

SLS0163

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.
- 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
- Suspenders® must be installed in dry locations ONLY.

## Step 1

### Shallow Single Double Power Feed Installation:

1. Shut off power to the **outlet box**.
2. **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%.
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.

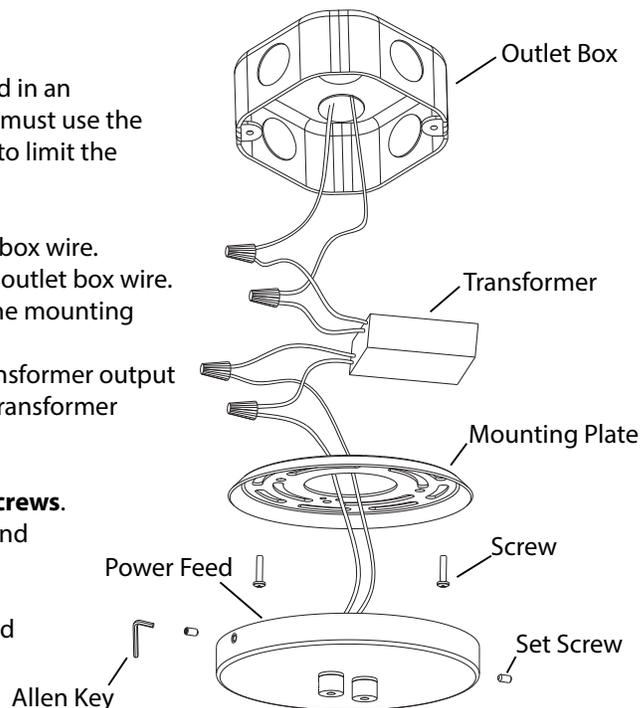


Fig. 1

### Note

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

## Step 2

### Double Cord/Rod Power Feed Hanger:

1. Install the **Double Cord (or Rod) 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. 3).
2. For **Cords**:
  - a. Cut the **Cords** to the desired length, and remove 10mm (3/8") of insulation from the end of each Cord.
  - b. 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**.

