Apex Roof
Garden Storage Shed

Assembly Guide

For OT0806 series

If you have trouble reading printed guide, you can always contact your seller and get a digital version.

A message from the author

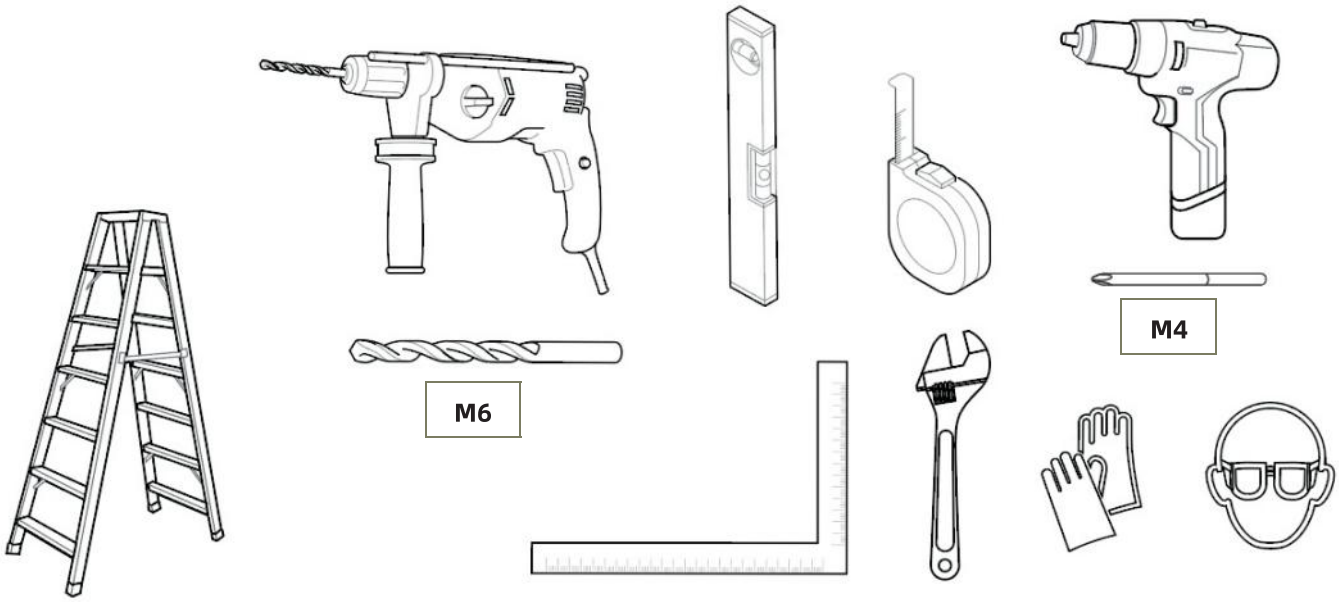
Thank you for buying this shed.

As a DIYer myself I understand that most people who are willing to buy a shed and assemble it personally are likely to be highly experienced in home projects. As a result, wordy manuals are not appreciated. Bearing that in mind, I finished the first version of the assembly guide in an IKEA way, that is, a guide with little or no word in it.

However, having received countless phone calls and emails complaining about the assembly, I decided to dump the IKEA way and flesh out the guide. This is the third version of this assembly guide, and it is considerably chattier and wordier than previous versions.

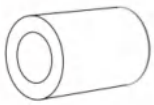
Please read this guide thoroughly and pay special attention to the COMMON MISTAKE sections scattered around this guide. Those mistakes were collected by our customer service department and are avoidable.

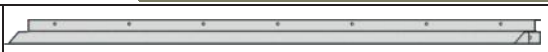
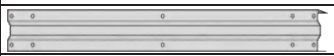
TOOLS



PART LIST

Some parts are stacked together for easier transportation. Occasionally two or more parts will stick together very firmly. As a result, you might think something is missing. But it is very likely that the missing part is just attached to another part.

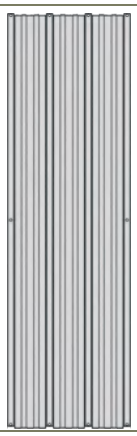
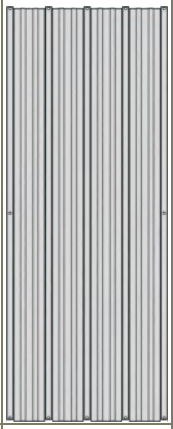
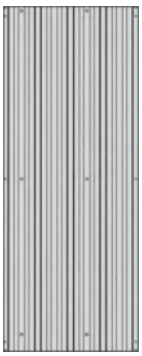
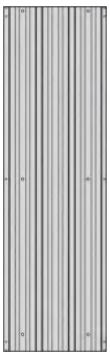
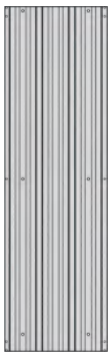
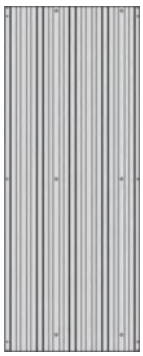
				
[S1] x 75	[S2] x 87	[S3] x310	[S4] x 300	[S5] x 80
				
[S6] x 4		[S10] x 12	[DL1] x 4	[DL2] x 4
				
[G4] x 4	[G3] x 2	[LATCH] x 1	[HG] x 4	[SPRING LATCH] x 2
				
	[J2] x 4	[J1] x 4	[BL1] x 4	[BL2] x 4

[D1] x 2	
[D2] x 1	
[D3] x 2	
[D4] x 2	
[D5] x 1	
[B1] x 2	
[B2] x 2	
[B3] x 1	
[B4] x 1	
[B5] x 1	
[B6] x 1	
[LL] x 1	
[LR] x 1	
[H1] x 4	
[H2] x 4	

PART LIST

Some parts are stacked together for easier transportation. Occasionally two or more parts will stick together very firmly. As a result, you might think something is missing. But it is very likely that the missing part is just attached to another part.

[L1] x 2	
[L2] x 2	
[L3] x 2	
[L4] x 2	
[S8] X 4	
[DBHG] X 2	
[DBL] X 1	
[DBR] X 1	
[DBT] X 4	

							
[DA] x 2	[Q1] x 9	[Q2] x4	[Q3] x5	[W1] x 3	[W2] x 1	[W3] x 1	[W4] x 3

			
[SL] x 2	[SR] x 2	[G1] x 1	[G2] x 1

WARNING

Keep this guide for future reference. Read carefully.

Safety

Make sure you have access to all sides of the shed during construction.

Ensure that all parts are present before starting assembly.

Remove all parts from the box and sort them by number. Ensure that you have all elements required to build your garden shed.

Always wear work gloves, long sleeves and safety goggles during assembly of the garden shed. Some components contain sharp edges and may cause damage.

Keep children and animals away from the assembly site.

When necessary to use a ladder, ensure ground stability is adequate. Never rest your entire weight on the roof or on any other part of the garden shed.

Do not attempt to assemble the garden shed in strong windy conditions due to the risk of making site conditions difficult and dangerous.

To maintain their original condition, ensure that nothing is placed on top of shed components.

Do not store pool chemicals in your garden shed.

Combustible and corrosive materials must be stored in watertight containers.

Set your drill’s torque limit to prevent damage to the metal parts.

Remove snow from the roof after each snowfall. A thickness of over 10 cm of snow is hazardous.

Do not walk on the roof.

Weather

DO NOT attempt to assemble your shed in windy weather.

Misc.

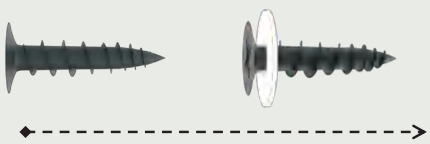
At least two adults are needed to finish the assembly.

Average assembly time is 12 man-hours.

LEGEND

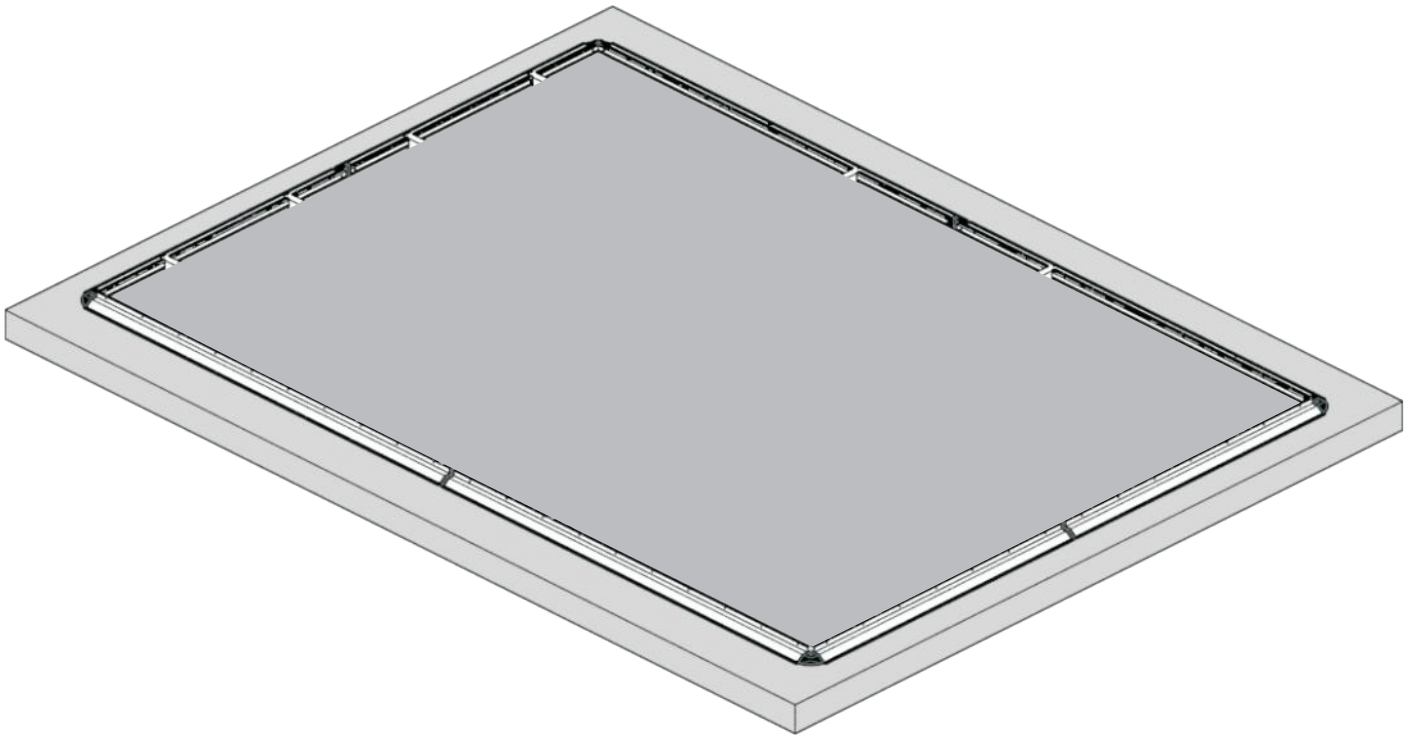
	: marks a step. **IMPORTANT: EXECUTE THESE STEPS IN NUMERICAL ORDER.**
	: marks a sub-step and the alphabetical order of executing these sub-steps. **IMPORTANT: EXECUTE THESE STEPS IN ALPHABETICAL ORDER.**
	: marks the orientation of the shed.
	: marks a part.
	: marks a screw hole and the sequential order of fixing screws and panels. **IMPORTANT: FIX SCREWS IN NUMERICAL ORDER.**
	: marks a screw hole that **SHOULD NOT** be fixed.
	: marks an unacceptable layout.
	: marks an acceptable layout.

