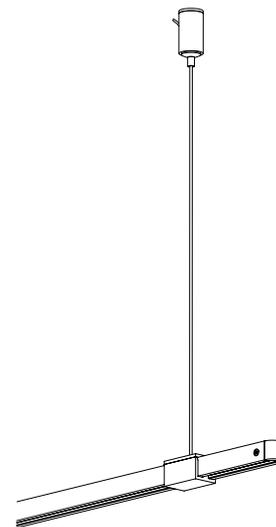
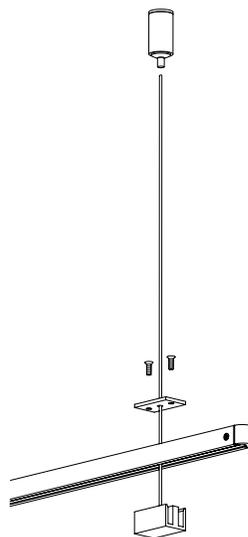
1. Install the Double Cord Power Feed Hanger onto the Power Bar: press down firmly on the top of the Power Bar, while pressing up on the bottom of the Hanger, until the Power Bar clicks into place. (Fig. 16)
2. Cut the cords to the desired length, and remove 10mm (3/8") of insulation from the end of each cord.
3. Twist the wire strands tightly, then insert the exposed wires into the Power Feed bushings. Secure by tightening the set screws with the included Allen key.



## Step 7 - Ceiling Hangers

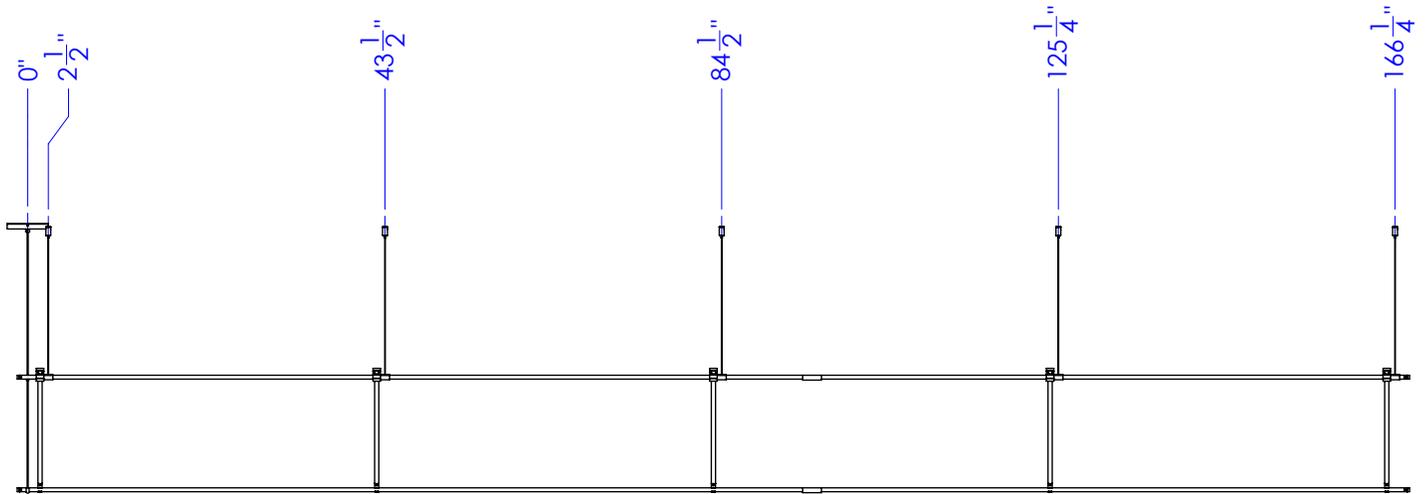
### Cable Ceiling Hanger Assembly:

1. Install the mounting bracket to the ceiling with anchor and screw, then screw the post onto the mounting bracket. (Fig. 17)
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. 18)
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.19)



## Tier 1

Locate the Ceiling Hangers on Tier 1 as shown in Fig 20. Follow instructions from step 7.