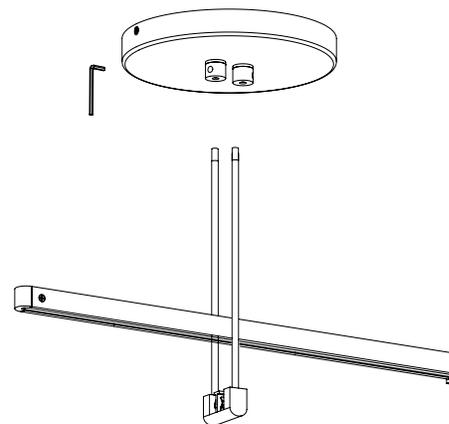


Fig. 2

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**Power Feed Locations**

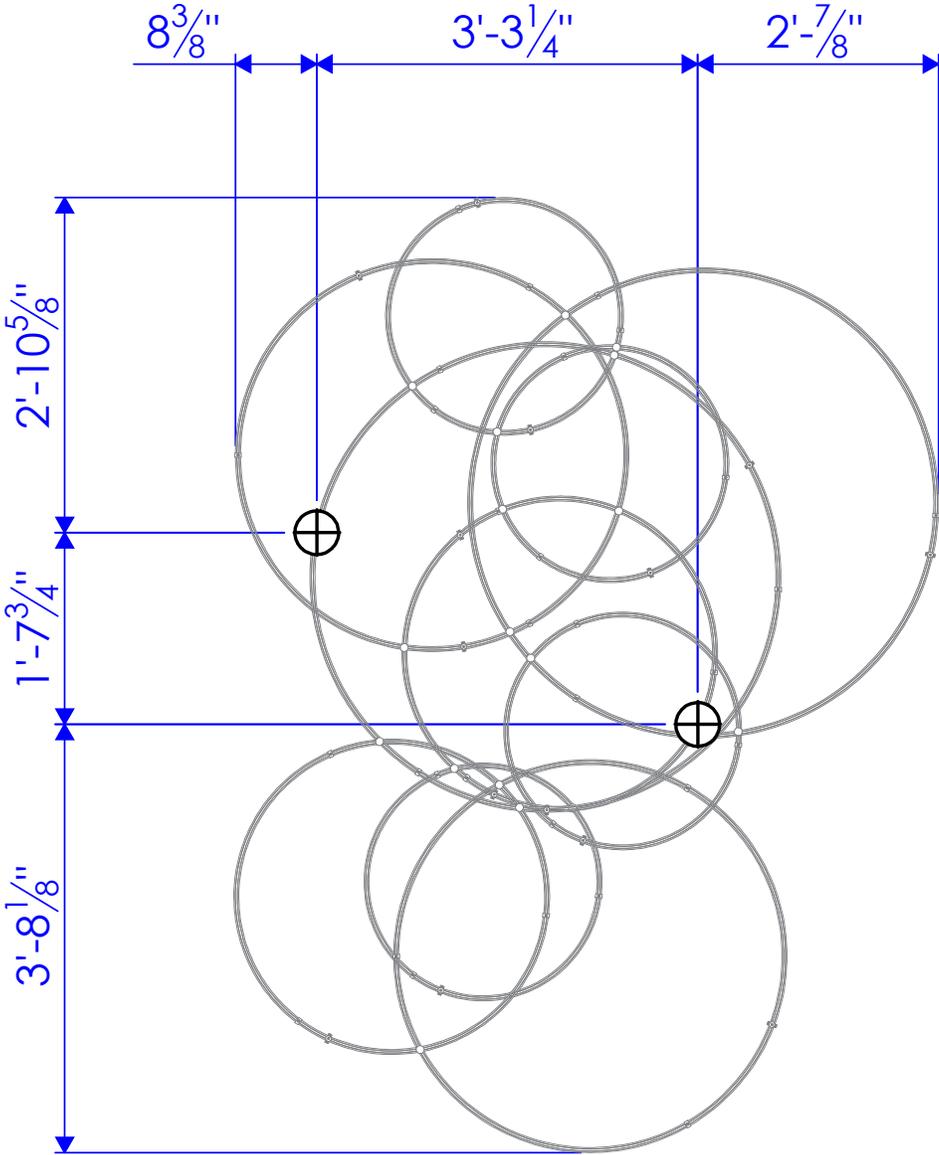


Fig. 3

**Reflected Ceiling Plan**

**Tier Definitions**

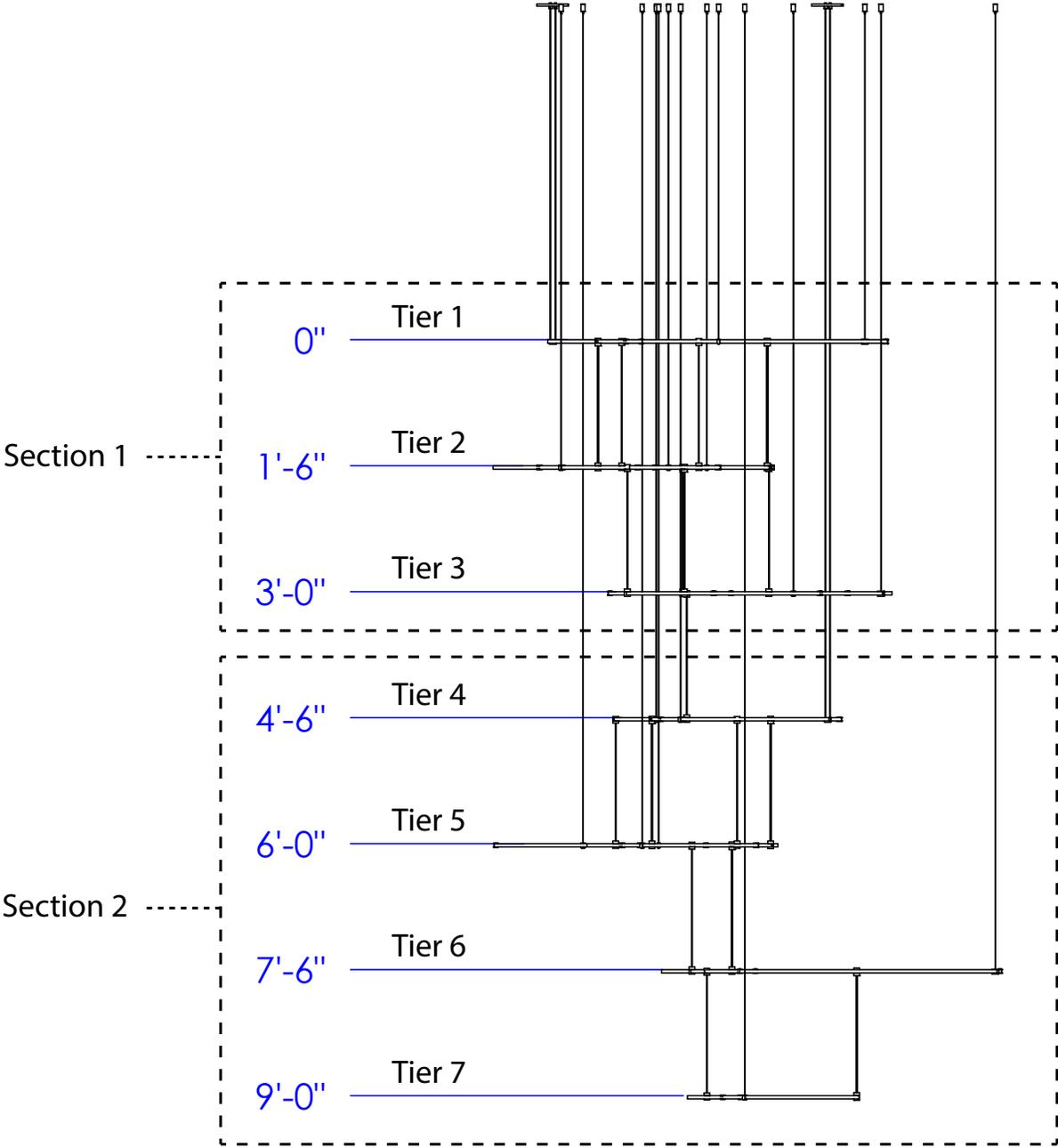


Fig. 4

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### Step 3

#### Ring 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. 5)
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. 6)
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. 7)



Fig. 5

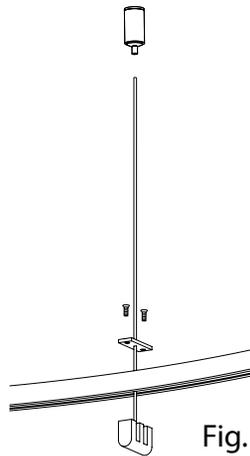


Fig. 6

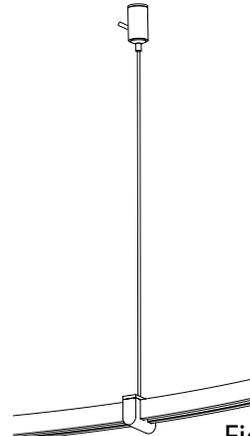


Fig. 7

### Step 4

#### Single and Double Rotational Power Bar Hanger:

1. Press down firmly on the top of the **Power Bar Hanger Hub** while pressing up on the bottom of the Power Bar, until the Power Bar Hanger Hub clicks into place. (Fig. 8)
2. Insert the **Hanger Clip** through the Hanger Hub and press up on the Hanger clip until Hanger Clip clicks into place. (Fig. 9)
3. Press the **Hanger Rod** up against the Hanger Hub and screw in the **Hanger sleeve**. Be sure that the brass contacts on the Power Bar Hanger Hub are touching those on the Hanger Rod. (Fig. 10). NOTE: Do not fully tighten.
4. Rotate Power Bar to the desired position and secure by fully tightening the Hanger sleeve. (Fig. 11)
5. Repeat steps 1-4 for the second Power Bar.

