

# NOVA



## INSTALLATION GUIDELINE

V 1.0



## NOVA MODULAR WATERPROOF CARPORT SYSTEM



25 YEAR WARRANTY



UP-TO 30% FASTER INSTALLATION



WATERPROOF

[WWW.NOVAMOUNTING.COM](http://WWW.NOVAMOUNTING.COM)

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## 1. INTRODUCTION

Welcome to the NOVA Solar Mounting Solution Installation Guideline. This guide is your comprehensive resource for installing NOVA's solar mounting systems. Designed with precision and engineered for durability, our systems ensure a seamless and efficient installation experience.

Whether you're working with penetrative tin roofs, tile roofs, or other specialised surfaces, this Guideline provides step-by-step instructions and all the necessary details to ensure a successful and long-lasting solar installation.

## 2. GENERAL

This installation guideline outlines the correct procedure for assembling the NOVA Carport Mounting System and must be followed precisely. Before beginning installation, please read this Guideline carefully to ensure full understanding of the process and associated safety requirements. Compliance with all safety precautions, handling guidelines, and the procedures outlined in this Guideline is essential for a safe and successful installation.

In addition to this Guideline, refer to any project-specific layout drawings, engineering reports, or planning documents provided by NOVA Mounting. These documents contain important technical data and site-specific instructions that must be adhered to throughout the installation process.

Please note that the illustrations and diagrams within this Guideline are provided for general guidance and may differ slightly from actual system configurations depending on roof type, region, or project requirements.

### LIABILITY

All technical content and guidance contained in this Guideline is developed using current standards, regulations, and NOVA Mounting's expertise in solar mounting systems. While every effort has been made to ensure accuracy, final responsibility lies with the installer to verify compliance with local codes, structural suitability, and safe work practices. Refer to our official warranty and liability conditions available at [www.novamounting.com](http://www.novamounting.com)

### INSTALLATION GUIDELINES

Ensure that the roof construction is suitable for the introduction of forces at the fixing points and their subsequent transmission. In order to compensate thermal expansion, include a break every 25 meters when planning the PV-system. For module positioning/fastening points please refer to manufacturers recommendations. Please follow your local timber construction standard. Please do not use installed roof connections as ladder. If installation is located within 10km from the coast, we advise not to use zinc coated material. For further information please contact your sales representative or the technical department at NOVA Mounting.

### TESTING & CERTIFICATION

All components have been tested and developed to be compliant with relevant guides and regulations.

### MAINTENANCE

To ensure the long-term safety, performance, and structural integrity of the NOVA Carport Mounting System, periodic inspections and maintenance are required. All maintenance activities must be carried out by qualified personnel familiar with the system and local safety standards.

- Perform a general system inspection annually. Additional inspections should be conducted after severe weather events, such as storms with wind speeds exceeding 75 km/h or heavy hail.
- Inspect all screw connections and tighten any that are loose, following the specified torque values provided in the installation instructions
- Any damaged, corroded, or loose components must be repaired or replaced immediately.

### DISASSEMBLY & DISPOSAL

Reused components are classified as wearing parts, and responsibility for assessing wear rests with the installer. NOVA disclaims any liability or warranty for reused components. Disassembled parts should be properly recycled, with metals and plastics sent for recycling, and other materials disposed of according to their composition.

### WARRANTY

Warranty according to the terms and conditions found on the website [www.novamounting.com](http://www.novamounting.com)

NOVA is not accountable for the roof's capability to maintain the introduced forces. Please check the roof's compatibility with a static engineer.

### 3. SAFETY GUIDELINE

Before commencing installation, ensure the mounting surface is structurally sound and suitable for the applied loads of the solar array. All installations must be performed in accordance with the system design, local building codes, and relevant Australian Standards. Carefully plan the panel layout to accommodate thermal expansion—introducing expansion joints every 25 metres is recommended. Always follow the solar panel manufacturer's guidelines regarding clamping zones and attachment points. Do not use mounting components as footholds or for temporary access. Ensure the roof surface is clean, dry, and free of debris before beginning work. If in doubt, consult a structural engineer or contact NOVA Mounting's technical support for project-specific guidance.

#### PERSONNEL & SUPERVISION

- Installation must be carried out by qualified and trained personnel, with a minimum of two professionals present at all times
- All installers must be familiar with this Guideline and local safety standards before beginning work.

#### WORKSITE SAFETY

- Never install the mounting system in high winds, wet conditions, or on slippery or uneven roof surfaces.
- Keep the roof clean and dry. Remove any algae, debris, or obstacles before beginning installation.
- Do not walk on the mounting system or solar panels at any time.
- Never stand in gutters or areas not designed to support weight.
- If working on tiled roofs, slide tiles upward to create footholds—do not damage tiles or roof structure.

#### MANDATORY SAFETY CHECKS

- Do not alter or substitute system components.
- Ensure all fasteners are tightened to the recommended torque (12–14 N.m).
- Double-check all fixings before finalising installation.

#### GENERAL RESPONSIBILITY & SAFETY GUIDELINE

**Ladders & Access Equipment:** Place ladders on stable, solid surfaces. Maintain a ladder angle of approximately 75°, and ensure it extends at least 1 metre above the roof edge. Where possible, secure the ladder at the top using a rope or tension strap.

**Handling and Modification:** Do not throw or roughly handle any components. Avoid bringing the system into contact with sharp or heavy objects. Do not modify components in any way, including exchanging bolts, drilling holes, or bending parts. Any such modifications not described in the standard installation procedure will void the warranty.

**Roof Inspection:** Before installation, verify the roof's load-bearing capacity. Check that the roof is in good condition and can support the weight of the solar panels, including additional materials and loads.

**Weather Conditions:** Avoid installation in adverse weather conditions, such as strong winds or wet, slippery surfaces.

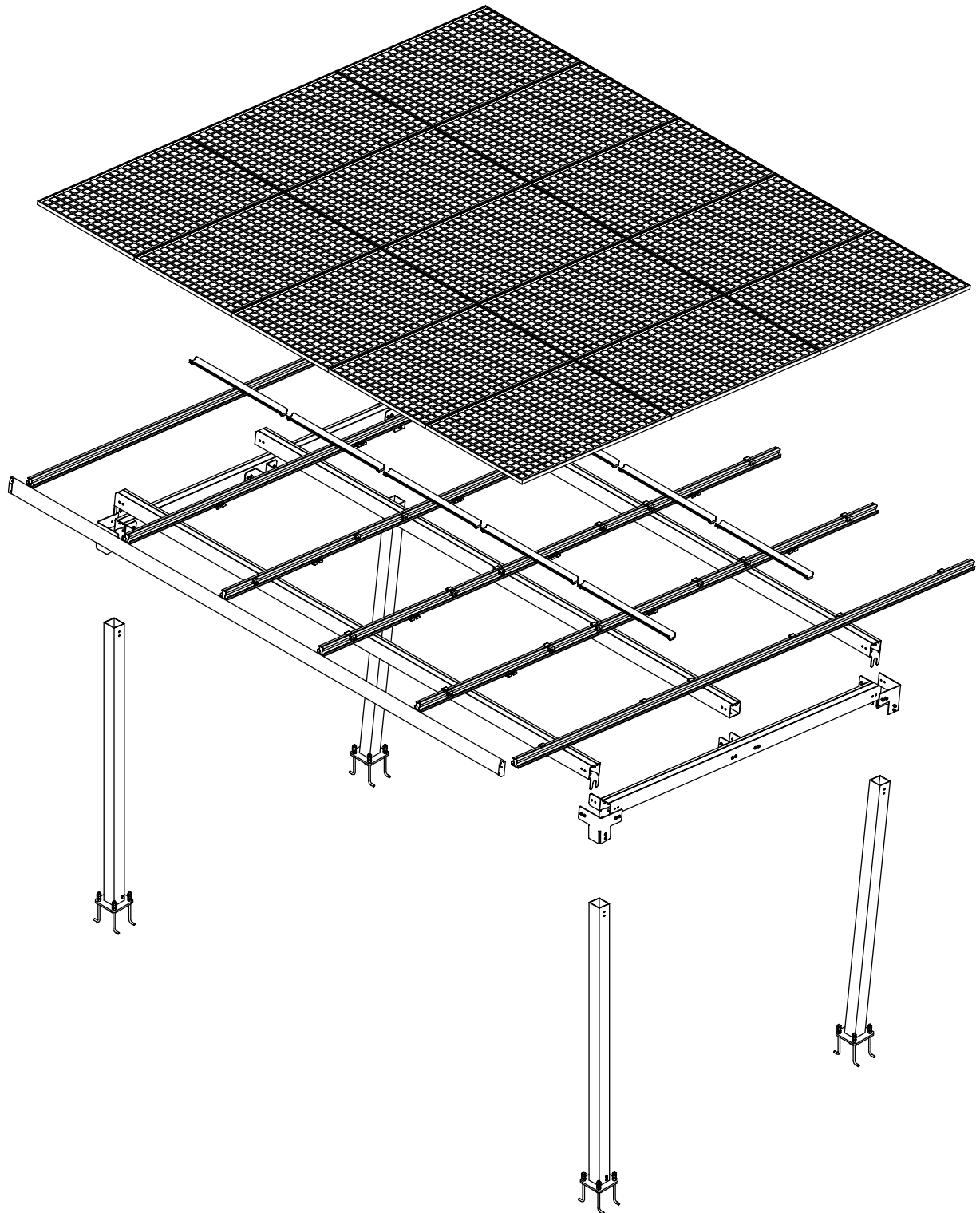
**Safety Measures:** Follow all fire regulations related to photovoltaic installations. Ensure the roof surface is clean, dry, and free of debris before beginning installation. Use safety nets and edge protection as necessary.

**Earthing and Bonding:** Perform equipotential bonding, grounding, and earthing according to country-specific standards and regulations. Galvanising of all earthing components if required.

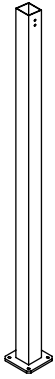
**Protective Gear:** Wear appropriate protective equipment such as helmets, gloves, and non-slip safety boots.



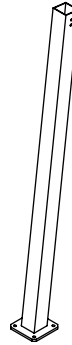
## 4. SYSTEM OVERVIEW



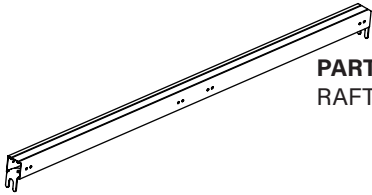
## PARTS LIST



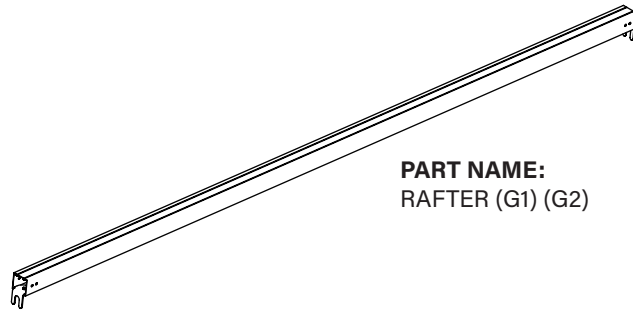
**PART NAME:**  
FRONT UPRIGHT SUPPORT(A)



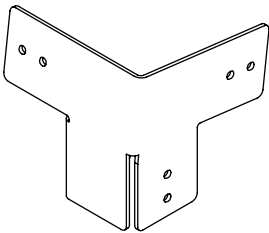
**PART NAME:**  
REAR UPRIGHT SUPPORT(B)



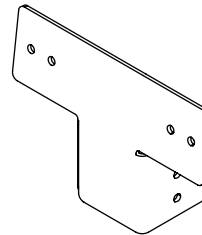
**PART NAME:**  
RAFTER (C)



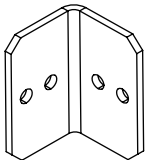
**PART NAME:**  
RAFTER (G1) (G2)



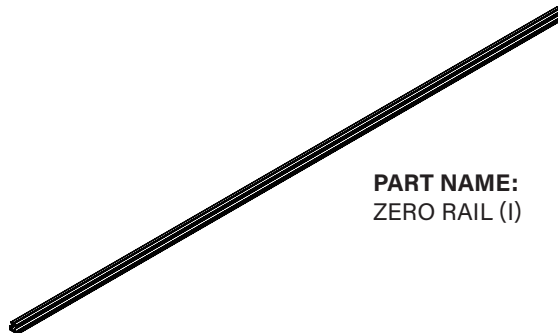
**PART NAME:**  
CORNER BRACE BRACKETS  
(EL) (ER) (FL) (FR)



**PART NAME:**  
INTERSECTION JOINER BRACKET (ET)

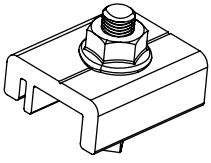


**PART NAME:**  
RAFTER CONNECTORS (D)

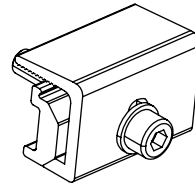


**PART NAME:**  
ZERO RAIL (I)

## ACCESSORIES LIST



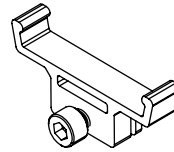
**PART NAME:**  
RAIL CLAMP (J)



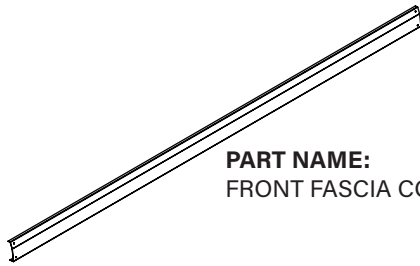
**PART NAME:**  
MODULE CLAMP (K)



**PART NAME:**  
GUTTER TRAY (L)



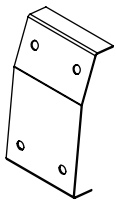
**PART NAME:**  
GUTTER TRAY BRACKET (M)



**PART NAME:**  
FRONT FASCIA COVER (N)



**PART NAME:**  
FRONT FASCIA COVER END CAPS (N)



**PART NAME:**  
FRONT FASCIA COVER JOINER (N)

## 5. INSTALLATION PREPARATION

### TOOL LIST



MARKER  
CHALK



TAPE  
MEASURE



PLIERS  
TIN SNIPS



PROTECTIVE  
EQUIPMENT



STRING  
LINE



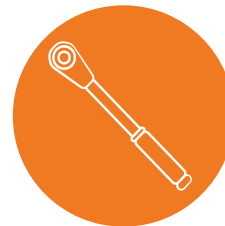
STEP  
LADDER



IMPACT  
DRIVER



NUT  
SETTER

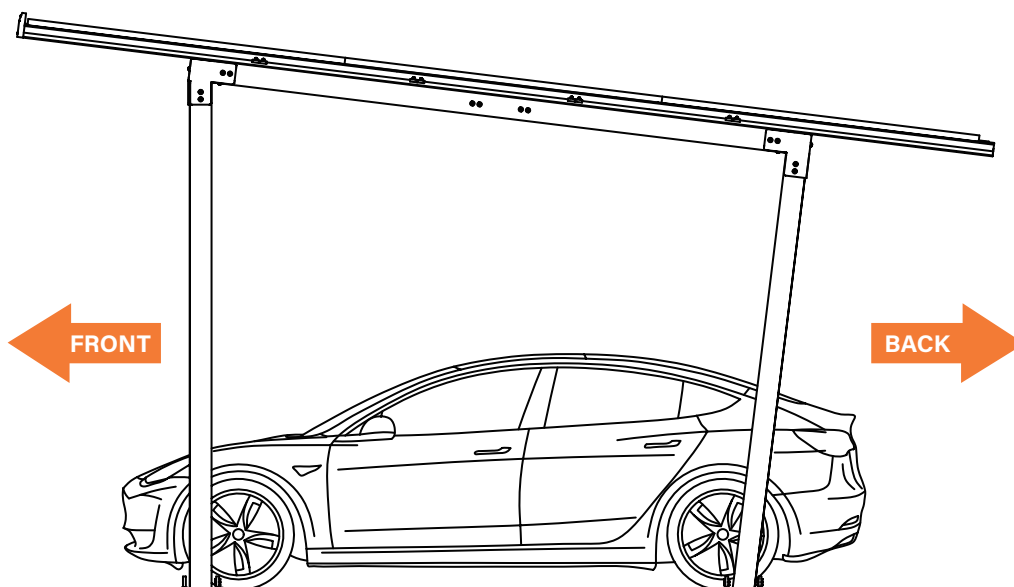


TORQUE  
WRENCH

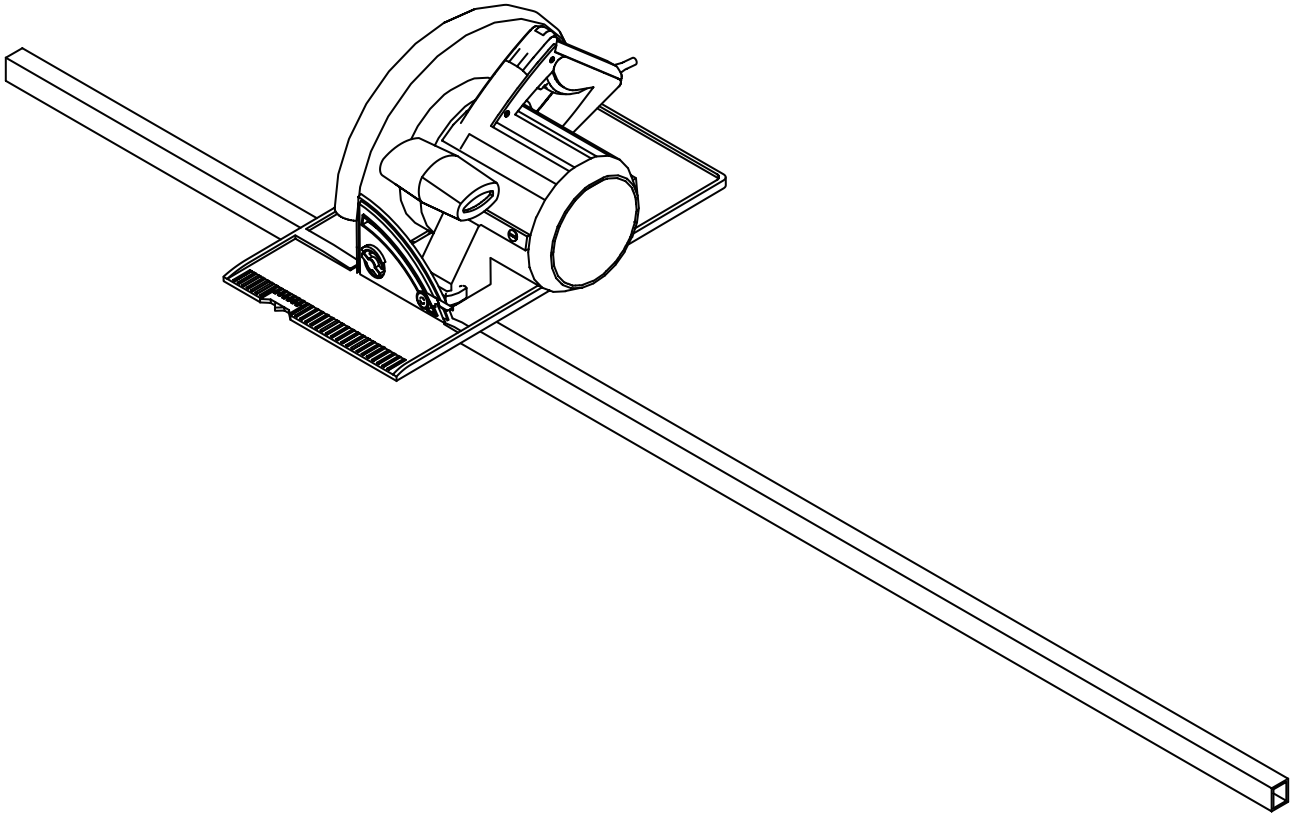


SPIRIT LEVEL  
SET SQUARE

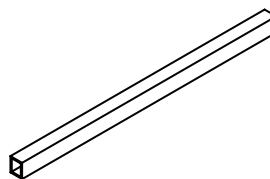
### DIRECTION



## MAKING THE MEASURING TOOLS



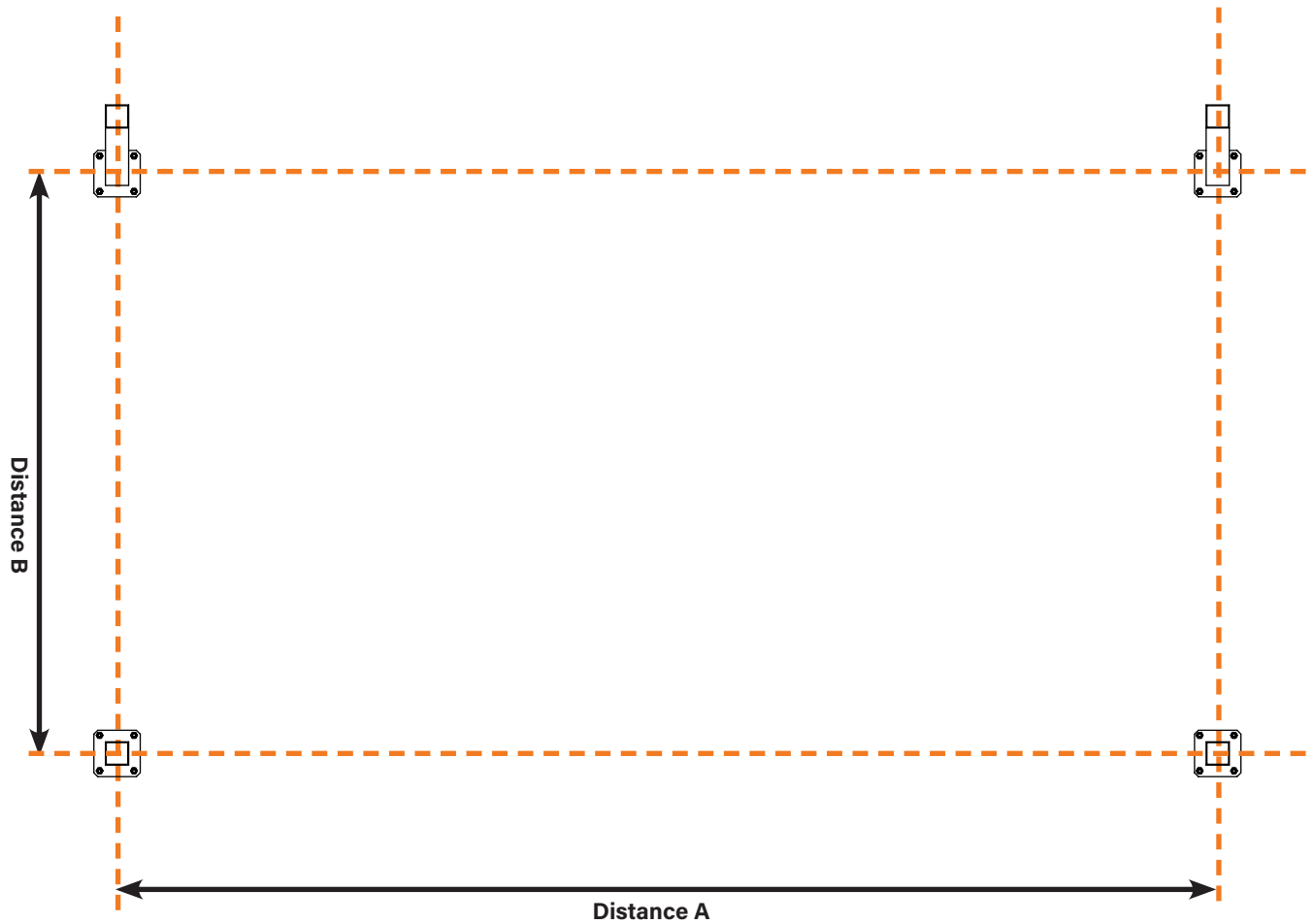
**MEASURING TOOL A:**  
RAIL OVERHANG  
**LENGTH:**  
980MM