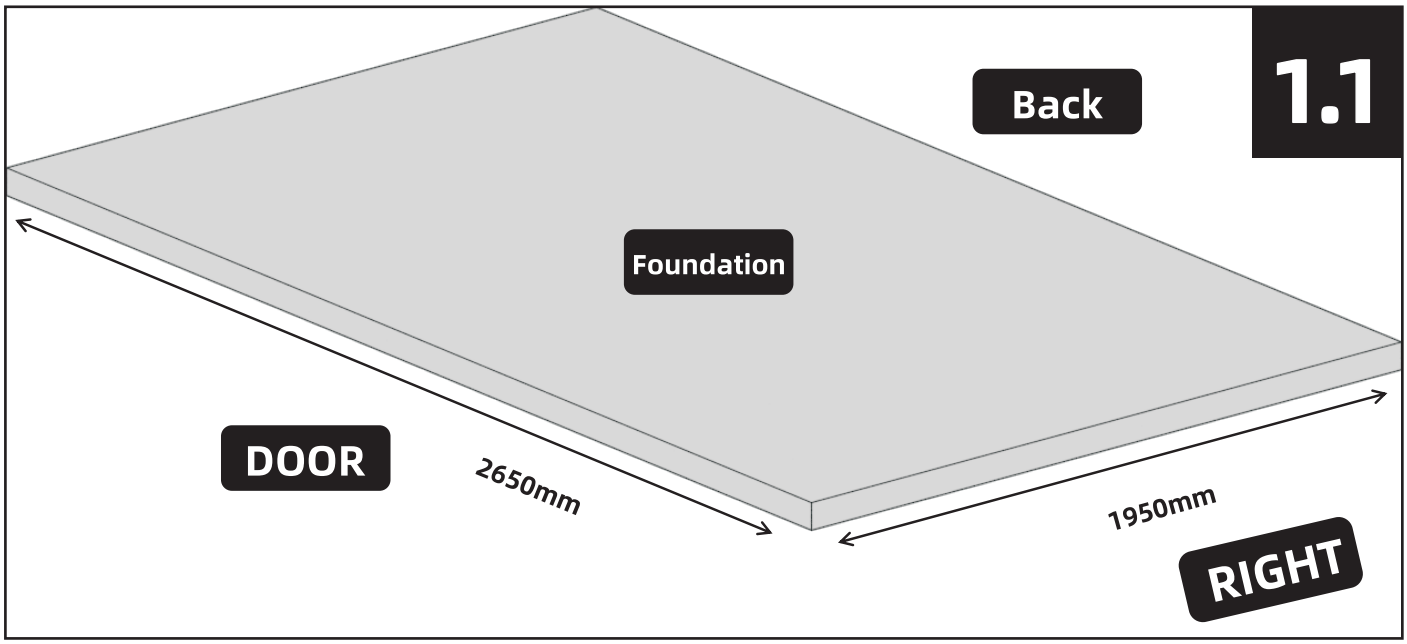
Screws, Arrows, and Visibility



Hundreds of screws are used in this manual and if left visible they will clutter the manual and hurt visibility. So we will use dotted lines with arrow heads to represent screws. Name tags like [S3] will be hidden and you can still tell what screws you will be using because in most steps only one type of screws will be used, except for the door assembly step where the name tags for [S10] will be made visible.

1 Foundation and Base





The site must be prepared so that the base of the shed is level all round. Checking with a spirit level is required.

This shed must be secured onto a firm and leveled foundation, preferably concrete slabs.

The foundation must have a minimum thickness of 10 cm. Allow cement to dry for at least 48 hours.

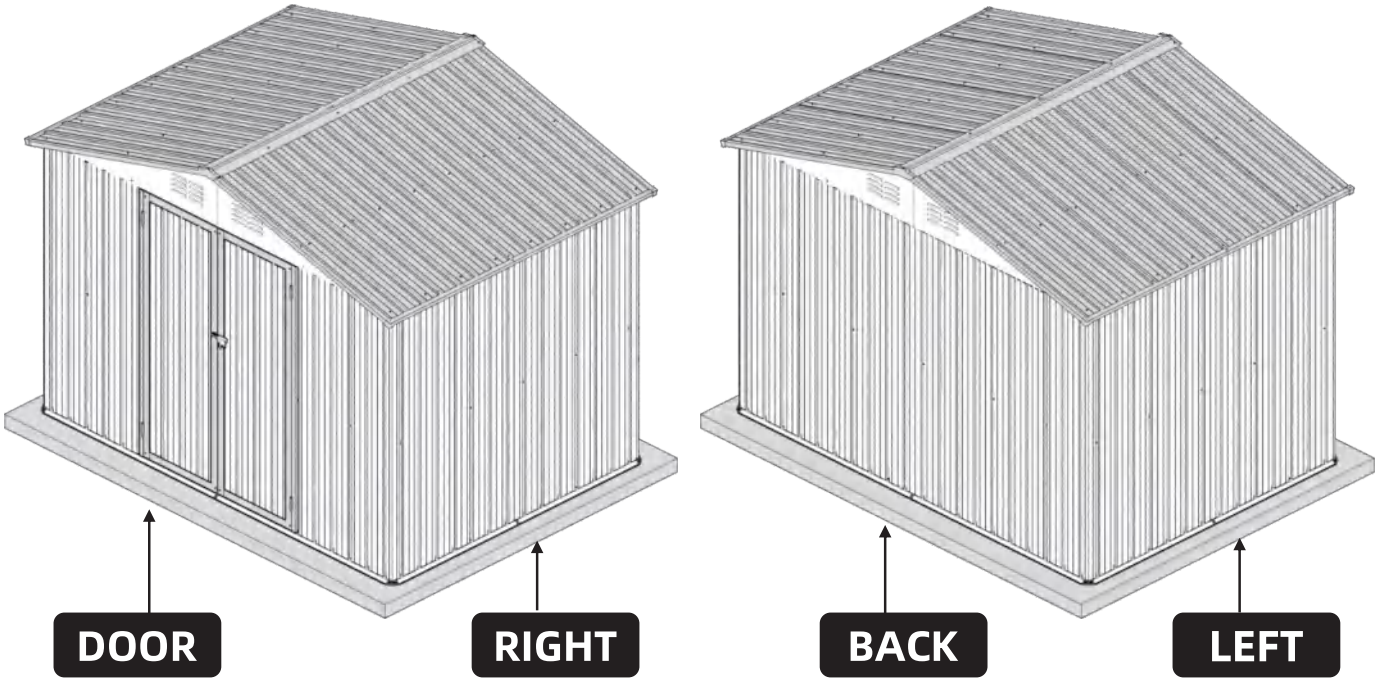
The foundation can also be constructed using bricks or blocks.

The manufacturer is not liable for the damage caused by the choice and quality of the foundation.

Starting from Step 1.1 and throughout this manual, you will constantly see the location marks like **DOOR/BACK/LEFT/RIGHT**, shown below. It tells the orientation of the shed.

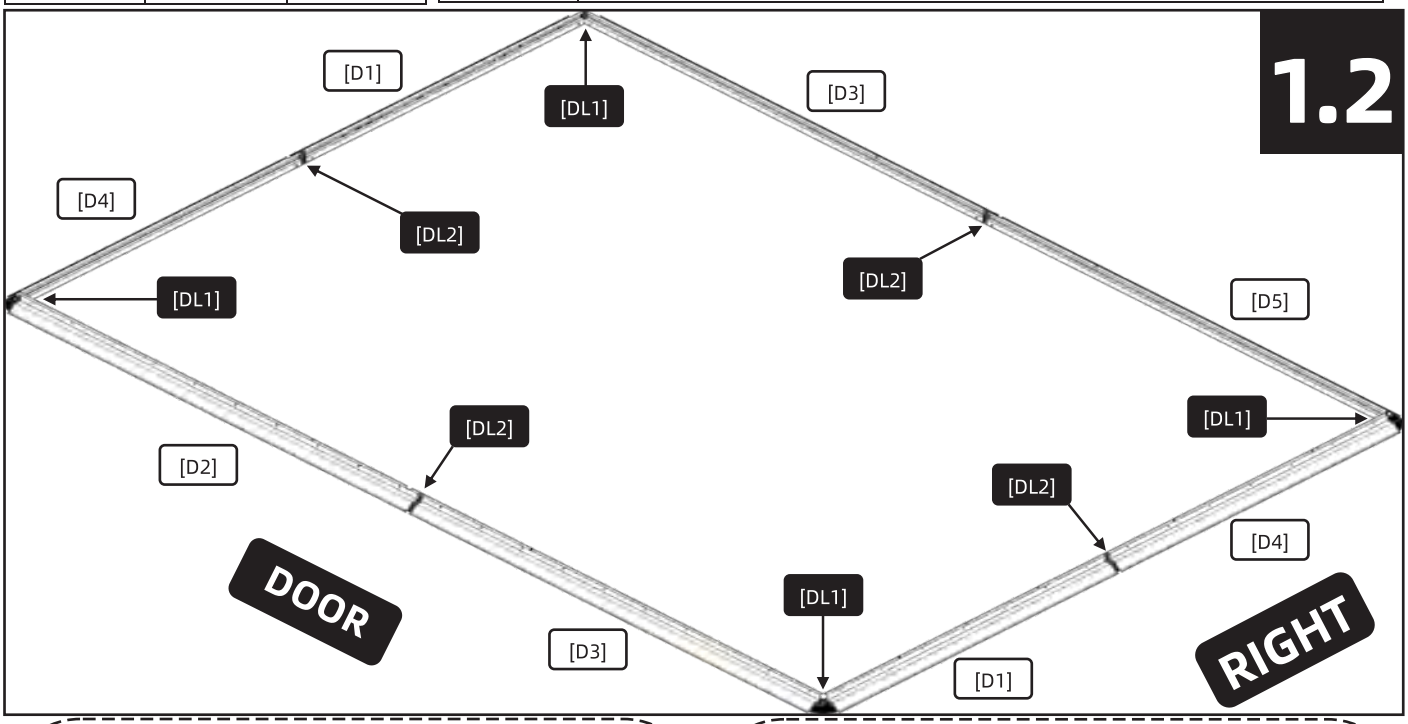
For better visibility, the shed will be rotated multiple times in this manual. As a result, you might find it hard to keep track of where the shed is facing. If this happens, try to find the location mark.