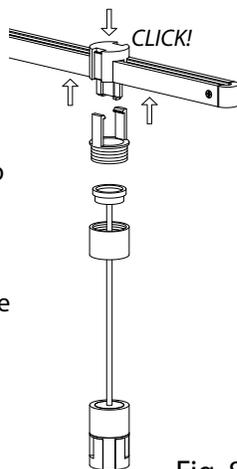
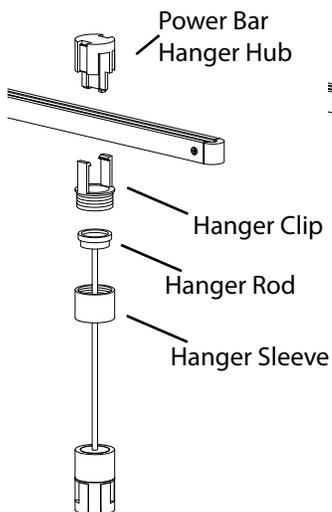


Fig. 8

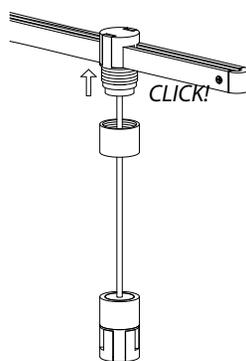


Fig. 9

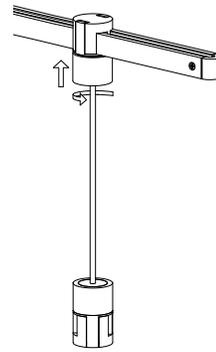


Fig. 10

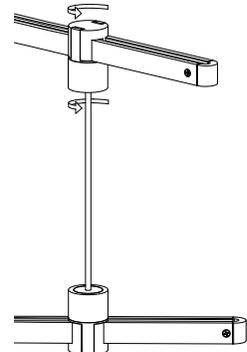


Fig. 11

**Section 1 - Tier 1**

Locate the Ceiling Hangers, Power Bar Hangers and Rings for Tier 1 as shown in Fig 12. Follow instructions from steps 3 and 4.

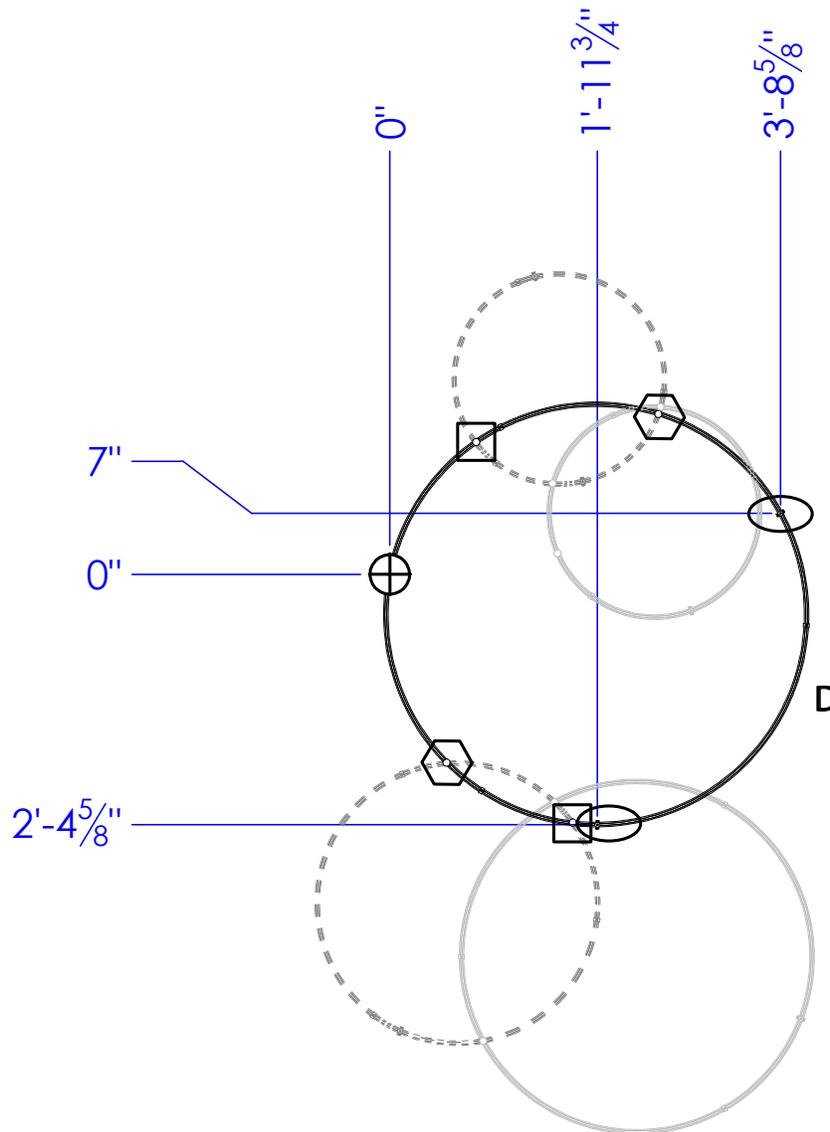


Fig. 12

Ceiling Hangers	Power Bar Hangers	Power Bar
 = 1XB02RB20K	 = 1XB03RD18K	A = 1XC03XX24K-X
	 = 1XB03RS18K	B = 1XC03XX32K-X
		C = 1XC03XX40K-X
		D = 1XC03XX48K-X
		----- = Suspended From Current Tier

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**Section 1 - Tier 2**

Locate the Ceiling Hangers, Power Bar Hangers and Rings for Tier 2 as shown in Fig 13. Follow instructions from steps 3 and 4.