Front View

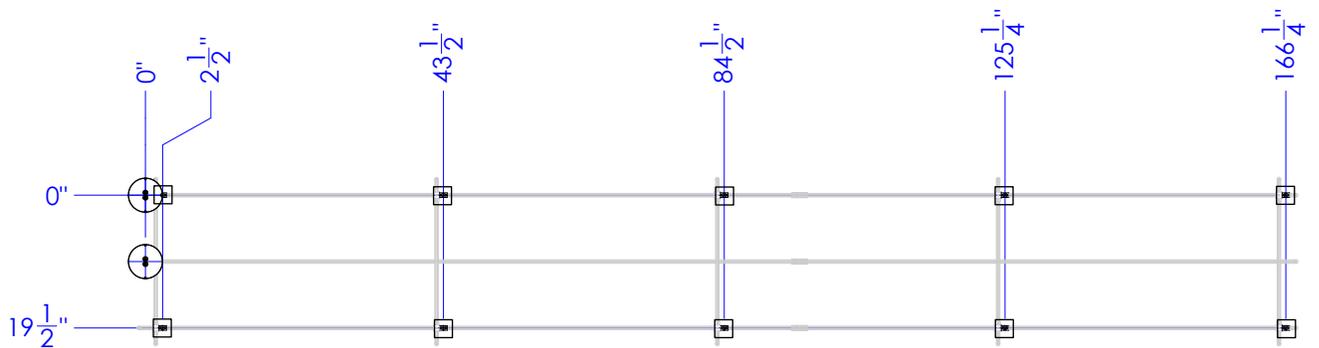
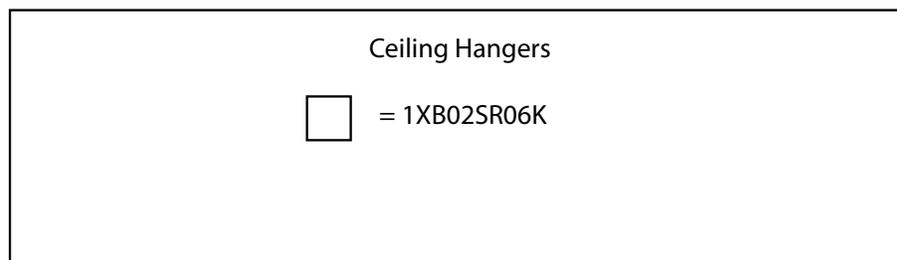


Fig. 20

Top View

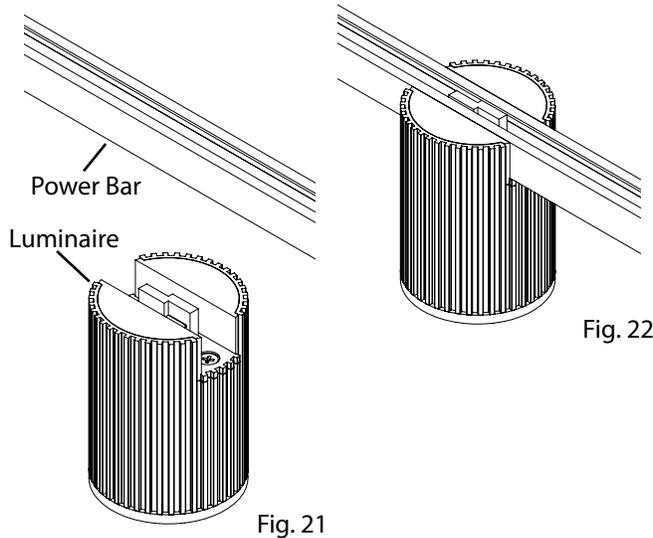


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## STEP 8 - Luminaires

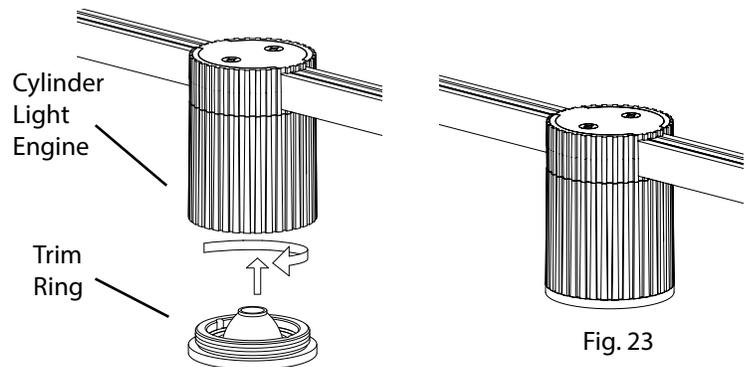
### Precise Direct Mount:

1. Align **Luminaire** with **Power Bar** (Fig. 21), press up firmly on the bottom of the Luminaire, while pressing down on the top of the Power Bar, until the Power Bar clicks into place (Fig. 22).



