

2158 - Ursa Major

constellation™

assembly instructions

SONNEMAN®
A WAY OF LIGHT

Multiple U.S. and foreign patents pending.

Constellation™ Product Information and Warnings

Important

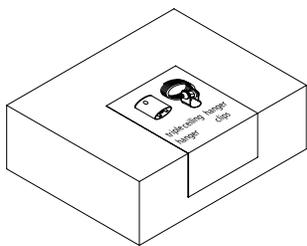
- **Always disconnect the power before installing or replacing Luminaires and before cleaning or other maintenance.**
- **Consult a qualified, licensed electrician to ensure correct branch circuit conductor.**
Consulter un électricien qualifié pour vous assurer que les conducteurs de la dérivation sont adéquats.
- 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.
- Remote LED Driver 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 avoid overloading the LED Driver.
- Any mounting hardware is provided for your convenience and should be used with discretion. Always use the appropriate hardware for the mounting surface.
- Constellation™ LED Drivers are 24VDC Constant Voltage™ output, and are dimmable with 0-10V dimmers ONLY.
- Constellation™ must be installed in dry locations ONLY.

Welcome to Constellation™

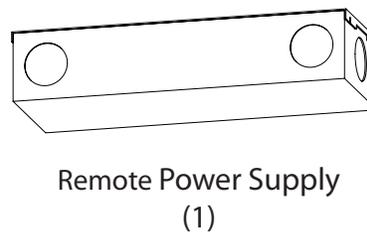
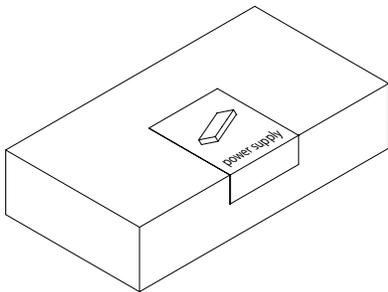
A Constellation configuration is built from LED hubs, connecting arms, end arms, and cable ceiling hangers. Illumination radiates through either the white optical acrylic lenses, or sparkles with refracted light through micro-faceted clear acrylic crystal lenses. Each hub is a complete LED light engine, using an array of LEDs with driver circuitry on each of the two faces of the hub. The connecting arms form a structural and electrical connection between the hubs, and are easily assembled by inserting the arm into the hub and are secured in place by a retaining set screw. The hubs can revolve around the connecting arms to alter the orientation of the illumination and that of the intersecting connecting arms. The configuration is supported by cable ceiling hangers that slide onto an arm and lock into place as needed, and is powered by a special power feed hub connected to the ceiling power feed.

WHAT COMES IN THE BOX

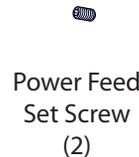
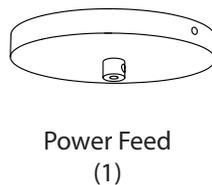
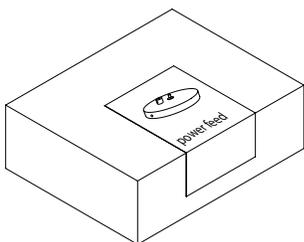
Triple Ceiling Hanger/Hanger Clips - Contains the cable ceiling hangers and stay clips as well as a parts bag necessary for configuration assembly.



Power Supply - Contains the LED Driver necessary for connecting to the branch circuit and housed in an enclosure for remote installation.

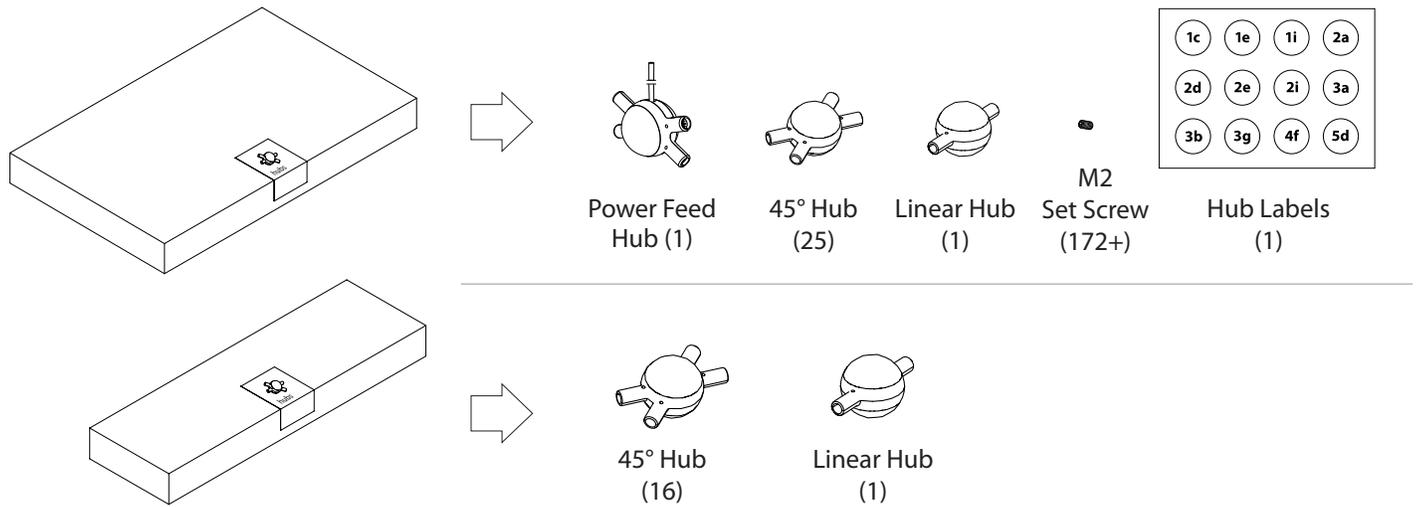


Power Feed - Contains the power feed for attaching the configuration to the outlet box and connecting to the power supply. Also includes a parts bag necessary for installation.



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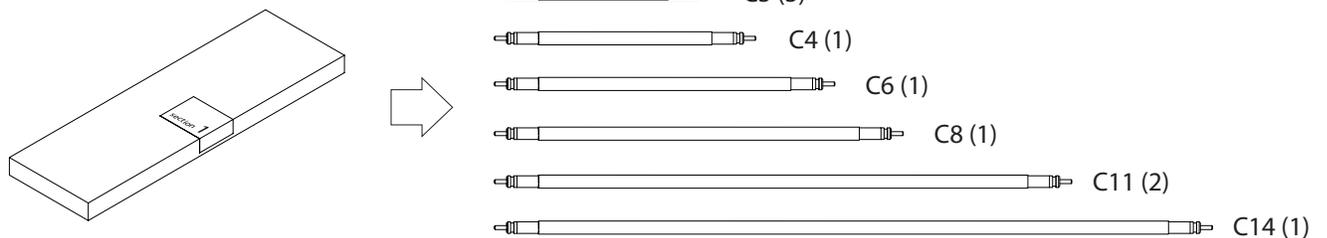
Hubs - Contains the LED hubs, arranged by Ursa Major assembly sections and identified with a chart inside the box cover.



Section Boxes - Organized by assembly section, each box contains various sizes of connecting arms or end arms.

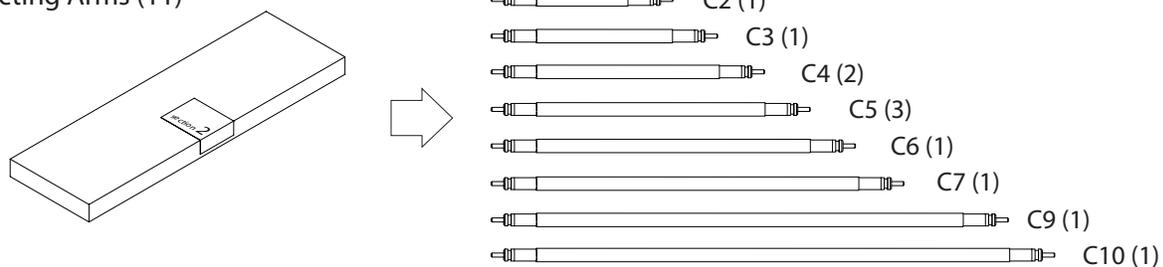
Section 1

Connecting Arms (9)



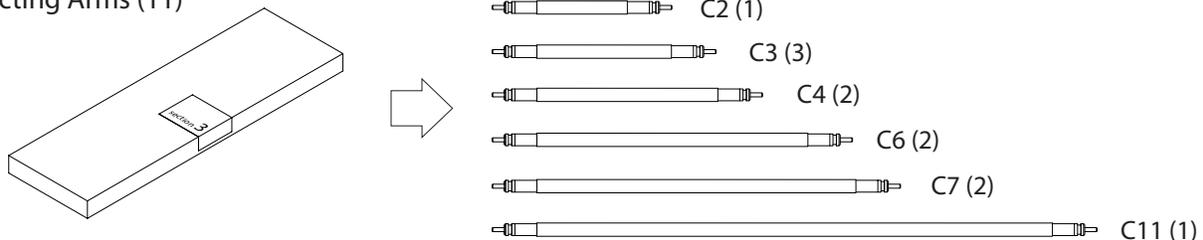
Section 2

Connecting Arms (11)

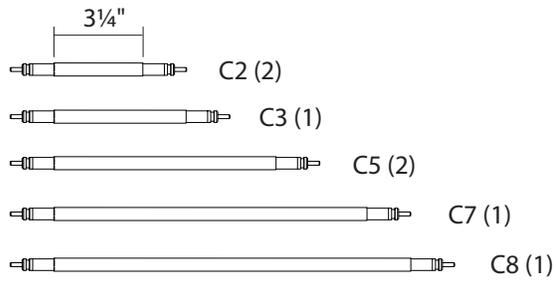
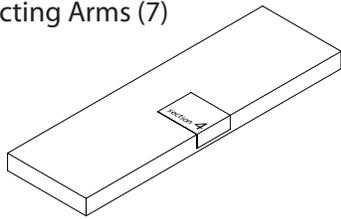


Section 3

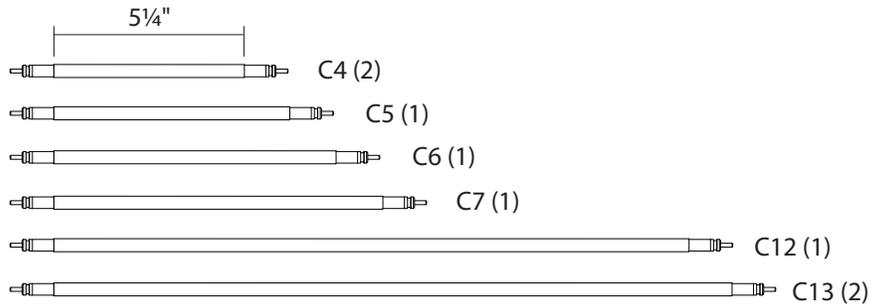
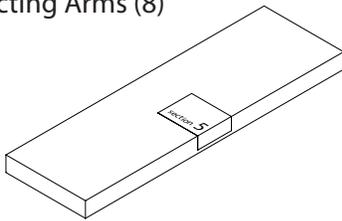
Connecting Arms (11)



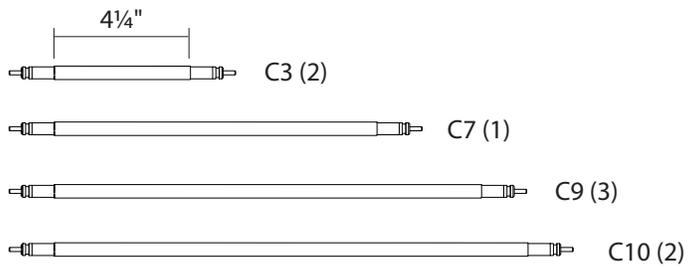
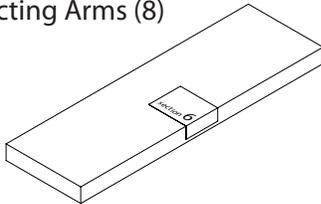
Section 4 Connecting Arms (7)



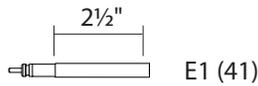
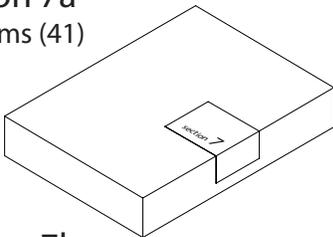
Section 5 Connecting Arms (8)



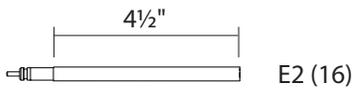
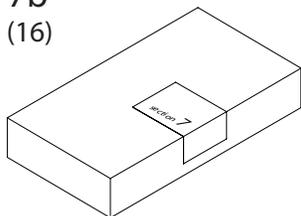
Section 6 Connecting Arms (8)



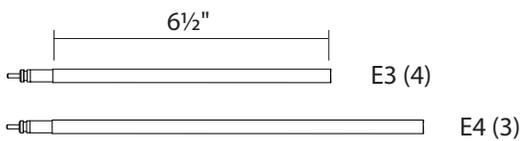
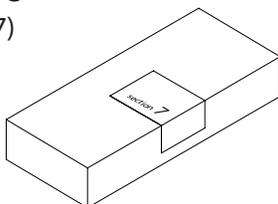
Section 7a End Arms (41)



Section 7b End Arms (16)



Section 7c End Arms (7)



REMOTE POWER SUPPLY AND POWER FEED INSTALLATION

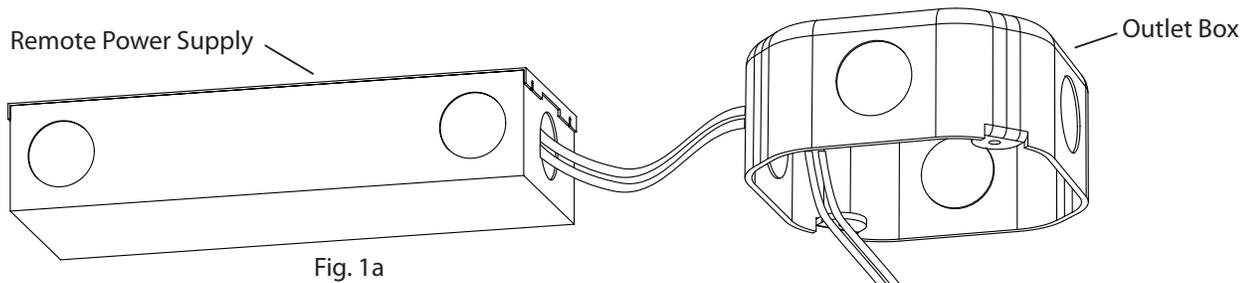


Fig. 1a

Remote Power Supply Installation (Fig. 1a):

1. Shut off power to the Outlet Box.
2. Install the Power Supply in a remote and accessible location near the fixture in accordance with local electrical code. Make appropriate electrical connections using wire nuts:
 - a. Connect the Power Supply's live wire (black) to the live supply wire.
 - b. Connect the Power Supply's neutral wire (white) to the neutral supply wire.
 - c. Connect the Power Supply's positive (+) output wire (red) to the required length of red wire (not included) to reach the Outlet Box.
 - d. Connect the Power Supply's negative (-) output wire (black) to the required length of black wire (not included) to reach the Outlet Box.