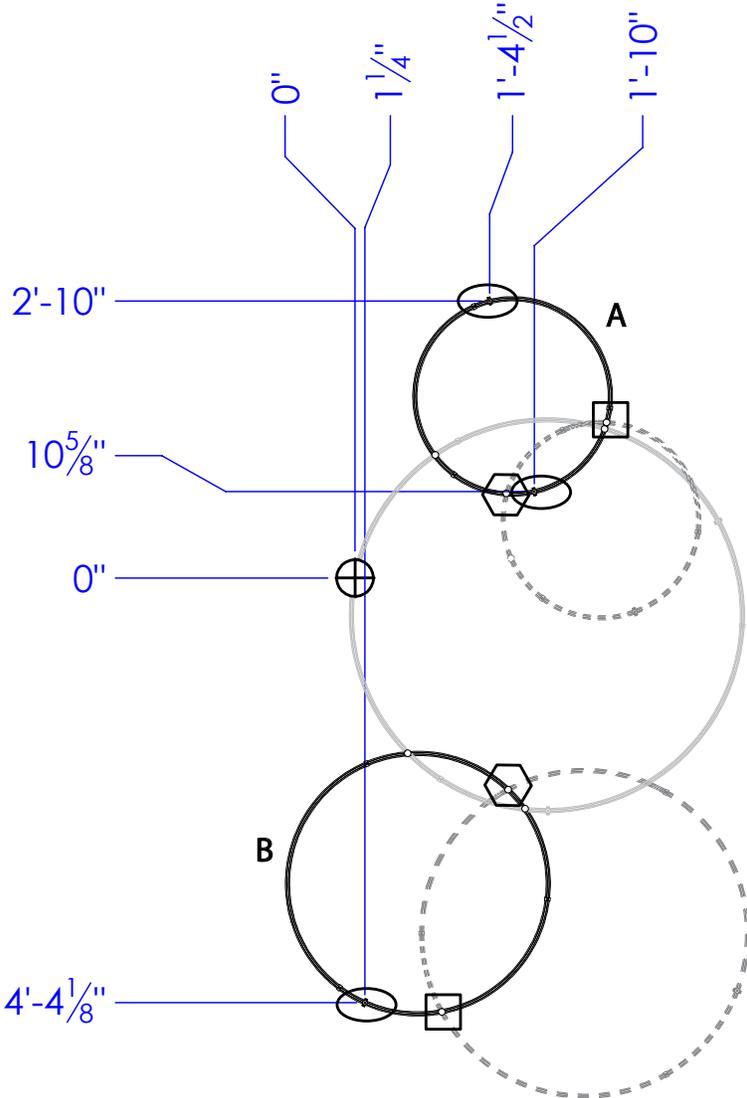


Fig. 13

Ceiling Hangers	Power Bar Hangers	Power Bar
○ = 1XB02RB20K	□ = 1XB03RD18K	A = 1XC03XX24K-X
	⬡ = 1XB03RS18K	B = 1XC03XX32K-X
		C = 1XC03XX40K-X
		D = 1XC03XX48K-X
		----- = Suspended From Current Tier

**Section 1 - Tier 3**

Locate the Ceiling Hangers, Power Bar Hangers and Rings for Tier 3 as shown in Fig 14. Follow instructions from steps 3 and 4.