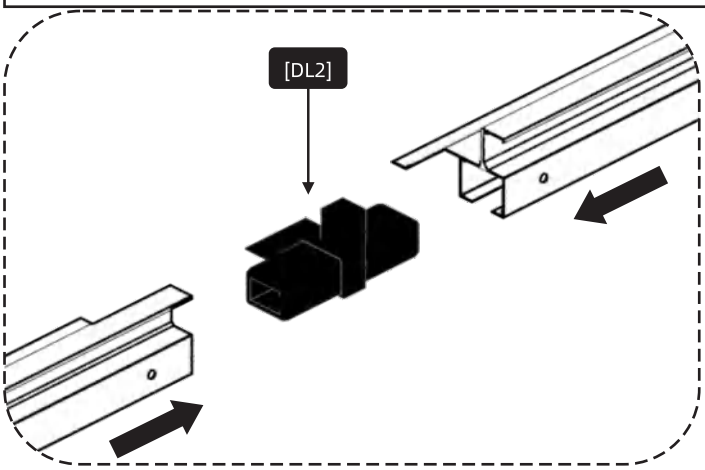
Use the two illustrations below as a reference.

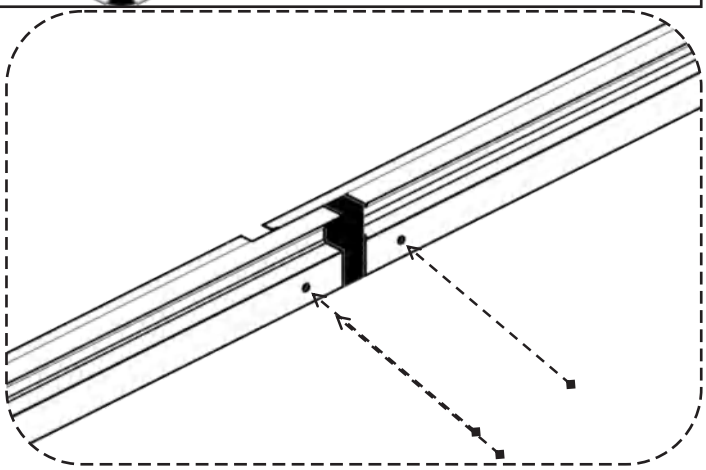


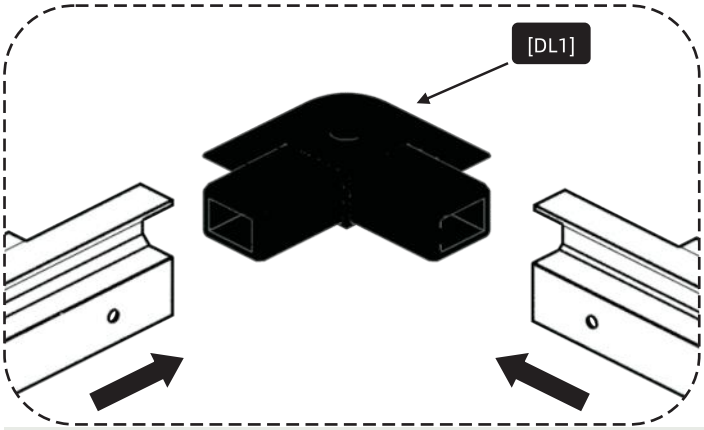
		
[S3] x 16	[DL1] x 4	[DL2] x 4

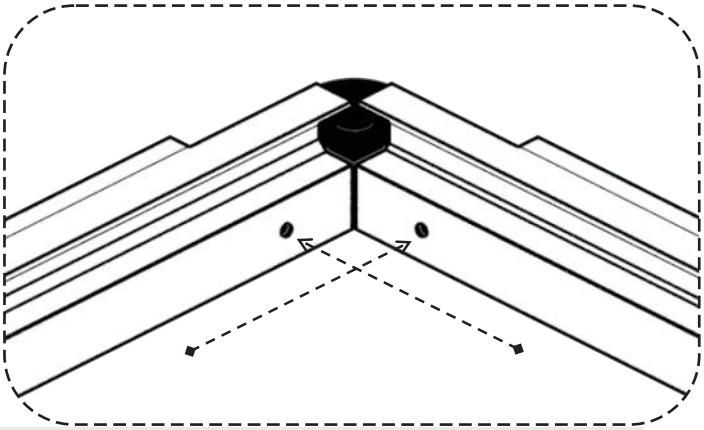
[D1] x 2	
[D2] x 1	
[D3] x 2	
[D4] x 2	
[D5] x 1	





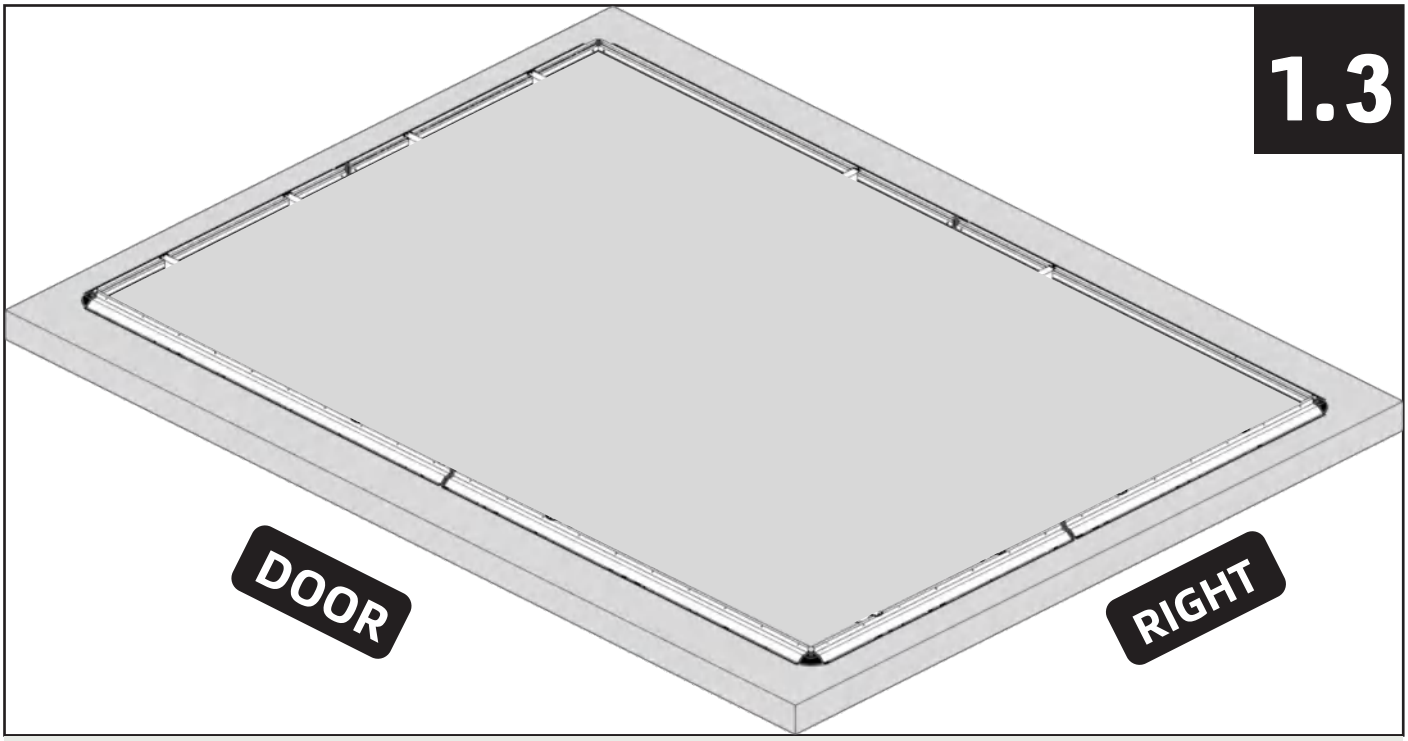




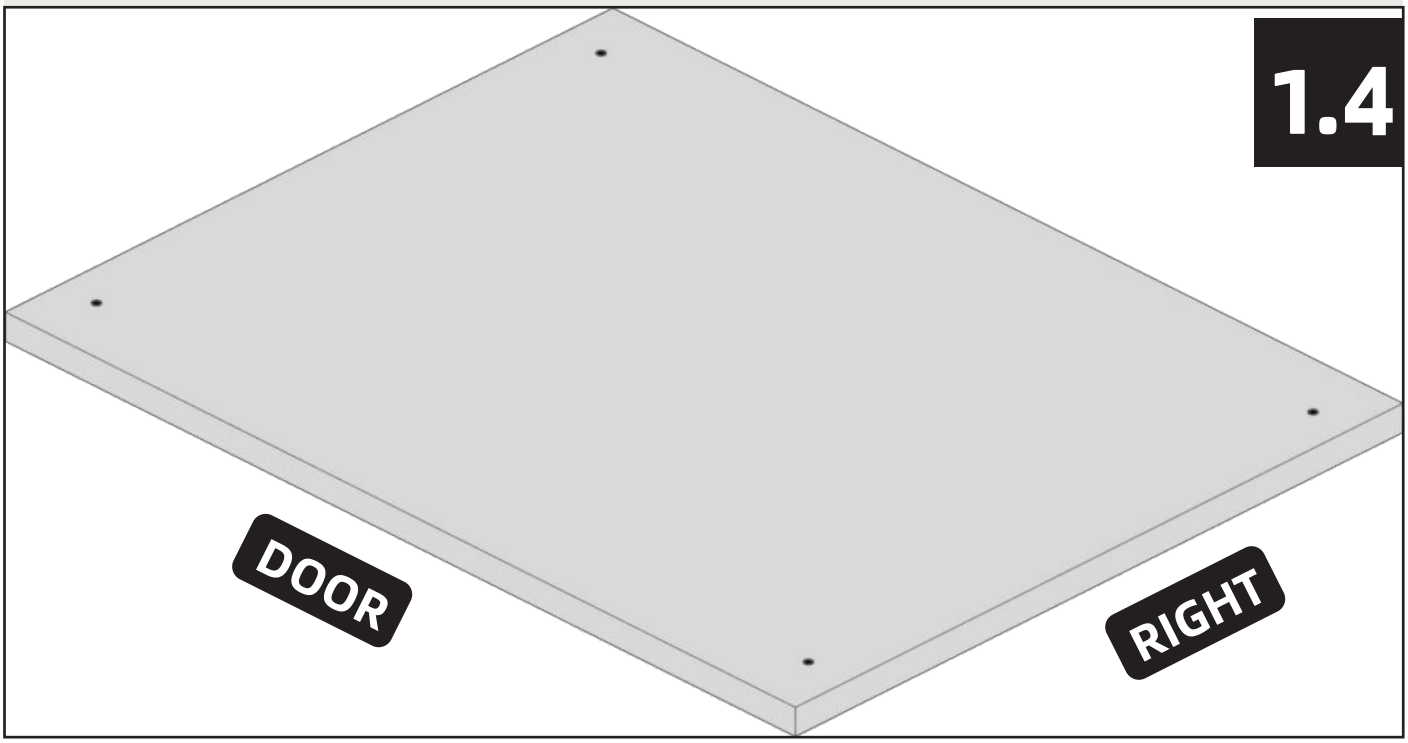


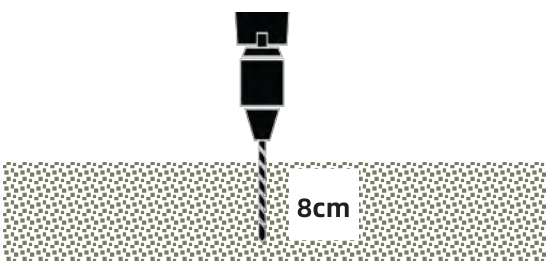
Notice

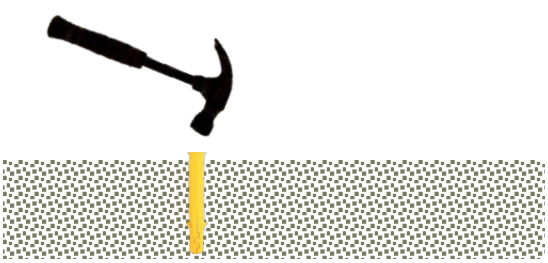
There are no screw holes on [DL1] or [DL2]. Use a power tool to ease the screwing. This is the only correct layout of [D1]~[D5].