Power Feed Installation (Fig. 1b):

NOTE: Do not install the Power Feed until completing all assembly steps (Section 1-7) and adjusting configuration height.

3. Feed the Cord on the Power Feed Hub through the Bushing on the Power Feed. Adjust the cord length as desired, and secure with the Slotted Set Screw using the provided Screwdriver. Reserve excess Cord in the Power Feed.
4. Attach the Mounting Plate to the Outlet Box using the two (2) Outlet Box Screws.
5. Make appropriate electrical connections using wire nuts:
 - a. Connect the positive (red) low voltage wire from the Power Supply to the red side (inner, jacketed conductor) of the Power Feed Hub Cord.
 - b. Connect the negative (black) low voltage wire from the Power Supply to the black side (outer, braided conductor) of the Power Feed Hub Cord.
 - c. Connect the fixture's ground wire (green or uncoated) to the ground outlet box wire. If no ground is present in outlet box, connect fixture's ground wire to the Mounting Plate using the green screw (included).
 - d. Carefully place the connections in the Outlet Box.
6. Install the Power Feed to the Mounting Plate and secure with Set Screws using the Medium Hex Wrench provided.
7. Restore power to Outlet Box.

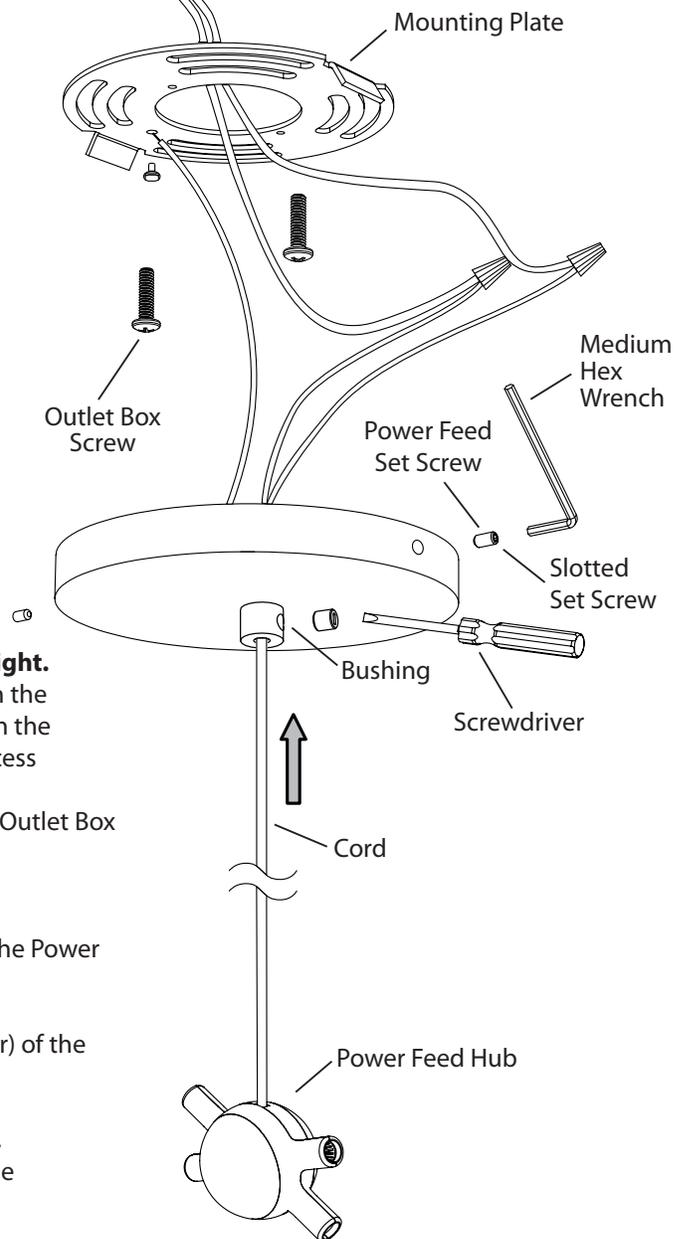


Fig. 1b

TRIPLE CEILING HANGER AND HANG CLIP INSTALLATION

IMPORTANT: Ursa Major is a linear configuration and the orientation of the ceiling hangers will determine the orientation of the fixture.

1. Mount the Triple Ceiling Hangers (2) by first installing the Caps onto the ceiling 35" apart (Fig. 2d) using the supplied Screws. Use provided Drywall Anchors if no joist is present (Fig. 2a).
2. Screw a Hanger Head onto each Cap. Note the Hanger Head orientation to align the Cable Grippers (Fig. 2d, bottom views).
3. Insert the Hang Clips (Fig. 2b) into the 3 Cable Grippers on each of the Triple Ceiling Hangers until approx. 1" of cable has exited the Hanger Head. NOTE: The final height of the configuration will be set by adjusting each Hang Clip while installing Sections 1-7 on pages 12-25.
4. After Constellation has been assembled and suspended to the desired height, cut and remove extra Hang Clip cable from each of the (6) Hang Clip locations (Fig. 2c). **DO NOT PERFORM THIS STEP UNTIL THE CONFIGURATION HAS BEEN SET IN ITS FINAL POSITION (pages 26-27).**

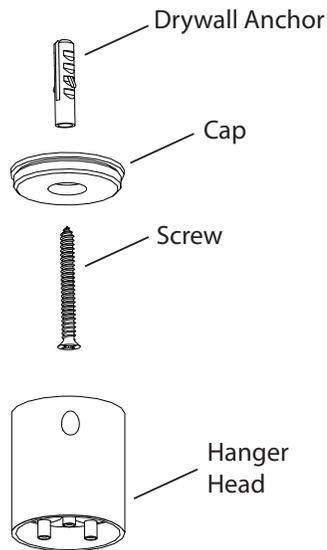


Fig. 2a

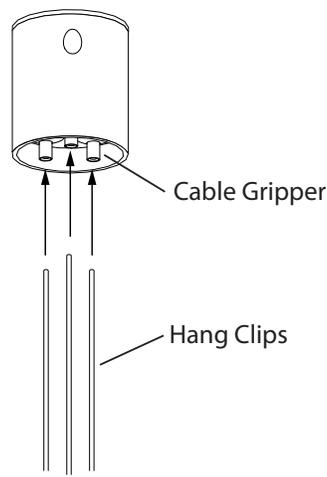


Fig. 2b

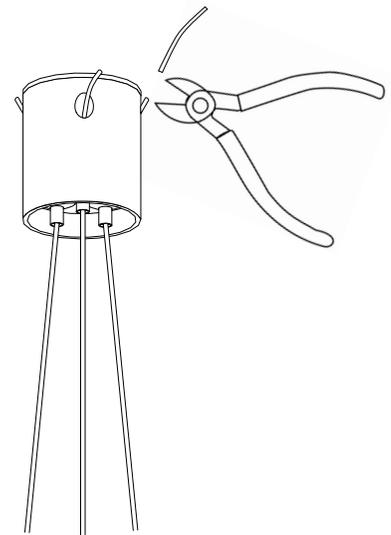
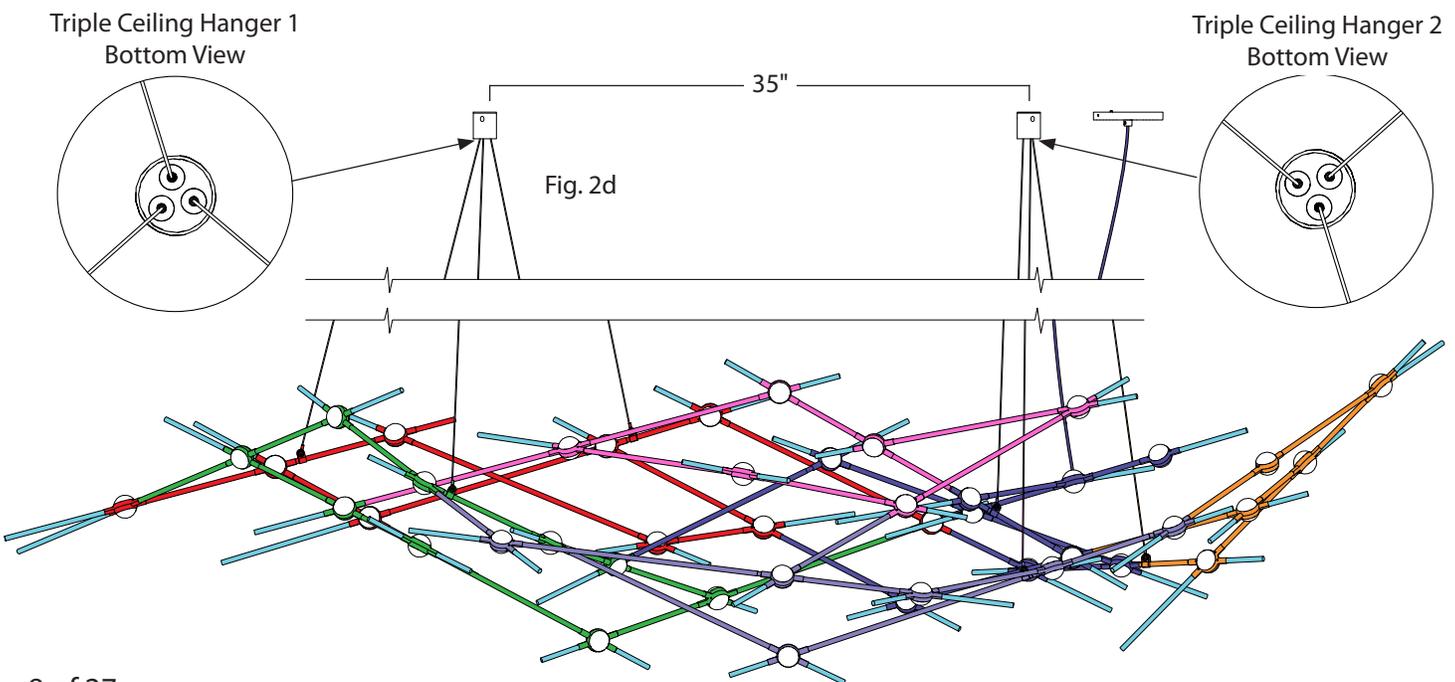


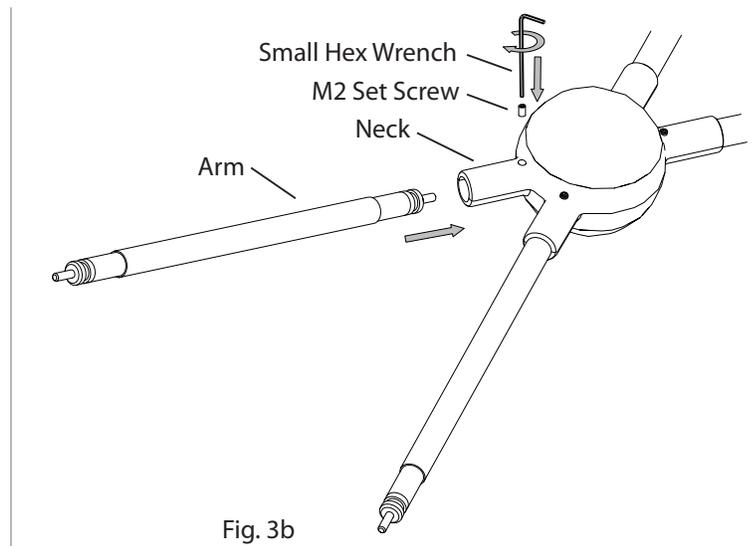
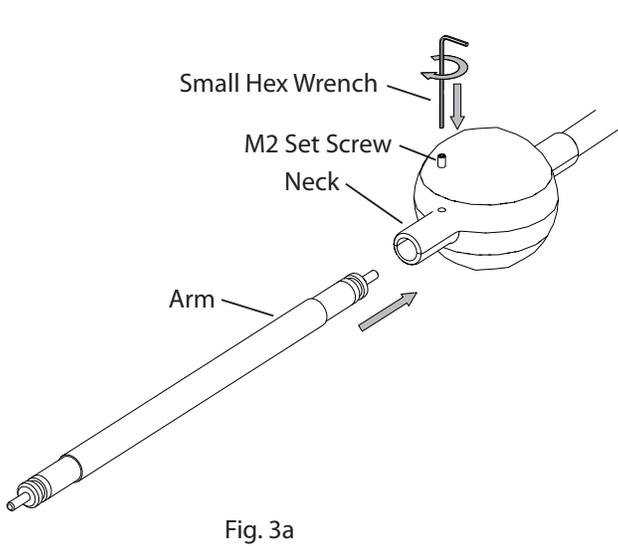
Fig. 2c



COMPONENT INSTALLATION INSTRUCTIONS D'INSTALLATION

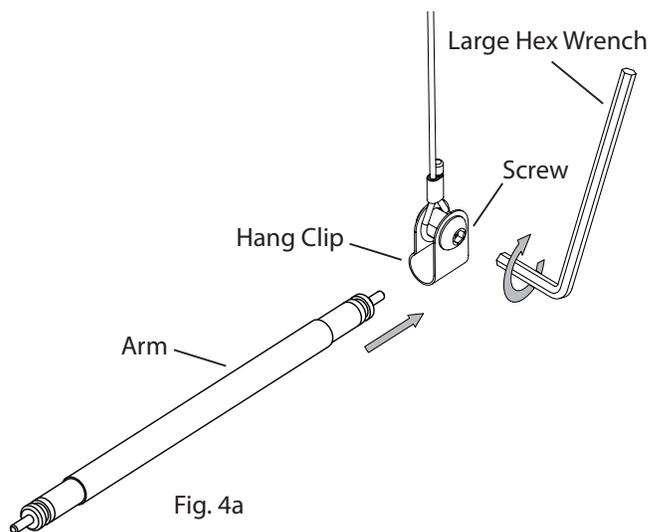
Arm and LED Hub Assembly:

1. Install each Arm into an LED Hub by fully inserting the Arm into a Neck on the Hub (Figs. 3a/3b).
2. After each Arm is connected to the Hub, install the M2 Set Screw into the Neck of the Hub, using the Small Hex Wrench provided, and tighten until it comes in contact with the plastic cap on the Arm. DO NOT OVERTIGHTEN THE SCREWS.