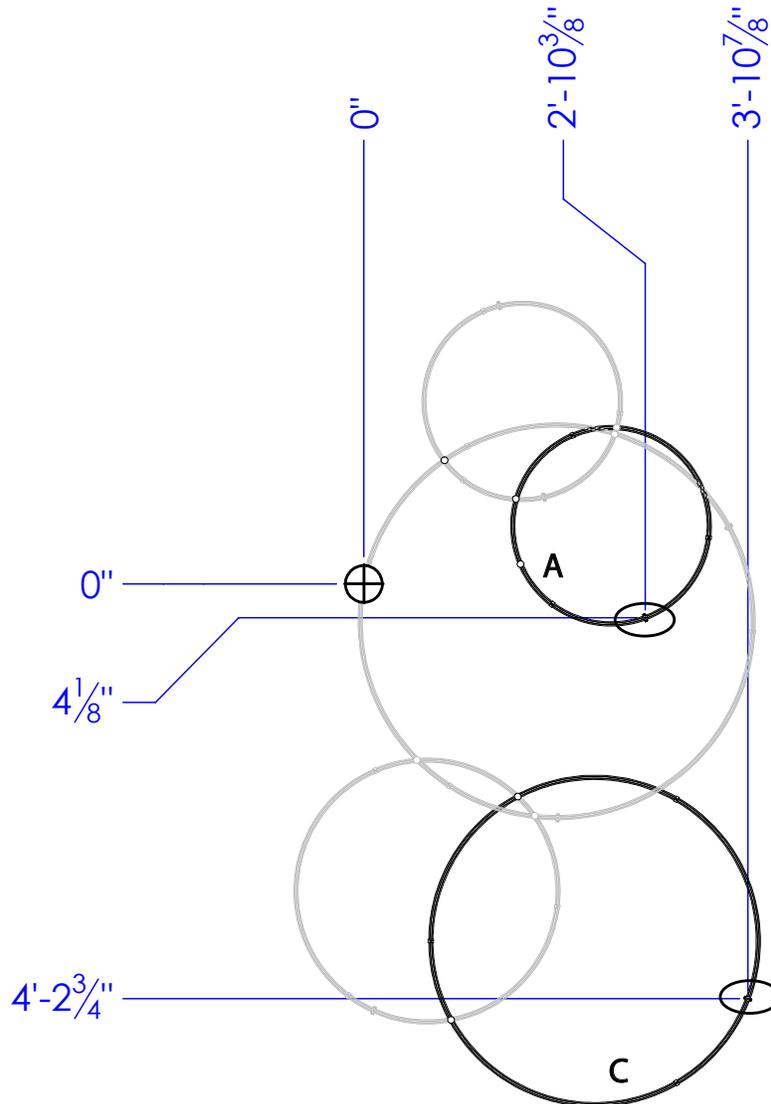


Fig. 14

Ceiling Hangers	Power Bar Hangers	Power Bar
 = 1XB02RB20K	 = 1XB03RD18K	A = 1XC03XX24K-X
	 = 1XB03RS18K	B = 1XC03XX32K-X
		C = 1XC03XX40K-X
		D = 1XC03XX48K-X
		----- = Suspended From Current Tier

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**Section 2 - Tier 4**

Locate the Ceiling Hangers, Power Bar Hangers and Rings for Tier 4 as shown in Fig 15. Follow instructions from steps 3 and 4.

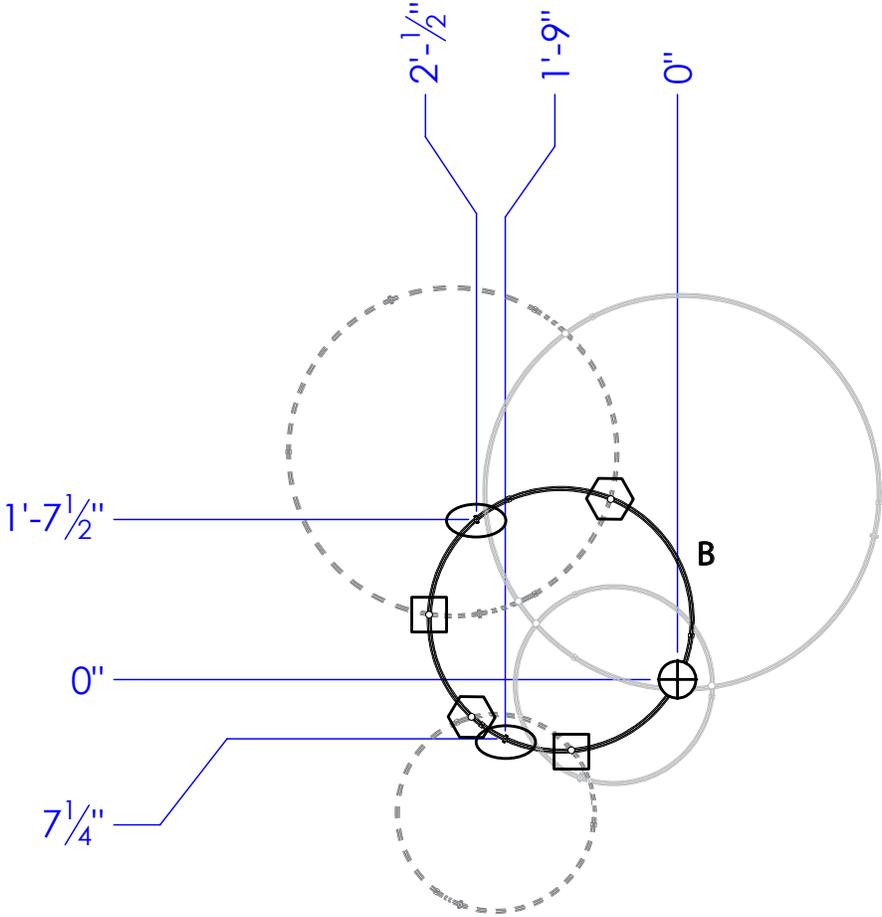


Fig. 15

Ceiling Hangers	Power Bar Hangers	Power Bar
○ = 1XB02RB20K	□ = 1XB03RD18K	A = 1XC03XX24K-X
	⬡ = 1XB03RS18K	B = 1XC03XX32K-X
		C = 1XC03XX40K-X
		D = 1XC03XX48K-X
		----- = Suspended From Current Tier

**Section 2 - Tier 5**

Locate the Ceiling Hangers, Power Bar Hangers and Rings for Tier 5 as shown in Fig 16. Follow instructions from steps 3 and 4.