**MEASURING TOOL B:**  
DISTANCE BETWEEN THE RAILS  
**LENGTH:**  
1135MM

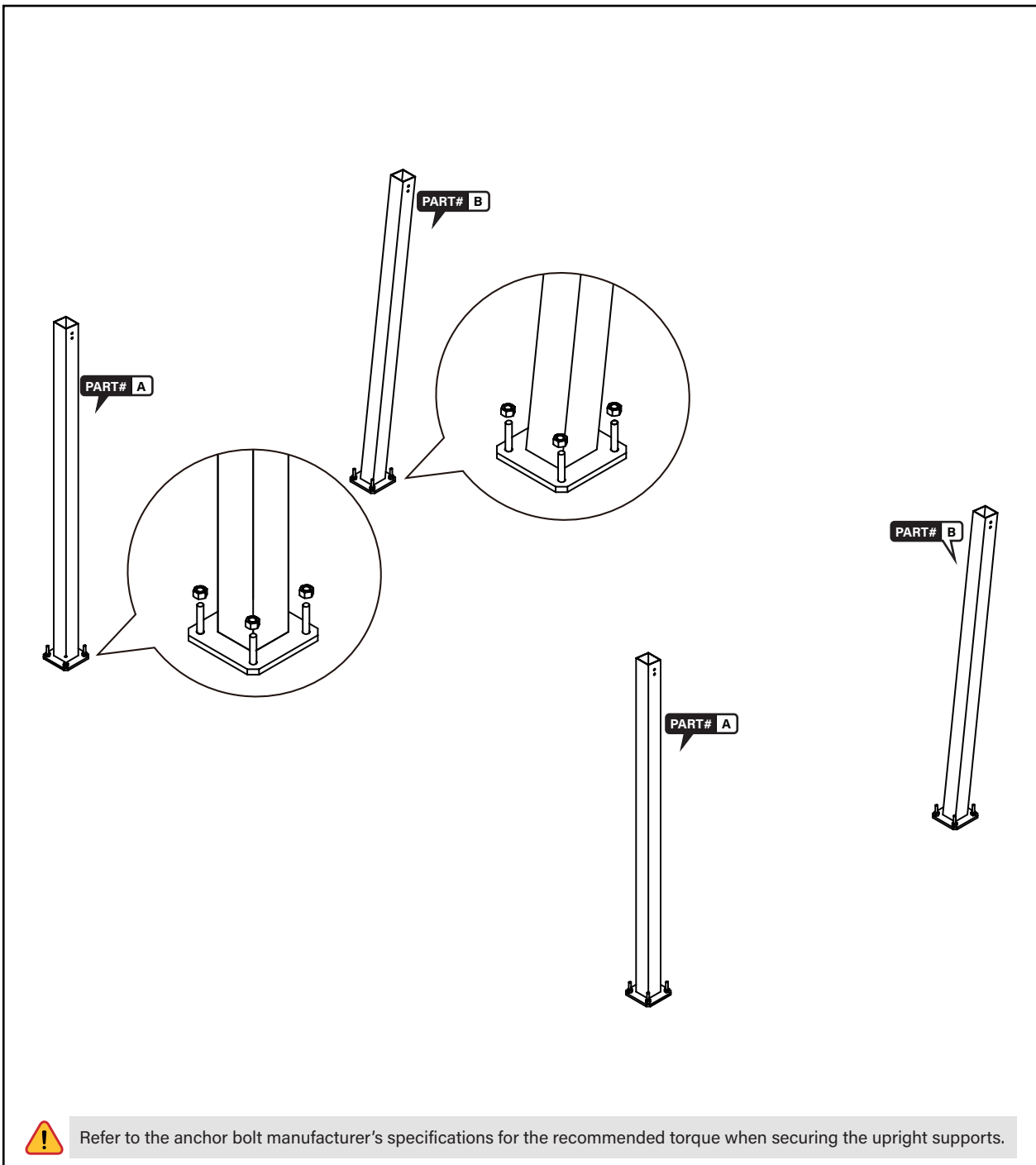
## 6. INSTALLATION GUIDELINE

### STANDALONE CONFIGURATION



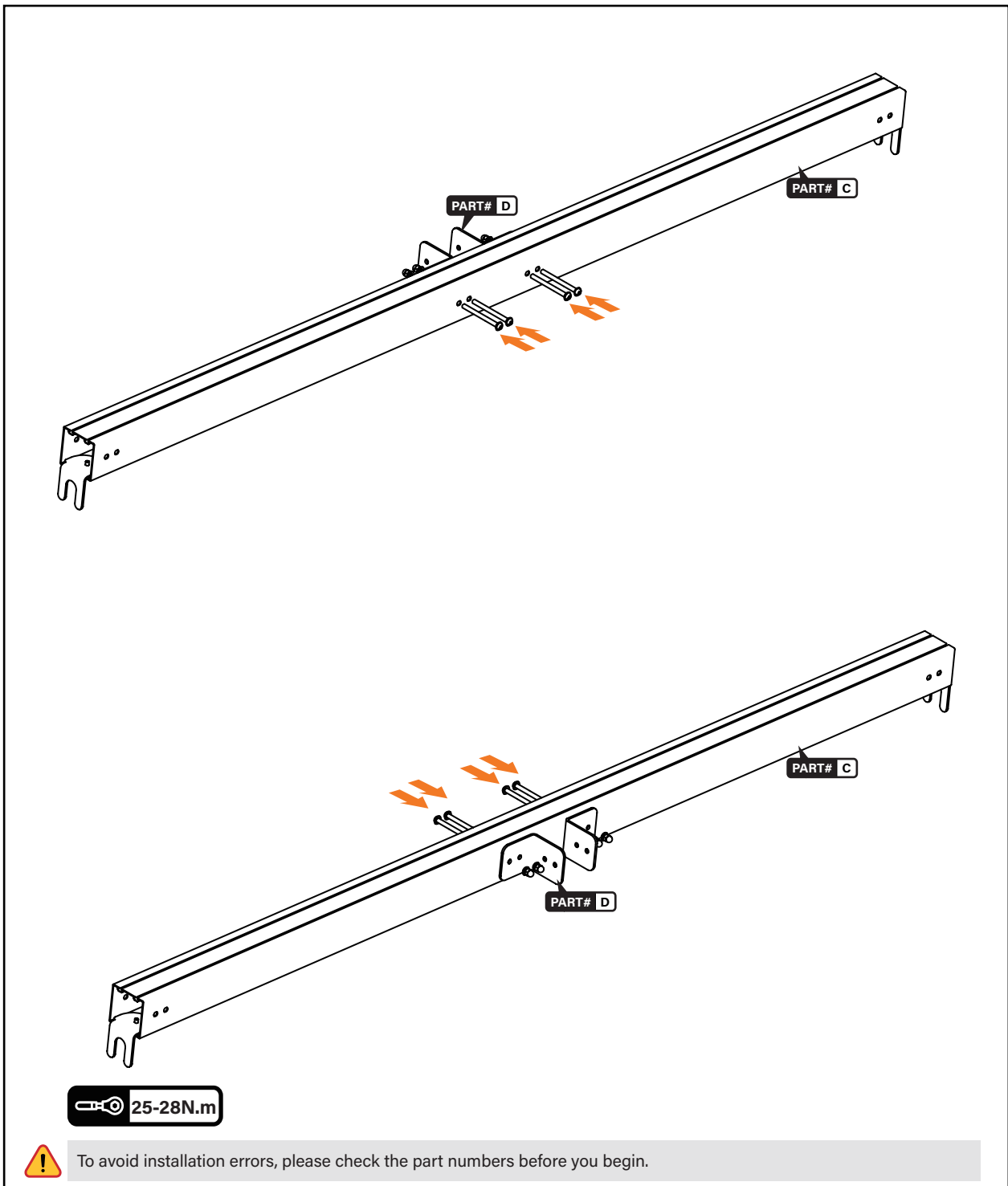
Mark the positions of the feet on the foundation, ensuring they are aligned and squared in accordance with the technical drawings.

## INSTALLING THE UPRIGHT SUPPORTS



Install the front (A) and rear (B) upright supports in their designated positions, ensuring the rear upright (B) is oriented correctly before securing.

## INSTALLING RAFTER CONNECTORS ONTO THE RAFTER




Install the Rafter Connectors (D) onto the two Rafters (C) using bolts and nuts per connection. Tighten to the specified torque (25-28N.m)

**i** Ensure the connectors are installed on the two rafters in opposite orientations, as shown in the diagram above.

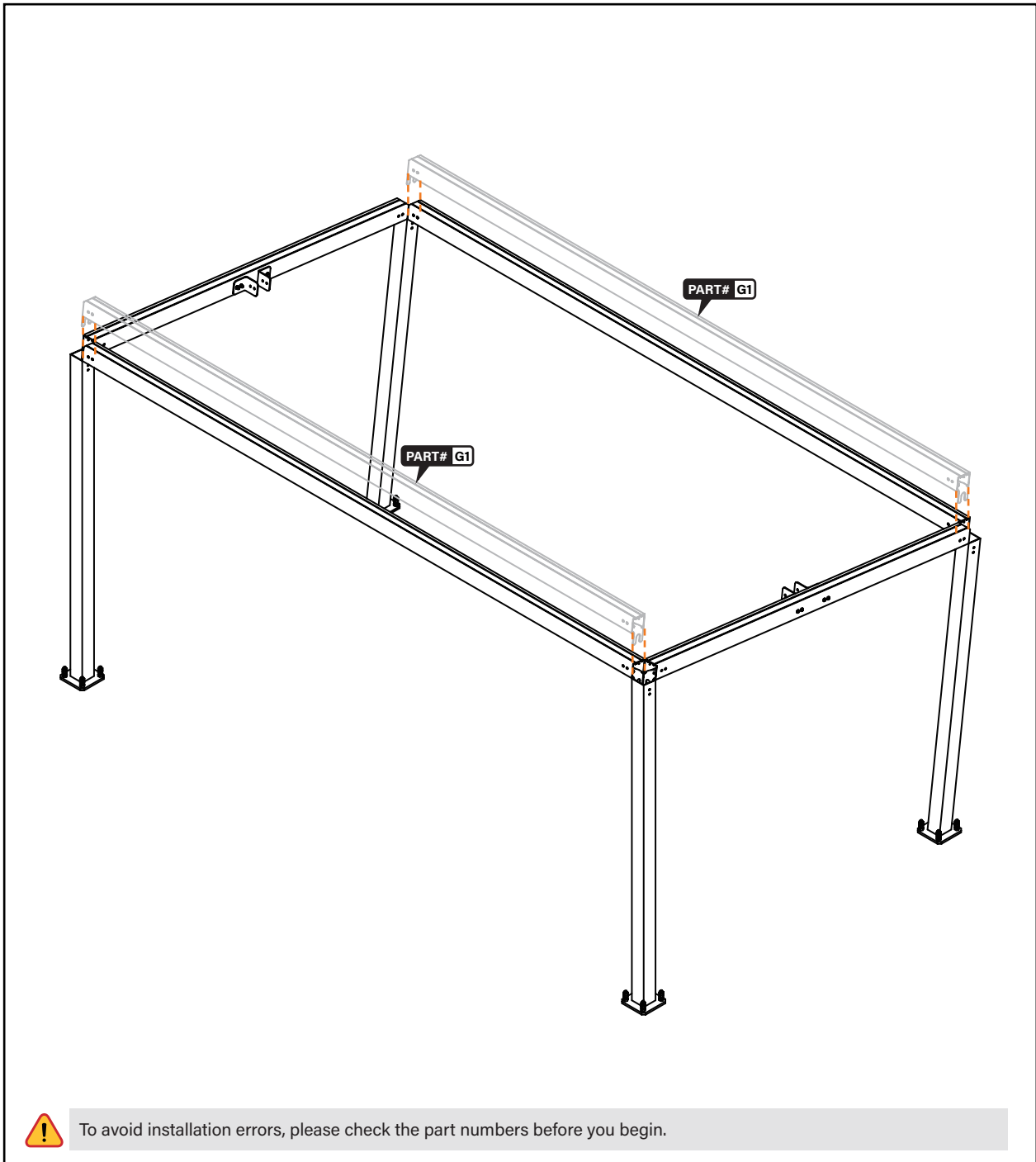
## INSTALLING THE RAFTER (C)



Place the two rafters with the connectors attached onto the upright supports.

 Ensure they are oriented as shown in the diagram above.

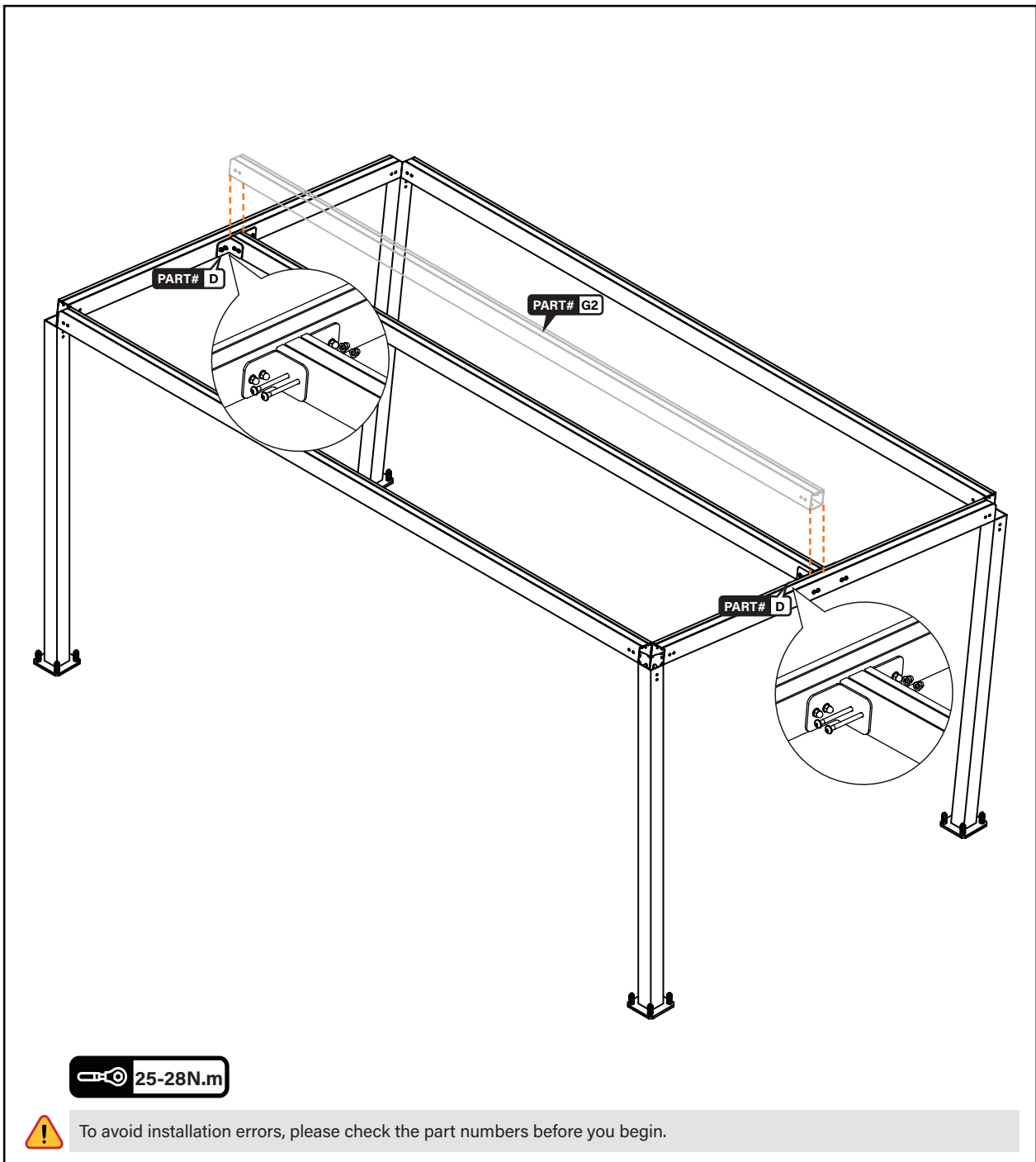
## INSTALLING THE RAFTER (G1)



Place the two rafters (G1) onto the upright supports to complete the outer framework.

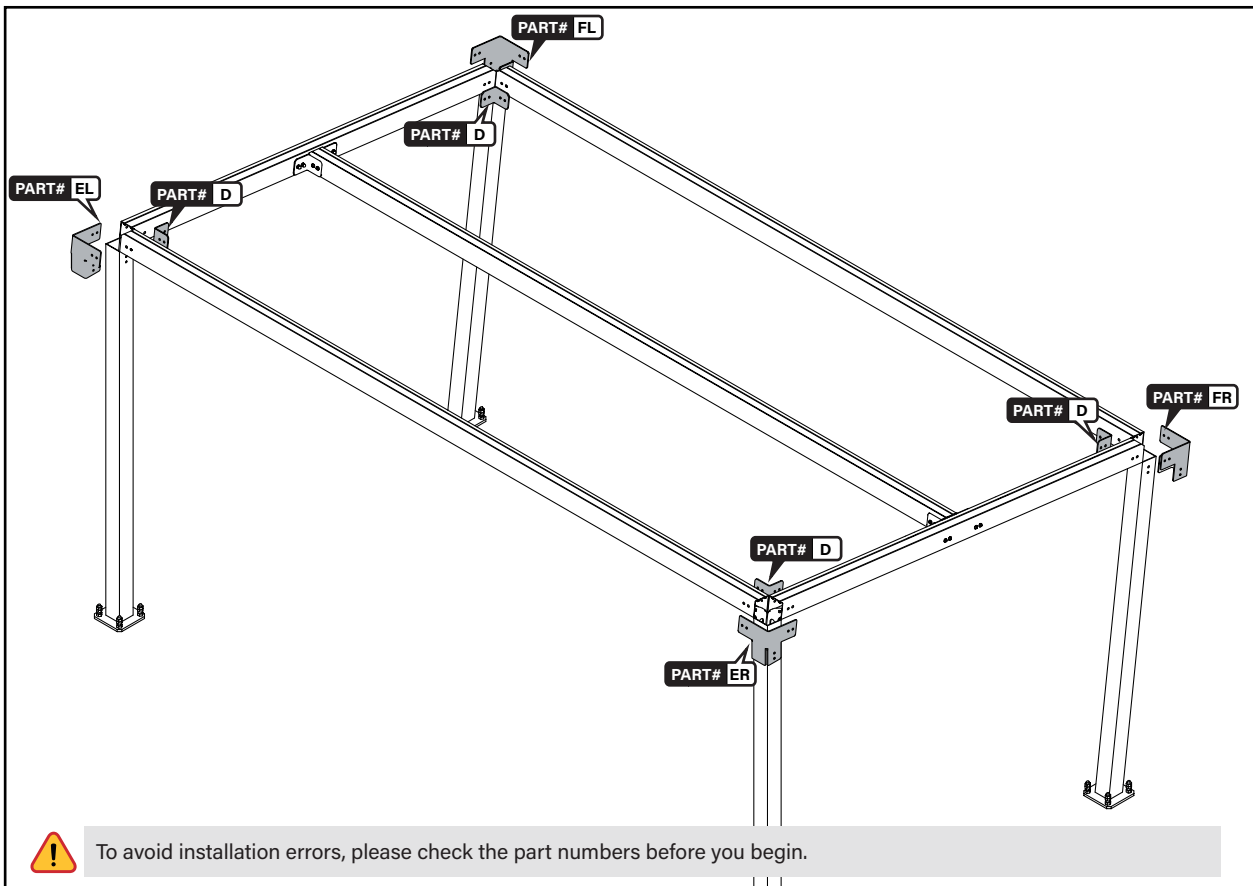
**i** Front and back orientation is not critical and will not affect installation.

## INSTALLING THE MIDDLE RAFTER (G2)

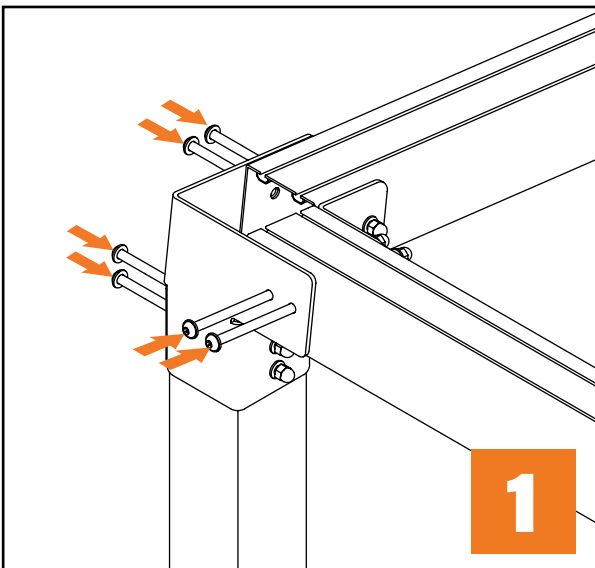


Place the remaining Middle Rafter (G2) and secure it by tightening the bolts and nuts to the specified torque (25–28N.m)

## INSTALLING THE CORNER BRACE BRACKETS

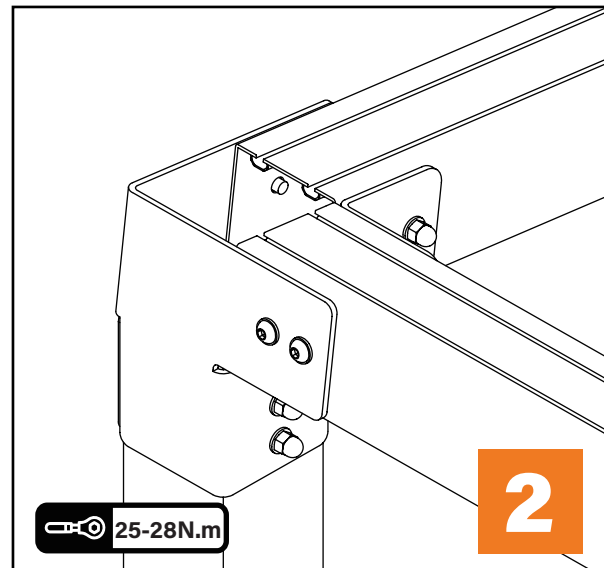


To avoid installation errors, please check the part numbers before you begin.



### STEP 1

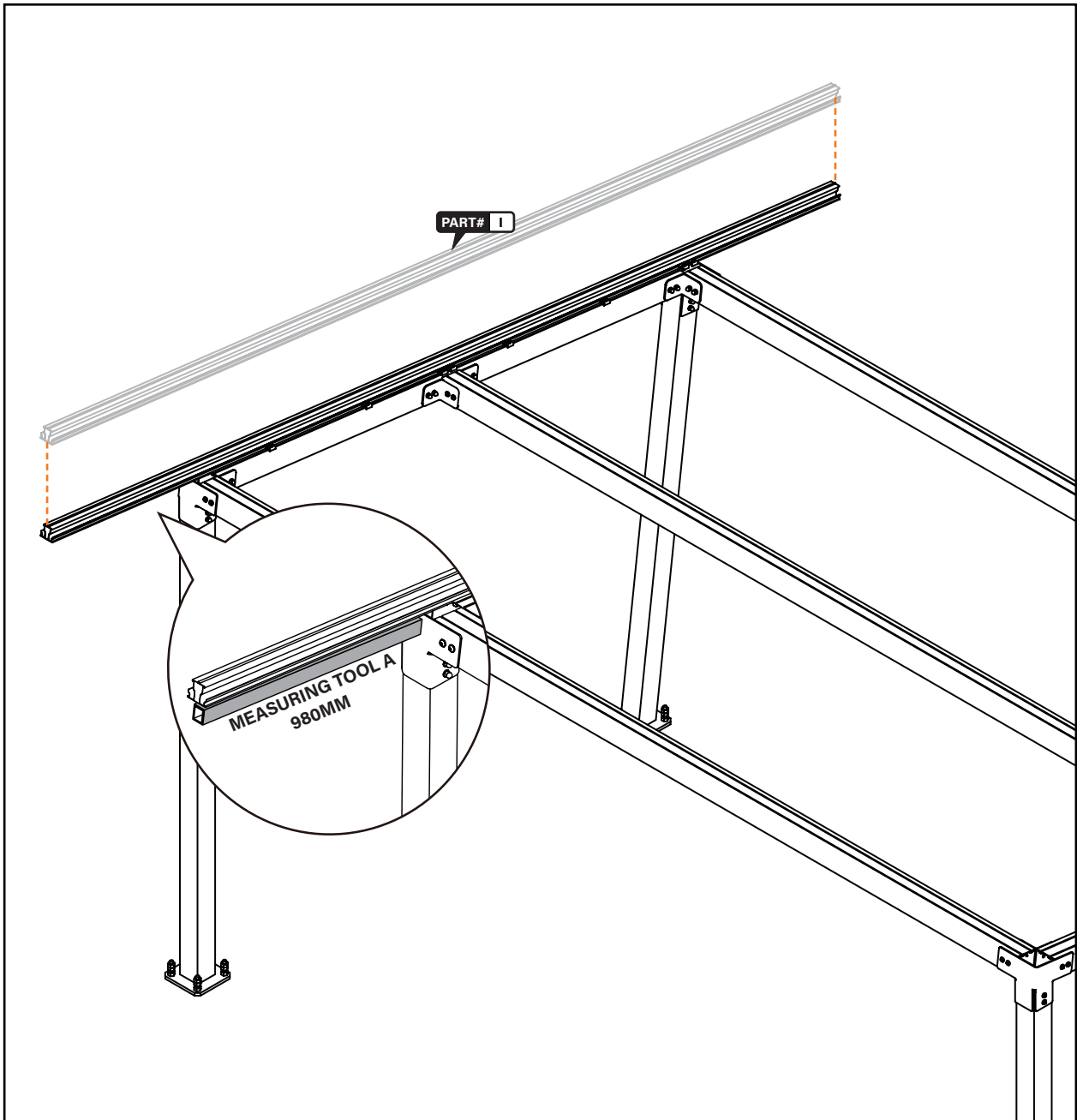
Place the front (EL) (ER) and rear (FL) (FR) corner brace covers and Rafter Connectors (D) at each outer corner of the structure.