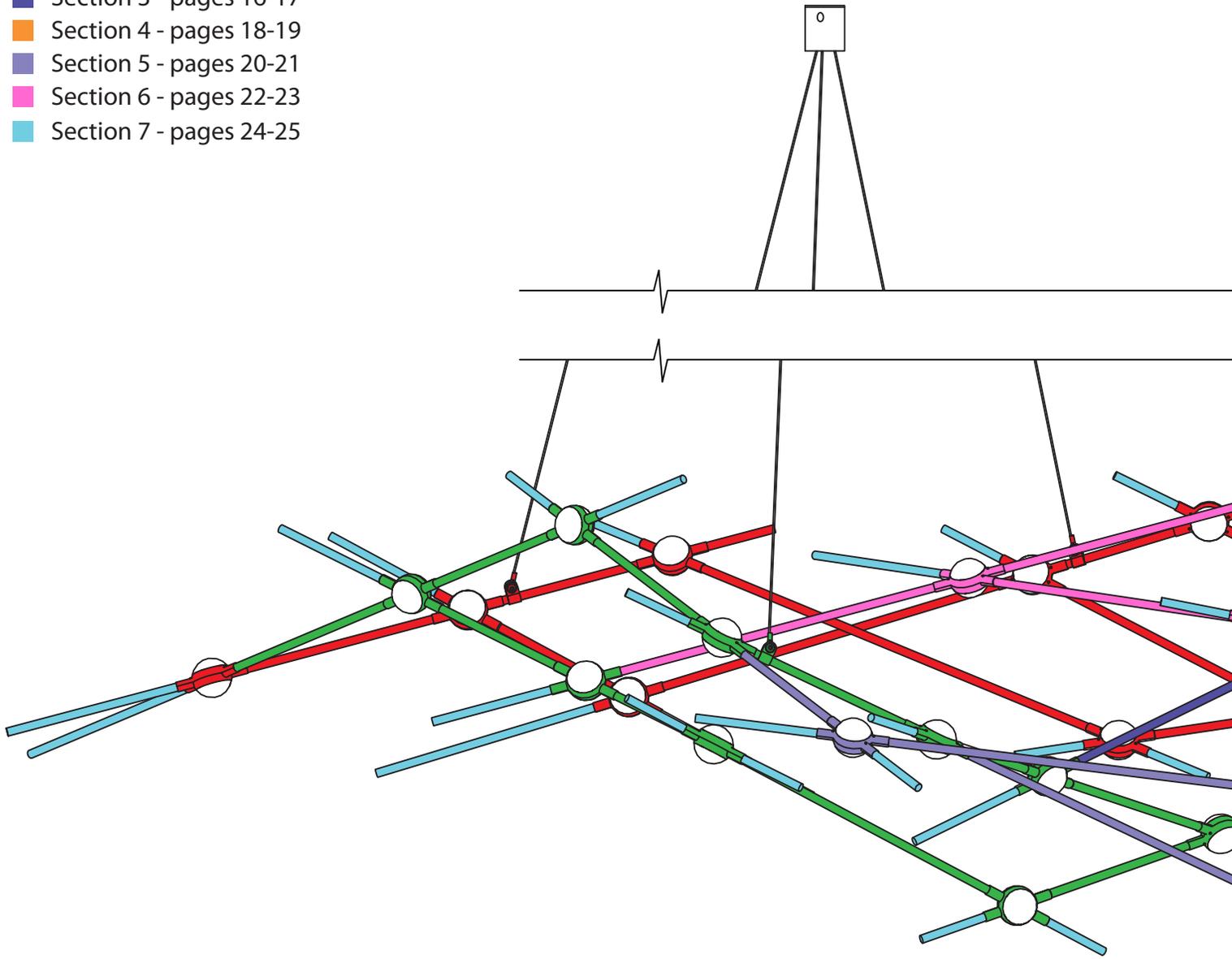
Arm and Hang Clip Assembly:

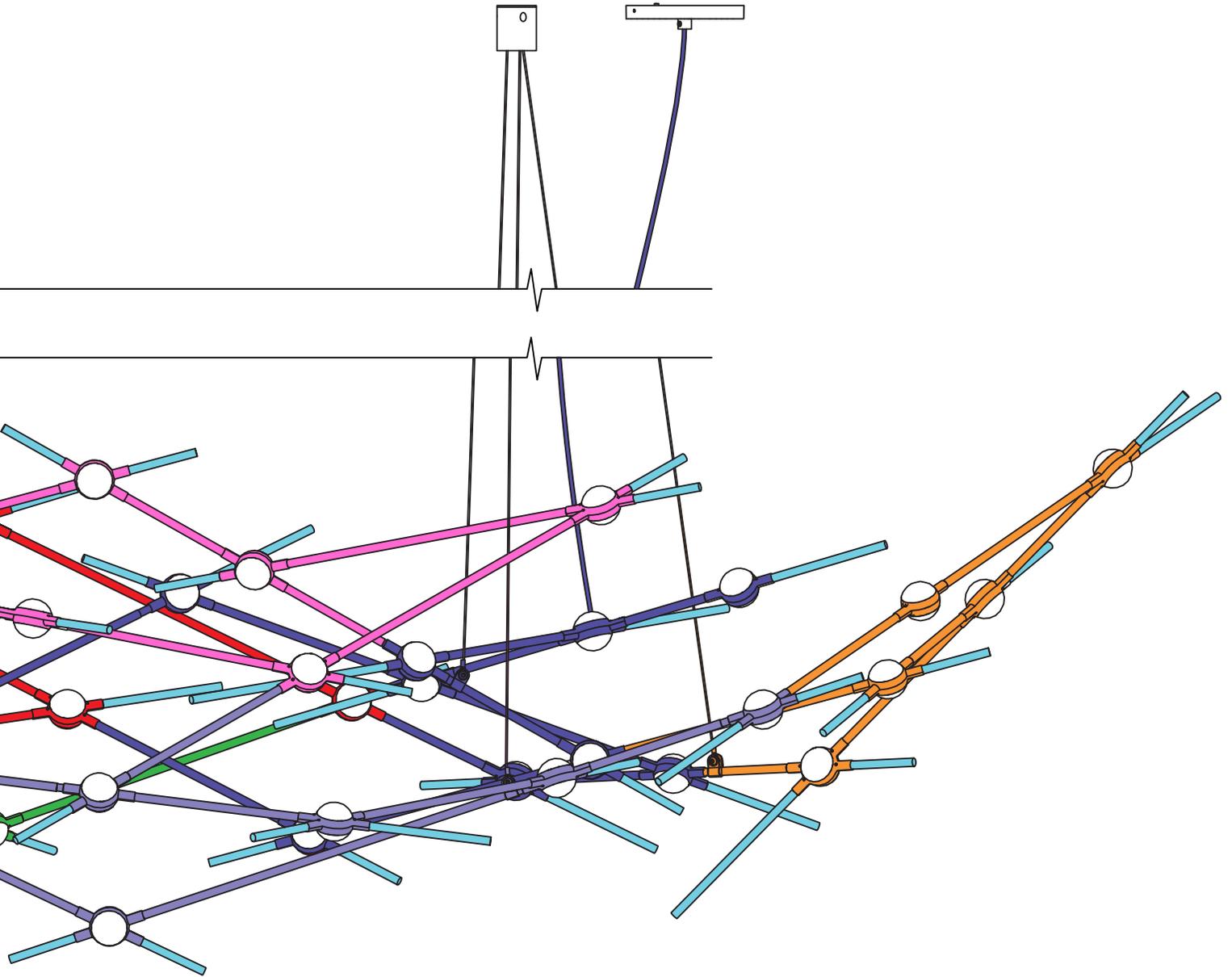
1. Install Arm into the Hang Clip (Fig. 4a) by sliding the Arm through the clip.
2. Once the Arm is in the desired location, tighten the Screw using the Large Hex Key provided.



OVERVIEW OF ASSEMBLED URSA MAJOR

- Section 1 - pages 12-13
- Section 2 - pages 14-15
- Section 3 - pages 16-17
- Section 4 - pages 18-19
- Section 5 - pages 20-21
- Section 6 - pages 22-23
- Section 7 - pages 24-25





SECTION 1

- Build this section using the Hubs labelled Section 1 in the Hubs box, and Connecting Arms from the Section 1 box.
- Start by connecting the C4 Arm to a Hang Clip from Ceiling Hanger 1 (note the Hang Clip orientation in Fig. 5b) approx. ½" from one end (Fig. 5a). Connect a 45° Hub (1a) to the other end and continue by connecting the C14 Arm followed by another 45° Hub (1d). Then connect a C3 Arm and 45° Hub (1e), the C8 Arm and 45° Hub (1f), and another C3 Arm to a second hang clip from Ceiling Hanger 1 (note the Hang Clip orientation in Fig. 5b) approx. ½" from the Hub (1f) (Fig. 5a).
- Continue by connecting Arms and Hubs following the order and pattern in the Figs. 5a/5b.
- To help with connecting Sections 2 and 3, add the matching Hub Labels to Hubs 1c, 1e, and 1i.

Arm Length Key	
C3	4¼" (3)
C4	5¼" (1)
C6	7¼" (1)
C8	9¼" (1)
C11	13¼" (2)
C14	17¼" (1)

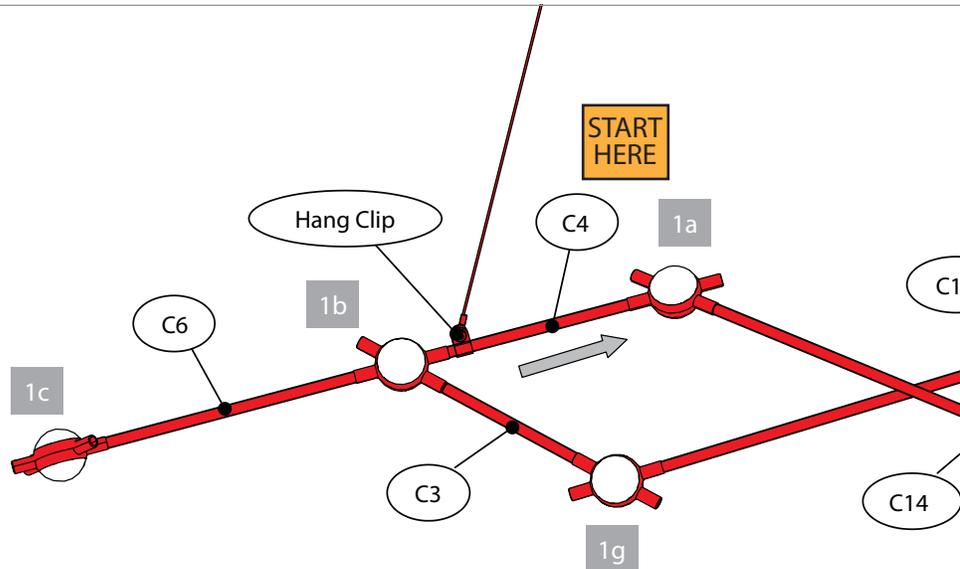


Fig. 5a - Front View

IMPORTANT:

Be sure to install all M2 Set Screws to secure the Arms to the Hubs, as shown on page 9.

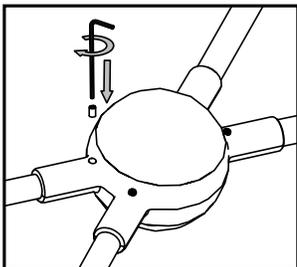
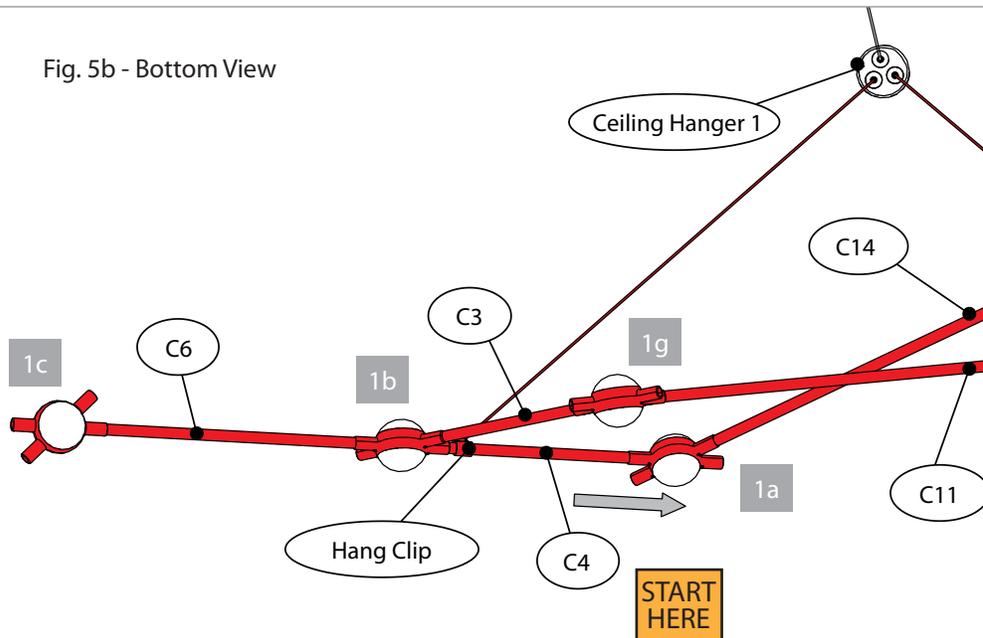
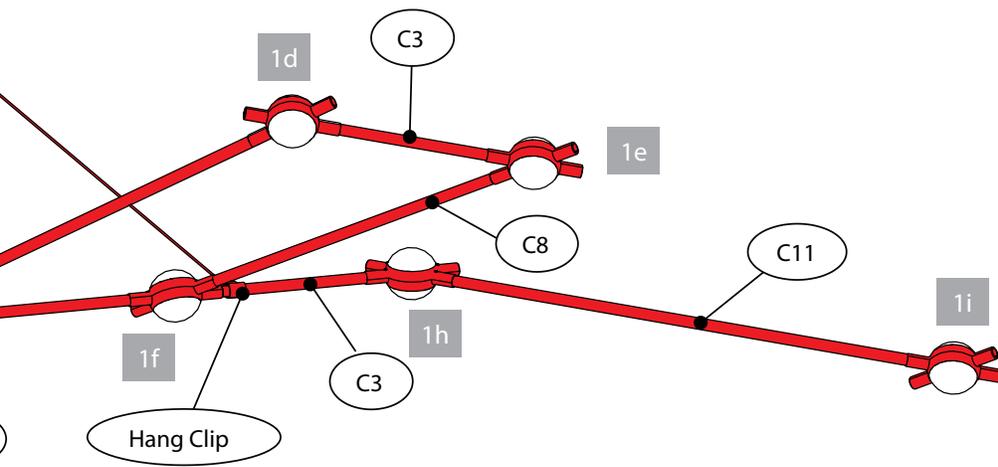
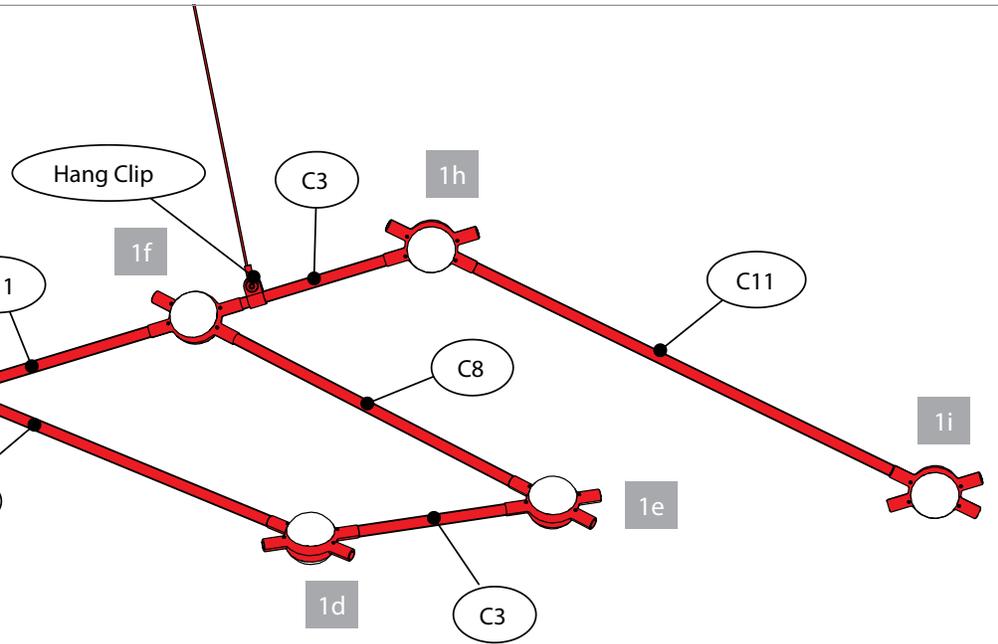