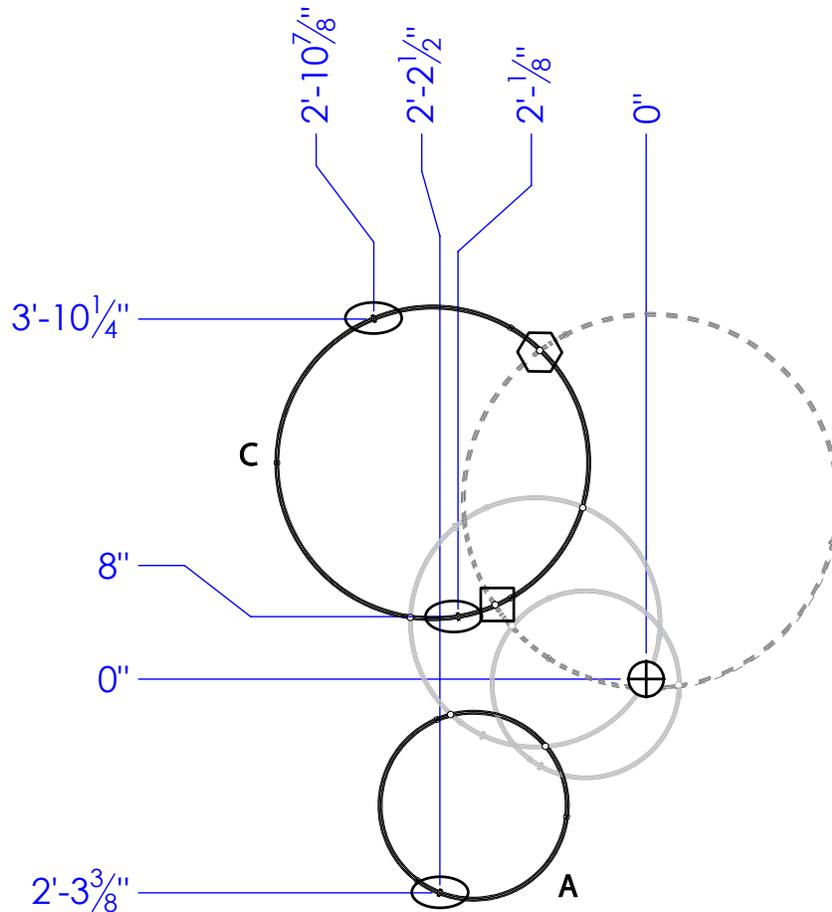


Fig. 16

Ceiling Hangers	Power Bar Hangers	Power Bar
 = 1XB02RB20K	 = 1XB03RD18K	A = 1XC03XX24K-X
	 = 1XB03RS18K	B = 1XC03XX32K-X
		C = 1XC03XX40K-X
		D = 1XC03XX48K-X
		----- = Suspended From Current Tier

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**Section 2 - Tier 6**

Locate the Ceiling Hangers, Power Bar Hangers and Rings for Tier 6 as shown in Fig 17. Follow instructions from steps 3 and 4.

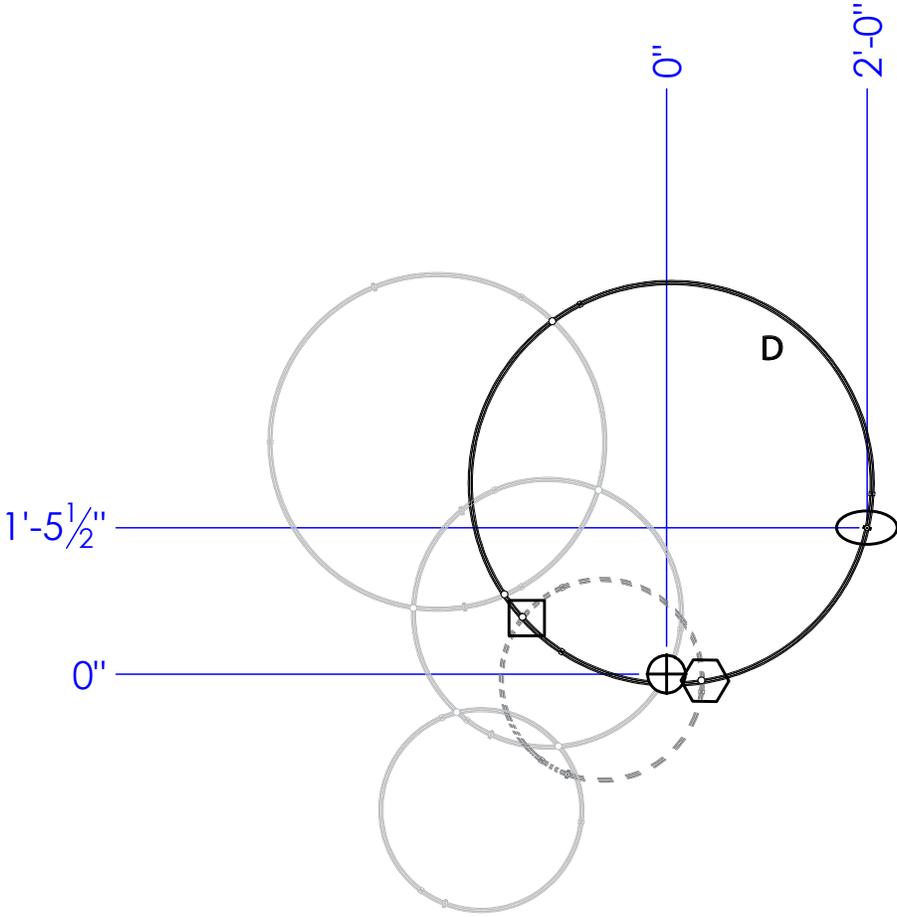


Fig. 17

Ceiling Hangers	Power Bar Hangers	Power Bar
= 1XB02RB20K	= 1XB03RD18K	A = 1XC03XX24K-X
	= 1XB03RS18K	B = 1XC03XX32K-X
		C = 1XC03XX40K-X
		D = 1XC03XX48K-X
		----- = Suspended From Current Tier

**Section 2 - Tier 7**

Locate the Ceiling Hangers, Power Bar Hangers and Rings for Tier 7 as shown in Fig 18. Follow instructions from steps 3 and 4.