### STEP 2

Secure by inserting the bolt fully through, with the bolt head on the outside and the nut on the inside for a clean appearance. Tighten to the specified torque (25-28N.m)

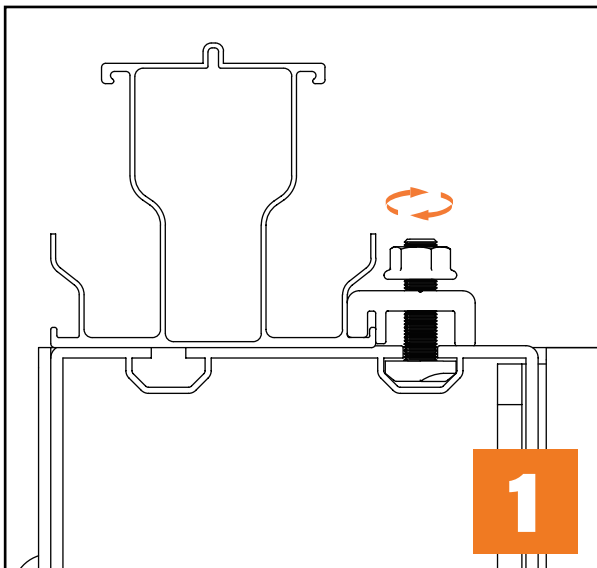
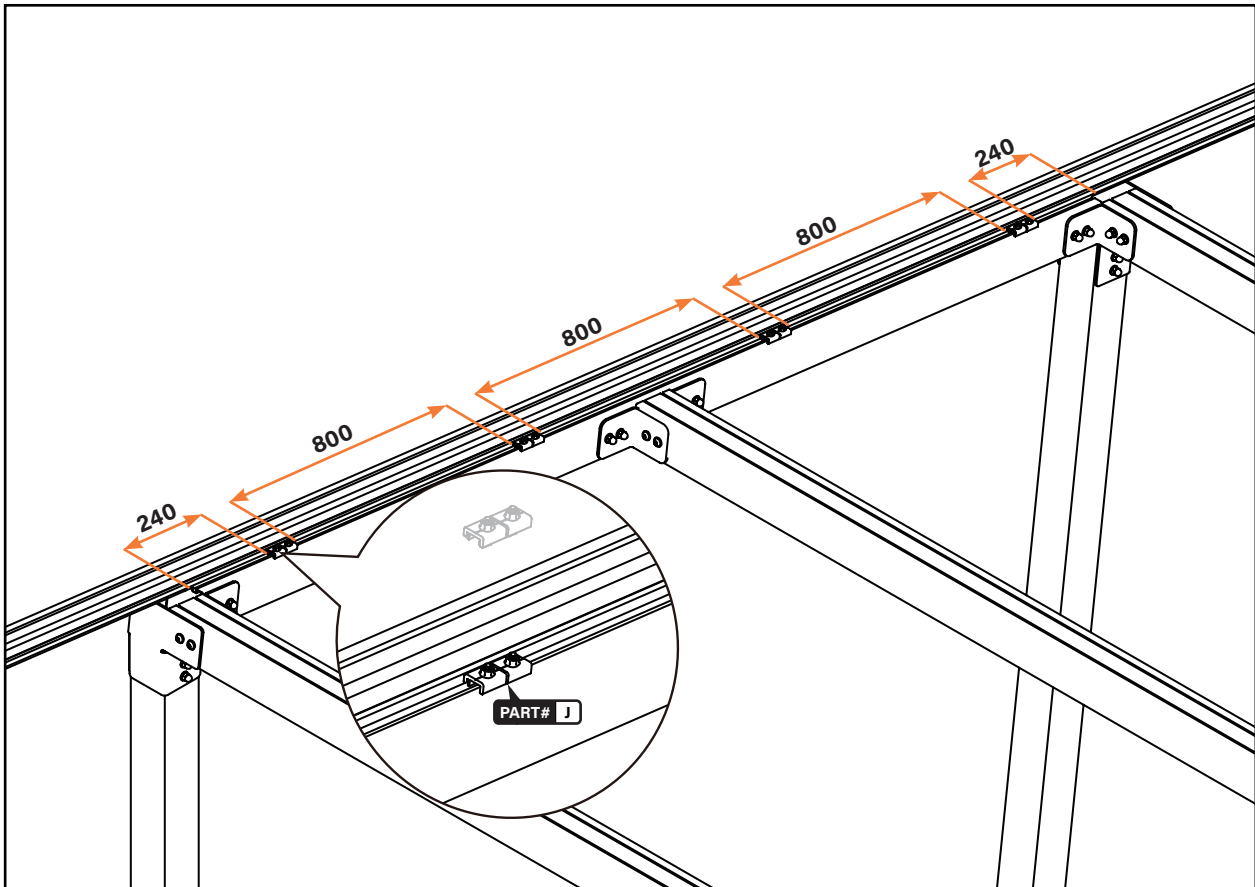
## INSTALLING THE FIRST ZERO RAIL



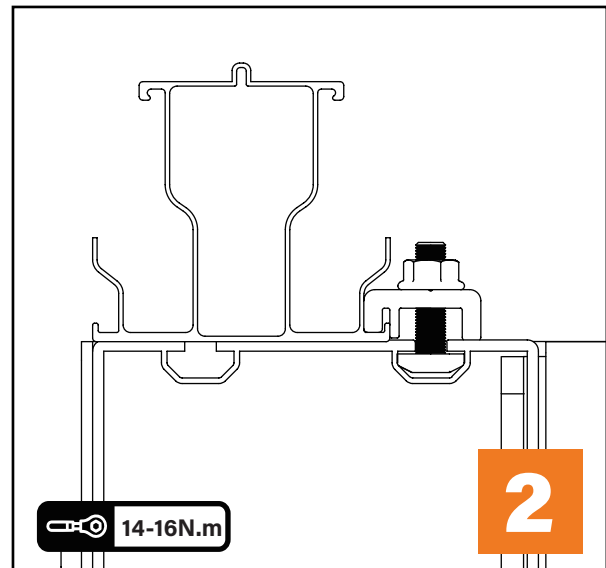
Place the first ZERO Rail on top of the rafter, ensuring equal overhang of 980mm at both the front and rear of the rail.

**i** Fabricate and use a measuring jig to maintain consistency, as this step must be repeated for all ZERO Rails.

## INSTALLING THE RAIL CLAMPS



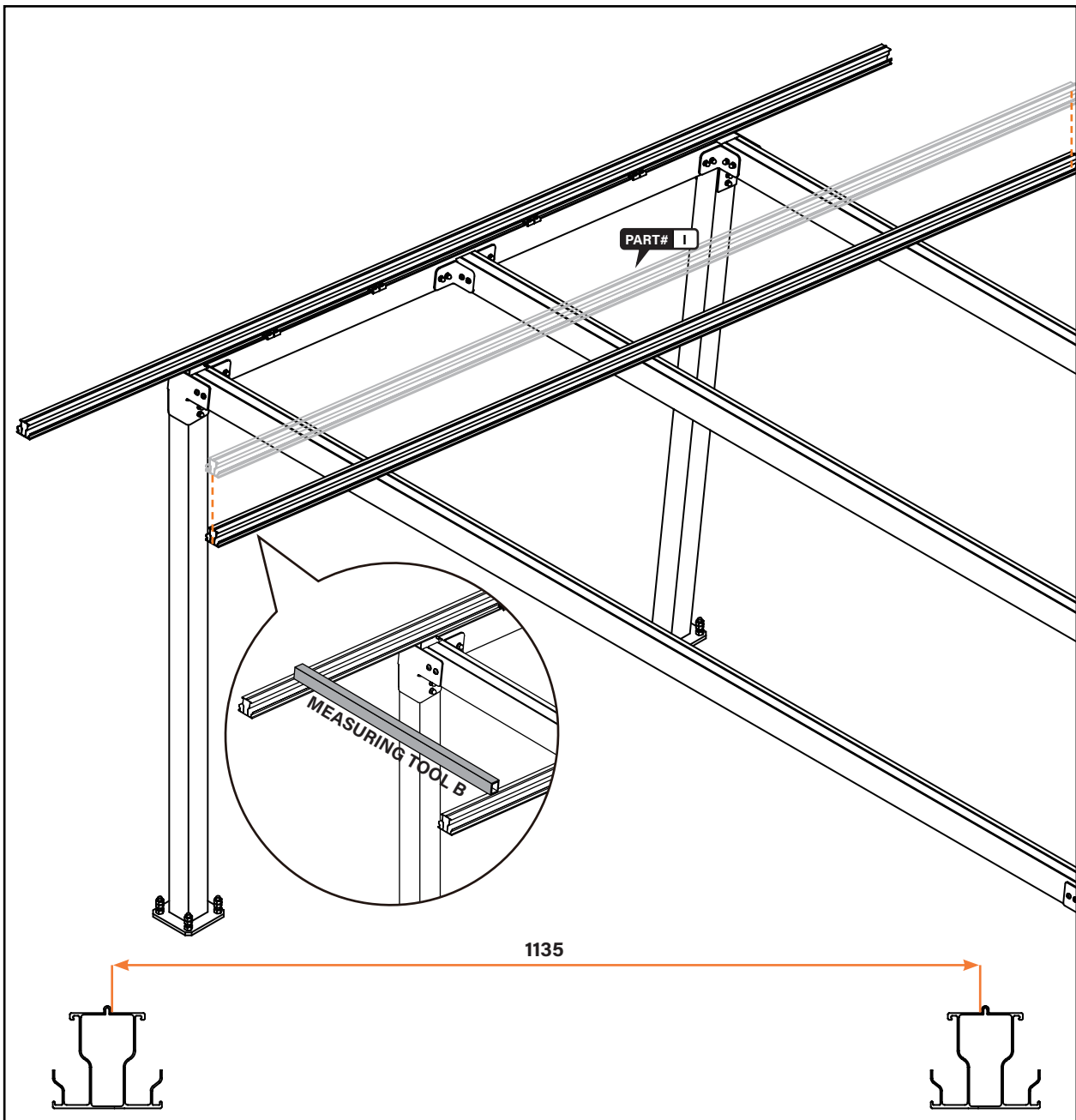
**STEP 1**  
Ensure the ZERO Rail is flush with the outer edge of the rafter, **THIS IS CRITICAL**. Secure the inner side of the ZERO Rail using eight rail clamps, as shown above.



**STEP 2**  
Ensure all rail clamps are correctly positioned and the ZERO Rail has not shifted before tightening to the specified torque (14-16N.m)

**i** The first ZERO Rail placement is critical to ensure correct ZERO Rail spacing for proper panel installation.

## INSTALLING THE SECOND AND REMAINING ZERO RAILS

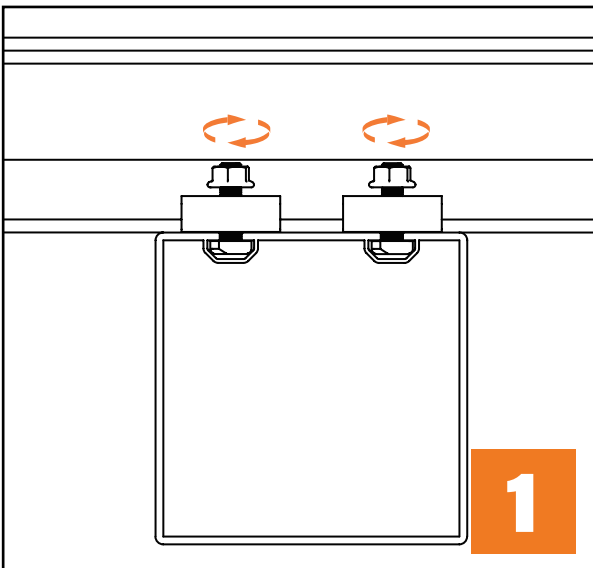
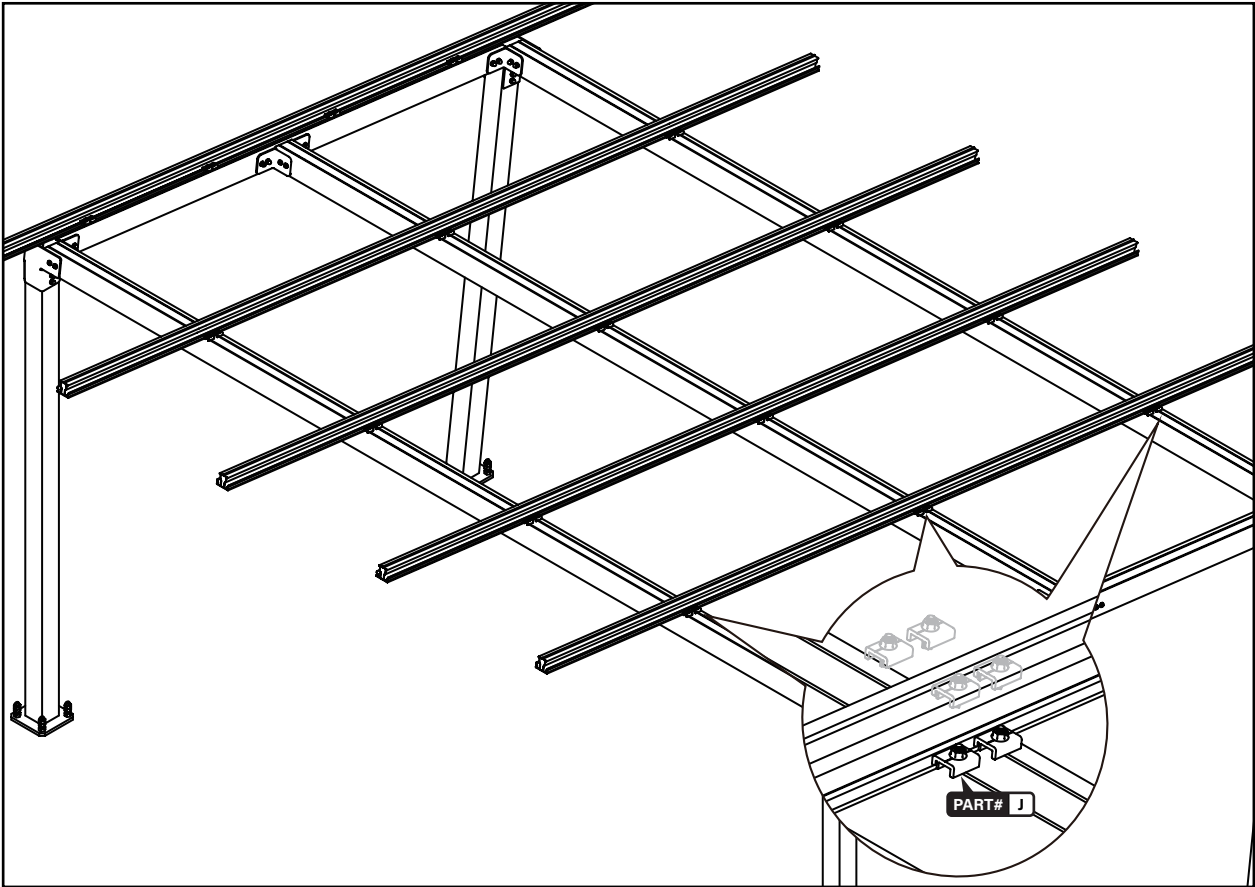


Place the second ZERO Rail onto the rafter. Using a measuring tape or measuring jig, set the spacing in accordance with the diagram above. Ensure equal overhang at both the front and rear of the ZERO Rail.



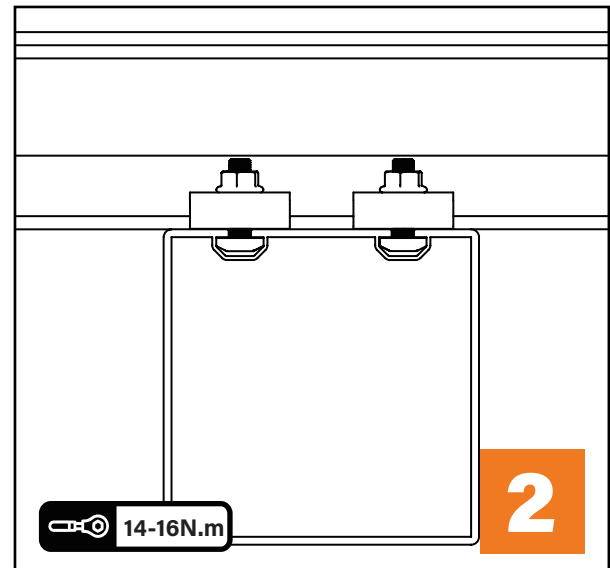
Fabricate and use two spacing jigs to maintain consistency. Position one at the front and one at the rear, to ensure the rails are aligned and squared.

## INSTALLING THE RAIL CLAMPS ONTO RAIL



### STEP 1

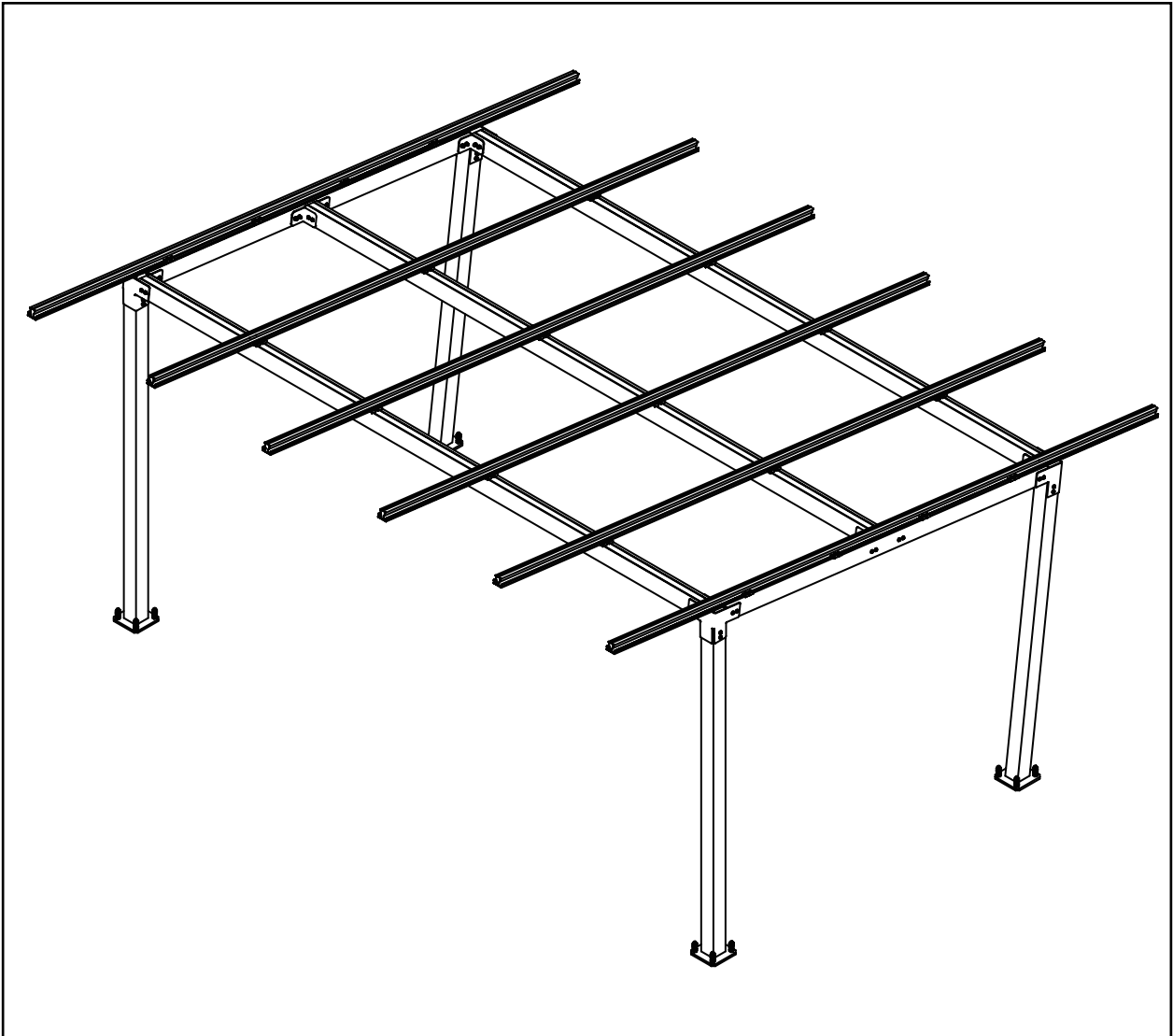
At each intersection of the ZERO Rail and rafter, place four rail clamps into the channel (two on each side), for a total of 12 clamps per ZERO Rail.