Fig. 5b - Bottom View





SECTION 2

- Build this section using the Hubs labelled Section 2 in the Hubs box, and Connecting Arms from the Section 2 box.
- Start by connecting a C5 Arm and 45° Hub (2a) to the remaining Hang Clip from Ceiling Hanger 1 (note the Hang Clip orientation in Fig. 6b), approx. 1/2" from the Hub. Continue by connecting another C5 Arm and a 45° Hub (2b), and the last C5 Arm and a 45° Hub (2c). Then secure the C7 Arm to the 45° Hub (1c) from Section 1.
- Continue by connecting Arms and 45° Hubs following the order and pattern in Figs. 6a/6b and complete this section by connecting the remaining C10 Arm to the 45° Hub (1i) from Section 1.
- To help with connecting Sections 3, 5, and 6, add the matching Hub Labels to Hubs 2a, 2d, 2e, and 2i.

Arm Length Key	
C2	3¼" (1)
C3	4¼" (1)
C4	5¼" (2)
C5	6¼" (3)
C6	7¼" (1)
C7	8¼" (1)
C9	11¼" (1)
C10	12¼" (1)

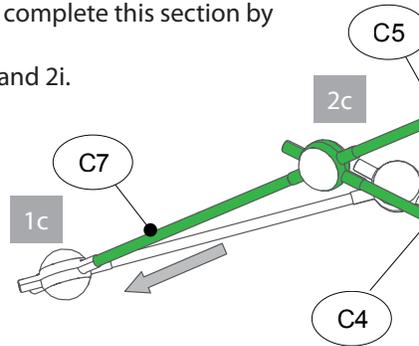


Fig. 6a - Front View

IMPORTANT:

Be sure to install all M2 Set Screws to secure the Arms to the Hubs, as shown on page 9.

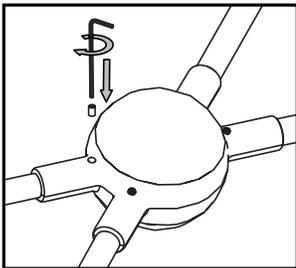
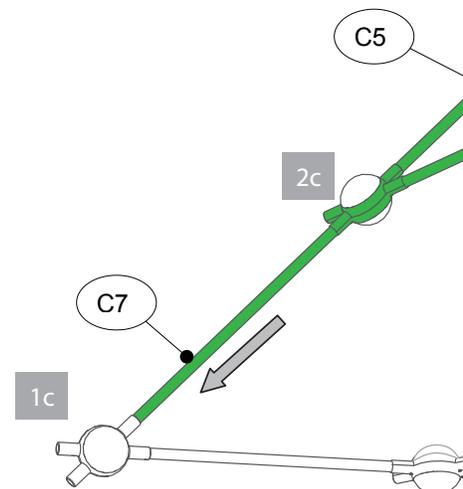
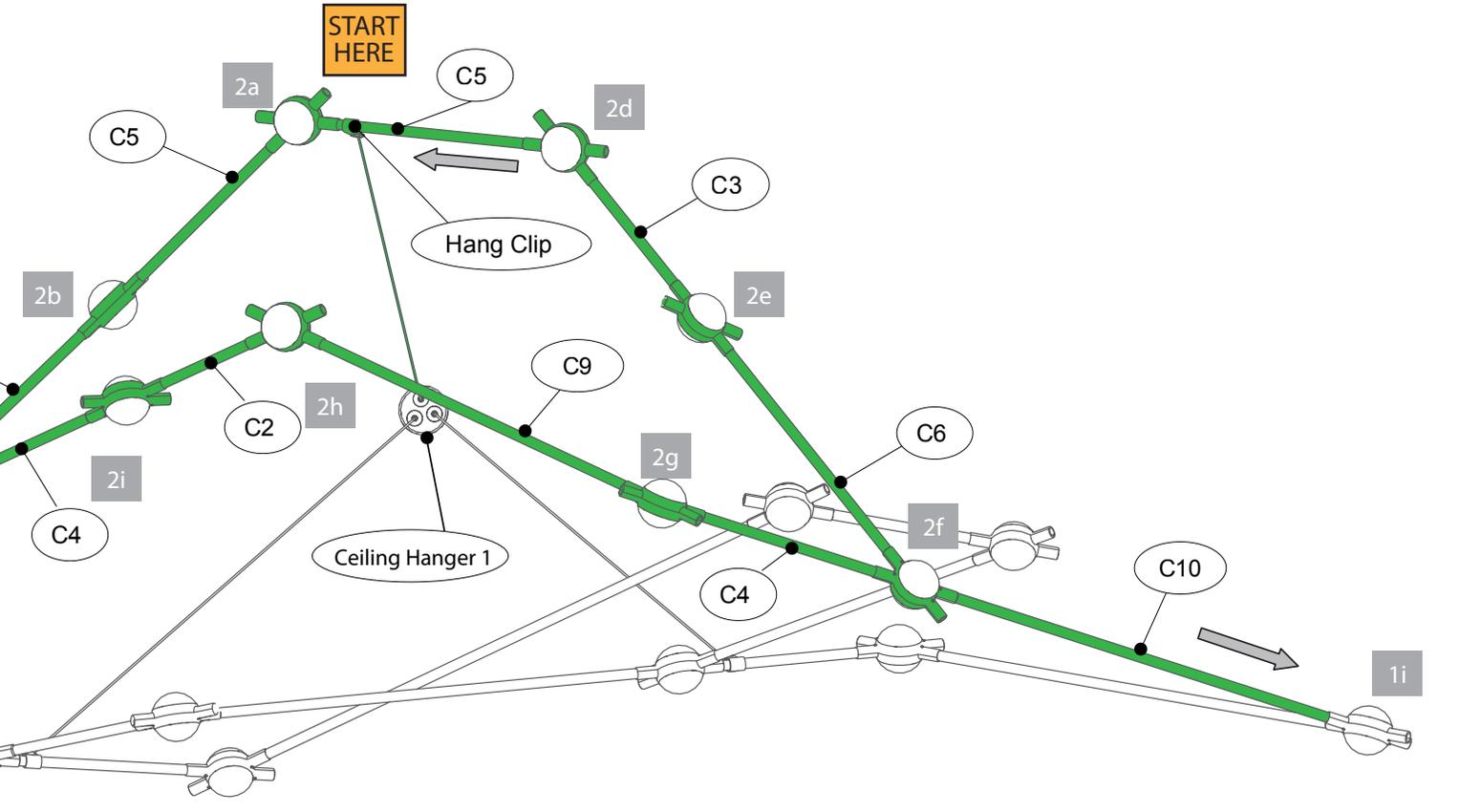
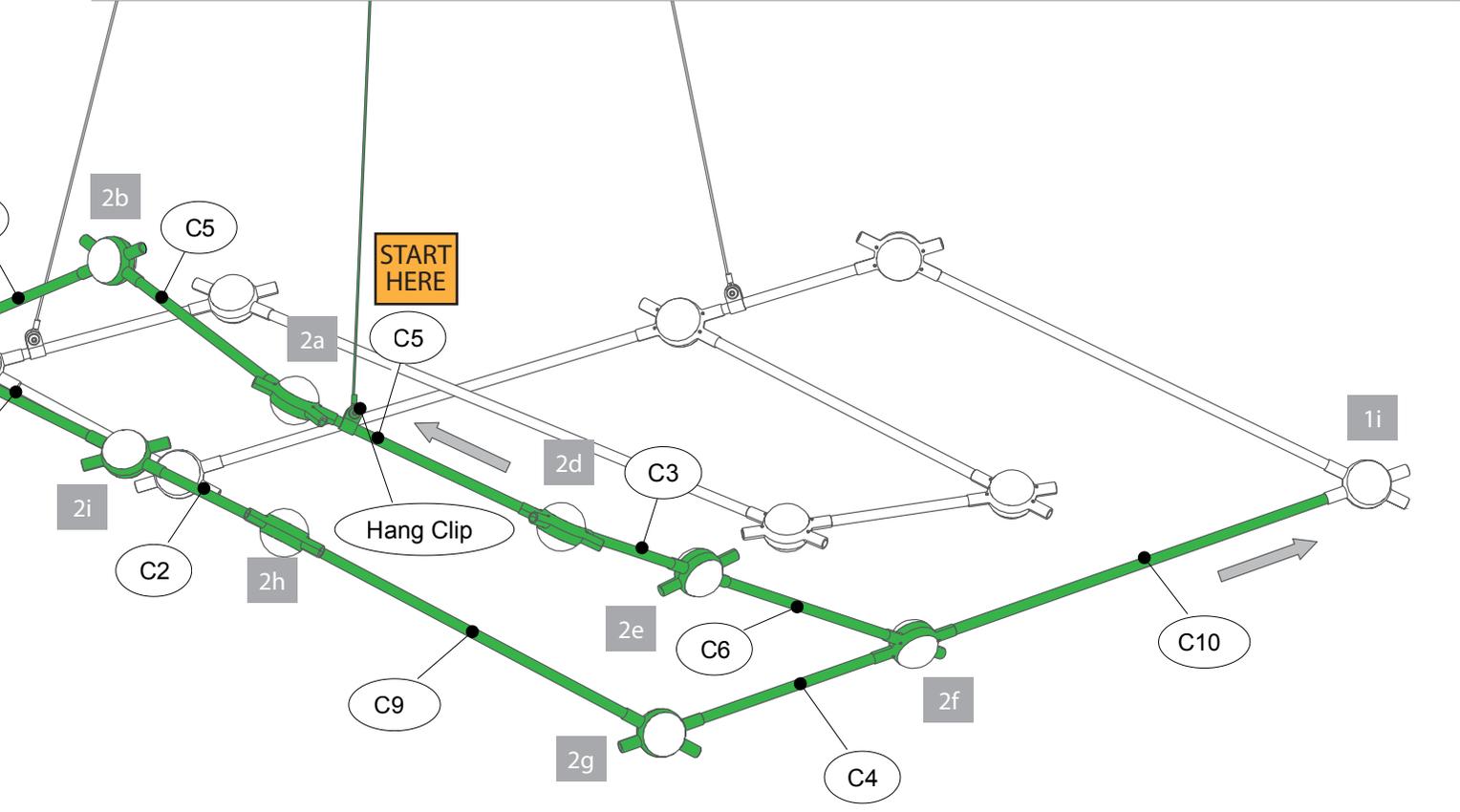


Fig. 6b - Bottom View



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SECTION 3

- Build this section using the Hubs labelled Section 3 in the Hubs box, and Connecting Arms from the Section 3 box.
- Start by connecting a C4 Arm and 45° Hub (3a) to a Hang Clip from Ceiling Hanger 2 (note the Hang Clip orientation in Fig. 7b), approx. 1/2" from the Hub (3a). Connect a 45° Hub (3b) to the other end of the C4 Arm, and then a C7 Arm, a 45° Hub (3c), and the other C7 Arm, connecting this Arm to the 45° Hub (1e) from Section 1.
- Connect the remaining C4 Arm to the first 45° Hub (3a) and connect this to the Power Feed Hub (3f). Leave the Power Feed Cord coiled, this will be installed in the final step.
- Connect the C2 Arm to the Power Feed Hub (3f) and then install the Linear Hub (3g).
- Continue by connecting Arms and 45° Hubs following the order and pattern in Figs. 7a/7b and complete this section by connecting the C11 Arm to the 45° Hub (2e) from Section 2 and a C3 Arm to the 45° Hub (1i) from Section 1.
- To help with connecting Sections 4 and 6, add the matching Hub Labels to Hubs 3a, 3b, and 3g.

Arm Length Key	
C2	3 1/4" (1)
C3	4 1/4" (3)
C4	5 1/4" (2)
C6	7 1/4" (2)
C7	8 1/4" (2)
C11	13 1/4" (1)

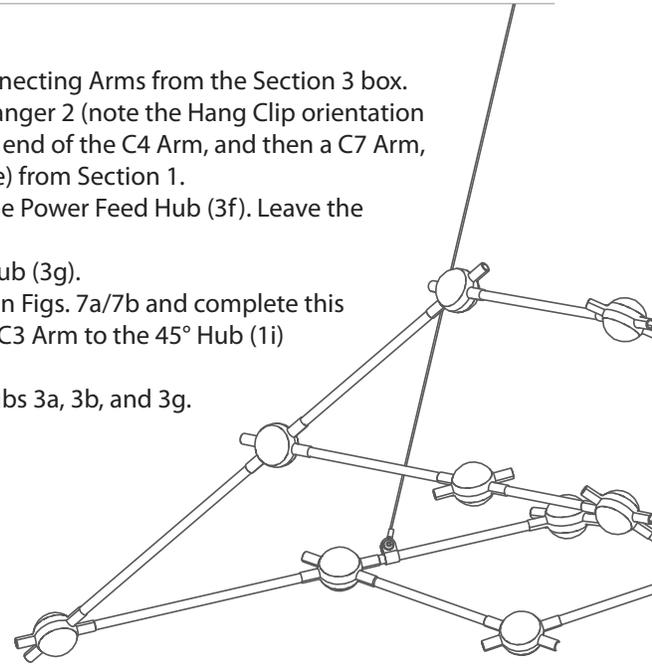


Fig. 7a - Front View

IMPORTANT:

Be sure to install all M2 Set Screws to secure the Arms to the Hubs, as shown on page 9.