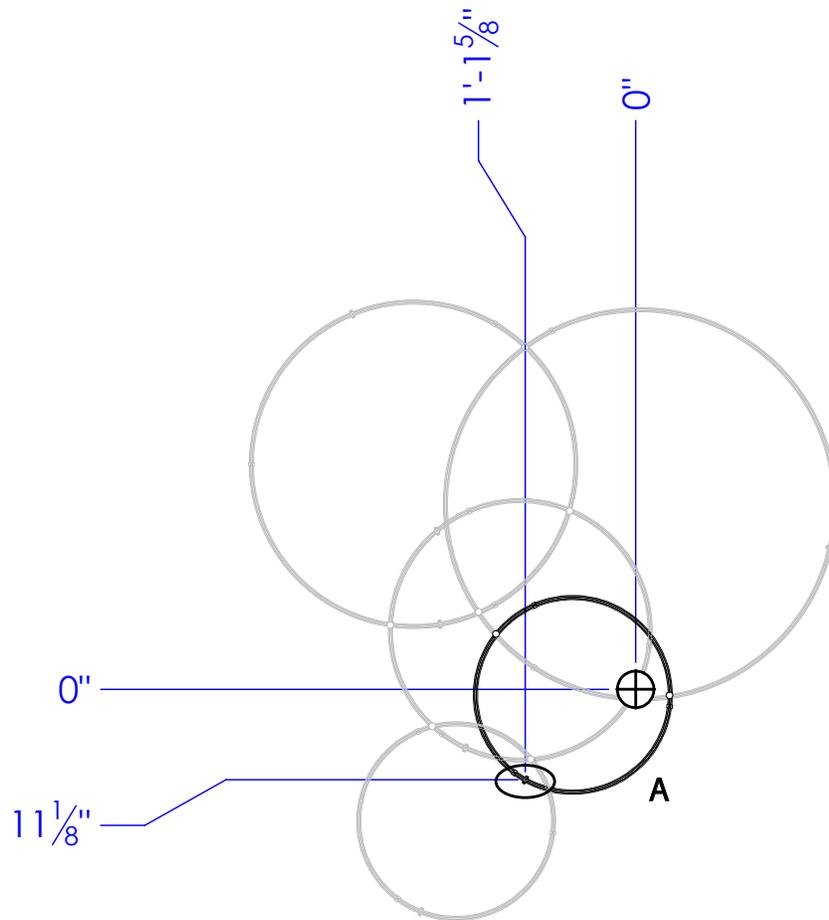


Fig. 18

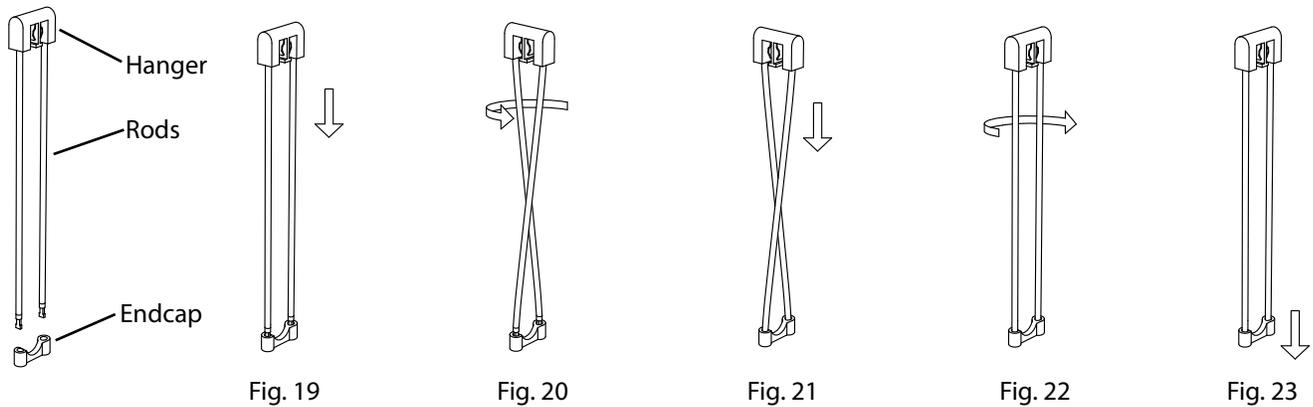
Ceiling Hangers	Power Bar Hangers	Power Bar
 = 1XB02RB20K	 = 1XB03RD18K	A = 1XC03XX24K-X
	 = 1XB03RS18K	B = 1XC03XX32K-X
		C = 1XC03XX40K-X
		D = 1XC03XX48K-X
		----- = Suspended From Current Tier

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## Step 5

### Connecting a Luminaire Hanger Endcap to a Luminaire Hanger:

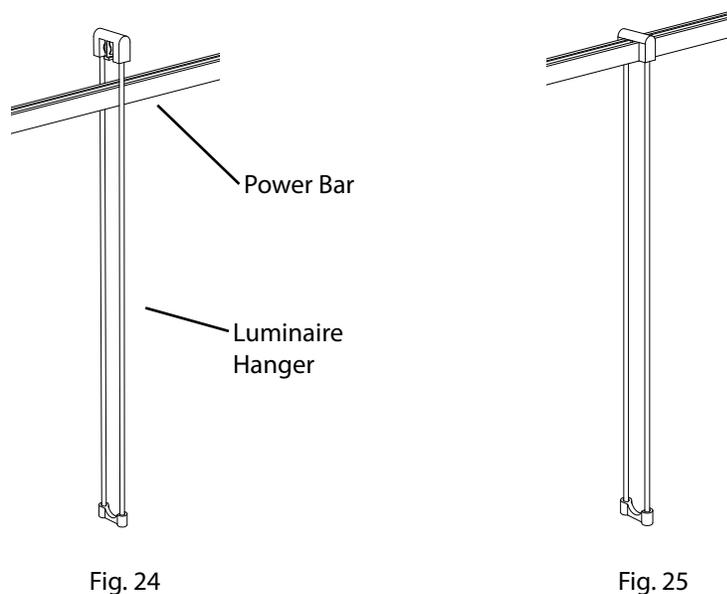
1. Gently insert the two Luminaire Hanger **Rods** into the holes on the top of the Luminaire Hanger **Endcap** (Fig. 19).
2. Rotate the **Endcap** or Luminaire **Hanger** 90 degrees (Fig.20).
3. Push the Luminaire **Hanger Rods** into the **Endcap** until the copper on the ends of the Rods is no longer visible (Fig. 21).
4. Rotate the **Endcap** or Luminaire **Hanger** back 90 degrees (Fig. 22).
5. Pull the **Endcap** down to lock the Endcap (Fig. 23).