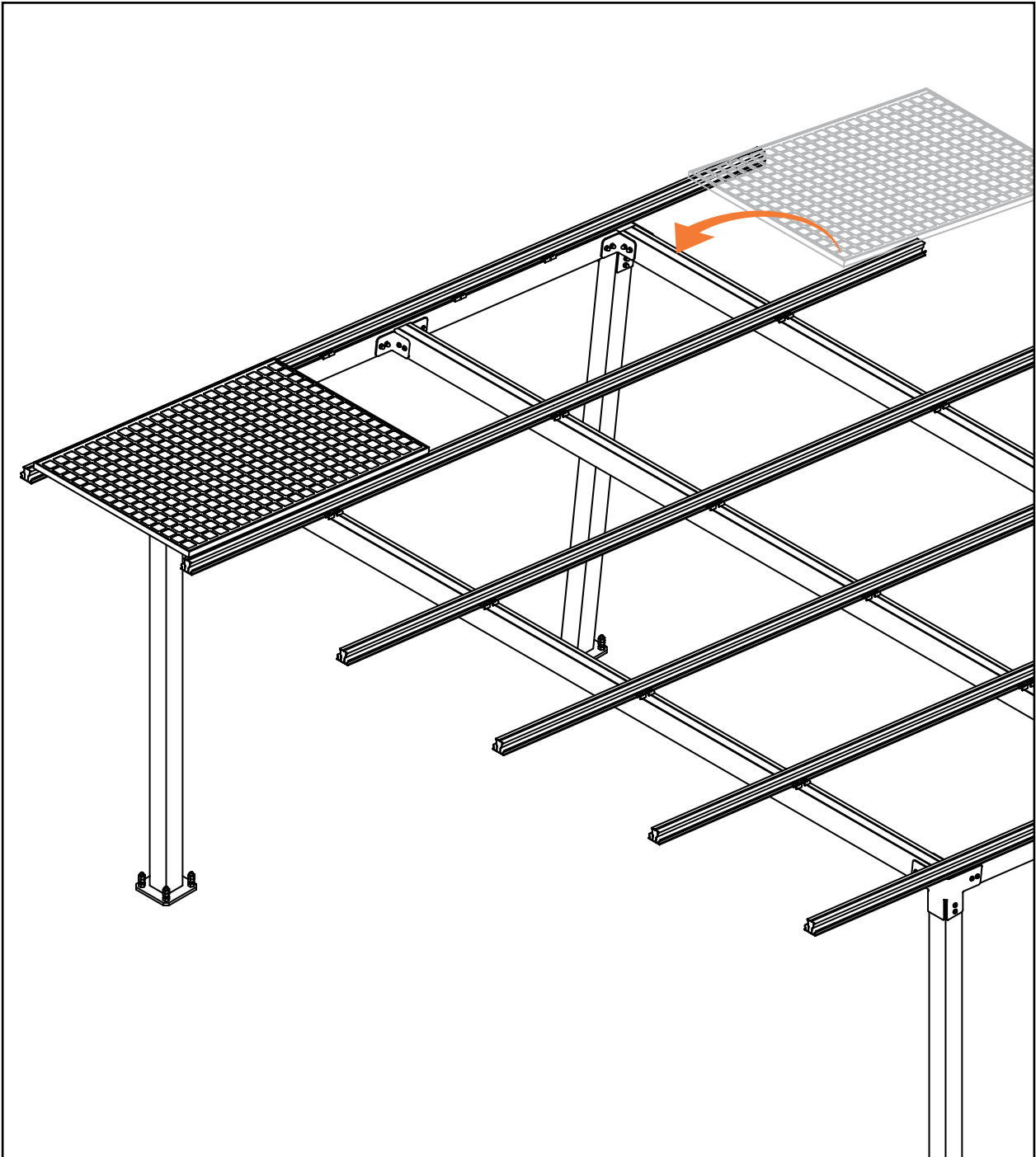
### STEP 2

Ensure all rail clamps are correctly positioned and the ZERO Rail has not shifted before tightening to the specified torque (14-16N.m)

RAIL INSTALLATION COMPLETED

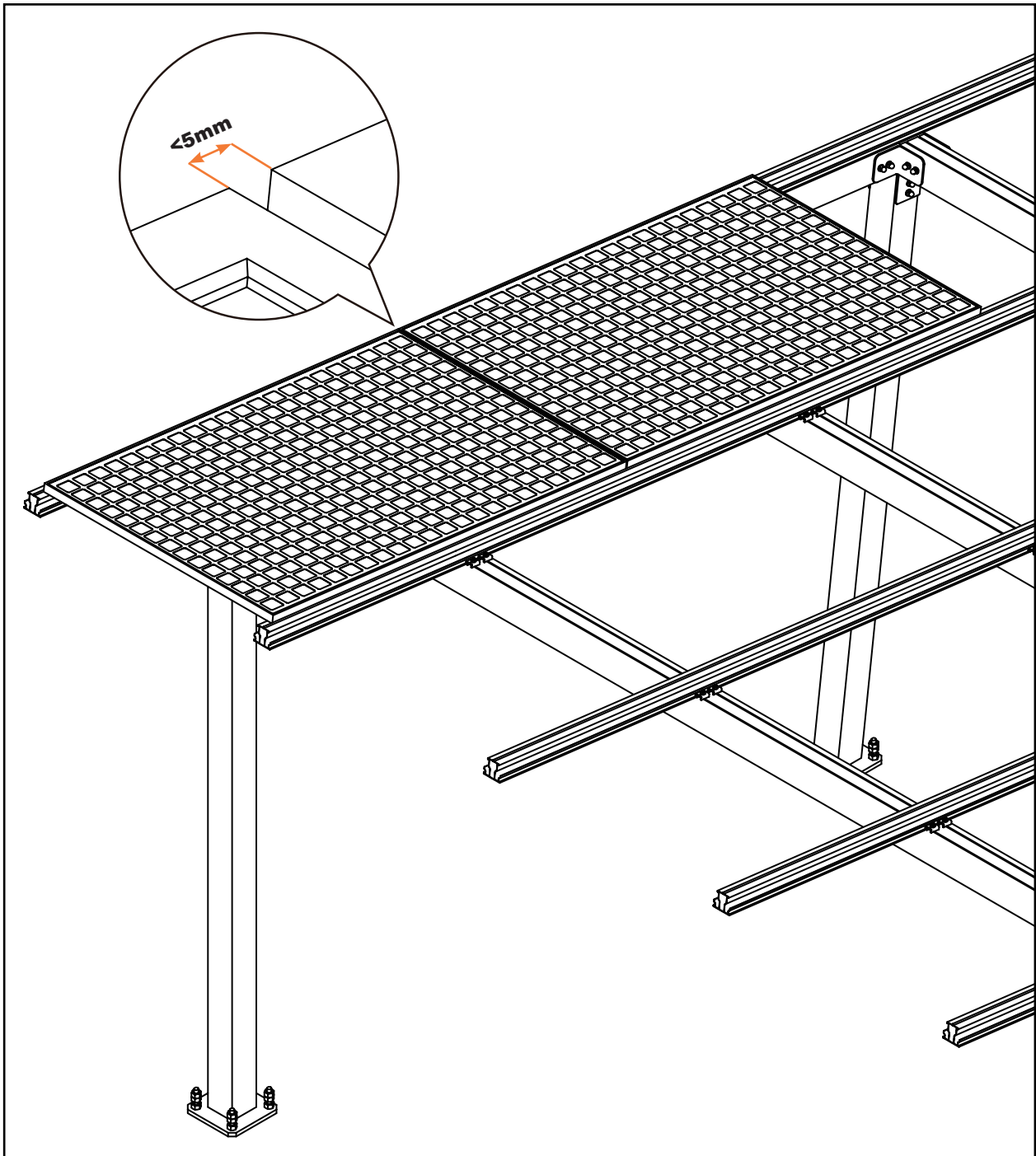


## INSTALLING THE FIRST SOLAR MODULE




Lift the solar module from underneath at the rear side of the structure and place it onto the ZERO Rail. Slide the module towards the front of the carport, leaving 50 mm from the end of the rail.

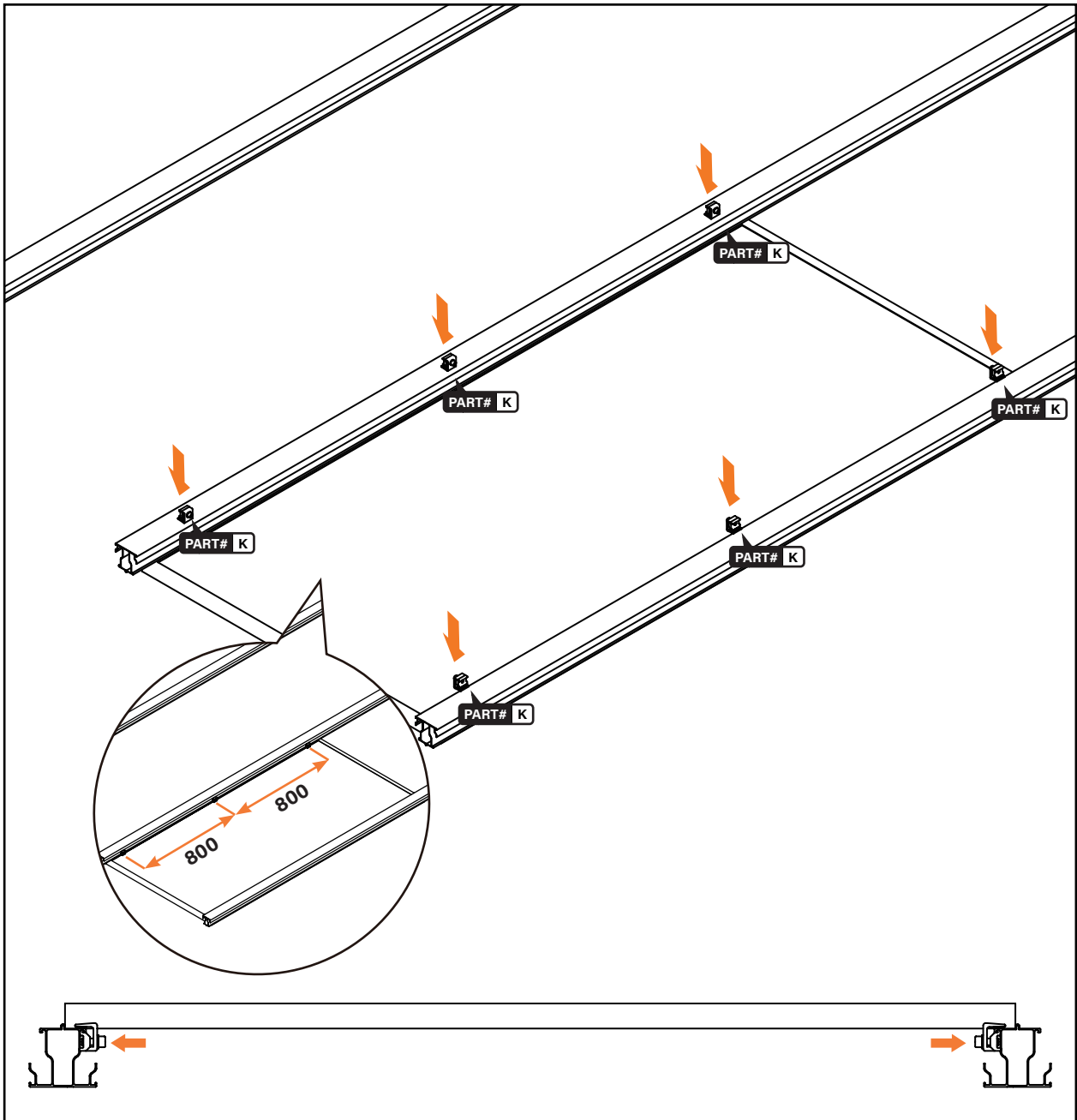
## INSTALLING THE FOLLOWING SOLAR MODULE



Lift the second and third solar modules from underneath at the rear side of the structure and place it onto the ZERO Rail. Slide the module towards the front.

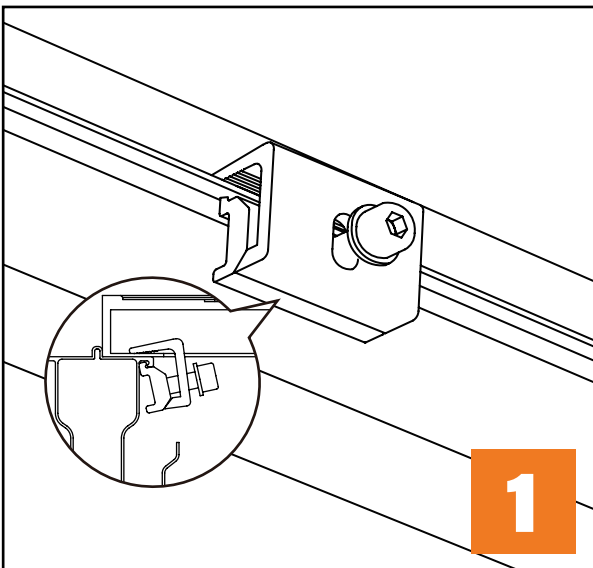
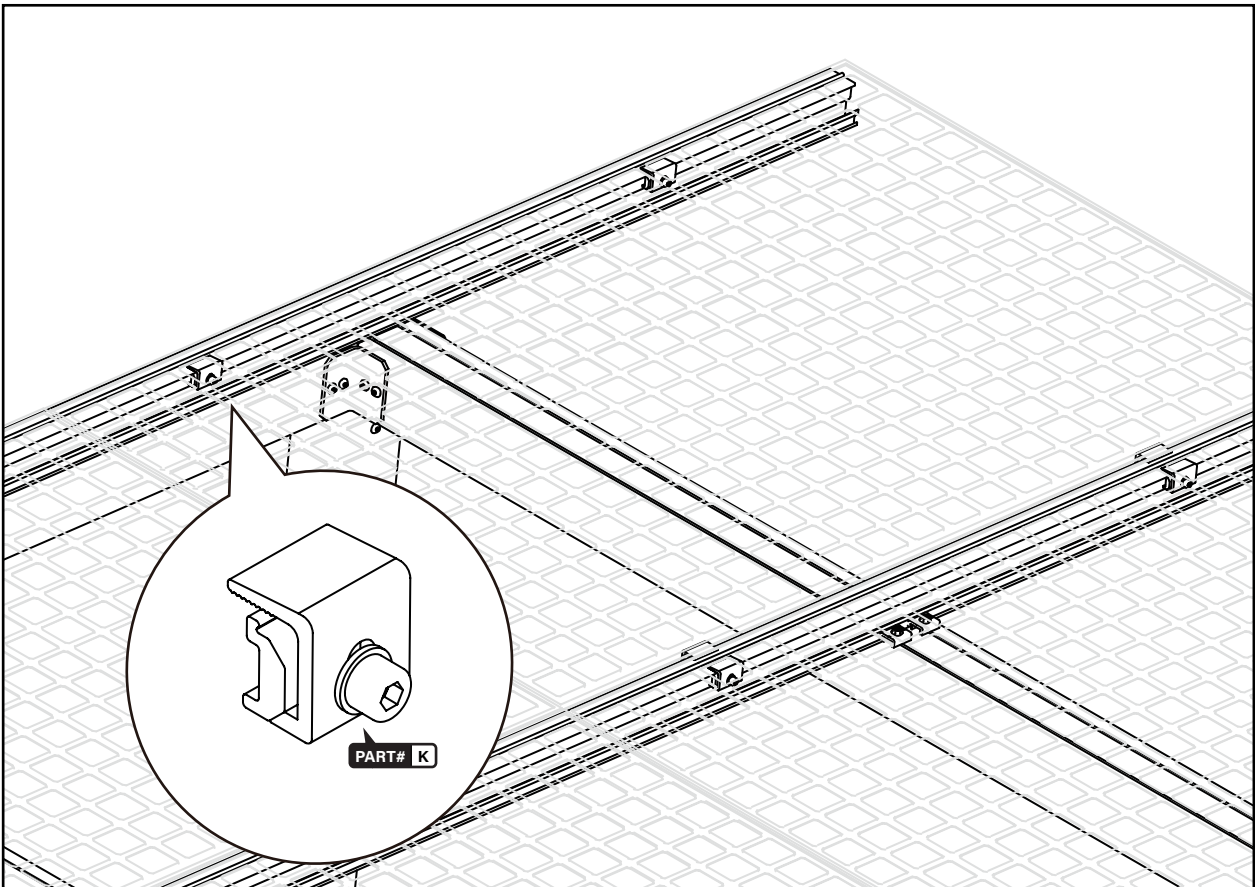
 It is recommended to leave a <5 mm gap to allow for thermal expansion.

## INSTALLING THE MODULE CLAMPS

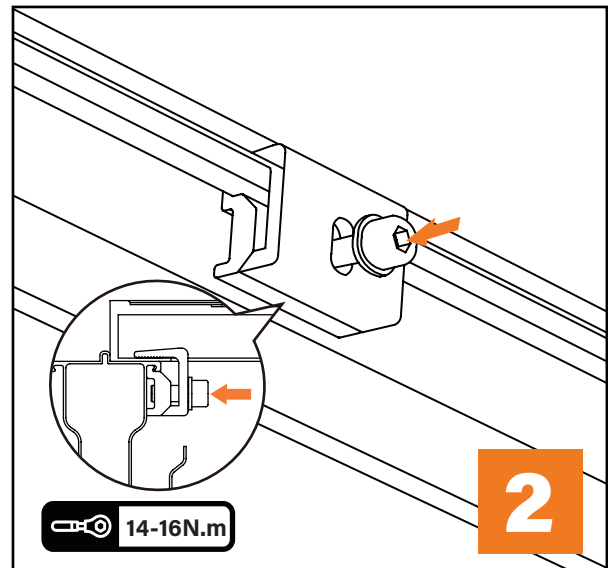


Once the solar modules are correctly positioned, install six Panel Clamps per module.

## INSTALLING THE MODULE CLAMPS

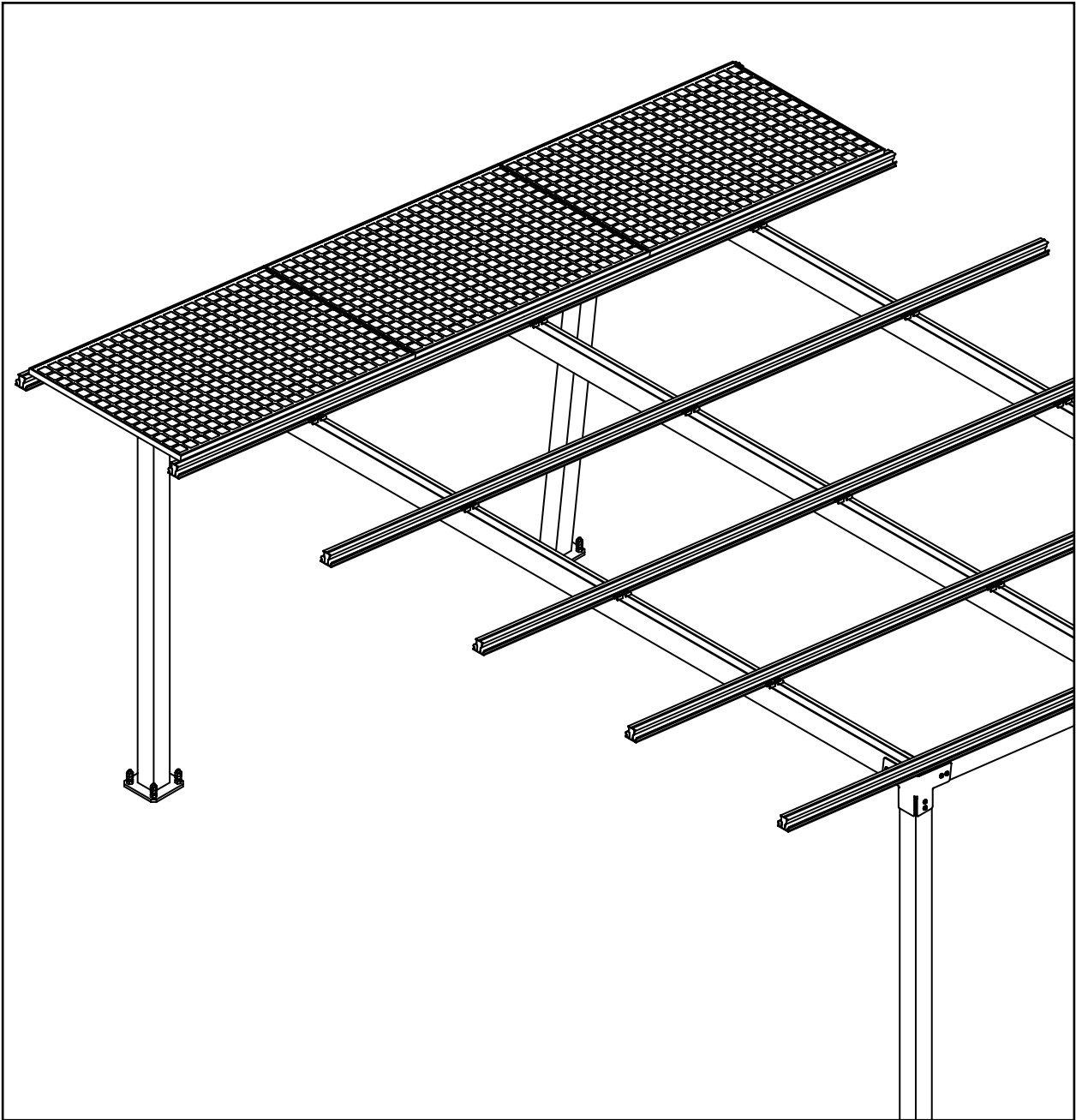


**STEP 1**  
Hook the channel nut onto the side of the ZERO Rail.  
Ensure the nut is seated correctly, as shown above.



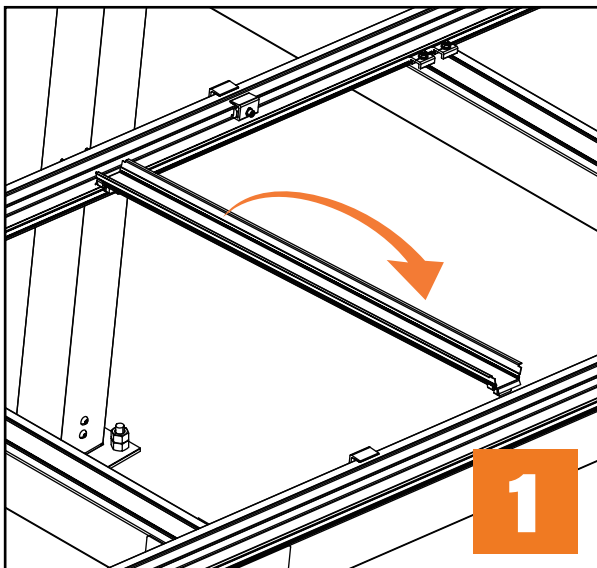
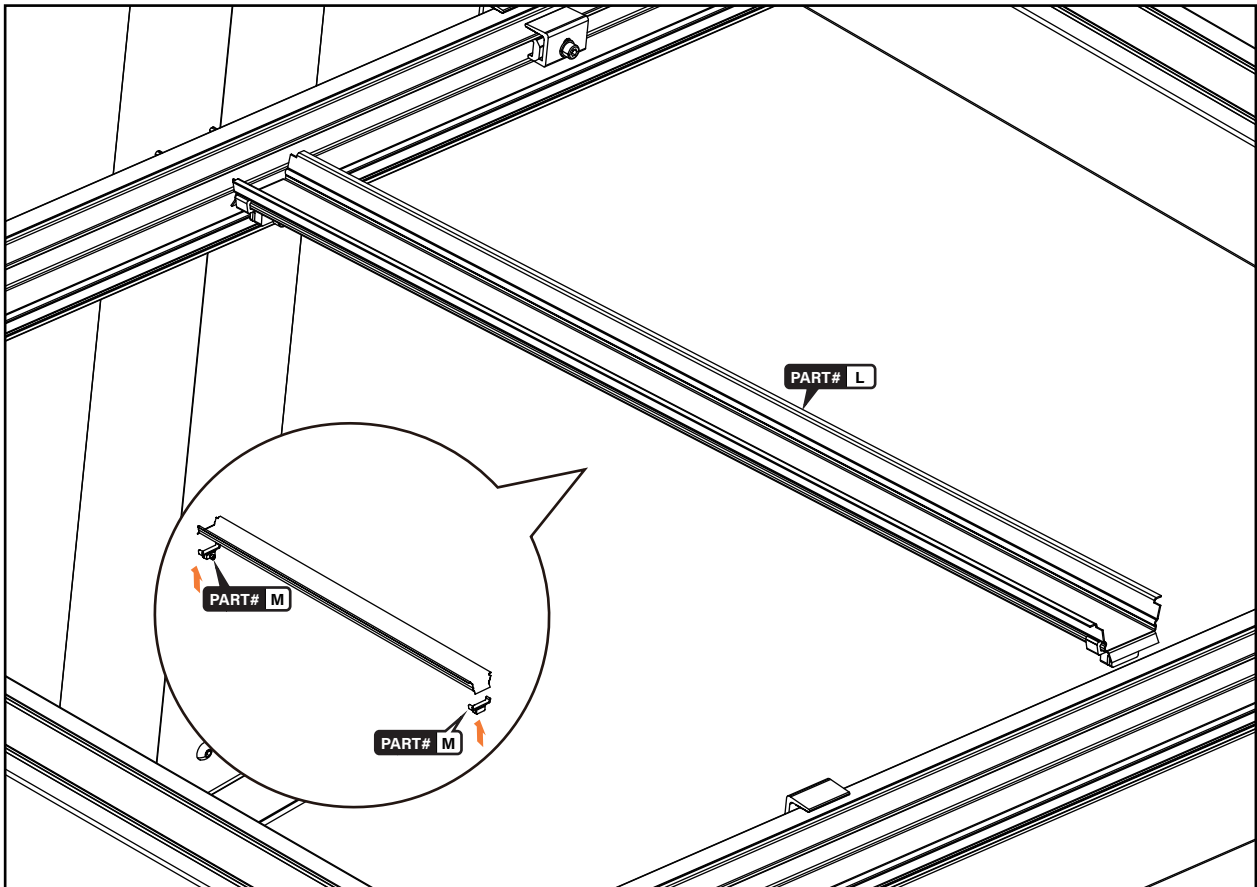
**STEP 2**  
Ensure the panel clamp is correctly positioned, then  
tighten to the specified torque (14-16N.m)

## FIRST ROW OF SOLAR MODULE COMPLETE



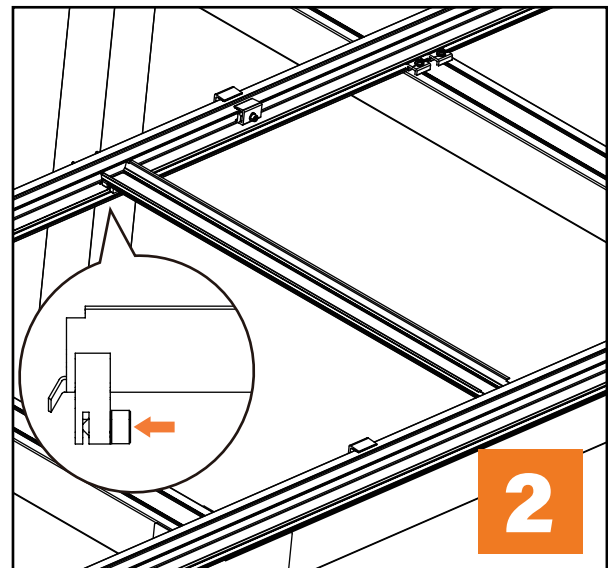
- i** Check the position of the solar modules in the first row. Once confirmed, use this row as a reference to align and install the remaining rows.