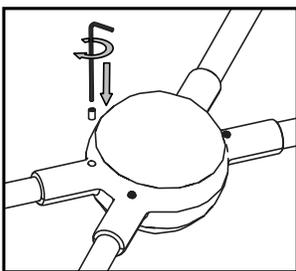
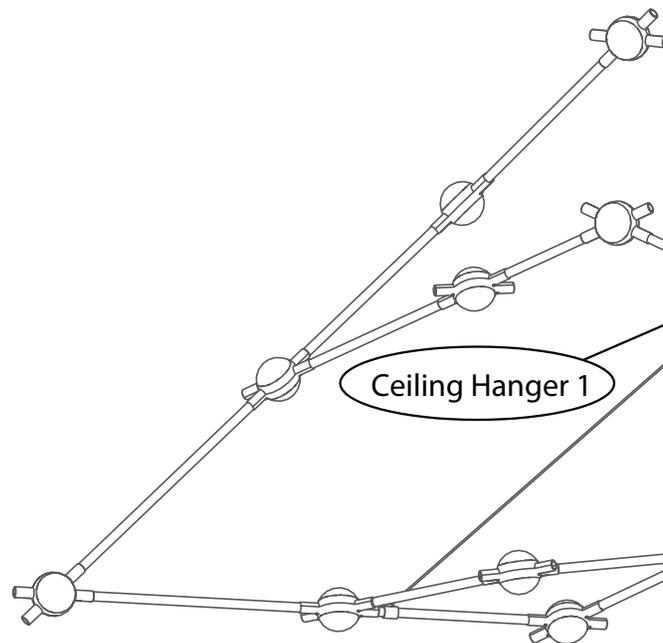
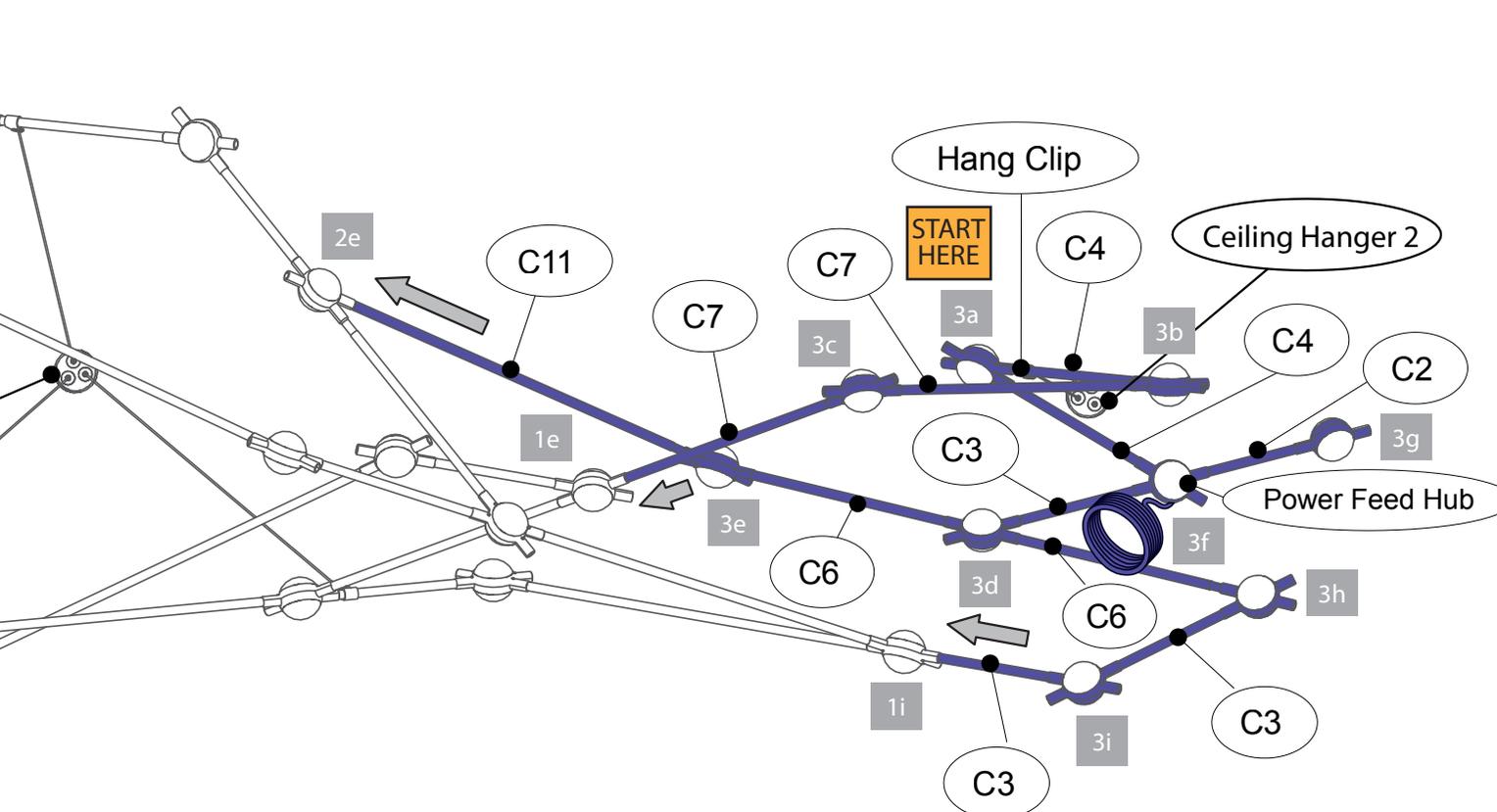
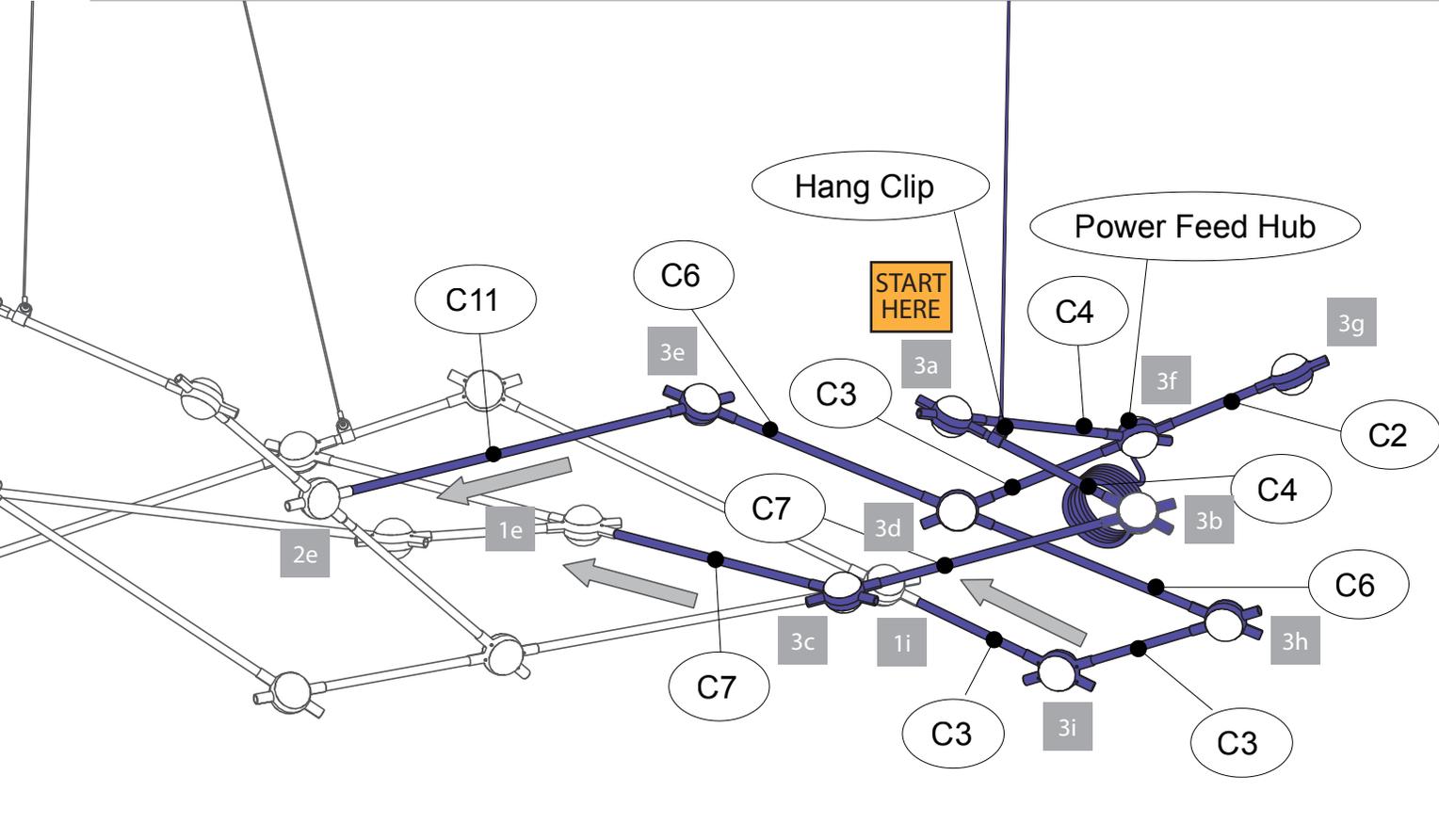


Fig. 7b - Bottom View



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SECTION 4

- Build this section using the Hubs labelled Section 4 in the Hubs box, and Connecting Arms from the Section 4 box.
- Start by connecting a C2 Arm and 45° Hub (4a) to a Hang Clip from Ceiling Hanger 2 (note the Hang Clip orientation in Fig. 8b), approx. ½" from the 45° Hub (3g) from Section 3.
- Continue by connecting Arms and 45° Hubs following the order and pattern in Figs. 8a/8b, attaching the C8 Arm to the 45° Hub (3b) from Section 3 and complete this section by connecting the remaining C5 Arm and 45° Hub (4f).
NOTE - Hub (4e) is the Linear Hub for this Section.
- To help with connecting Section 5, add the matching Hub Label to Hub 4f.

Arm Length Key	
C2	3¼" (2)
C3	4¼" (1)
C5	6¼" (2)
C7	8¼" (1)
C8	9¼" (1)

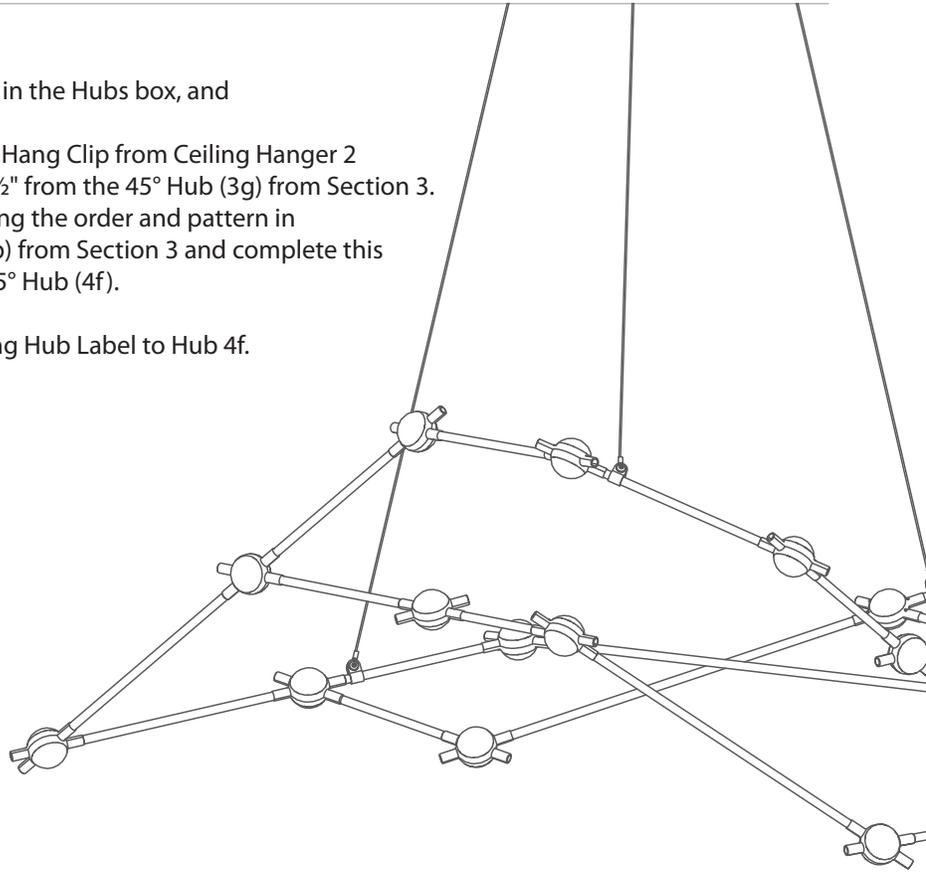


Fig. 8a - Front View

IMPORTANT:

Be sure to install all M2 Set Screws to secure the Arms to the Hubs, as shown on page 9.