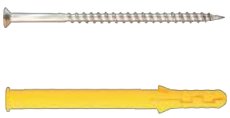


Use a marker to mark [DL1]'s hole onto the Foundation. THEN REMOVE THE BASE.

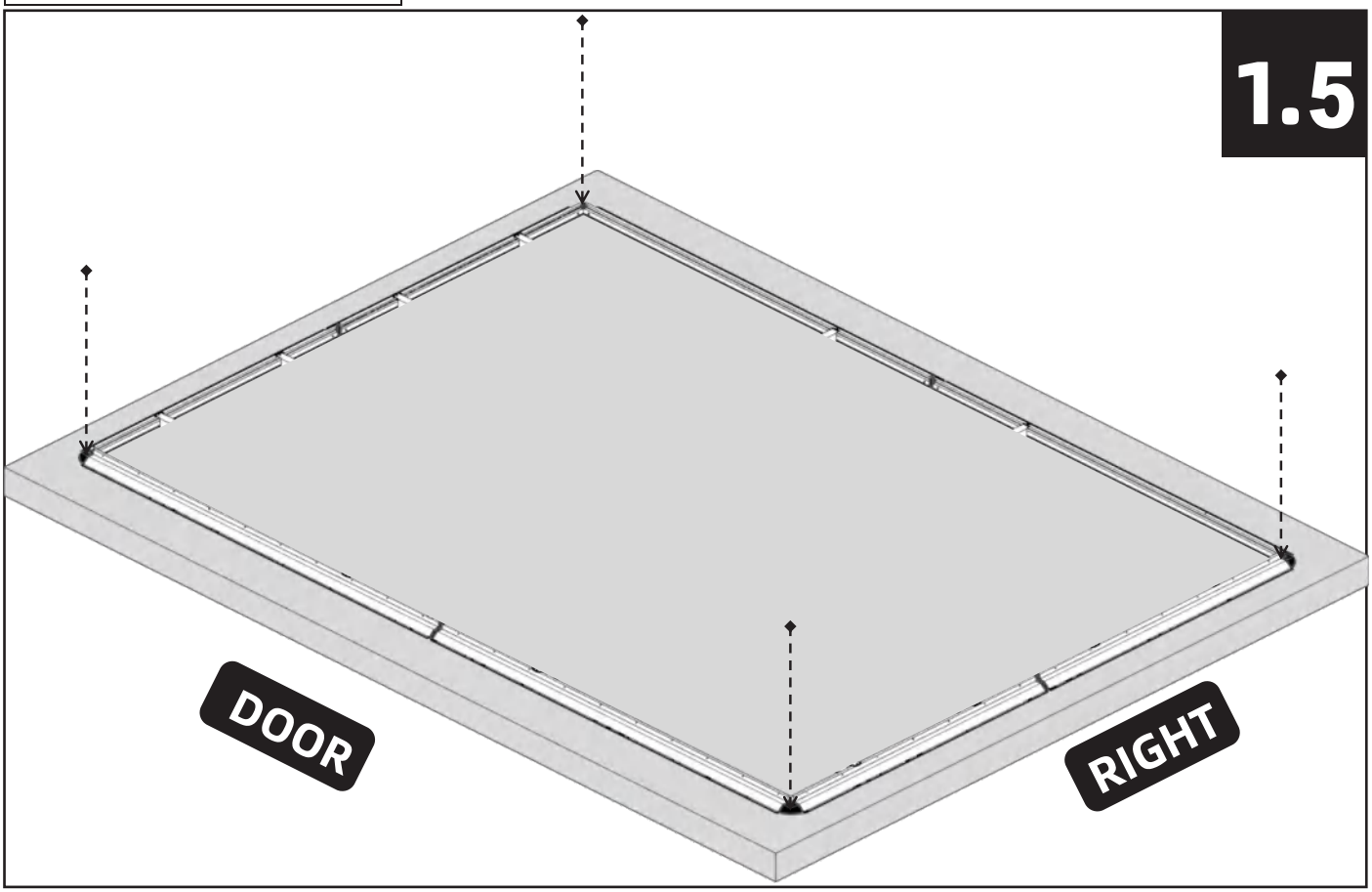








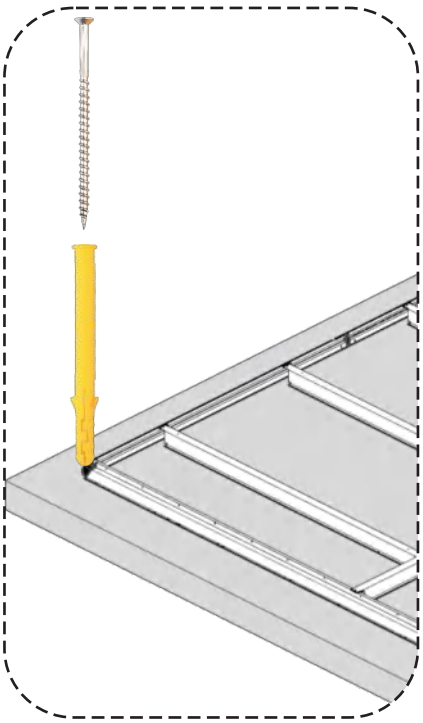
[S6] x 4



COMMON MISTAKE: [S6]

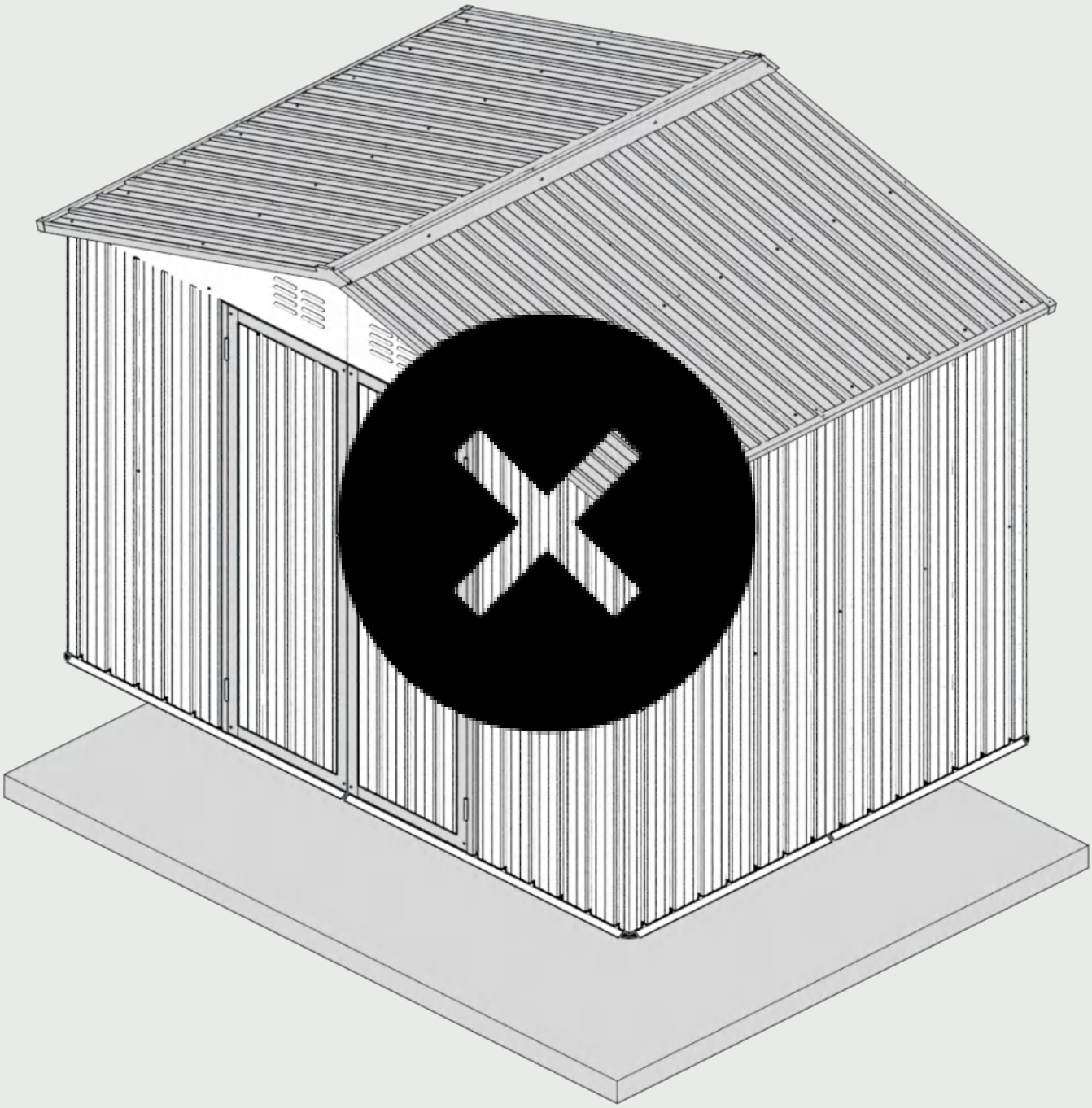
[S6] consists of two parts, the yellow tube and the screw. As illustrated on the last page, you need to hammer the tube into the foundation, put the base back and fasten the screw into the tube.

Sometimes a customer would hammer the whole thing through [DL1], and it is not correct.



For better visibility, the Foundation will be hidden afterwards.