## INSTALLING THE GUTTERING SYSTEM



### STEP 1

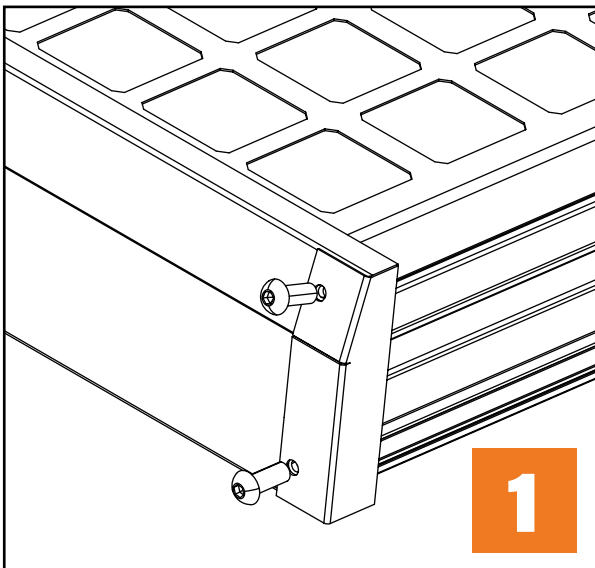
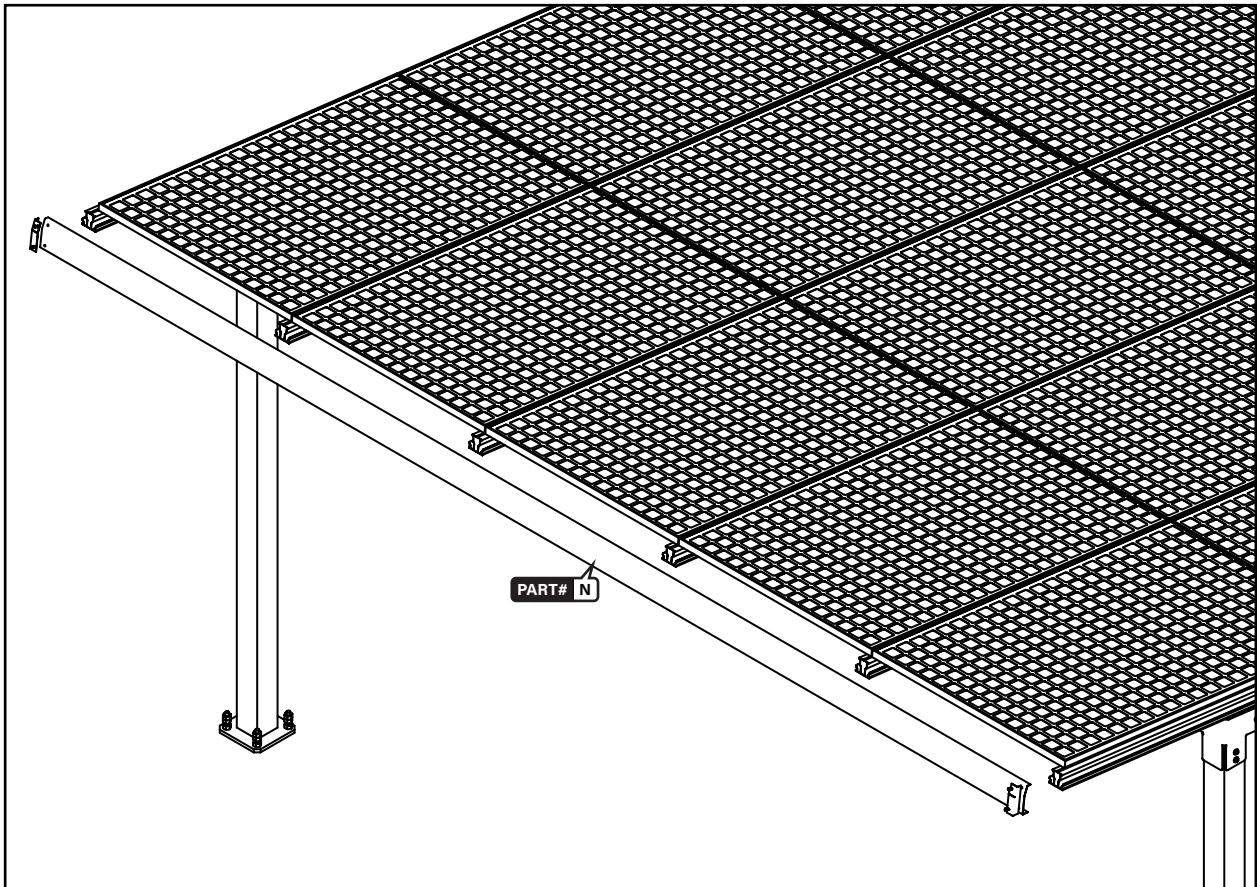
Attach two Gutter Tray Brackets (M) to each Gutter Tray (L) by clipping them onto the underside. Angle the Gutter Tray (L) and position it between the gap of the solar modules.



### STEP 2

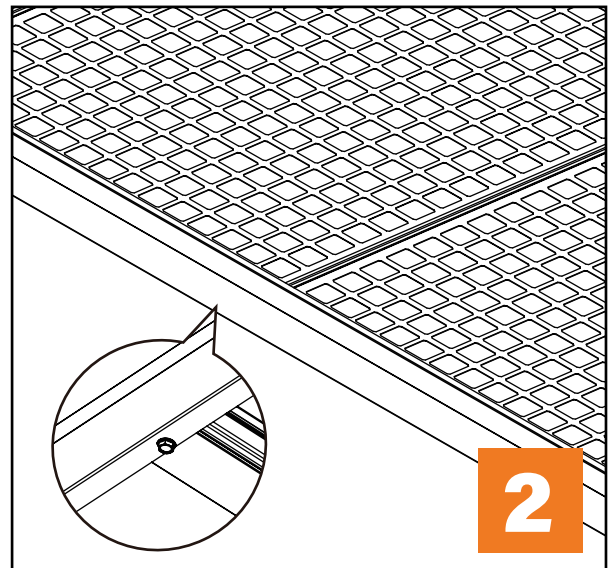
Ensure the bracket channel slot sits onto the side lip of the ZERO Rail, as shown above. Tighten to secure.

## INSTALLING THE FRONT FASCIA COVER



### STEP 1

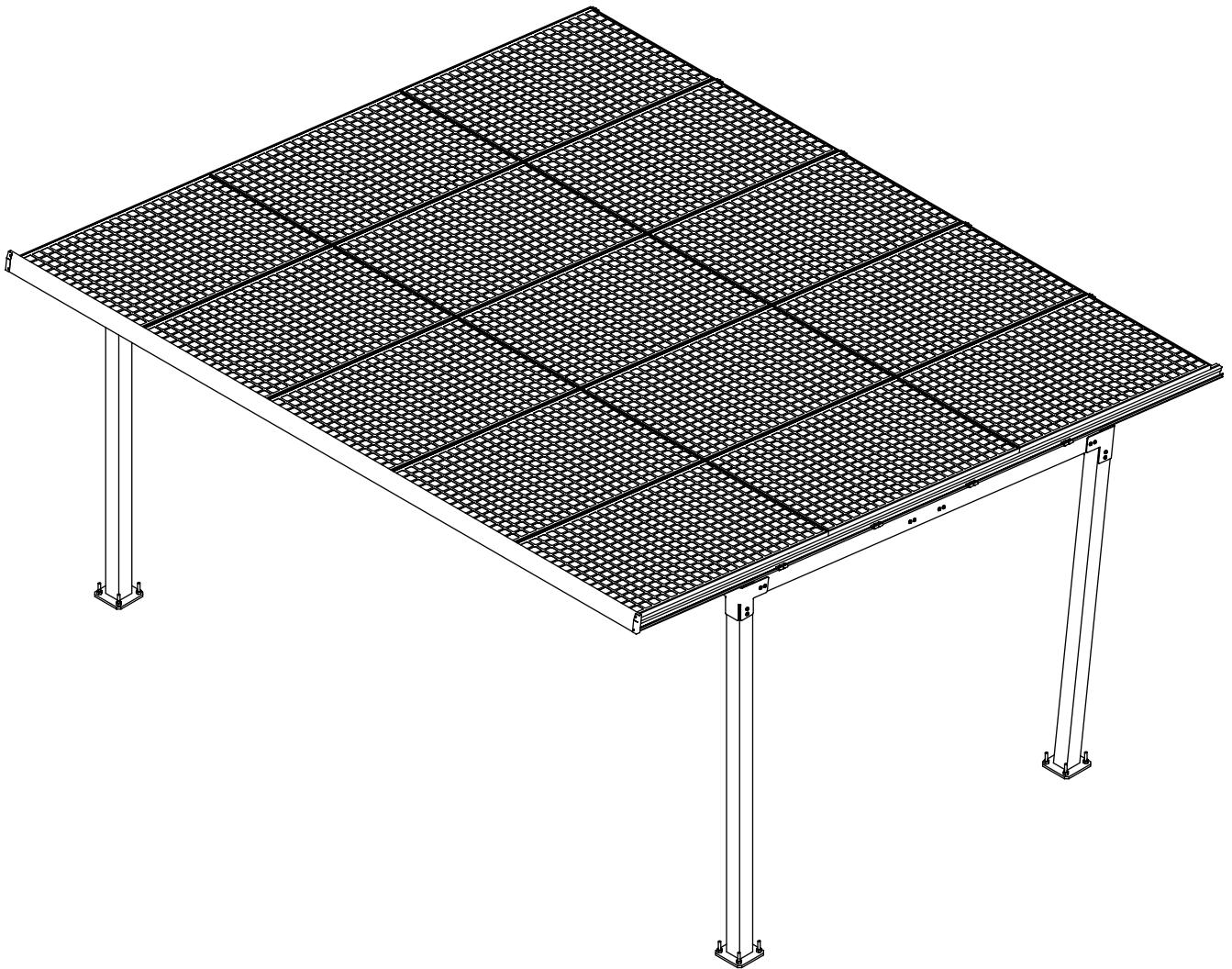
Install the Front Fascia End Caps (N) onto the Front Fascia Cover (N).



### STEP 2

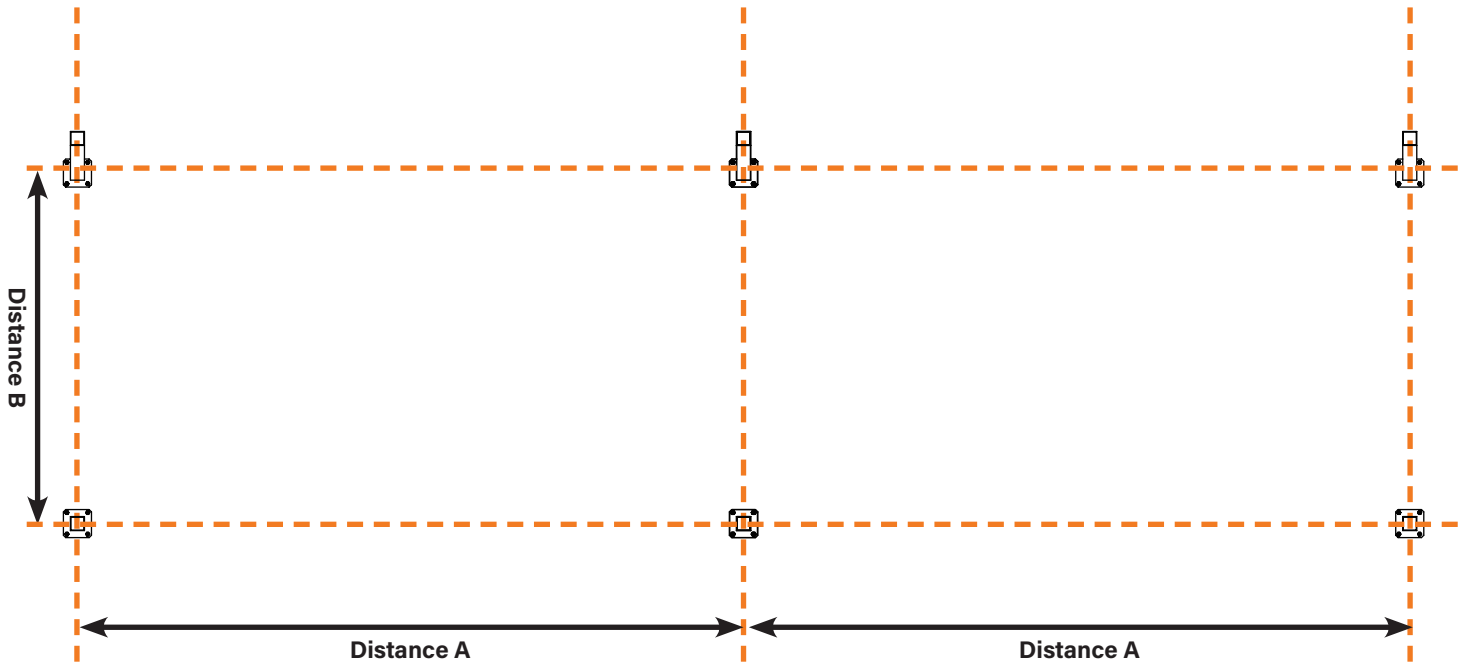
Place the Front Fascia Cover (N) against the ZERO Rails. Align the predrilled holes so they are centred on the ZERO Rail, as shown above. Secure using the provided self-tapping screws.

CARPORT INSTALLATION COMPLETED



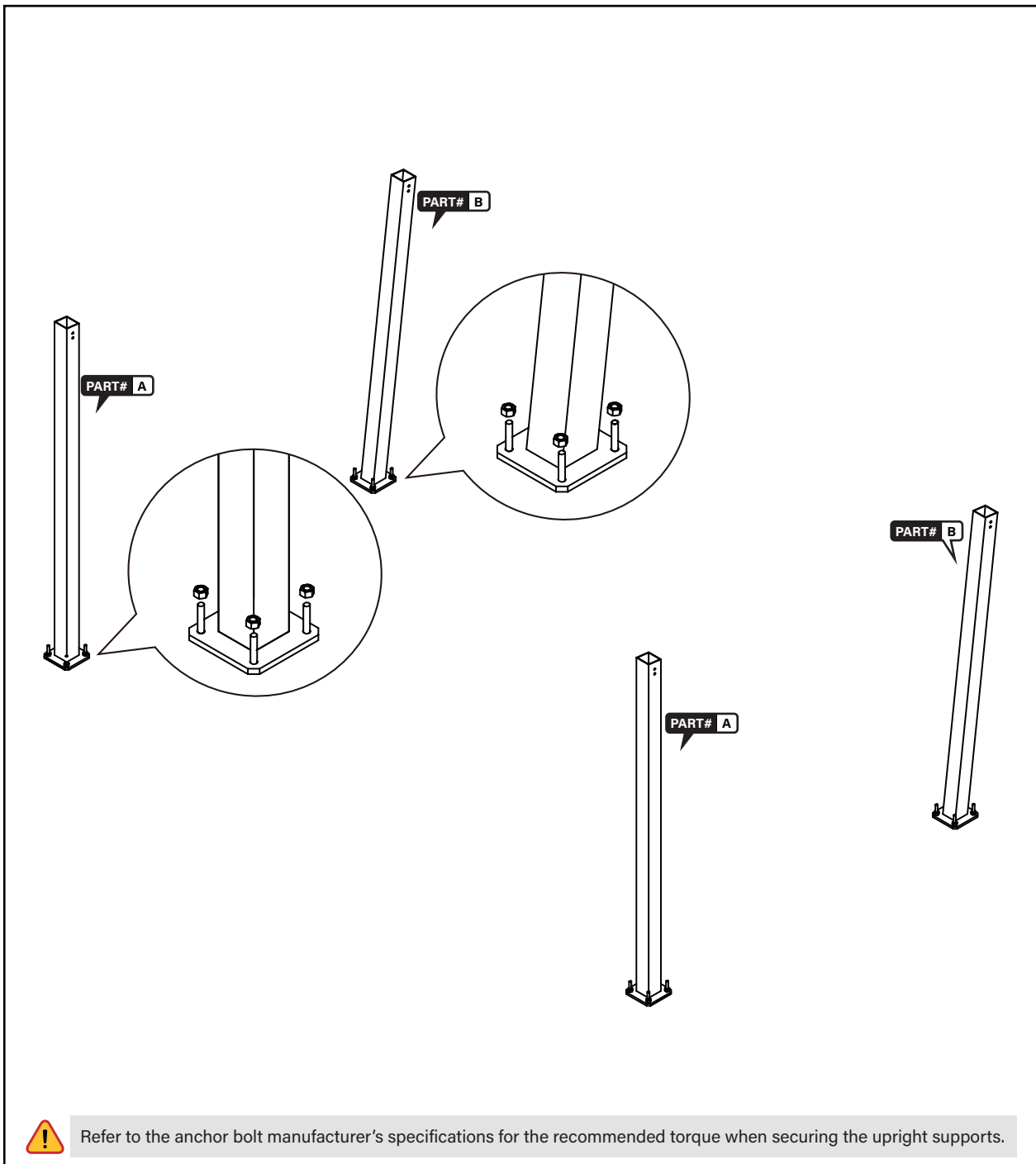
## 7. INSTALLATION GUIDELINE

### MULTI BAY CONFIGURATION



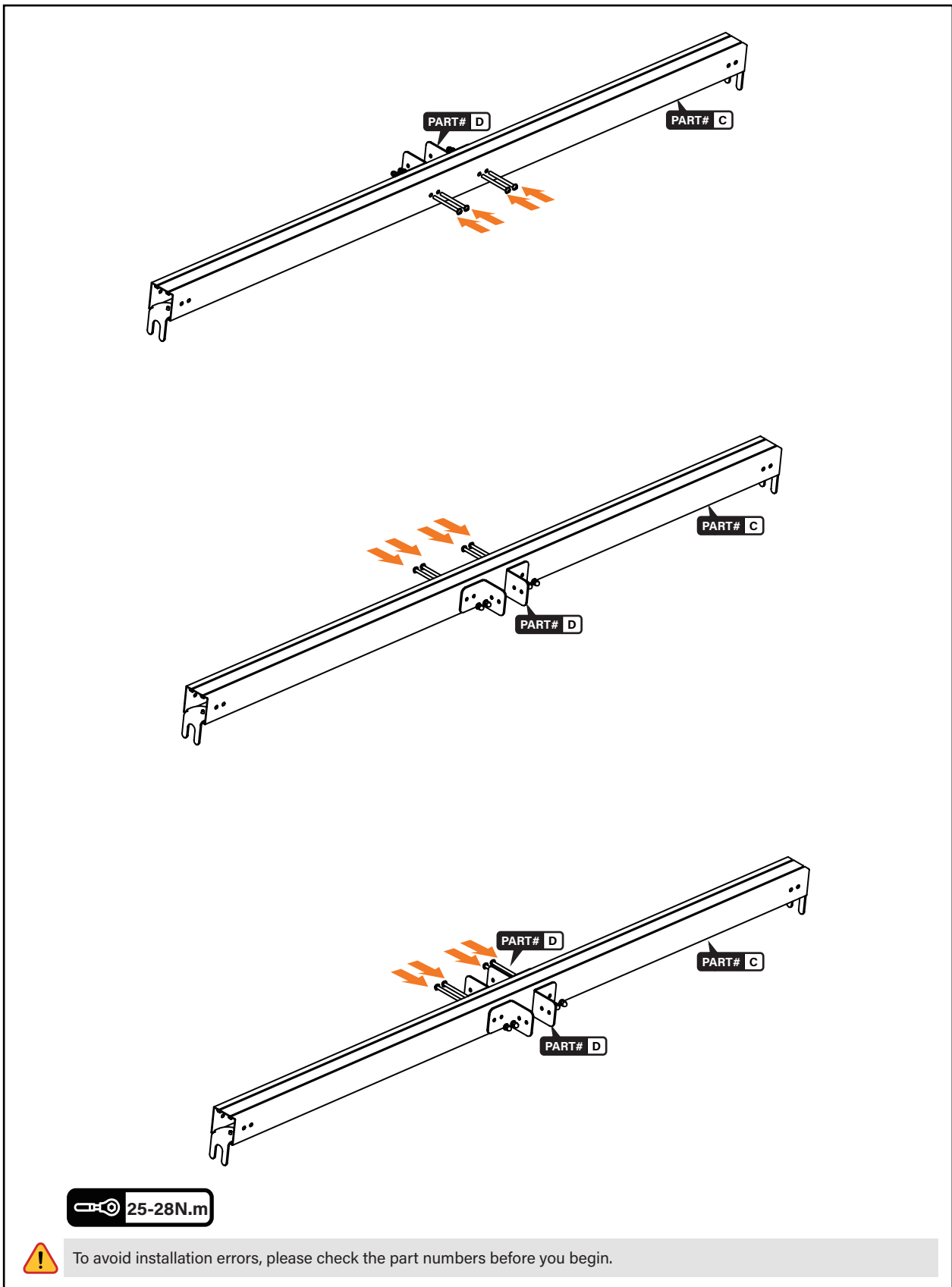
Mark the positions of the feet on the foundation, ensuring they are aligned and squared in accordance with the technical drawings.

## INSTALLING THE UPRIGHT SUPPORTS



Install the front (A) and rear (B) upright supports in their designated positions, ensuring the rear upright (B) is oriented correctly before securing.

## INSTALLING RAFTER CONNECTORS ONTO THE RAFTER




Install the Rafter Connectors (D) onto the Rafters (C) using bolts and nuts per connection. Tighten to the specified torque (25-28N.m)

**i** Ensure the connectors are installed on the two rafters in opposite orientations, as shown in the diagram above.

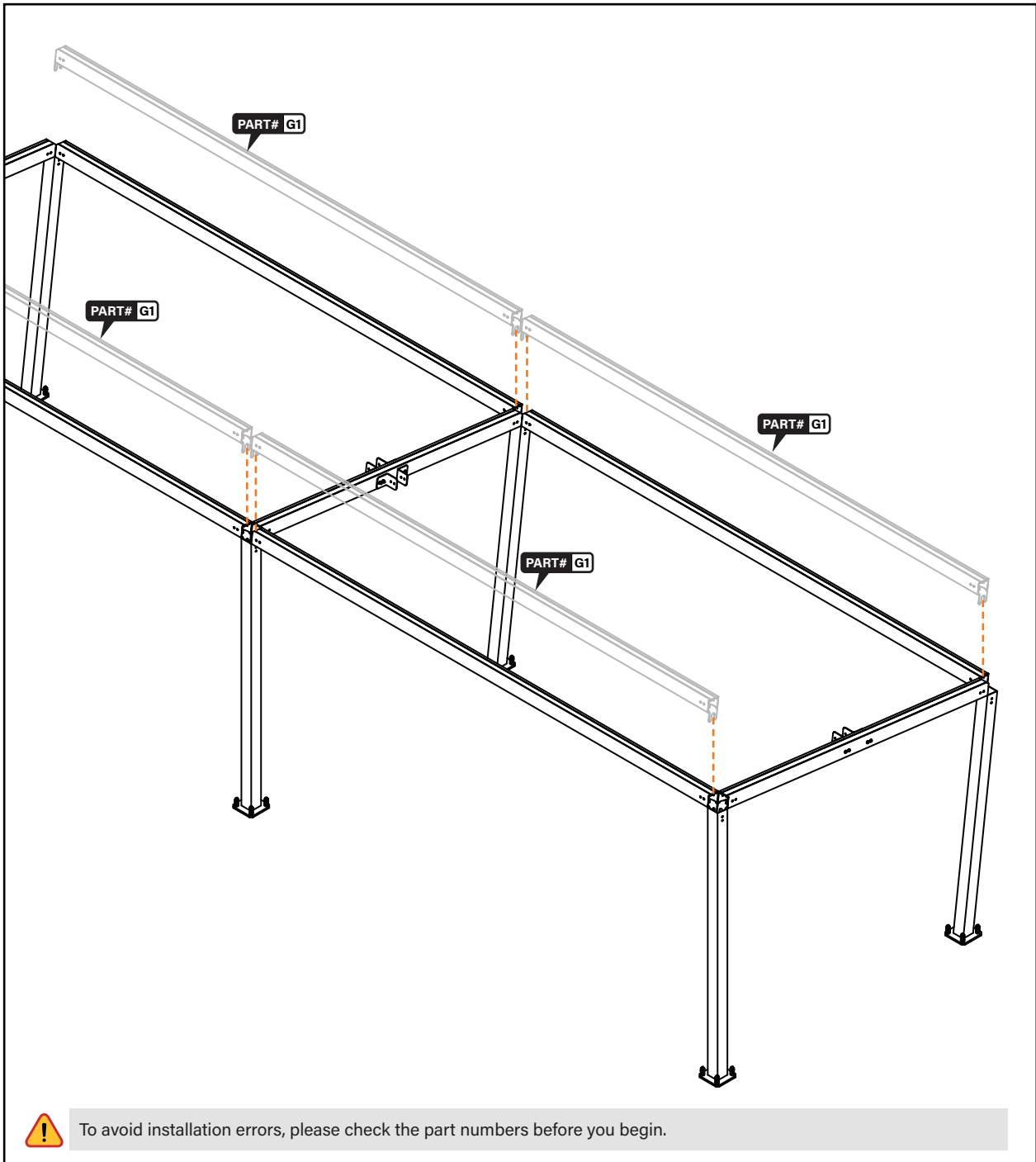
## INSTALLING THE RAFTER (C)



Place the three rafters with the connectors attached onto the upright supports.