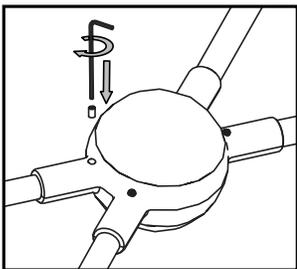
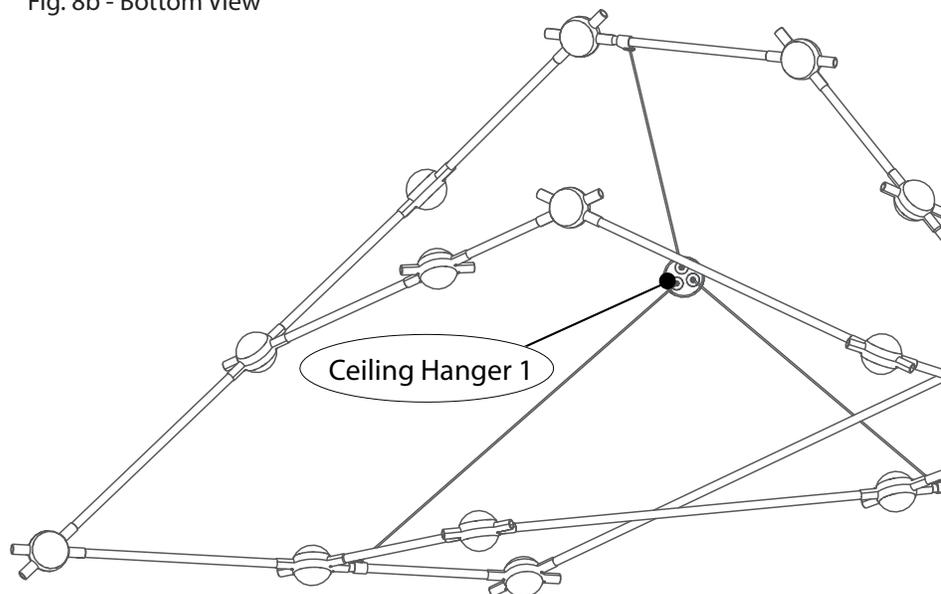
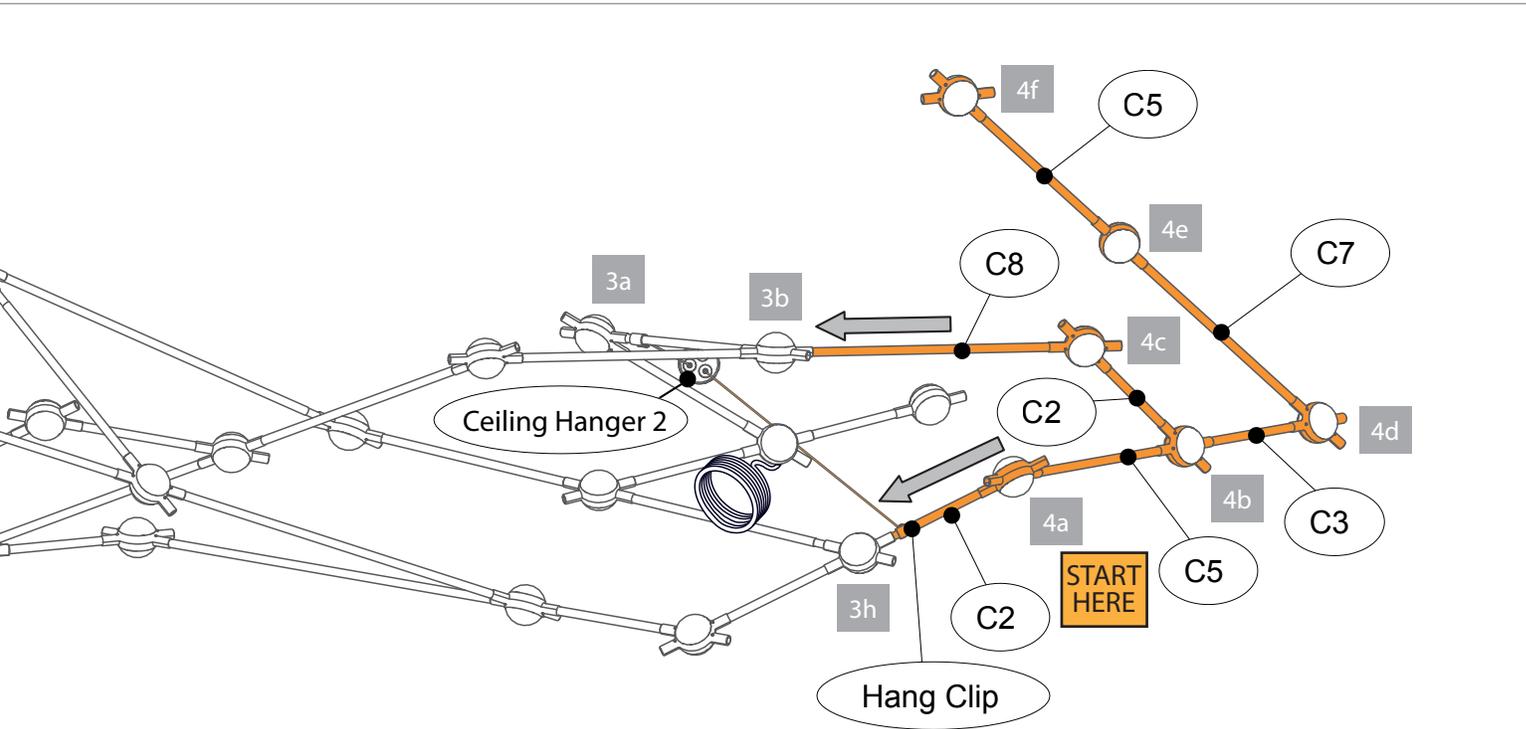
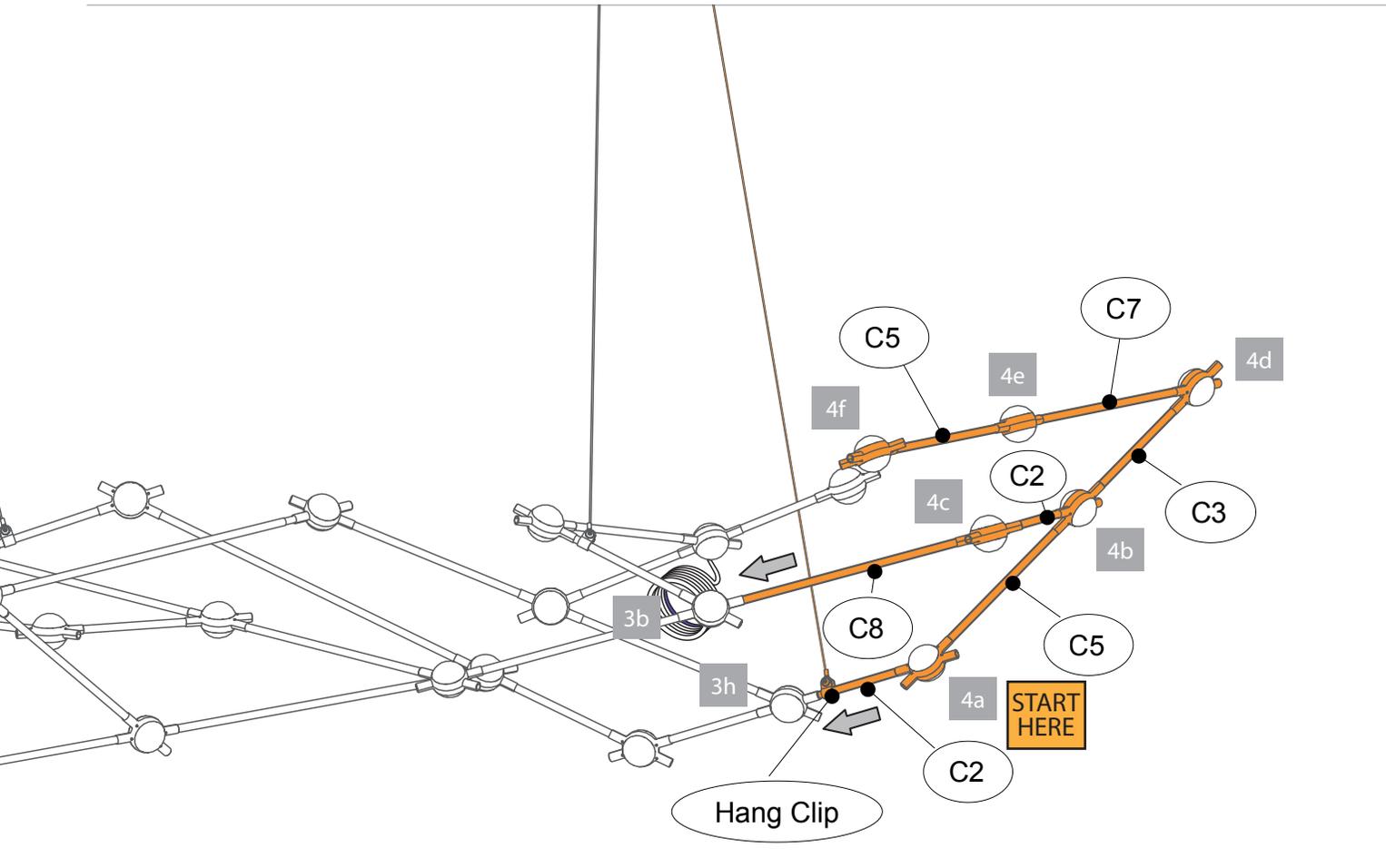


Fig. 8b - Bottom View





SECTION 5

- Build this section using the Hubs labelled Section 5 in the Hubs box, and Connecting Arms from the Section 5 box.
- Start by securing a C13 Arm and 45° Hub (5a) to the remaining Hang Clip from Ceiling Hanger 2 (note the Hang Clip orientation in Figs. 9a/9b) approx. ½" from the Hub, then connect the C4 Arm to 45° Hub (4f) from Section 4. Then connect C12 Arm and 45° Hub (5b) to 45° Hub (2d) from Section 2.
- Continue by connecting Arms and 45° Hubs following the order and pattern in the Figs. 9a/9b and complete this section by connecting the remaining C4 Arm to the 45° Hub (2a) from Section 2.
- To help with connecting Section 6, add the matching Hub Label to Hub 5d.

Arm Length Key	
C4	5¼" (2)
C5	6¼" (1)
C6	7¼" (1)
C7	8¼" (1)
C12	14¼" (1)
C13	15¼" (2)

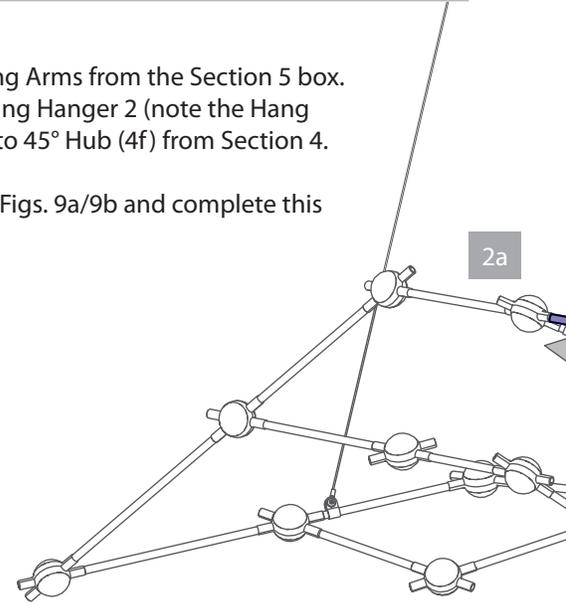


Fig. 9a - Front View

IMPORTANT:

Be sure to install all M2 Set Screws to secure the Arms to the Hubs, as shown on page 9.