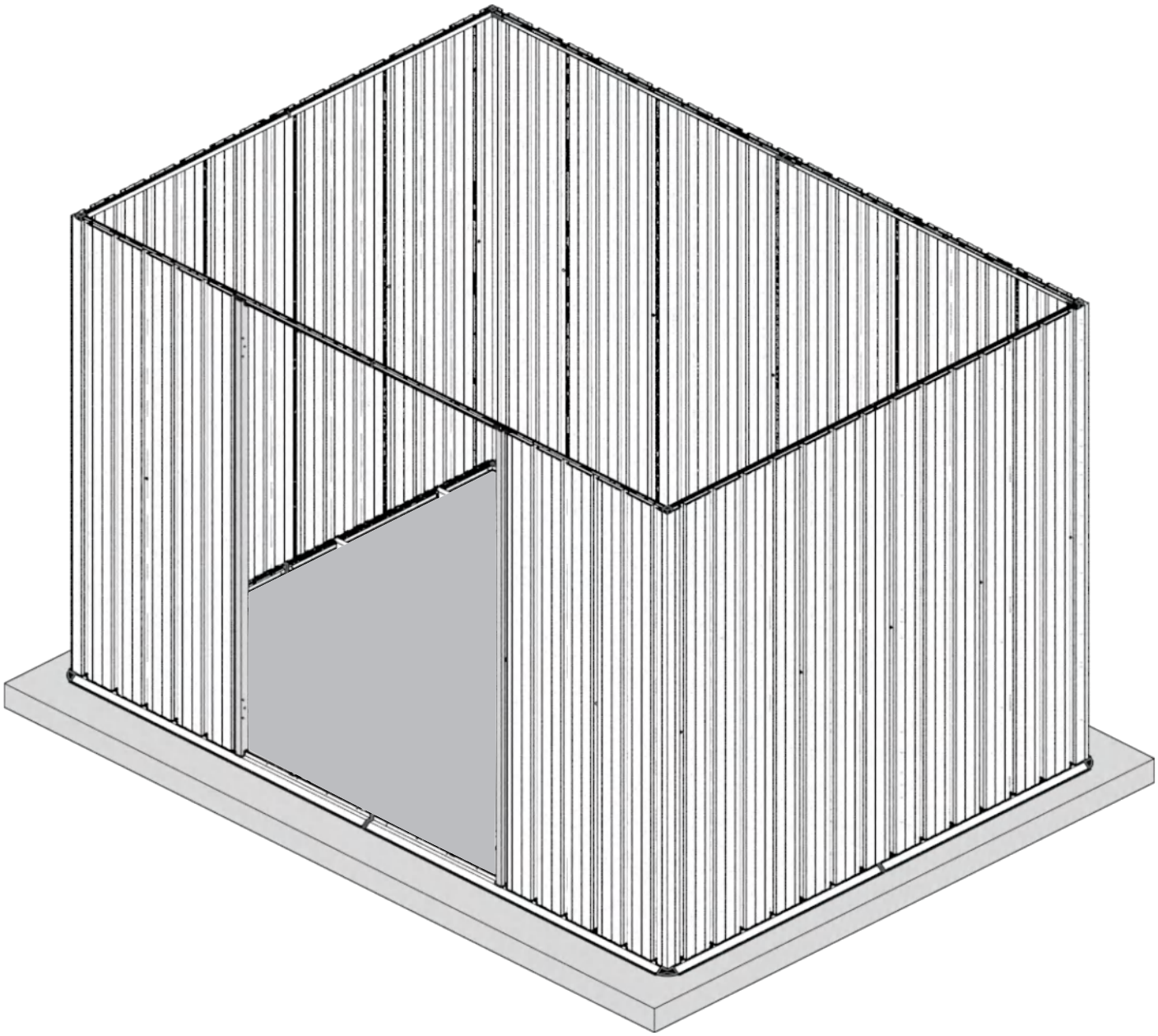
Don’t Do This



It takes 48 hours for the concrete foundation to cure and in rare cases, a customer would choose to assemble the shed elsewhere and move the finished shed onto the foundation.

Don’t do this.

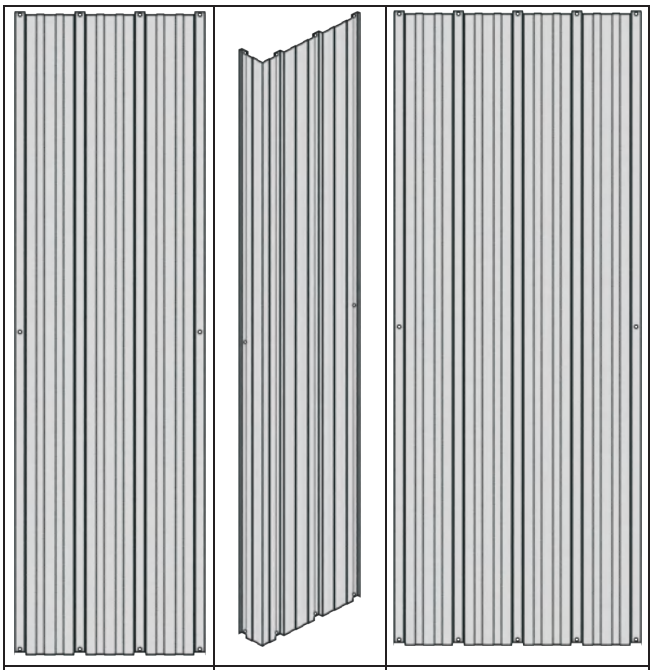
2 Wall



GENERAL RULES

GENERAL RULES: Wall Panels

Remove the protective films first

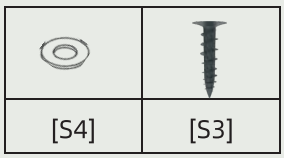


[Q1] x 9	[Q2] x 4	[Q3] x 5

These are the wall panels you will be using.

Wall Panels, except for [Q2], are symmetrical, meaning they don't have predetermined top/bottom, or left/right. But they do have exterior and interior, with the exterior's color being the color of the shed and the interior's color a universal light grey.

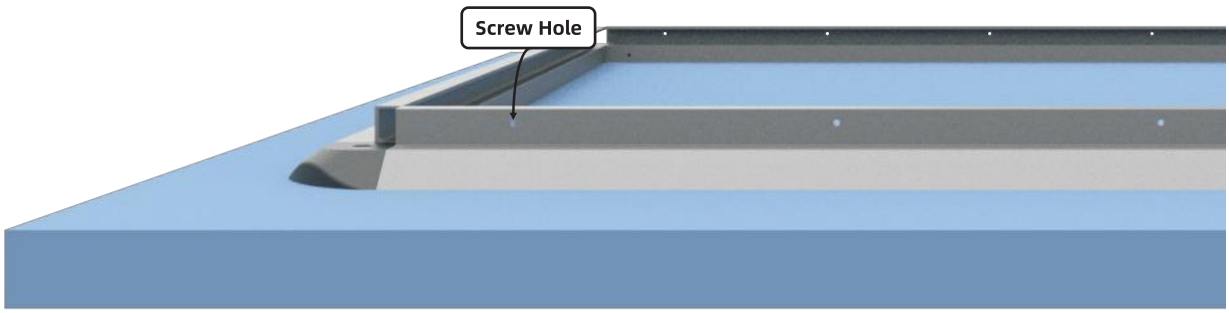
[Q2] does have a difference between its left and right, but no difference between its top and bottom.



[S4]	[S3]

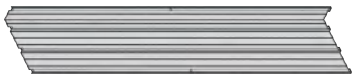
Starting from Step 2.1, you will be using [S3] together with [S4]. [S4] is useful for protecting the punched screw holes from getting rusty. So use them.

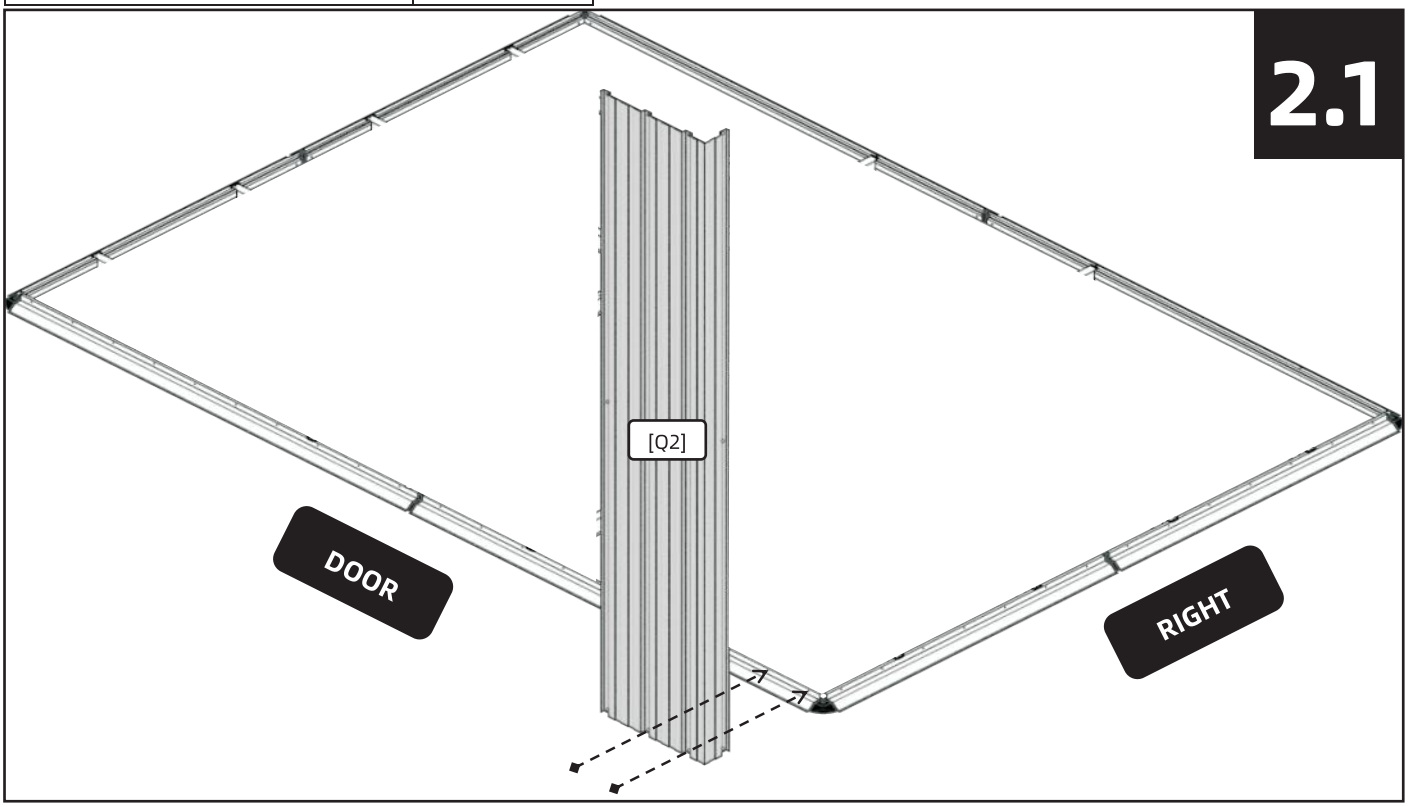
A combined [S3]+[S4] set will display like this in this guide.



COMMON MISTAKE: Screw Holes on the Outer Base(D1~D5)

There are screw holes on both the base frames and the wall panels. It is self-explanatory that you need to nail the wall panels to the base frames using the screws ([S3]+[S4]). However, since the base frames are made of aluminum, a soft yet ductile metal, you can easily drill the screws into the base frames without the screws going into the correct screw holes. So, when assembling wall panels, bend the panels a little bit and see to it that the screw is going into the screw hole.