 Ensure they are oriented as shown in the diagram above.

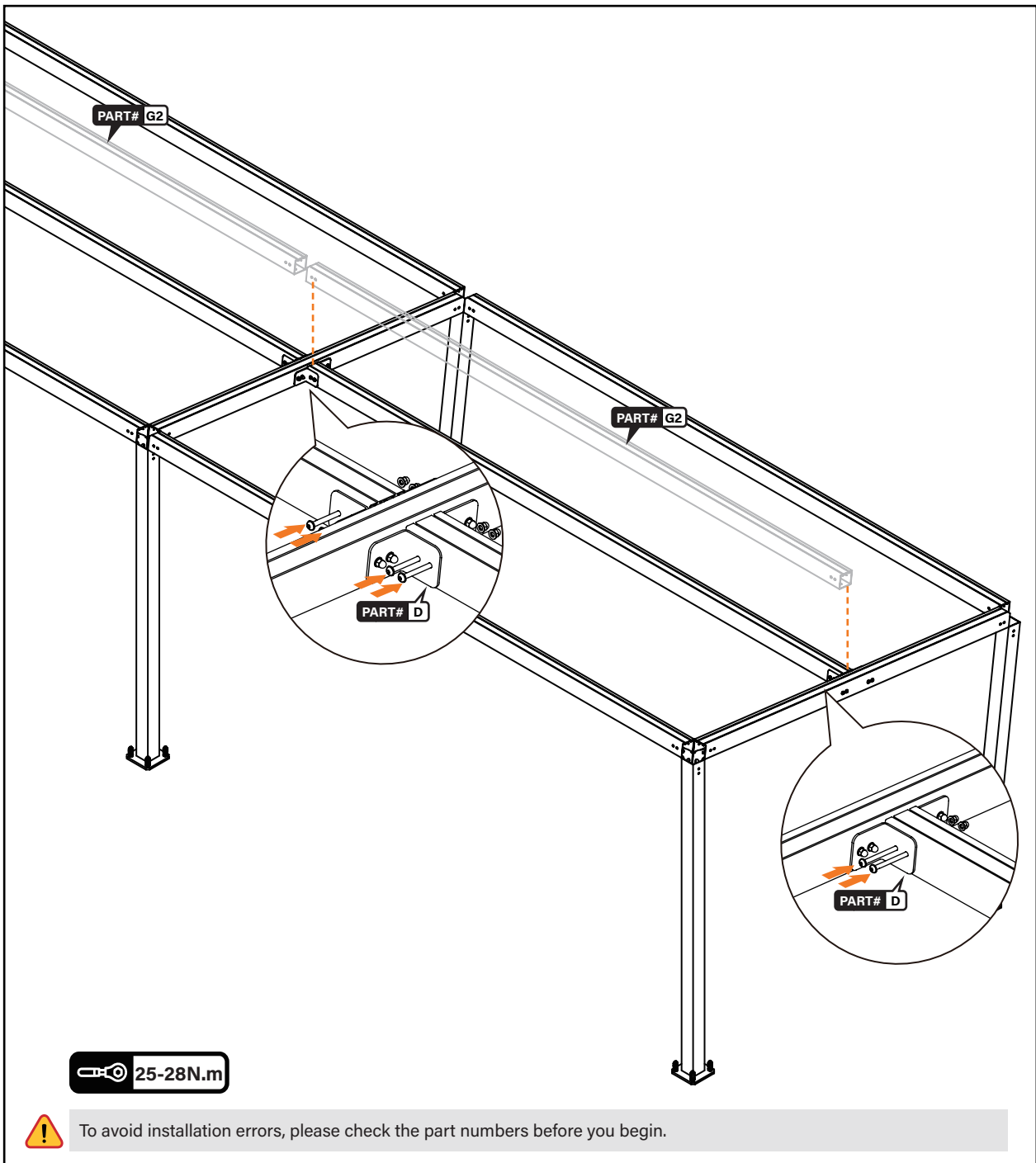
## INSTALLING THE RAFTER (G1)



Place the four rafters (G1) onto the upright supports to complete the outer framework.

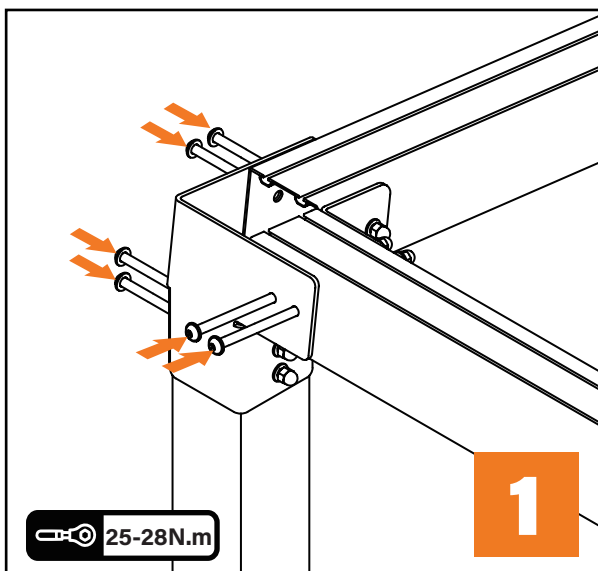
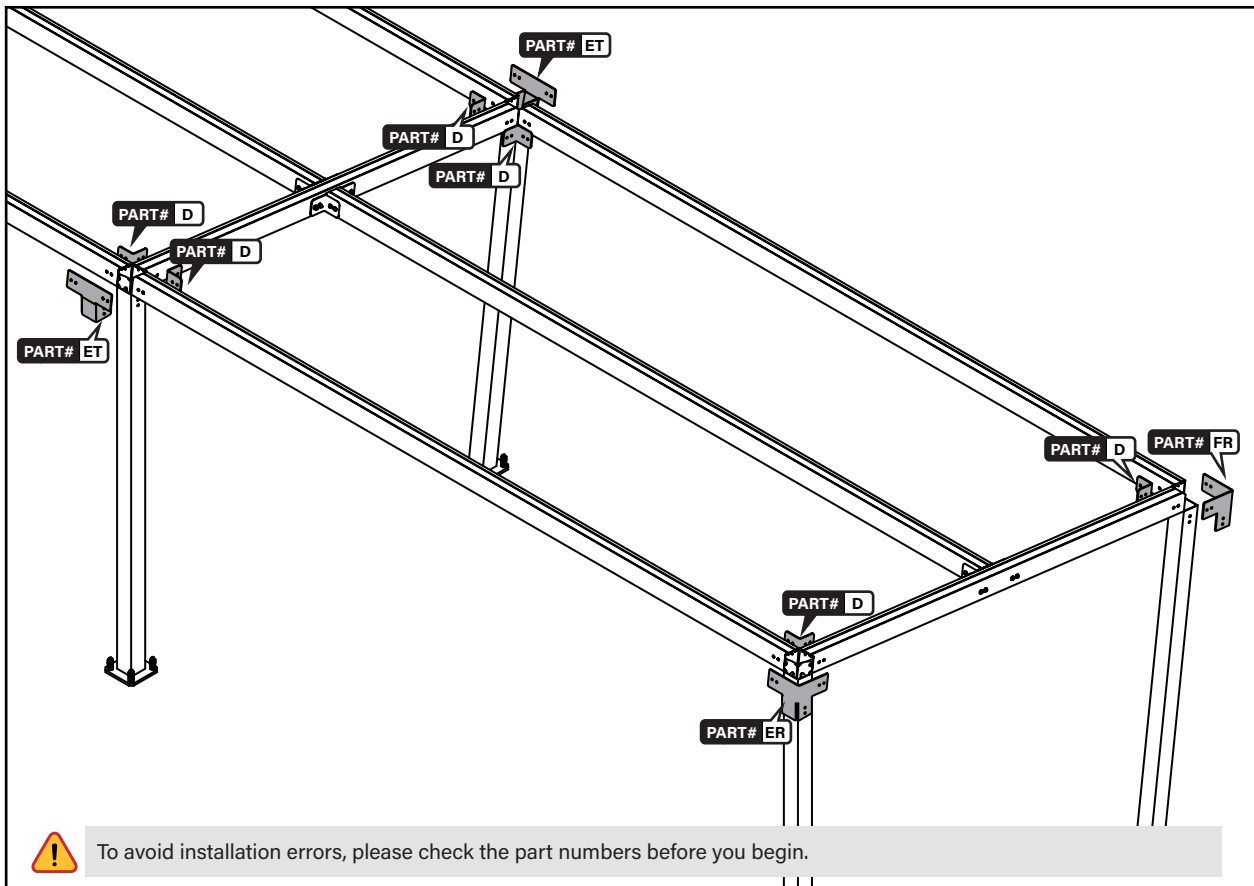
**i** Front and back orientation is not critical and will not affect installation.

## INSTALLING THE MIDDLE RAFTER (G2)

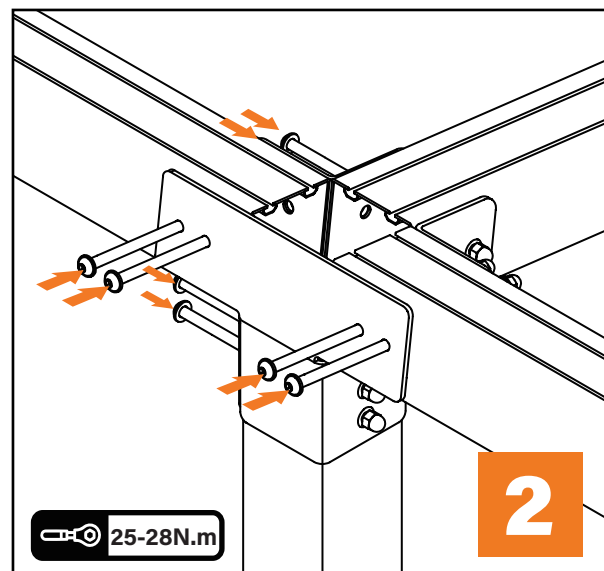


Place the remaining Middle Rafters (G2) and secure it by tightening the bolts and nuts to the specified torque (25–28 N.m)

## INSTALLING THE CORNER BRACE COVERS

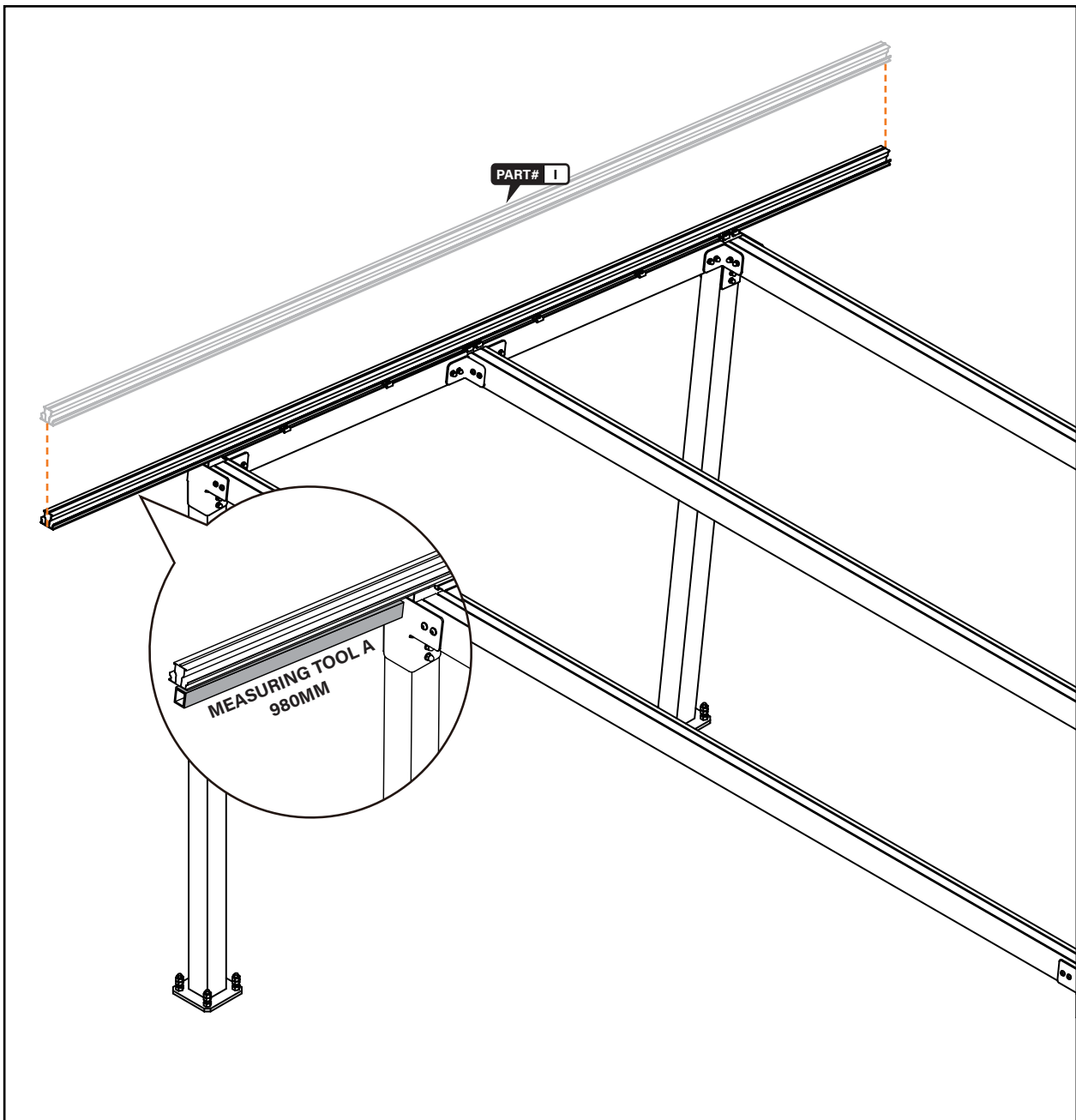


**STEP 1**  
Place the front (EL) (ER) and rear (FL) (FR) corner brace covers and Rafter Connectors (D) at each outer corner of the structure.



**STEP 2**  
Place the Intersection Joiner Bracket (ET) and Rafter Connectors (D) at each outer corner of the structure. Secure by inserting the bolt fully through, with the bolt head on the outside and the nut on the inside for a clean appearance. Tighten to the specified torque (25-28N.m)

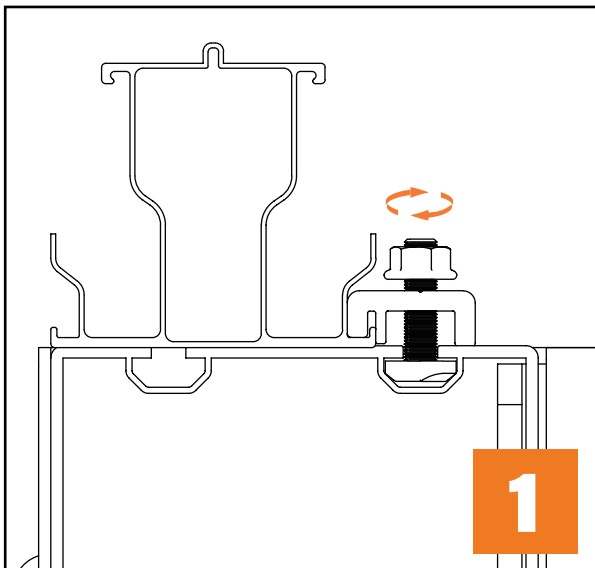
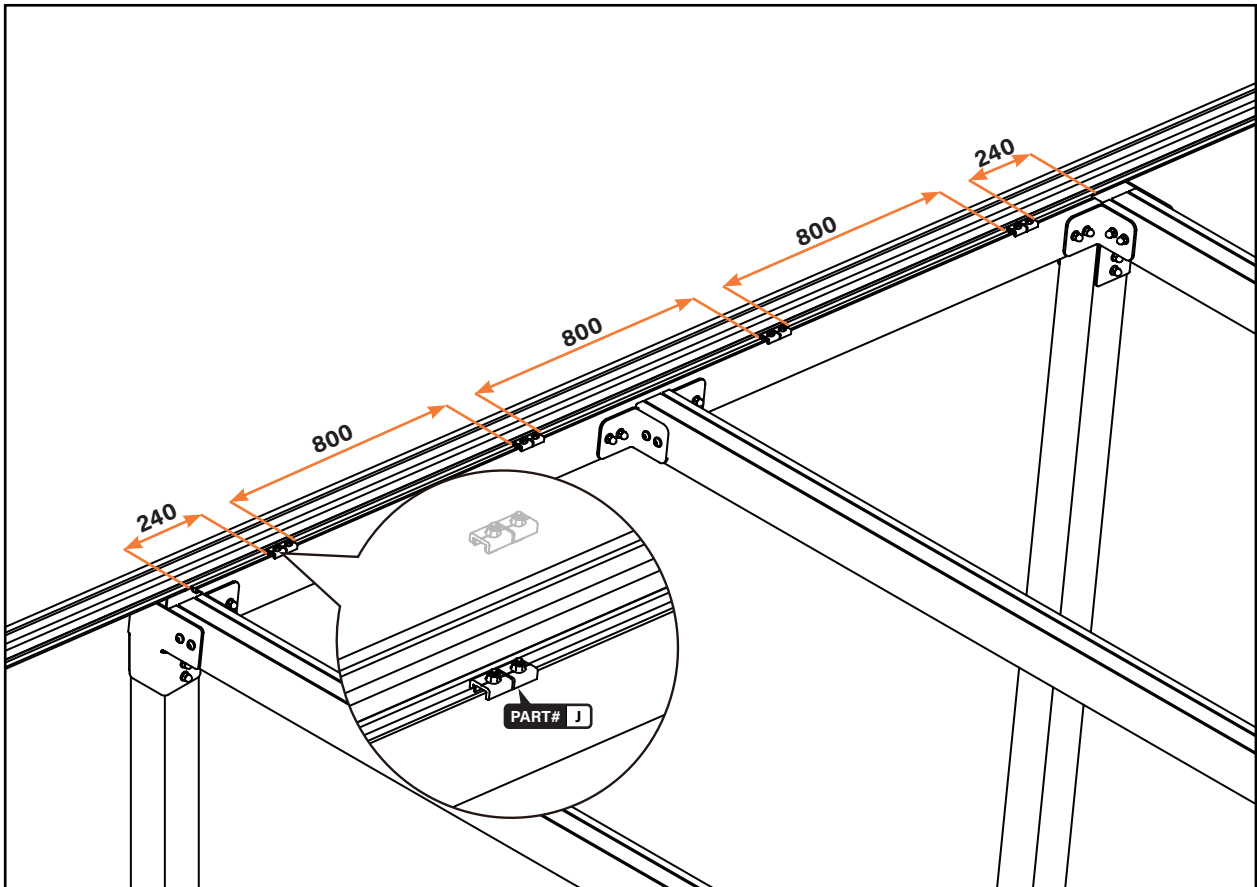
## INSTALLING THE FIRST ZERO RAIL



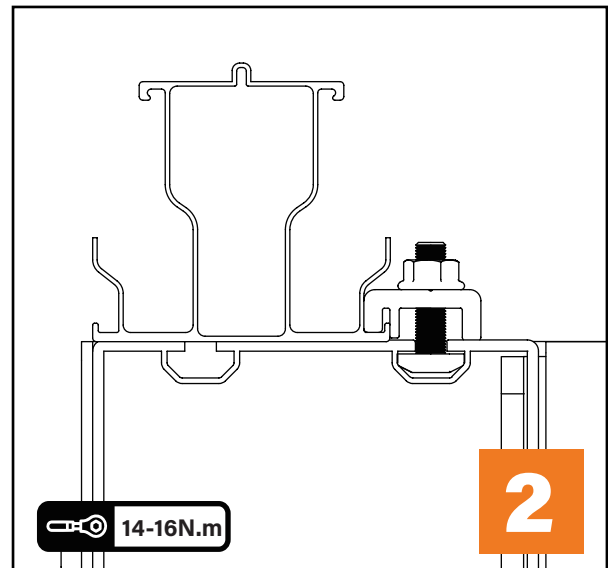
Place the first ZERO Rail on top of the rafter, ensuring equal overhang of 980mm at both the front and rear of the rail.

**i** Fabricate and use a measuring jig to maintain consistency, as this step must be repeated for all ZERO Rails.

## INSTALLING THE RAIL CLAMPS



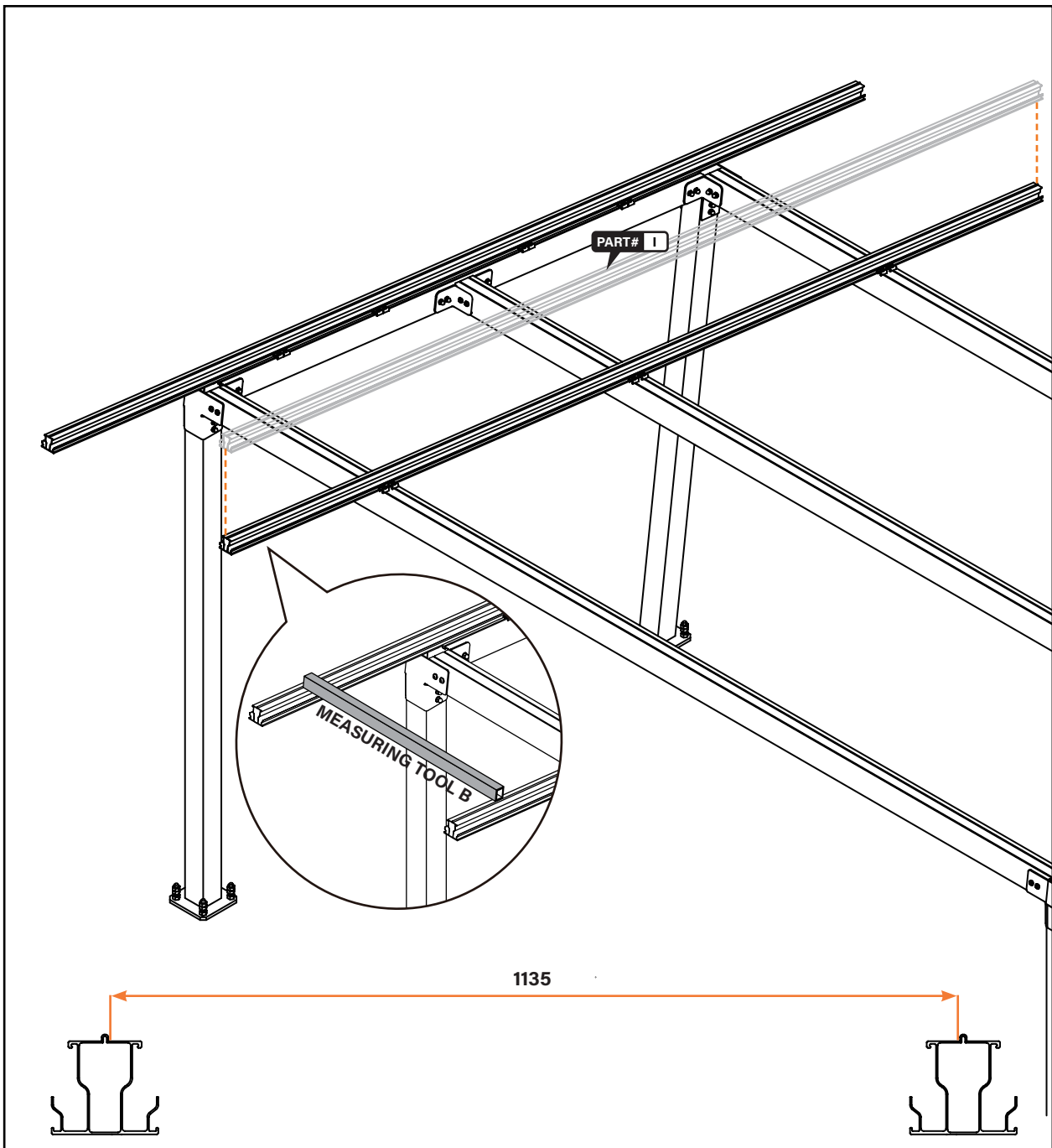
**STEP 1**  
Ensure the ZERO Rail is flush with the outer edge of the rafter, **THIS IS CRITICAL**. Secure the inner side of the ZERO Rail using eight rail clamps, as shown above.