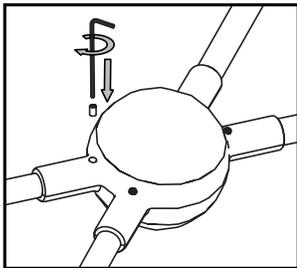
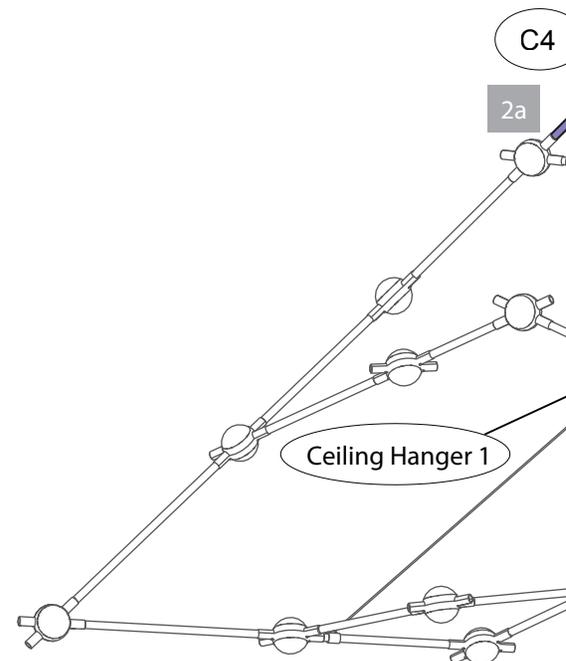
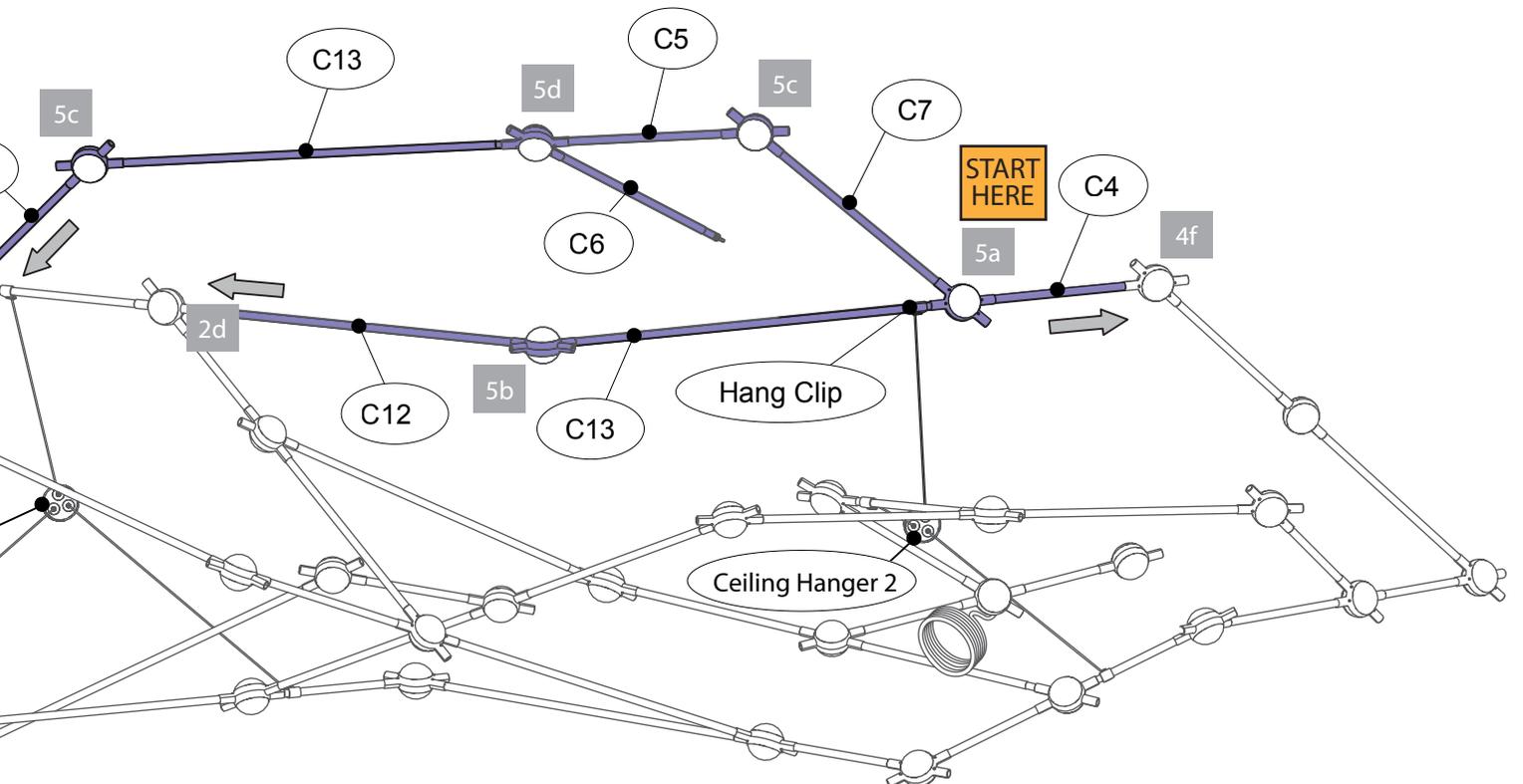
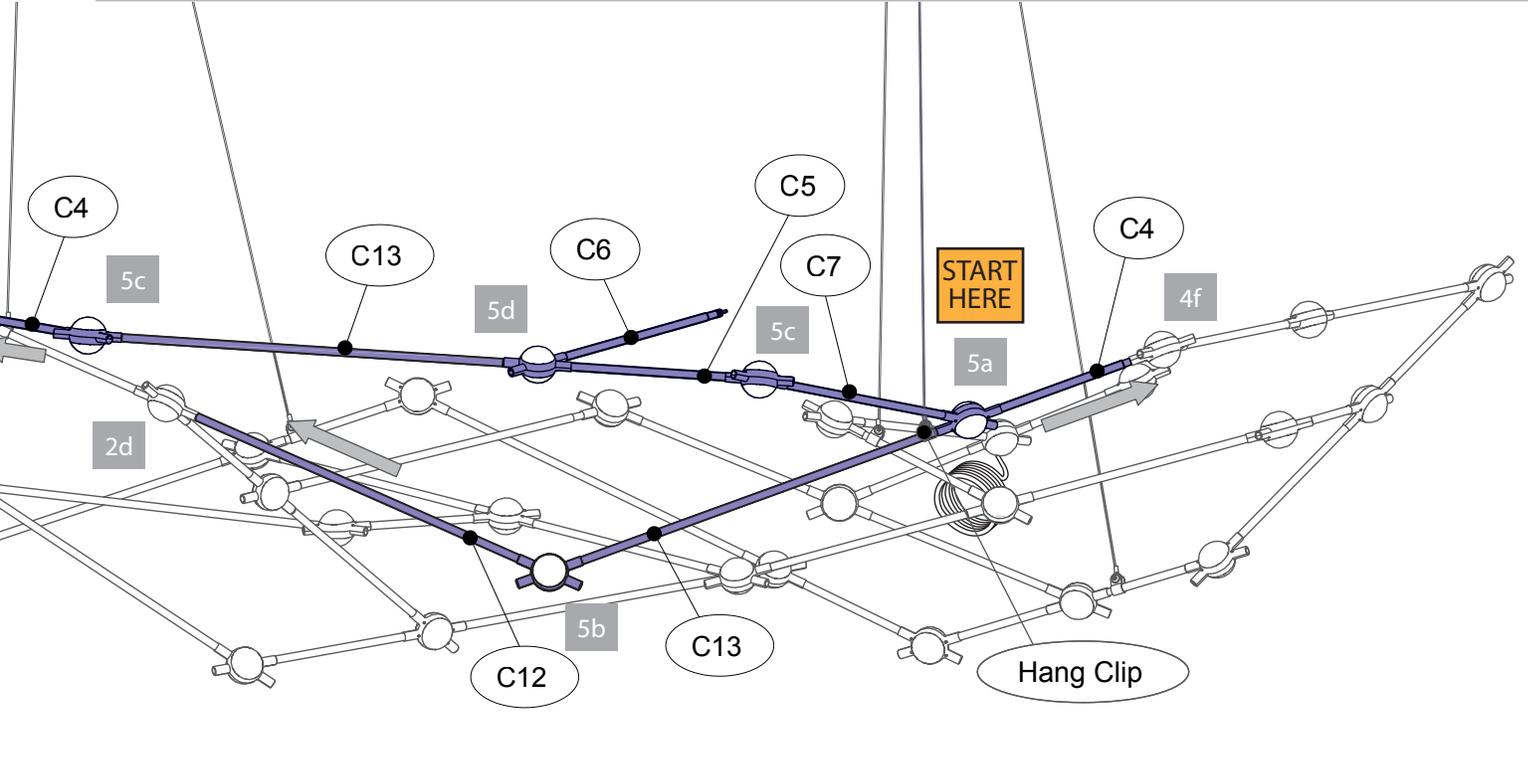


Fig. 9b - Bottom View



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SECTION 6

- Build this section using the Hubs labelled Section 6 in the Hubs box, and Connecting Arms from the Section 6 box.
- Start by securing a C10 Arm and 45° Hub (6a) to the 45° Hub (2i) from Section 2. Then connect a C9 Arm and 45° Hub (6b), a C3 Arm and 45° Hub (6c), and the remaining C3 Arm to the 45° Hub (3a) from Section 3.
- Continue by connecting Arms and 45° Hubs following the order and pattern in the Figs. 10a/10b, and complete this section by connecting Hub (6e) to the C6 Arm from Section 5 (connects to 45° Hub (5d)).

Arm Length Key	
C3	4¼" (2)
C7	8¼" (1)
C9	11¼" (3)
C10	12¼" (2)

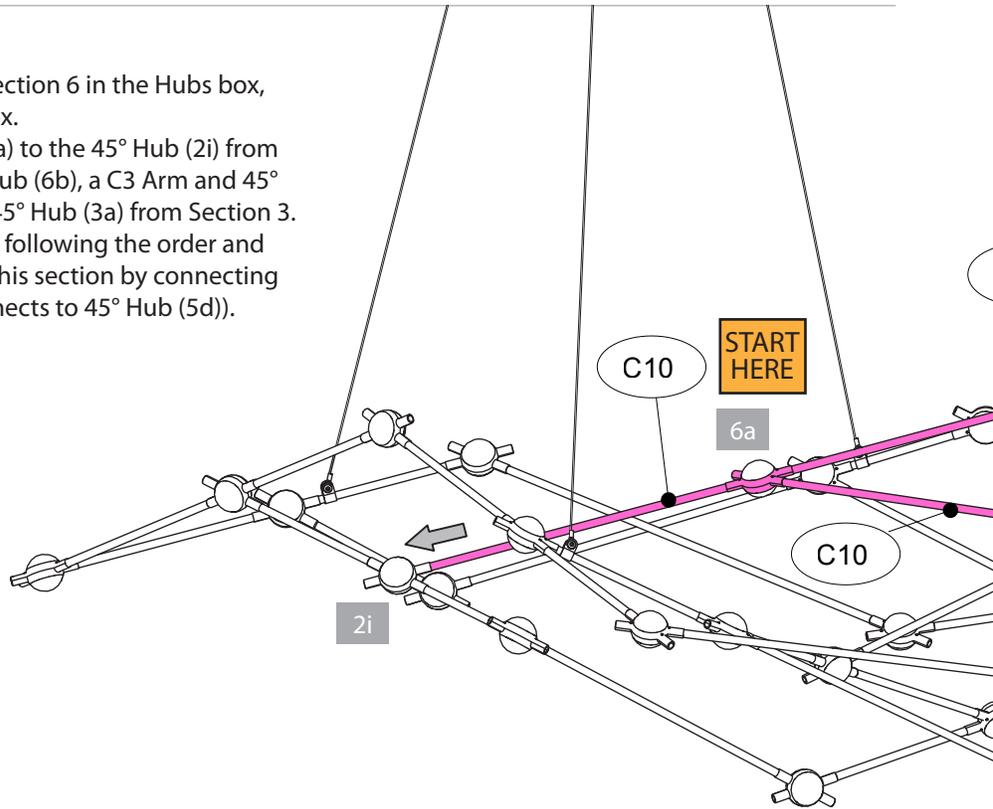


Fig. 10a - Front View

IMPORTANT:

Be sure to install all M2 Set Screws to secure the Arms to the Hubs, as shown on page 9.

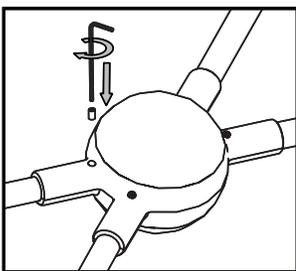
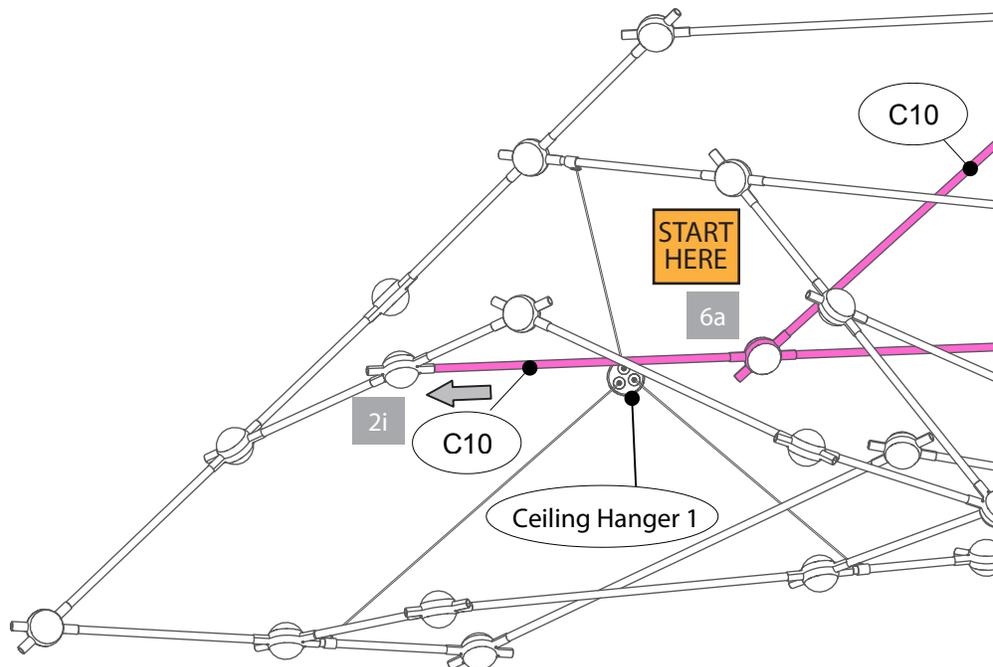
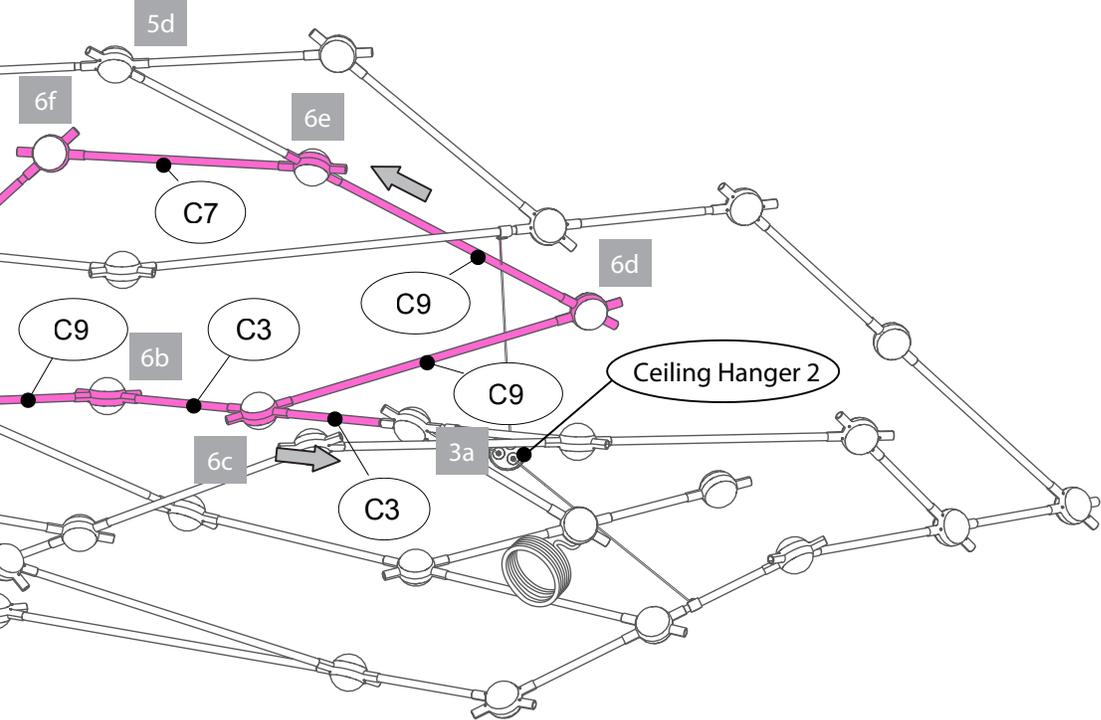
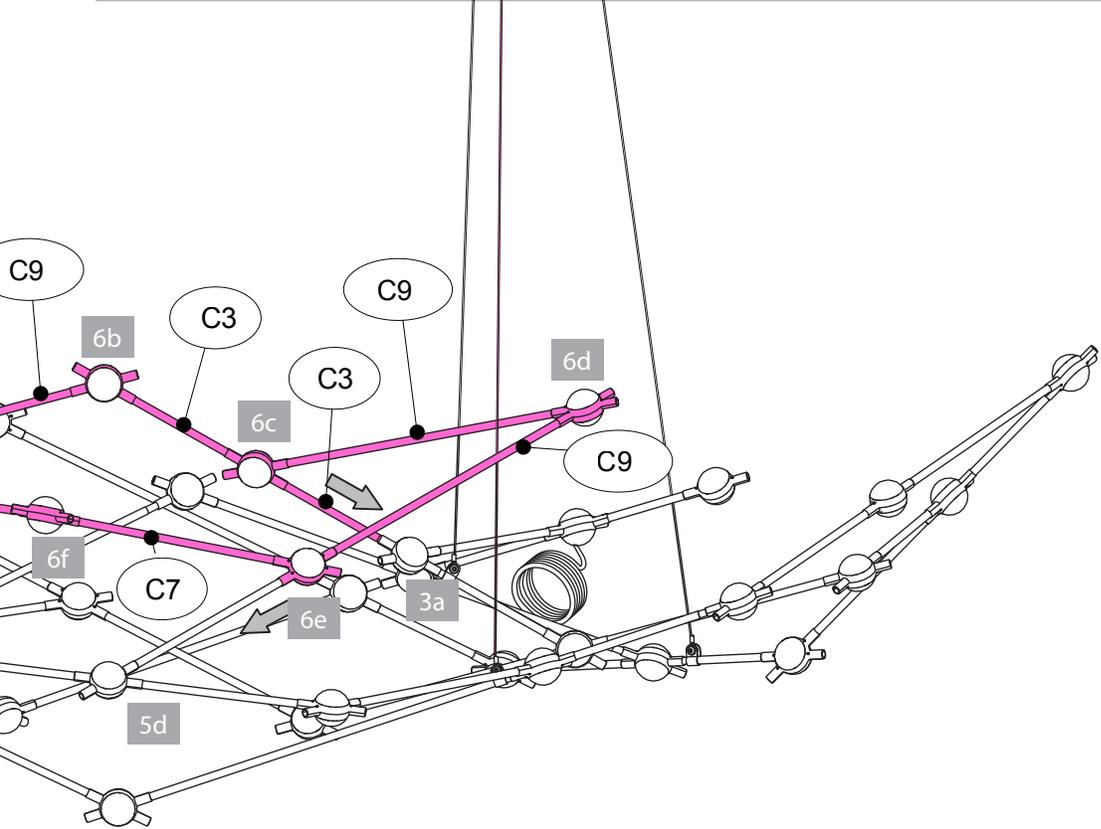