	
[Q2] x 1	[S3]+[S4] x 2

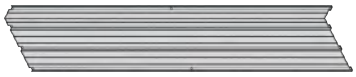


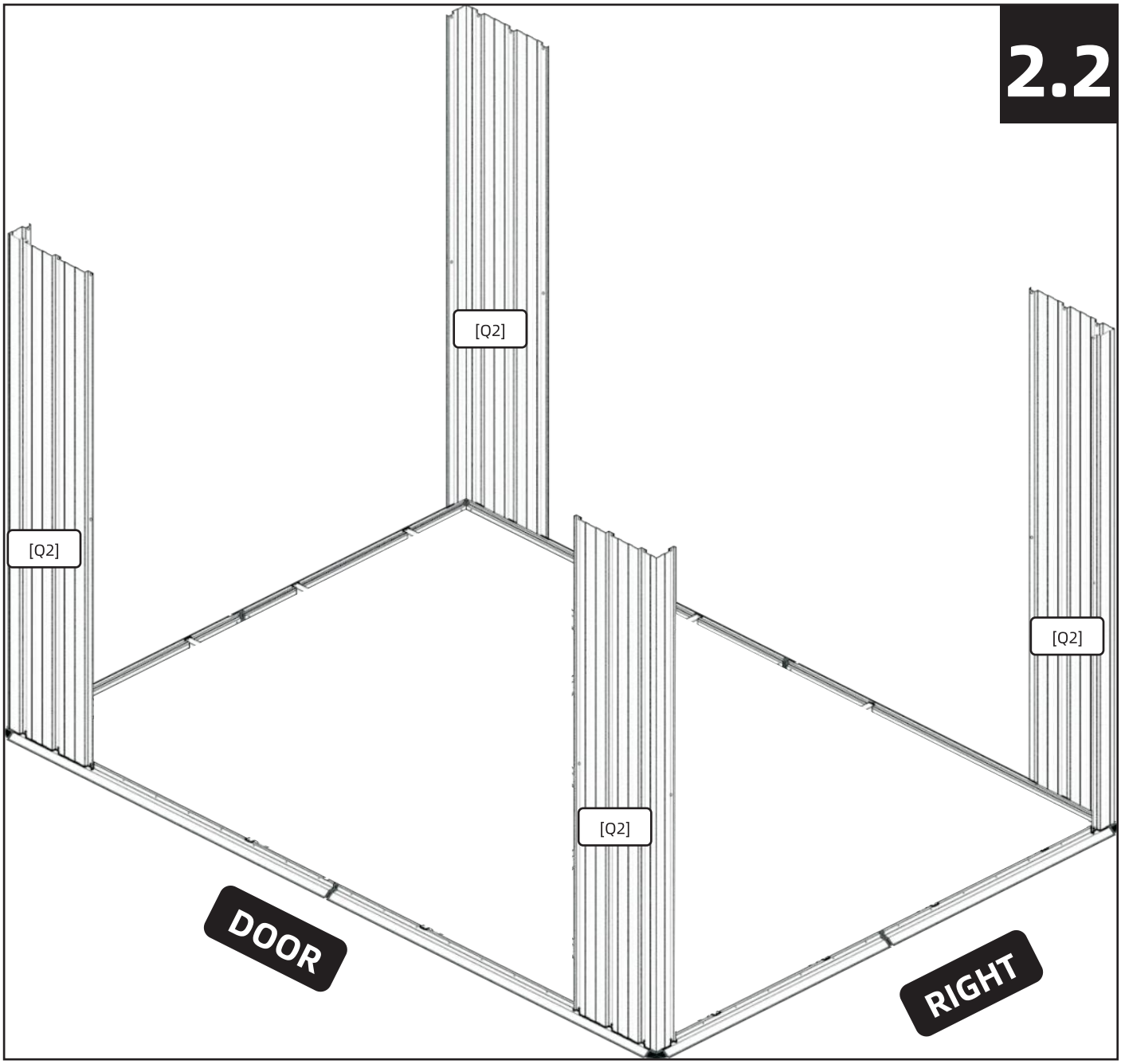
COMMON MISTAKE: [Q2]

Use a step stool to temporarily support the assembled [Q2].

A [Q2] has four screw holes on each of its ends. In step [2.1], only two screw holes in the middle are used. The rest will be used in following steps.

Also, pay special attention to the orientation of [Q2]. It is the side with **three screw hole that is facing the door/back.**

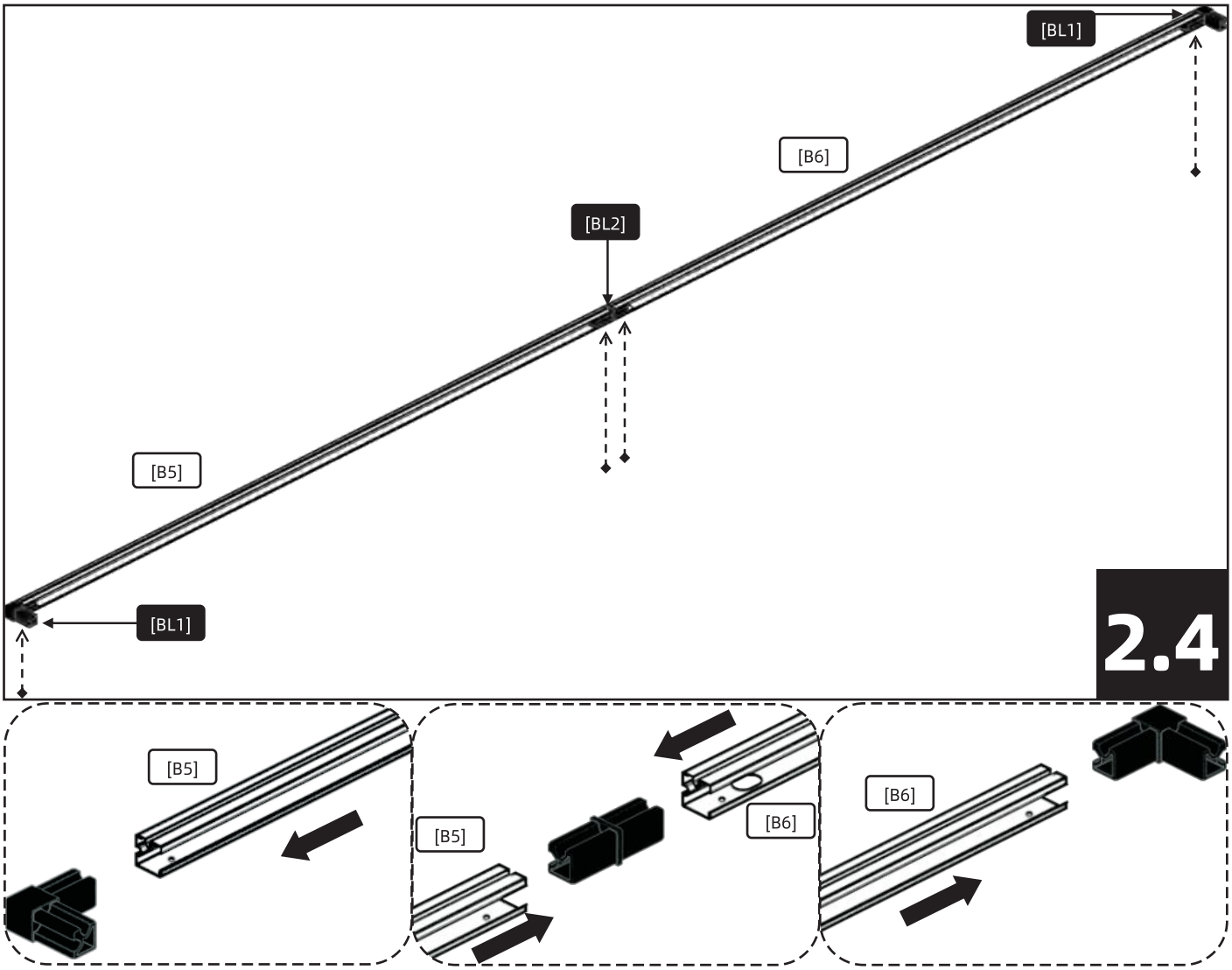
	
[Q2] x 3	[S3]+[S4] x 6



Repeat Step 2.1 and finish the assembly of the rest [Q2].