**STEP 2**  
Ensure all rail clamps are correctly positioned and the ZERO Rail has not shifted before tightening to the specified torque (14-16 N.m)

**i** The first ZERO Rail placement is critical to ensure correct ZERO Rail spacing for proper panel installation.

## INSTALLING THE SECOND RAIL

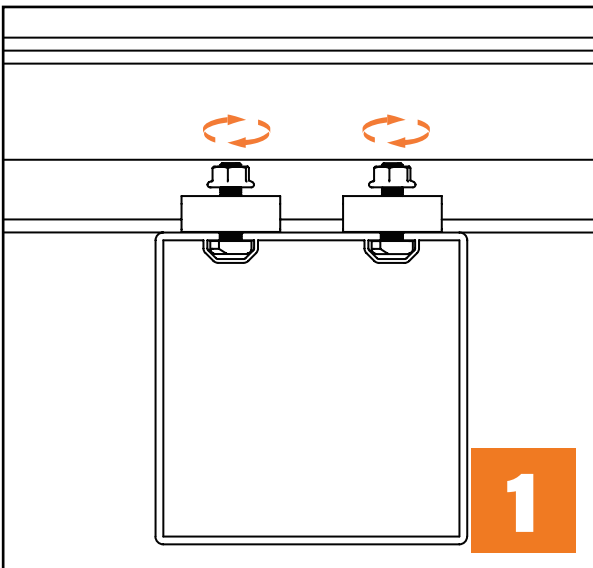
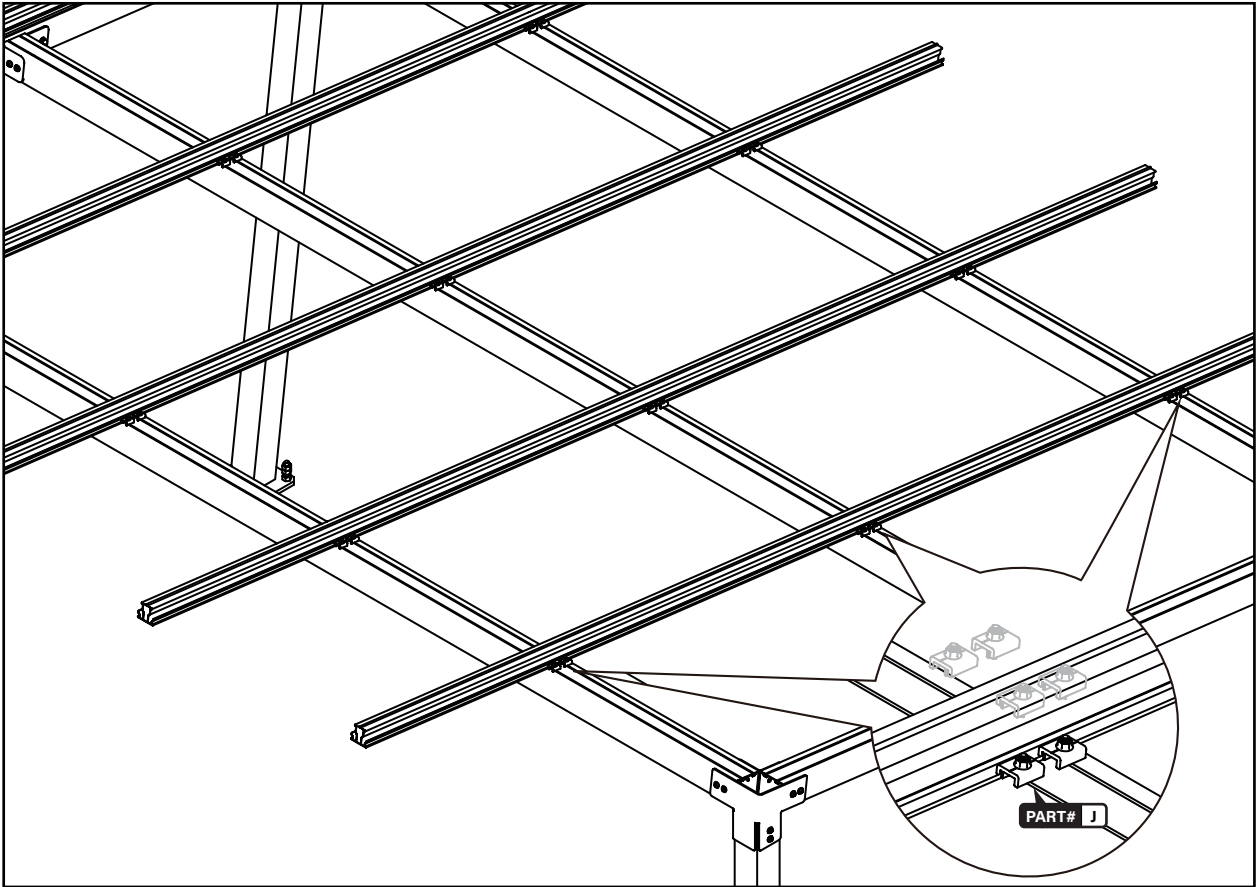


Place the second ZERO Rail onto the rafter. Using a measuring tape or measuring jig, set the spacing in accordance with the diagram above. Ensure equal overhang at both the front and rear of the ZERO Rail.



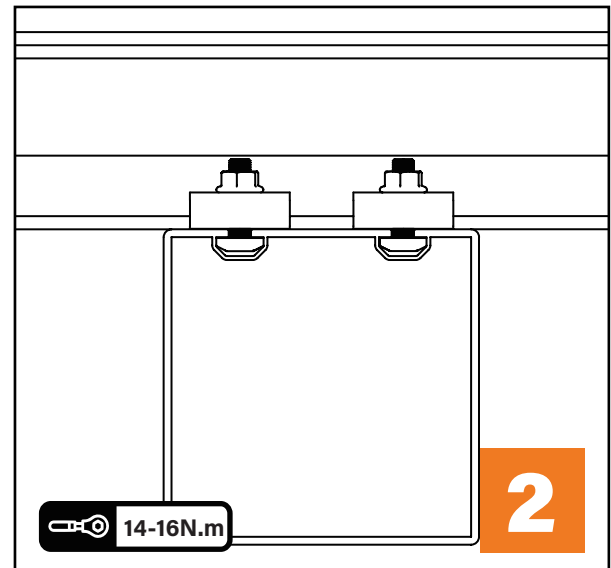
Fabricate and use two spacing jigs to maintain consistency. Position one at the front and one at the rear, to ensure the rails are aligned and squared.

## INSTALLING THE RAIL CLAMPS ONTO RAIL



### STEP 1

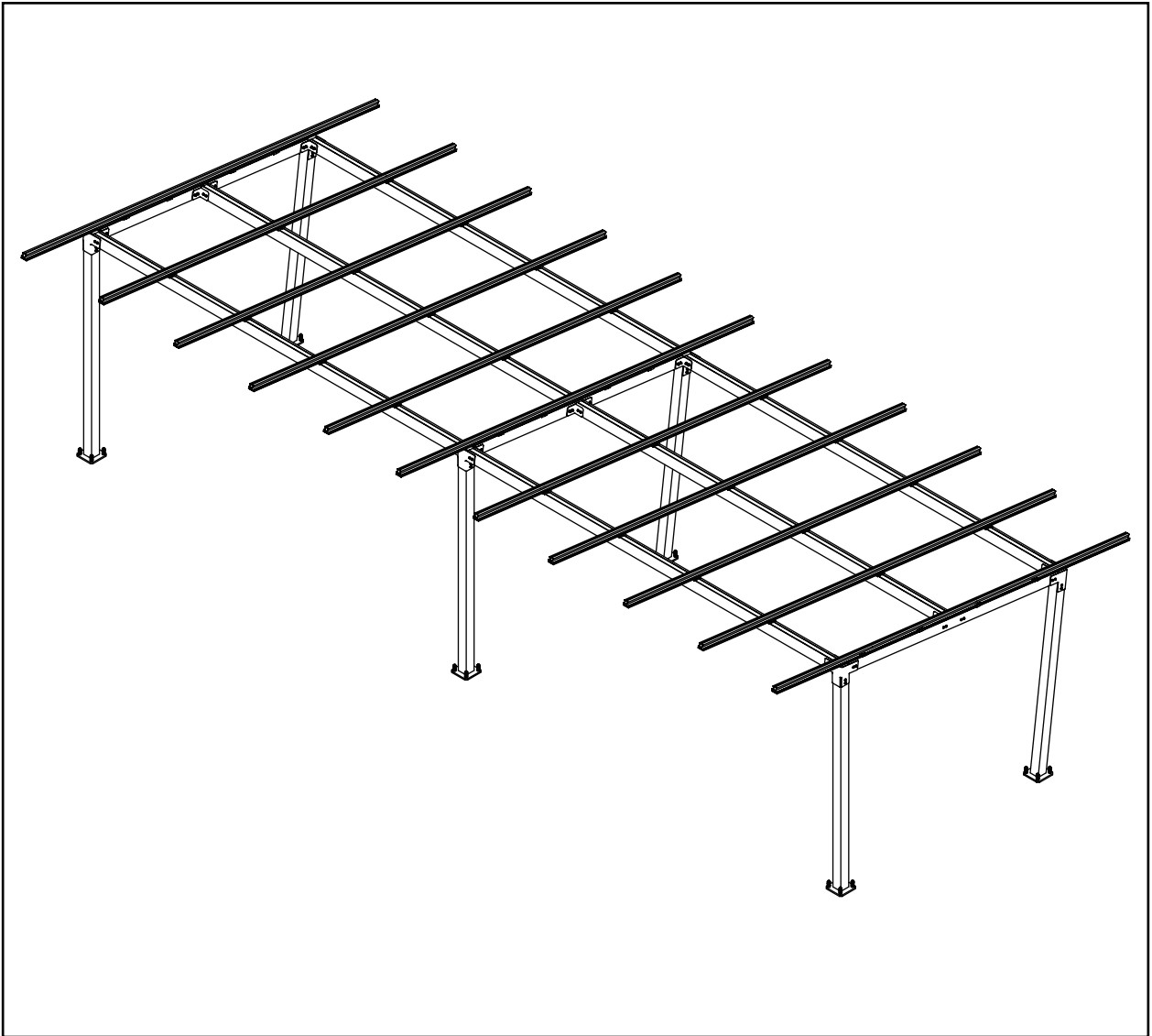
At each intersection of the ZERO Rail and rafter, place four rail clamps into the channel (two on each side), for a total of 12 clamps per ZERO Rail.



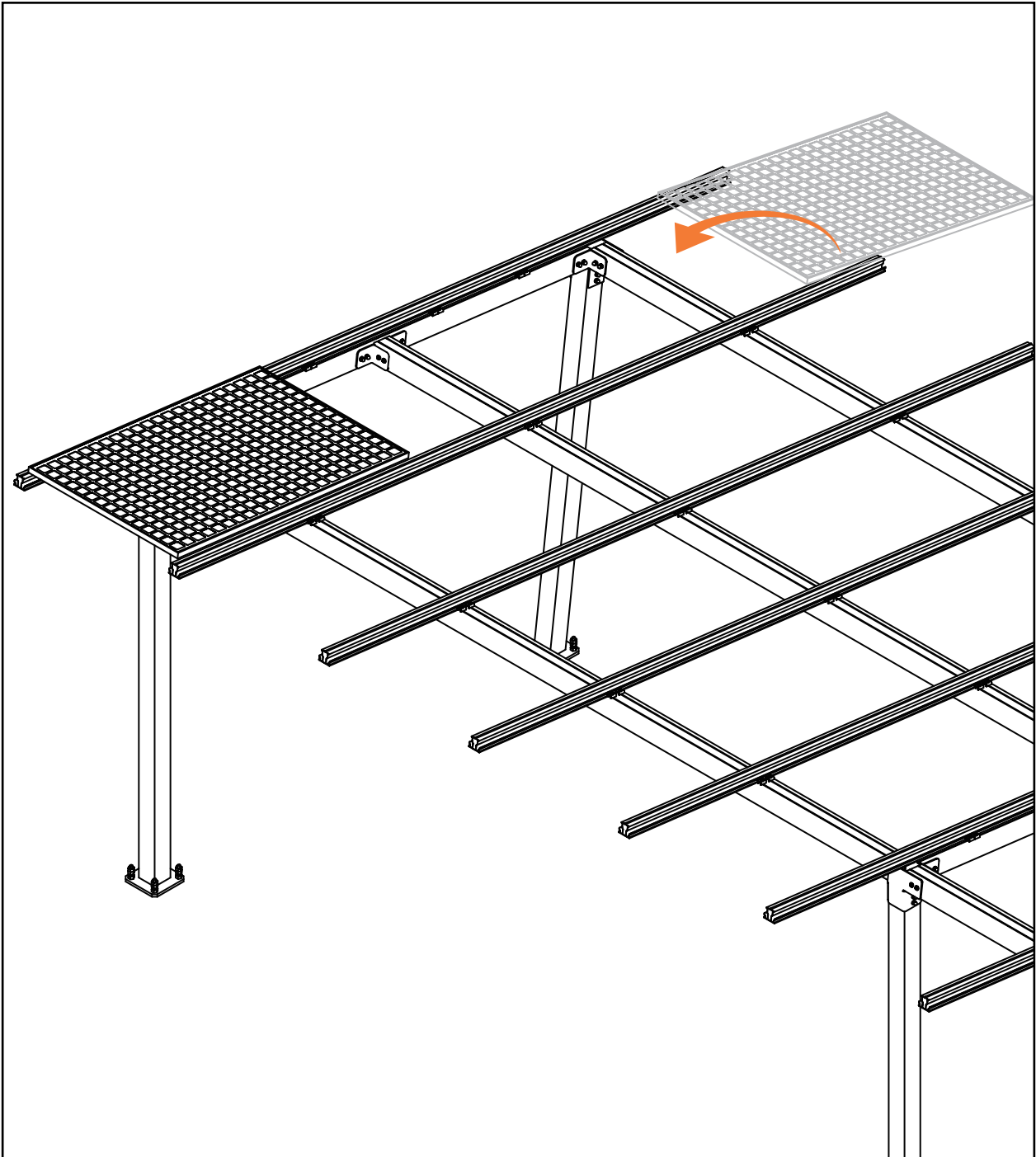
### STEP 2

Ensure all rail clamps are correctly positioned and the ZERO Rail has not shifted before tightening to the specified torque (14-16 N.m.).

RAIL INSTALLATION COMPLETED

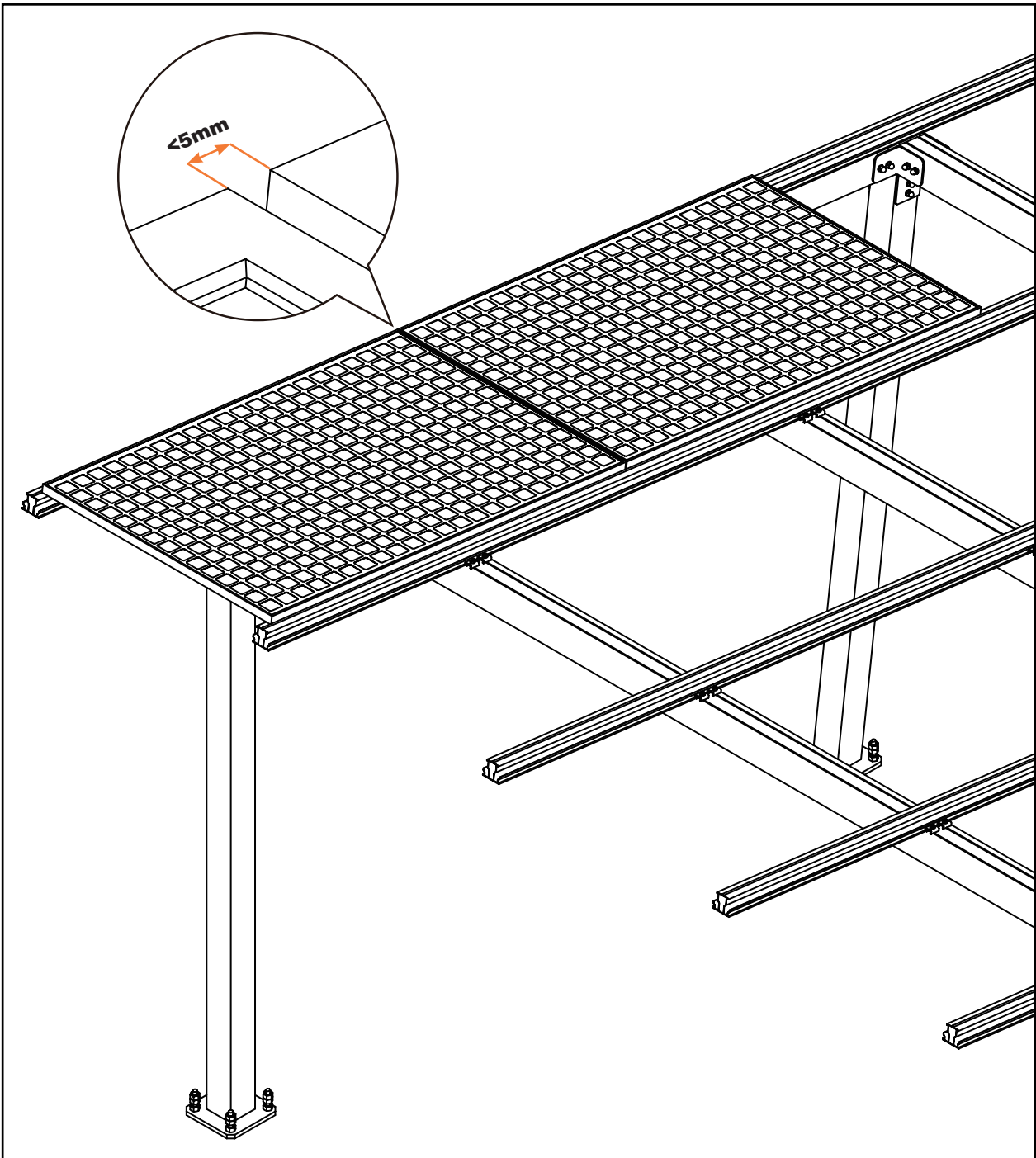


## INSTALLING THE FIRST SOLAR MODULE



Lift the solar module from underneath at the rear side of the structure and place it onto the ZERO Rail. Slide the module towards the front of the carport, leaving 50 mm from the end of the rail.

## INSTALLING THE FOLLOWING SOLAR MODULE

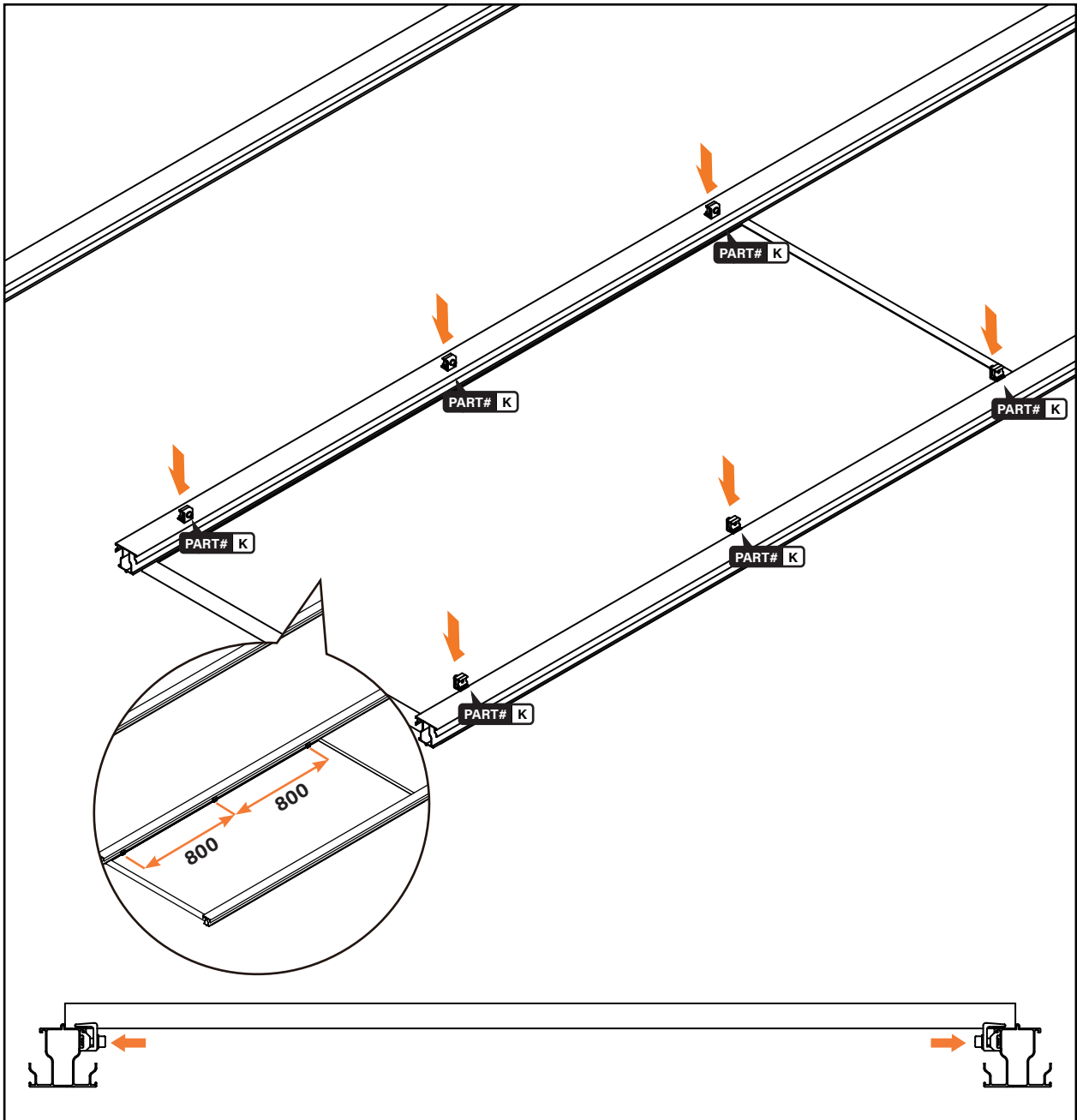


Lift the second and third solar modules from underneath at the rear side of the structure and place it onto the ZERO Rail. Slide the module towards the front.