Fig. 10b - Bottom View



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ADDING THE END ARMS (SECTION 7)

- Build this section using the End Arms from the Section 7 boxes (3).
- Start by connecting the E4 End Arms (3) as indicated in Figs. 11a/11b.
- Continue by connecting the remaining End Arms onto the Hubs until all remaining Hub openings have been filled. There is no specific order for connecting the remaining End Arm lengths.
- Remove the Hub Labels (12) from Hubs: 1c, 1e, 1i, 2a, 2d, 2e, 2i, 3a, 3b, 3g, 4f, and 5d.
- Complete the installation by adjusting the height, as desired, trimming the Hang Clip Cables (as shown on page 8, Fig. 2c), and installing the Power Feed as shown on page 7.

Arm Length Key	
E1	2½" (41)
E2	4½" (16)
E3	6½" (4)
E4	8½" (3)

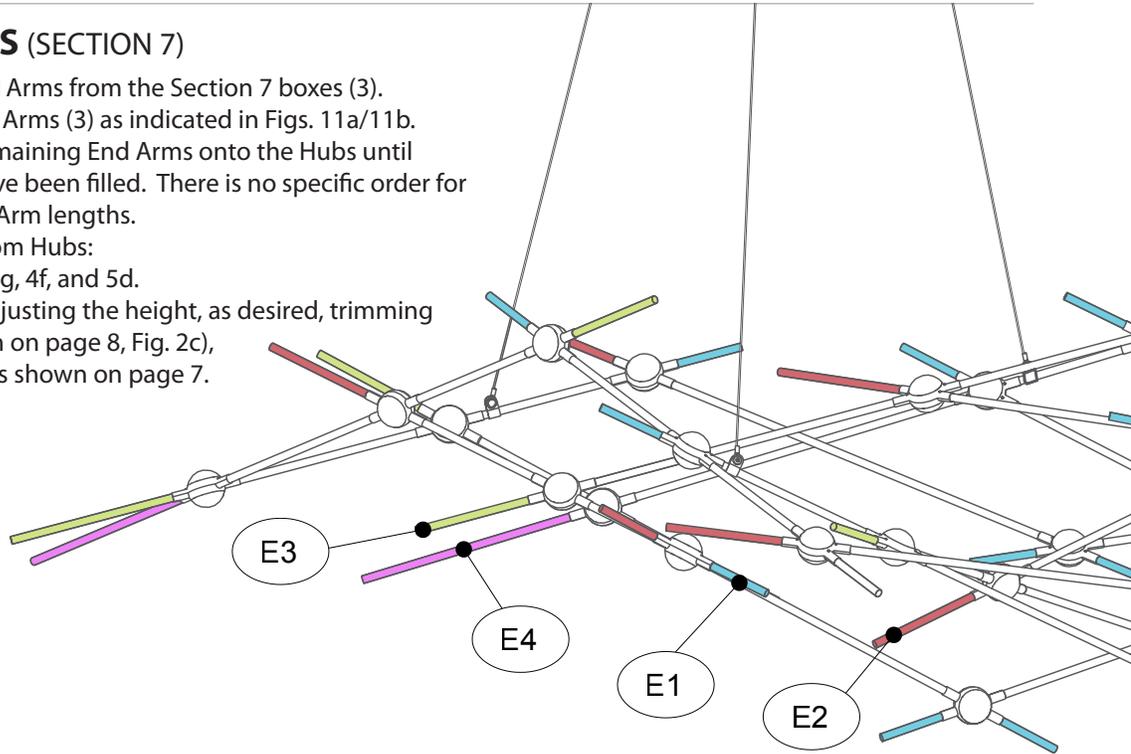


Fig. 11a - Front View

IMPORTANT:

Be sure to install all M2 Set Screws to secure the Arms to the Hubs, as shown on page 9.

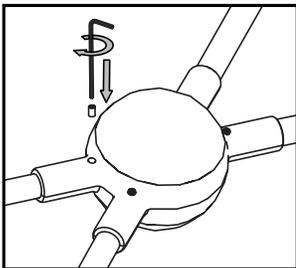
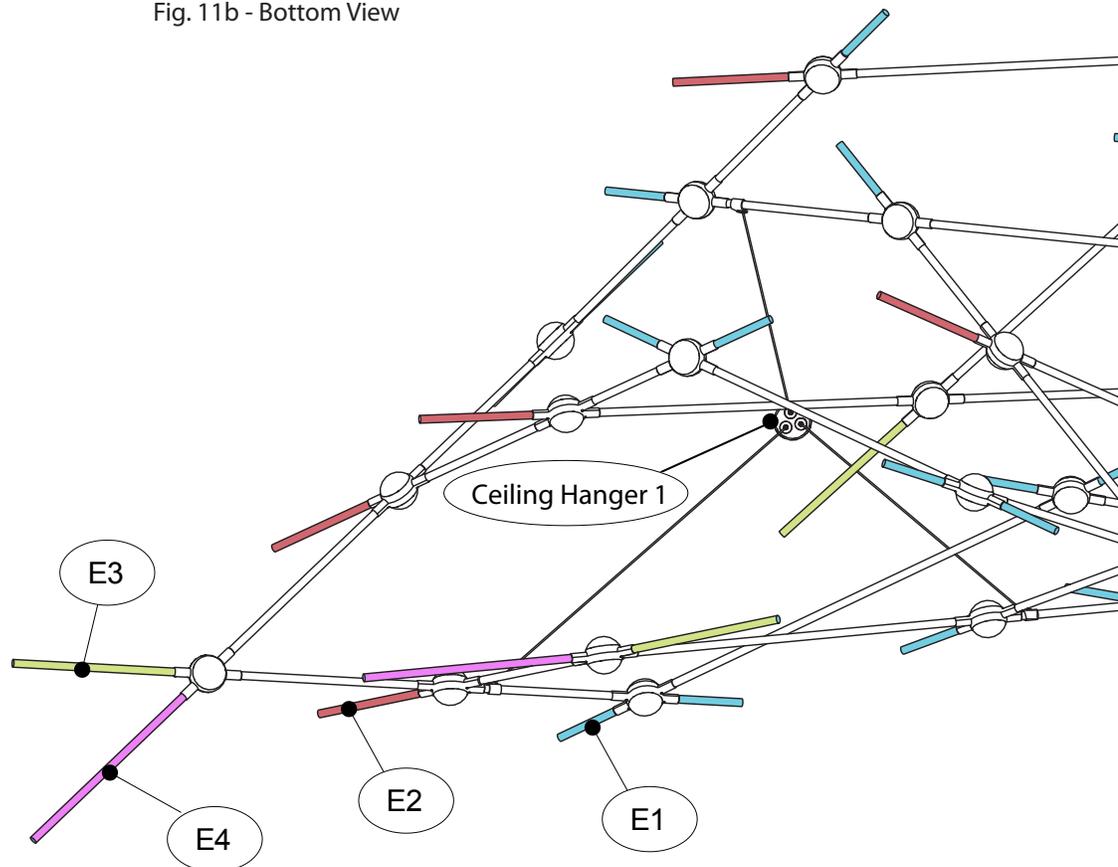
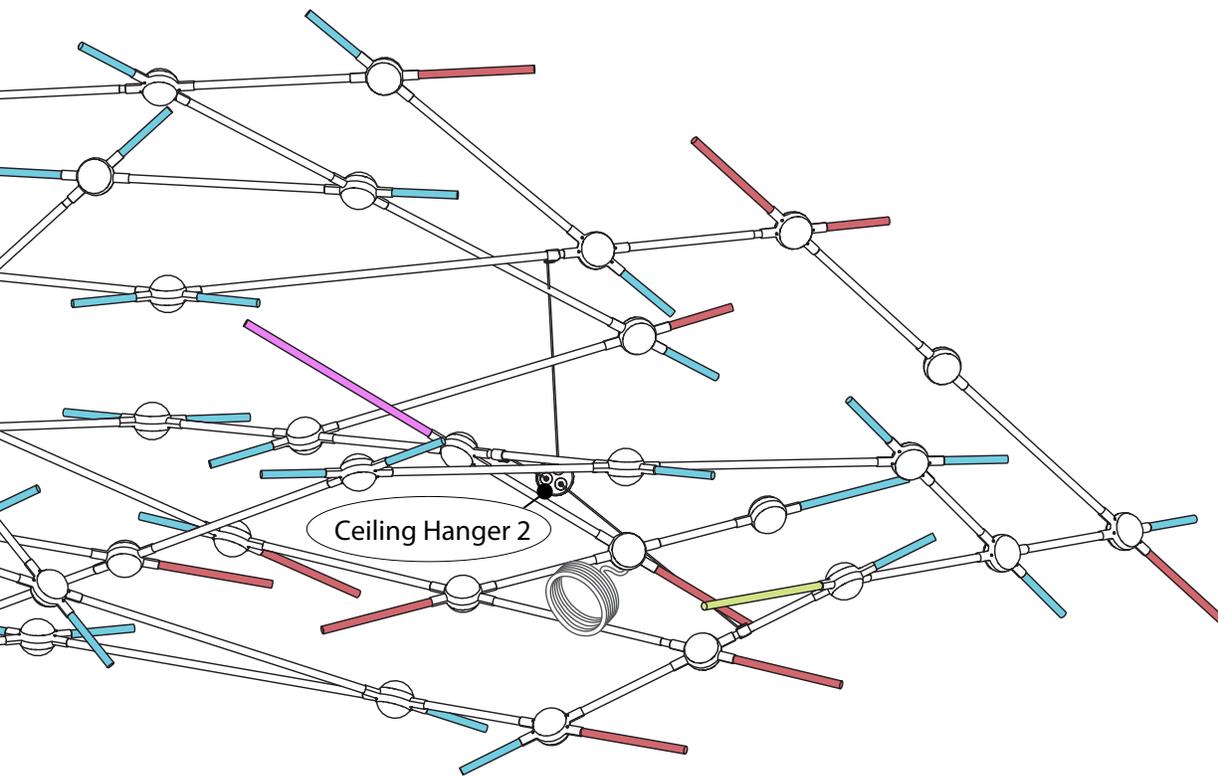
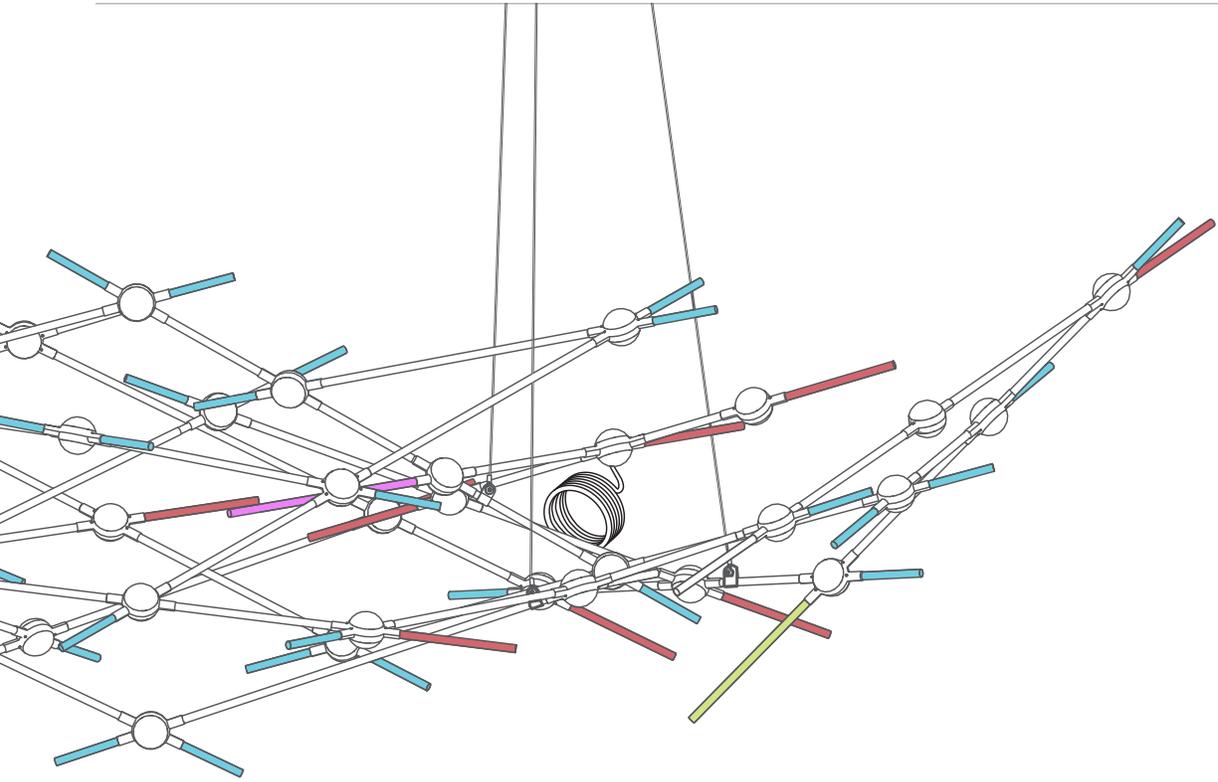


Fig. 11b - Bottom View



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COMPLETED ASSEMBLY