## Step 6

### Connecting a Double Rod Luminaire Hanger to a Power Bar:

1. Place the **Luminaire Hanger** over the **Power Bar** (Fig. 24).
2. Press down firmly on the top of the **Luminaire Hanger**, while pressing up on the bottom of the **Power Bar**, until the Luminaire Hanger clicks into place (Fig 25).
3. To remove, tip the **Luminaire Hanger** in the direction of the **Power Bar**, then lift the Luminaire Hanger off the Power Bar.



## Step 7

### Connecting a Ladder Light onto a Luminaire Hanger:

NOTE: The Luminaire Hanger **Endcap** or a **Luminaire** must be installed before connecting a **Ladder Light** onto a Luminaire **Hanger**.

1. Gently press both sides of the **Ladder Light** onto the Luminaire **Hanger** until the Ladder Light softly clicks into place (Fig. 26).
2. Confirm the desired position of the **Ladder Light** on the **Hanger**, and adjust the position if necessary.

CAUTION! The next step will put a set of small score lines through the paint on the **Hanger Rods**.

3. Place the index and middle fingers of each hand on the **Hanger Rods** on either side of the **Ladder Light** and press firmly on both sides of the Ladder Light with the thumbs until the Ladder Light fully clicks into place (Fig. 27).

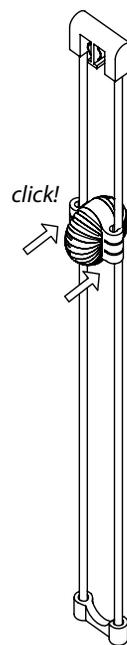
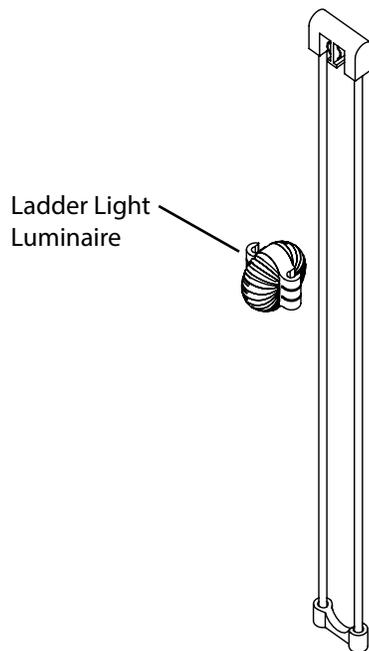


Fig. 26

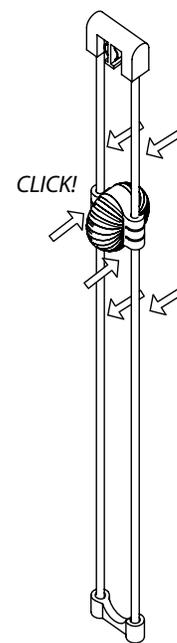


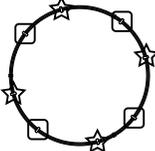
Fig. 27

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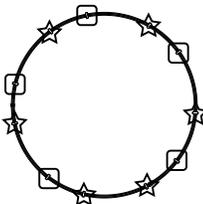
**Luminaire & Hanger Locations**

Locate the Luminaire Hangers and Luminaires for each Ring as shown in Fig 28. Follow instructions from steps 5, 6, and 7.

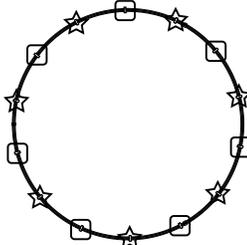
24" Ring: 1XC03XX24K-X



32" Ring: 1XC03XX32K-X



40" Ring: 1XC03XX40K-X



48" Ring: 1XC03XX48K-X

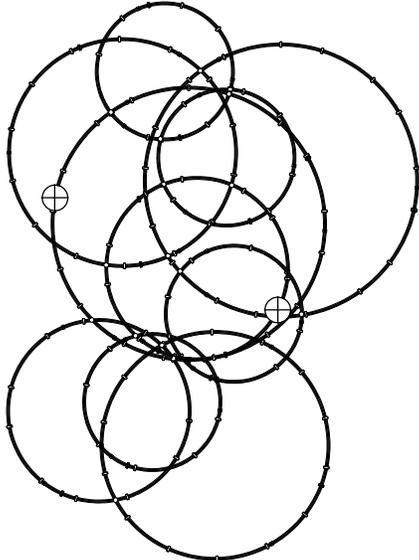
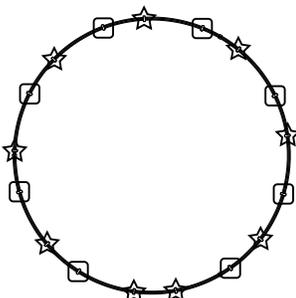


Fig. 28

Luminaires & Hangers	
	= 1XB04DR12K (w/2pcs 1DXLL01K)
	= 1XB04DR18K (w/3pcs 1DXLL01K)