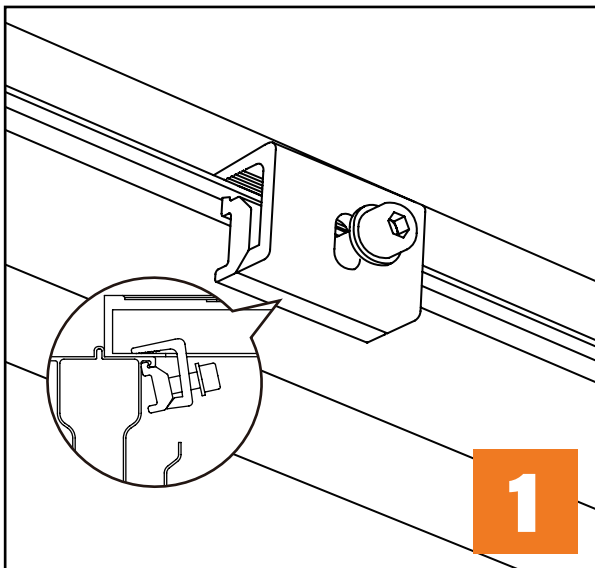
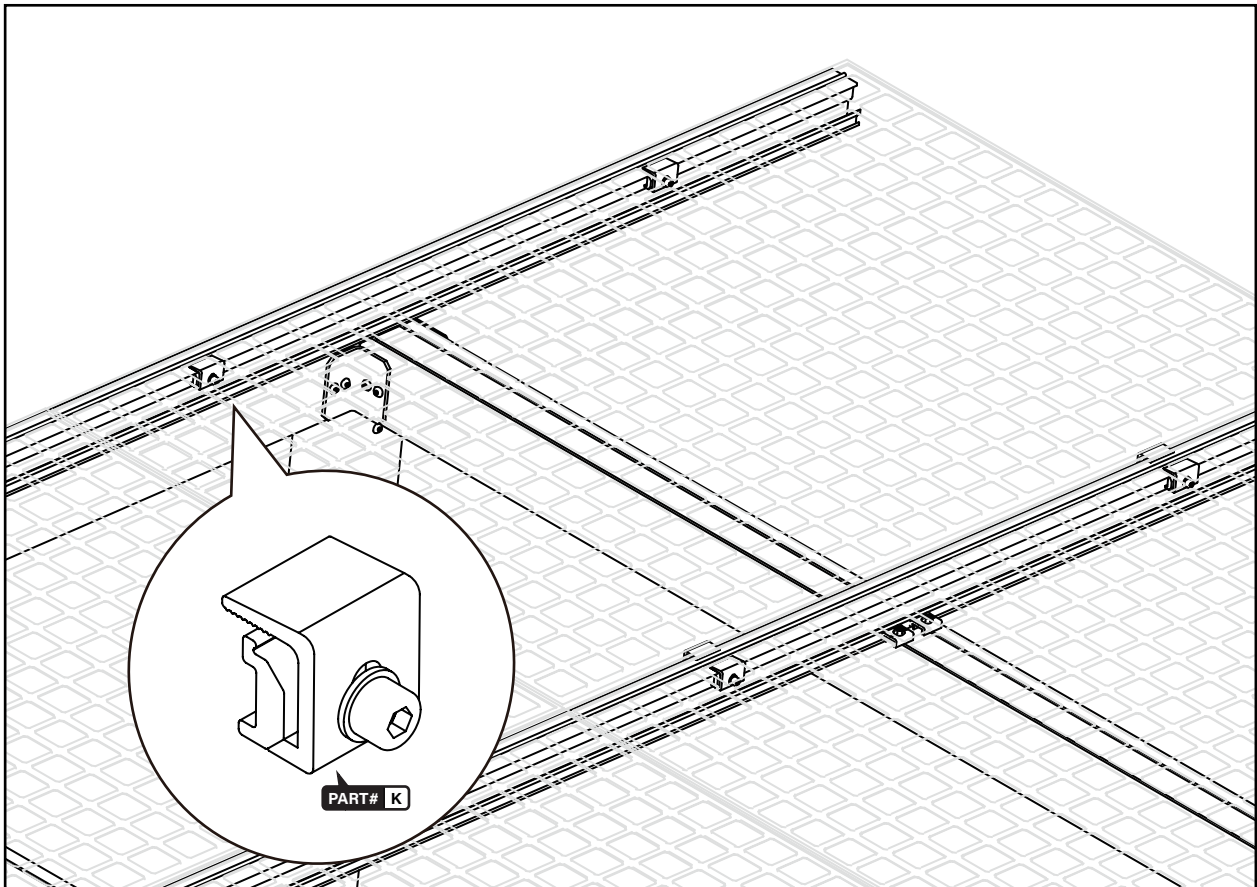
It is recommended to leave a <5 mm gap to allow for thermal expansion.

## INSTALLING THE MODULE CLAMPS

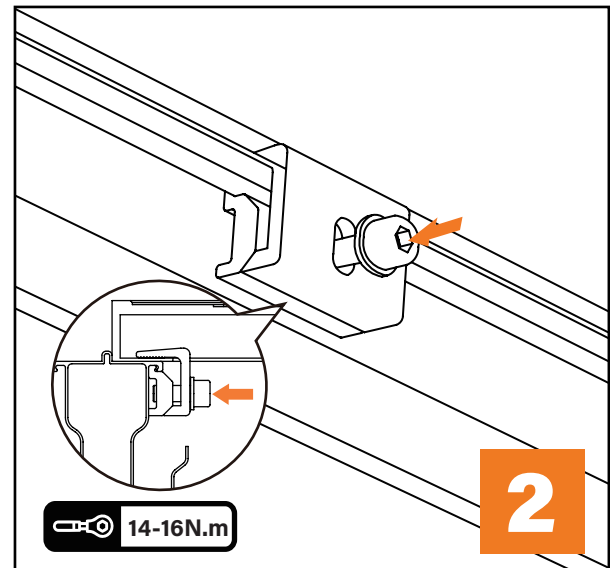


Once the solar modules are correctly positioned, install six Panel Clamps per module.

## INSTALLING MODULE CLAMPS

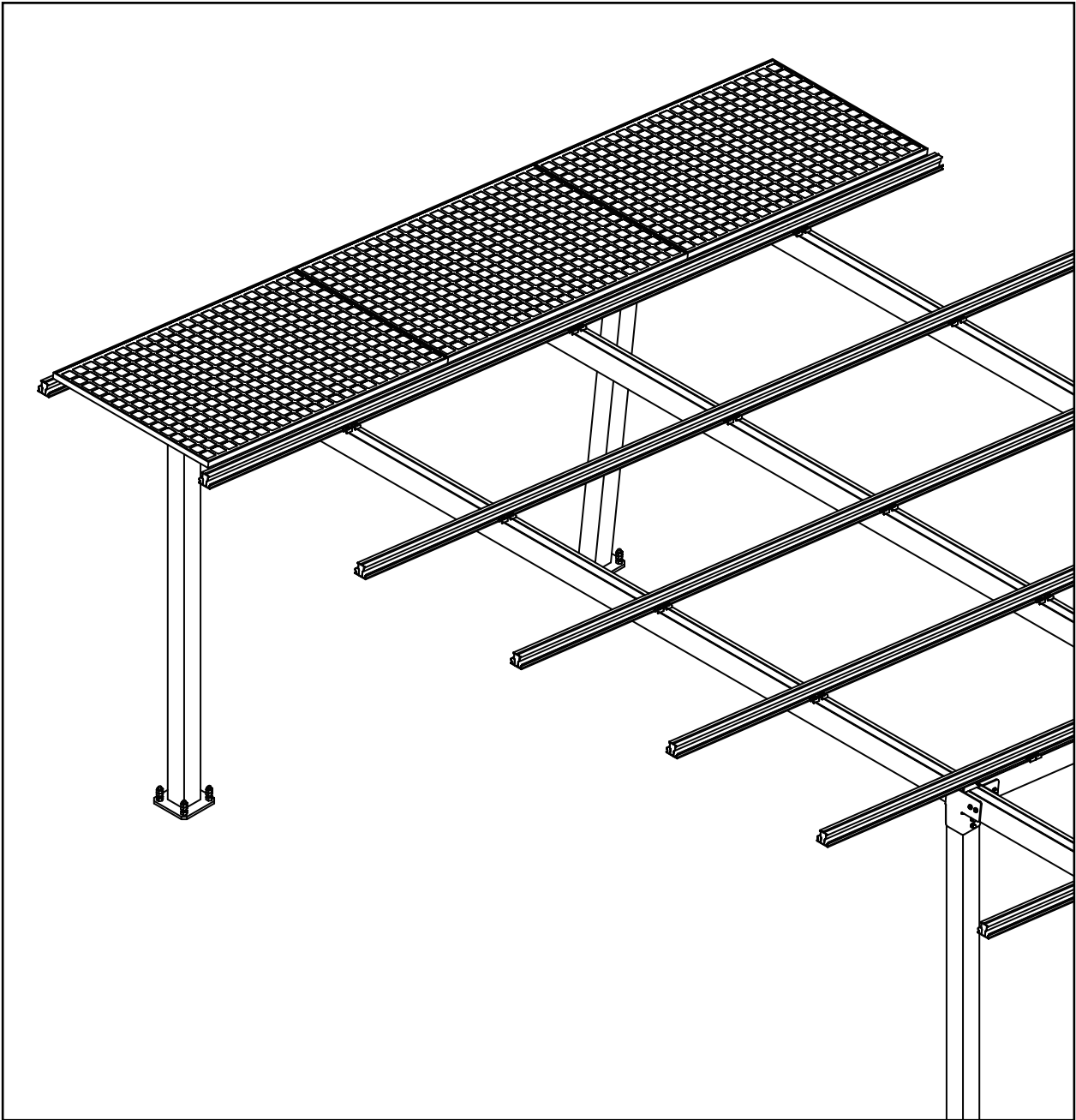


**STEP 1**  
Hook the channel nut onto the side of the ZERO Rail.  
Ensure the nut is seated correctly, as shown above.



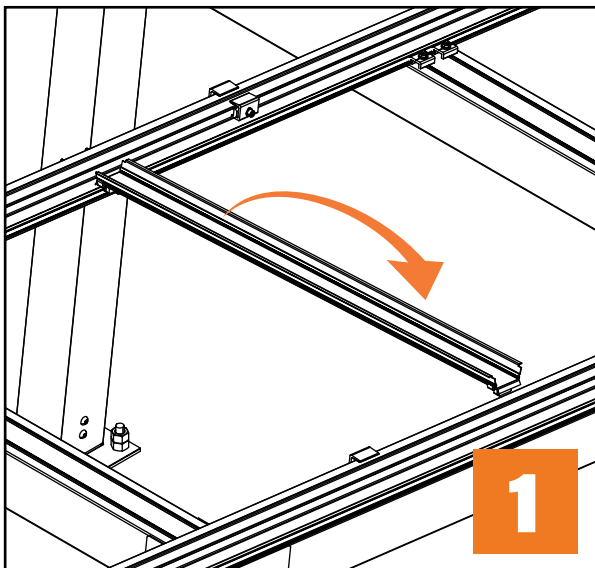
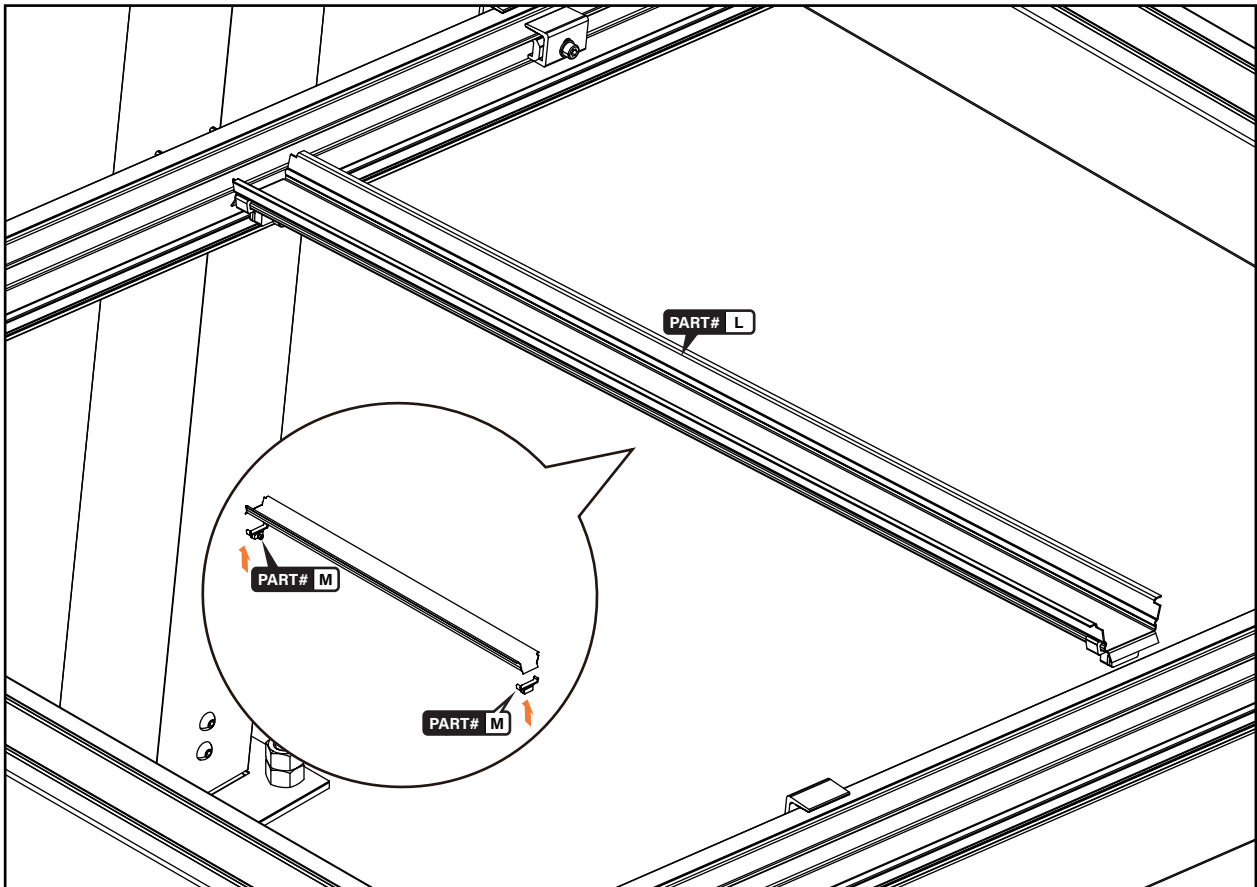
**STEP 2**  
Ensure the panel clamp is correctly positioned, then  
tighten to the specified torque (14-16N.m)

## FIRST ROW OF SOLAR MODULE COMPLETE



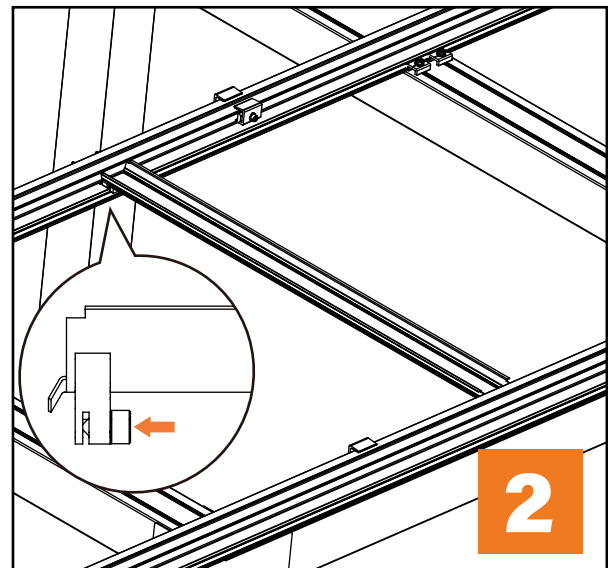
Check the position of the solar modules in the first row. Once confirmed, use this row as a reference to align and install the remaining rows.

## INSTALLING THE GUTTERING SYSTEM



### STEP 1

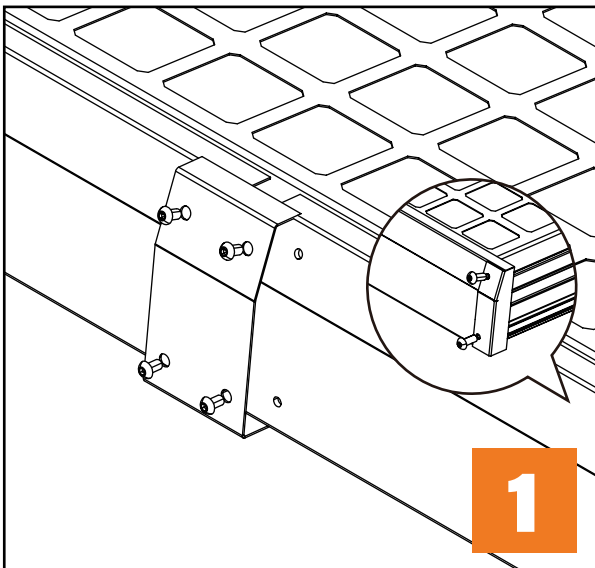
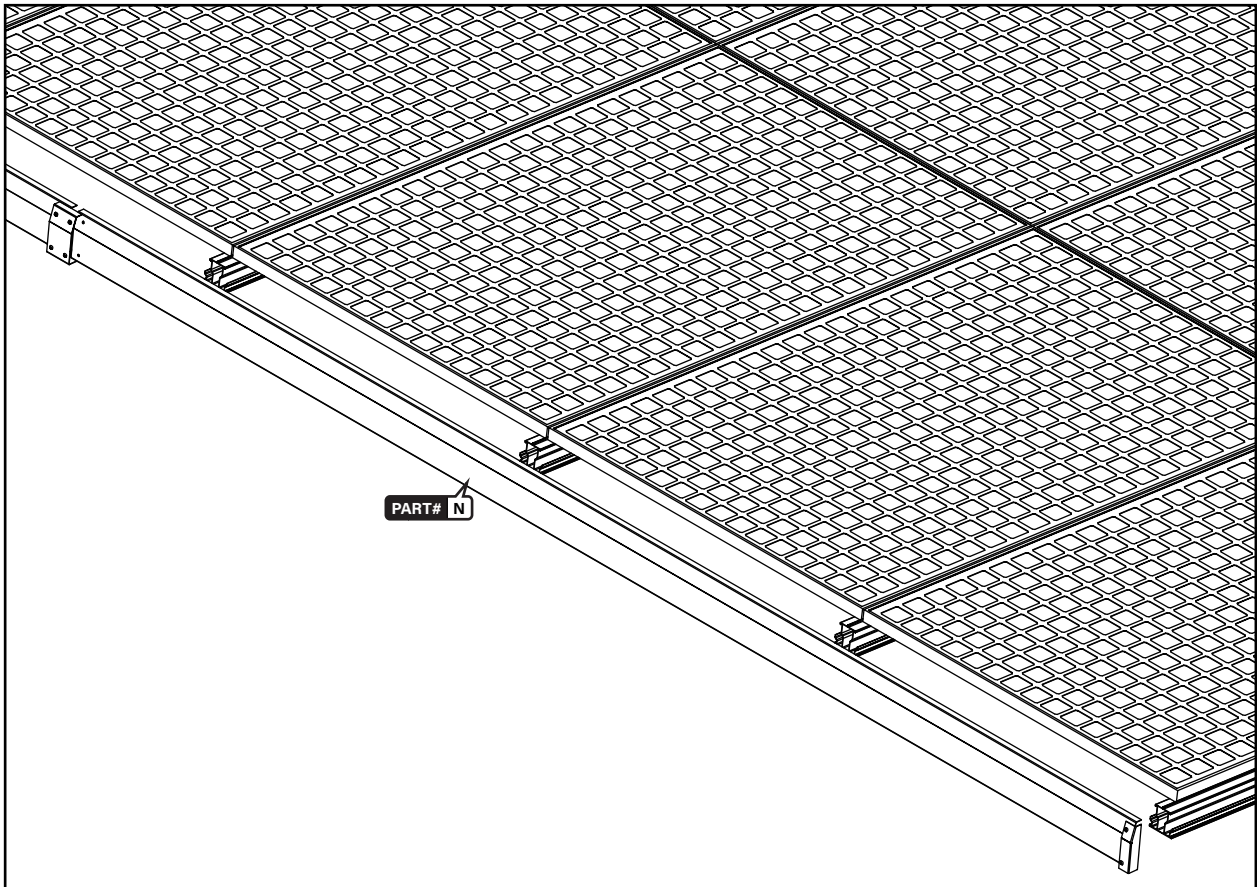
Attach two Gutter Tray Brackets (M) to each Gutter Tray (L) by clipping them onto the underside. Angle the Gutter Tray (L) and position it between the gap of the solar modules.



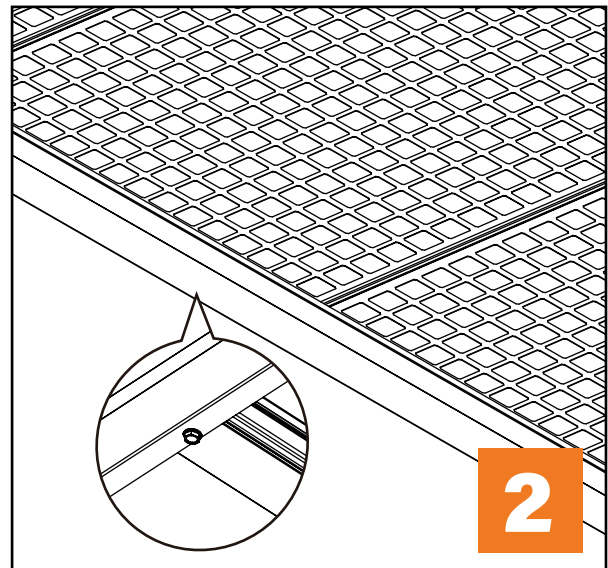
### STEP 2

Ensure the bracket channel slot sits onto the side lip of the ZERO Rail, as shown above. Tighten to secure.

## INSTALLING THE FRONT FASCIA COVER

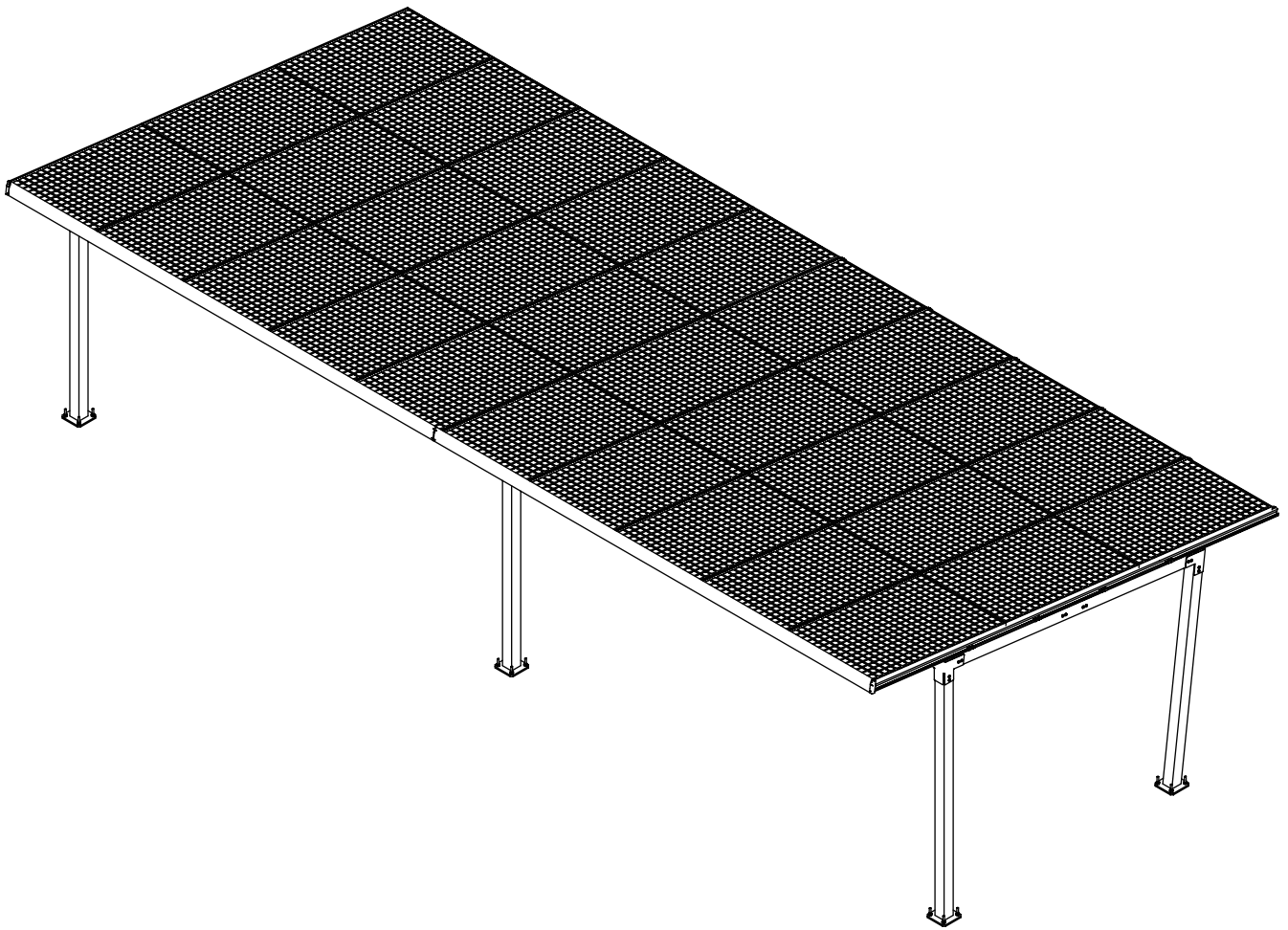
**STEP 1**

Join the Front Fascia Cover by using the Front Fascia Cover Joiner (N), and install the Front Fascia End Caps to each end of the cover.

**STEP 2**

Place the Front Fascia Cover (N) against the ZERO Rails. Align the predrilled holes so they are centred on the ZERO Rail, as shown above. Secure using the provided self-tapping screws.

CARPORT INSTALLATION COMPLETED





# NOVA