		
[S3] x 4	[BL1] x 2	[BL2] x 1

[B5] x 1	
[B6] x 1	

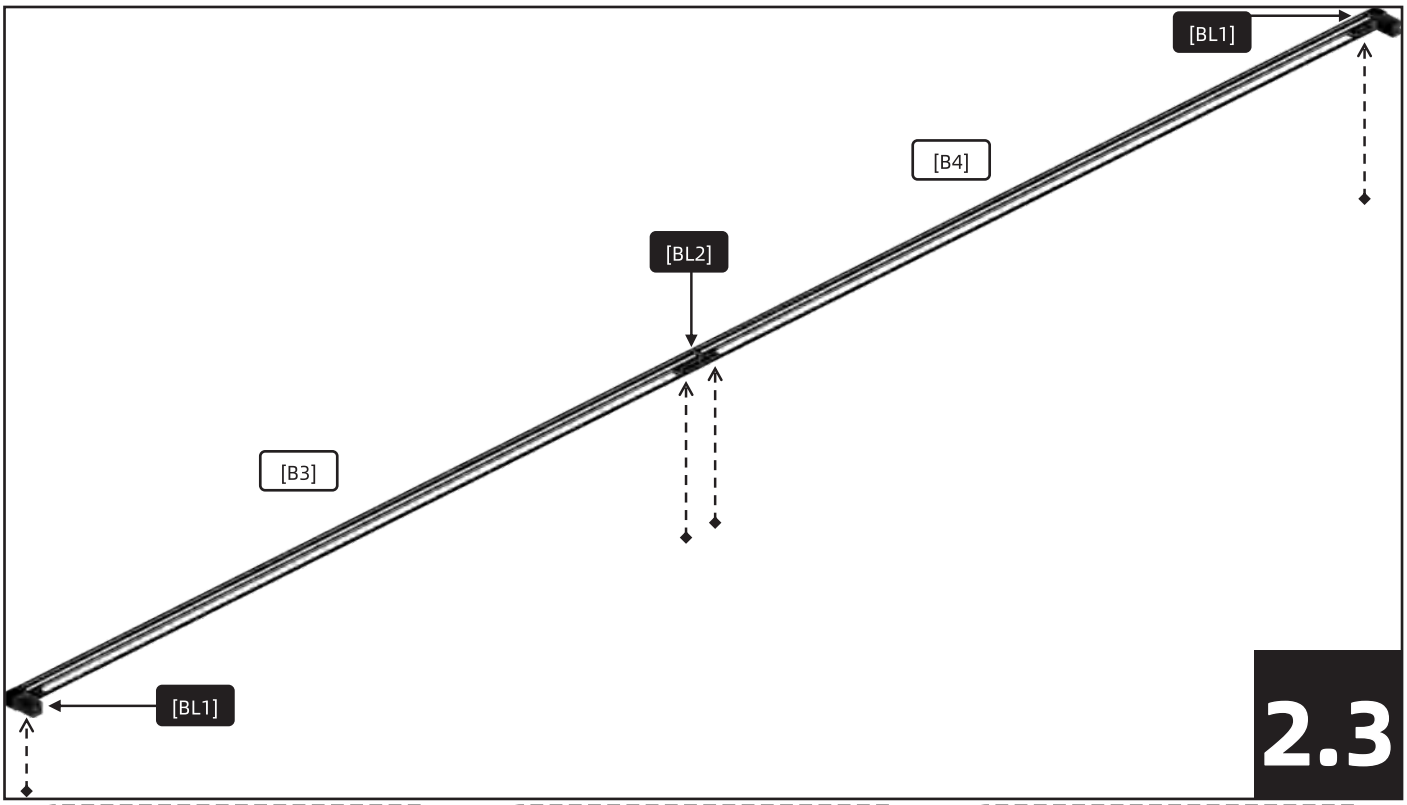


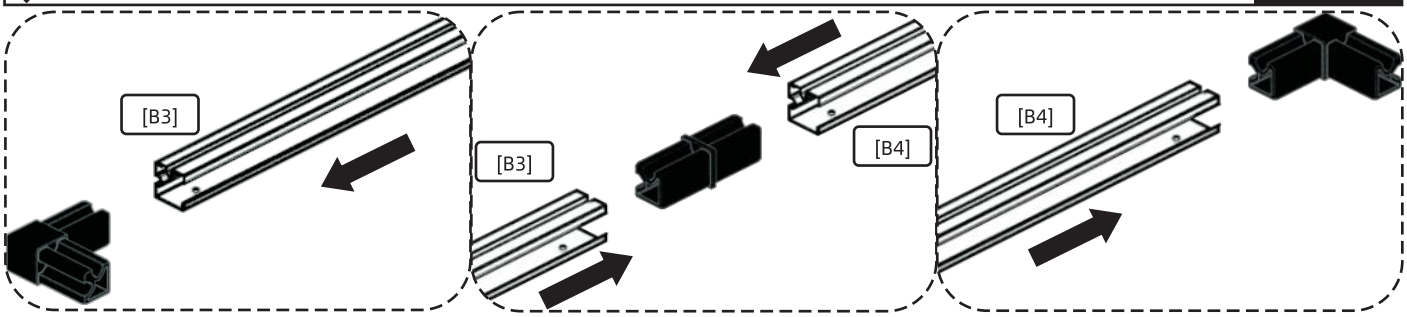
COMMON MISTAKE

This step is almost identical to step 2.3. Notice that [B6] has a large hole near the screw hole at one of its end. The larger hole is for the door latch. It is this end that connects to [B5].

		
[S3] x 4	[BL1] x 2	[BL2] x 1

[B3] x 1	
[B4] x 1	





COMMON MISTAKE

Lots of mistakes can happen in this step, but are avoidable. It may seem to you that these frames could be connected with [BL1][BL2] in multiple ways. Truth is, there is only one correct layout, which means you have to follow the illustrations precisely.

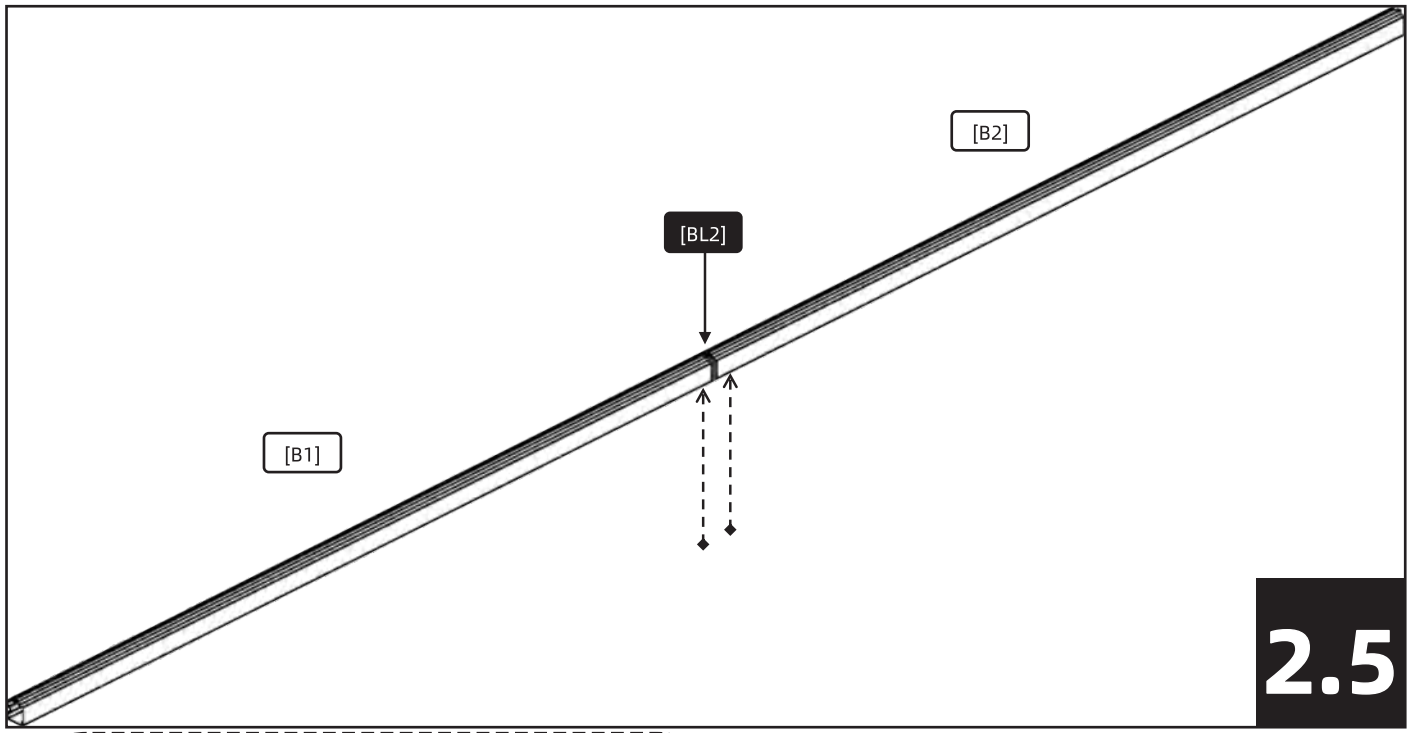
Here are some tips:

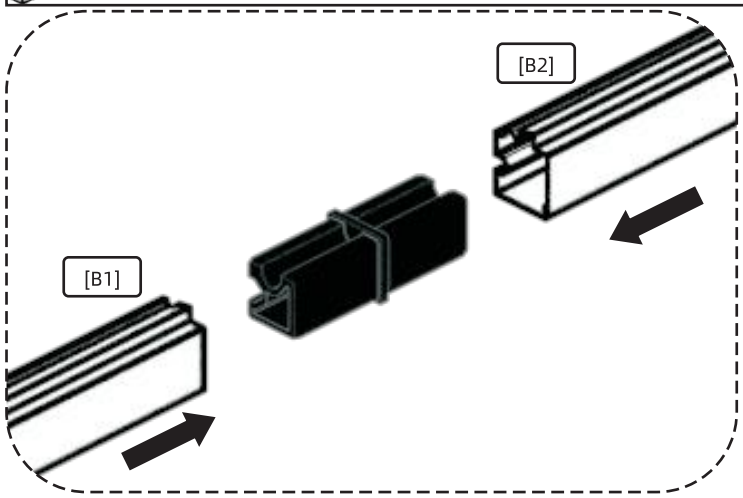
1. Rotate [B3] or [B4] so that the frames look exactly the same as what's shown above.
2. Rotate [BL1] or [BL2] so that they look exactly the same as what's shown above.
3. You will find one screw hole on the [flat surface] at each end of [B3] or [B4]. If you have rotated [B3] or [B4] correctly you can find that the screw holes are facing downward.
4. Connect [B3] or [B4] to [BL1] or [BL2].

There are no screw holes on [BL1] or [BL2]. Use a power tool. It may seem counterintuitive to depict the screw holes facing downward in the illustrations but it will prove useful in the following steps.

	
[S3] x 4	[BL2] x 2

[B1] x 2	
[B2] x 2	





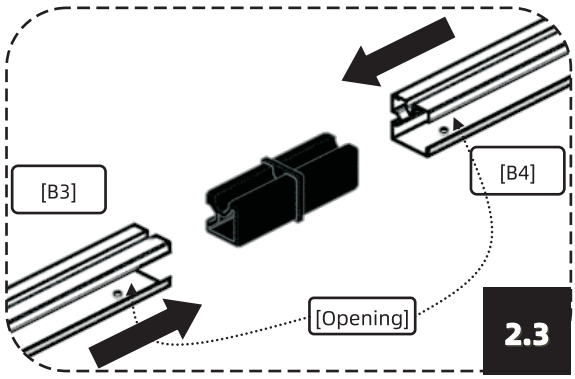
Notice

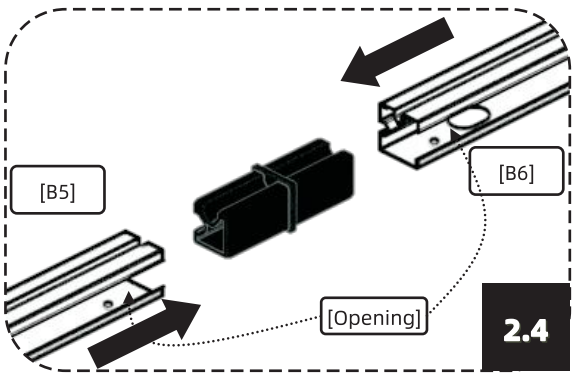
You have two sets of [B1] and [B2] so you will have to repeat this step.

[B1] and [B2] are quite different from [B3]~[B6].

If you refer to step 2.3 and step 2.4 you will find that [B3]~[B6] have an opening but [B1] and [B2] do not.

Also the top of [B1] and [B2] are inclined.