### Connecting a Trim to a Cylinder Light Engine:

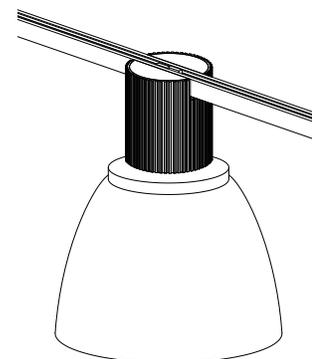
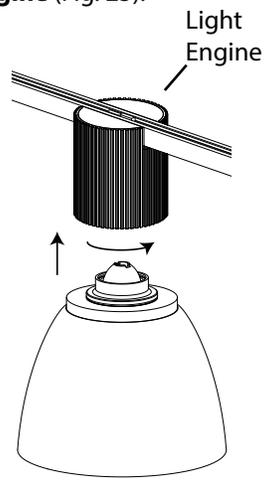
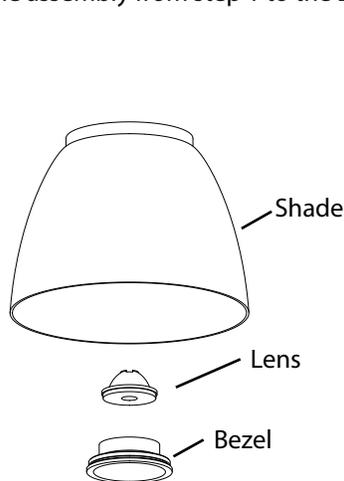
2. Screw the **Trim Ring** into the **Cylinder Light Engine** (Fig. 23).



## STEP 9 - Trims

### Power Precise Round Trims:

1. Align the **Lens**, **Bezel**, and **Shade** with each other (Fig. 24) then preassemble them together (Fig. 25).
2. Align the assembly from step 1 with the **Light Engine** (Fig. 25).
3. Screw the assembly from step 1 to the **Light Engine** (Fig. 25).



### Luminaire Locations

Locate the luminaires and trims as shown in Fig 26. Follow instructions from steps 8 and 9.

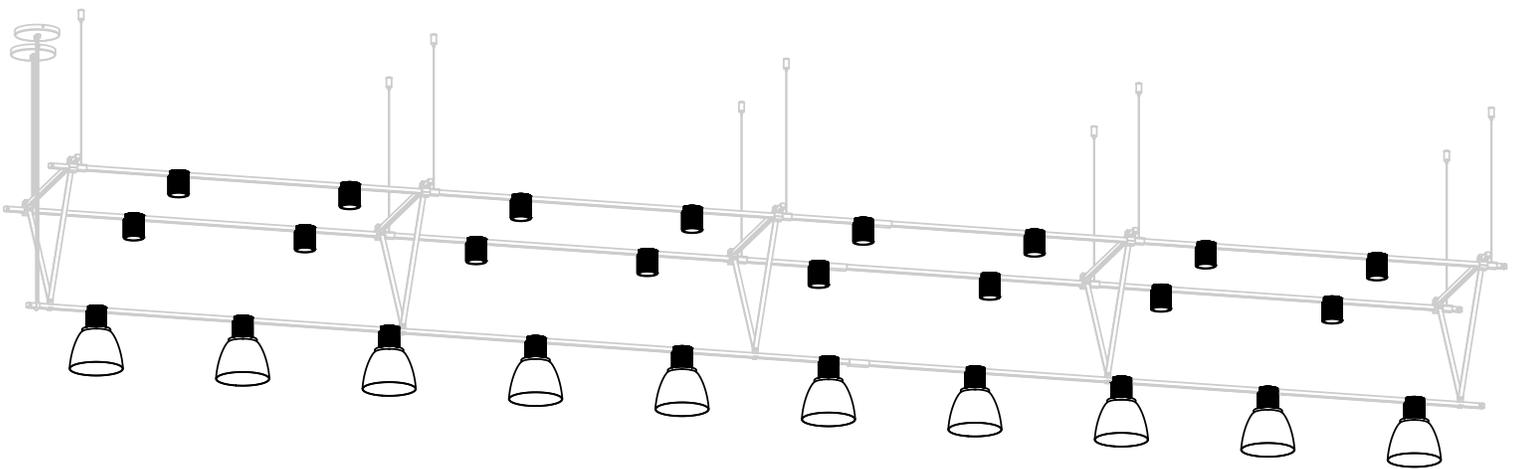


Fig. 27

Luminaire and Trims	
	= 1DXXCH04K-X
	= 1XZ020102K (Tier 1)
	= 1XZ020502K (Tier 2)