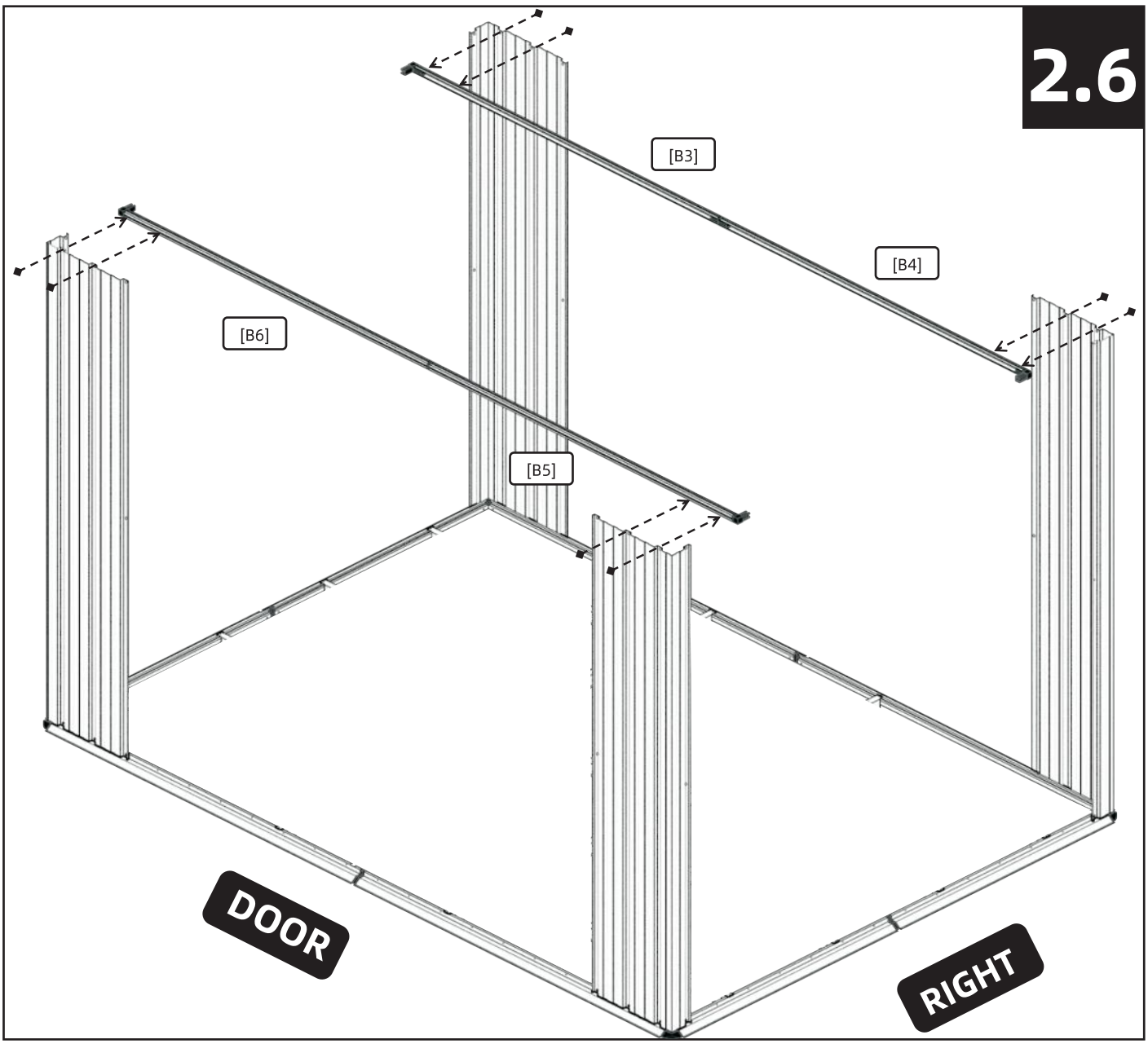


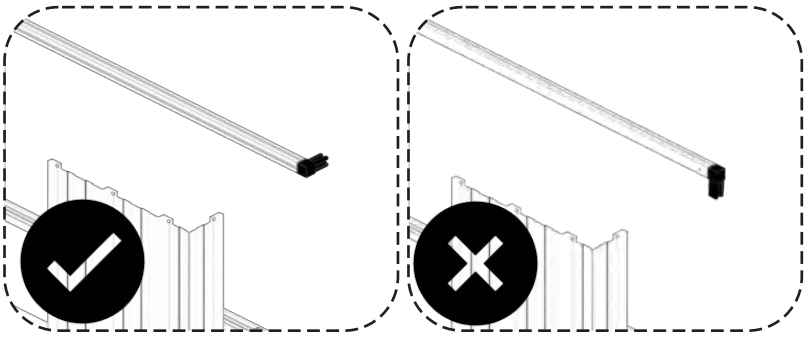


[S3]+[S4] x 8

[B3]+[B4] x 1

[B5]+[B6] x 1



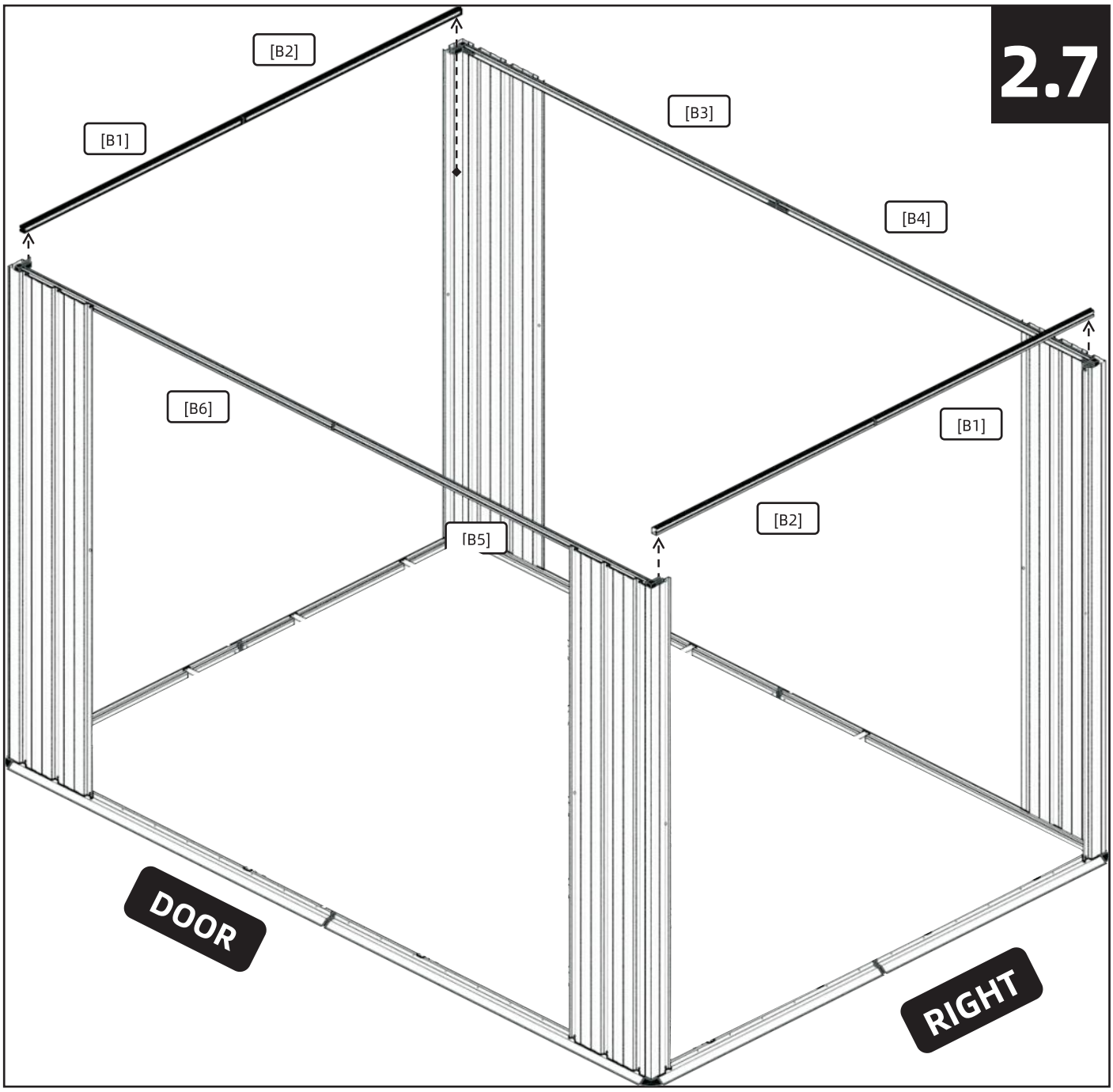


Notice

Pay special attention to the orientation of [BL1]. After this step is done, [BL1] should lie horizontally, not vertically.

[S3] x 4

[B3]+[B4] x 2



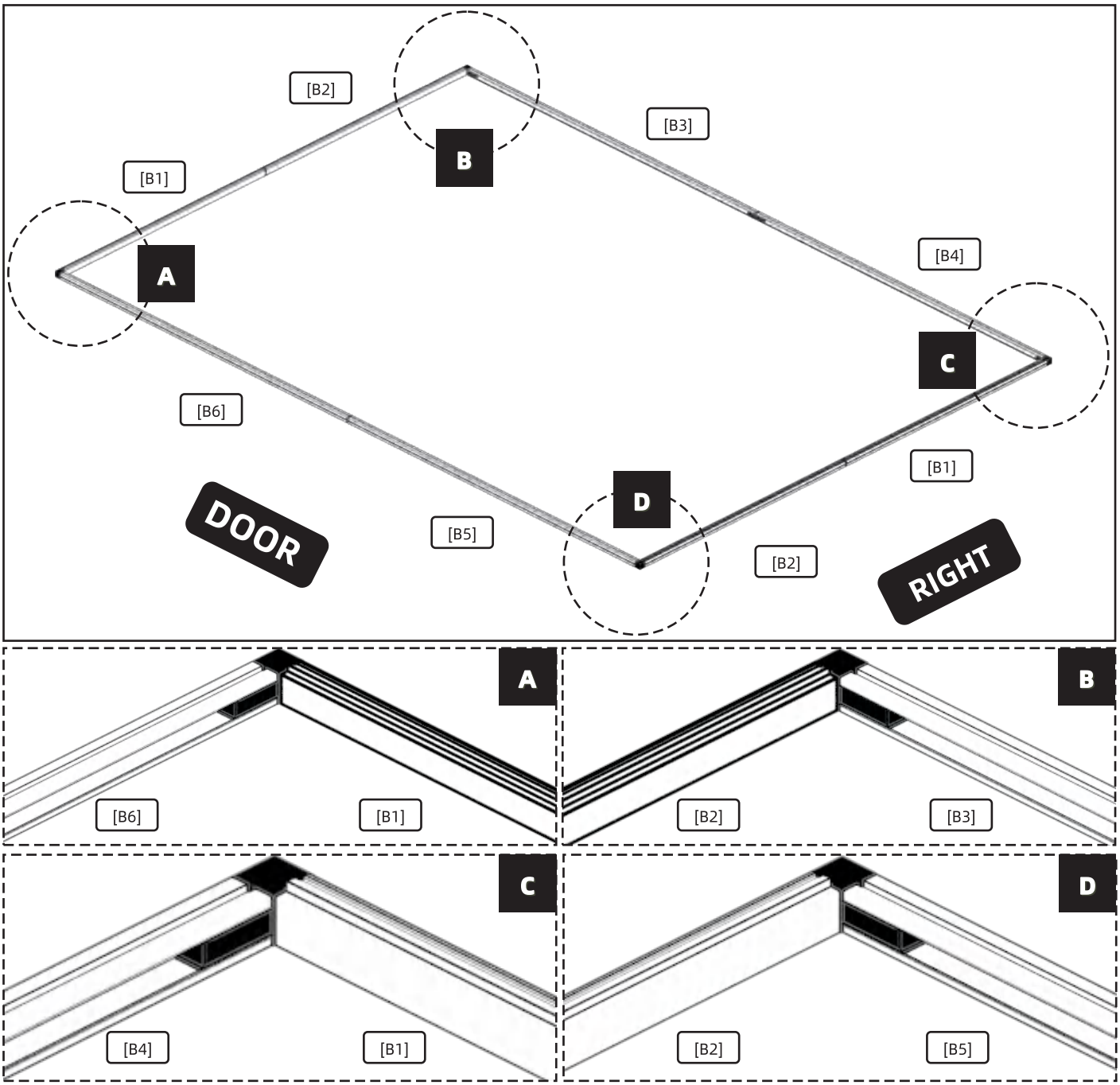
Notice

For this step, your task is to go inside the shed and connect [B1]+[B2] to [B5]+[B6] and [B3]+[B4].

Leave [Q2] alone. No [S4] is used here.

COMMON MISTAKE: [B1]+[B2]

As it is said, you will have to get inside the shed and nail the four [S3] in this step. While doing so, you are nailing [S3] vertically. If for whatever reason you are nailing [S3] horizontally, you are doing it wrong.



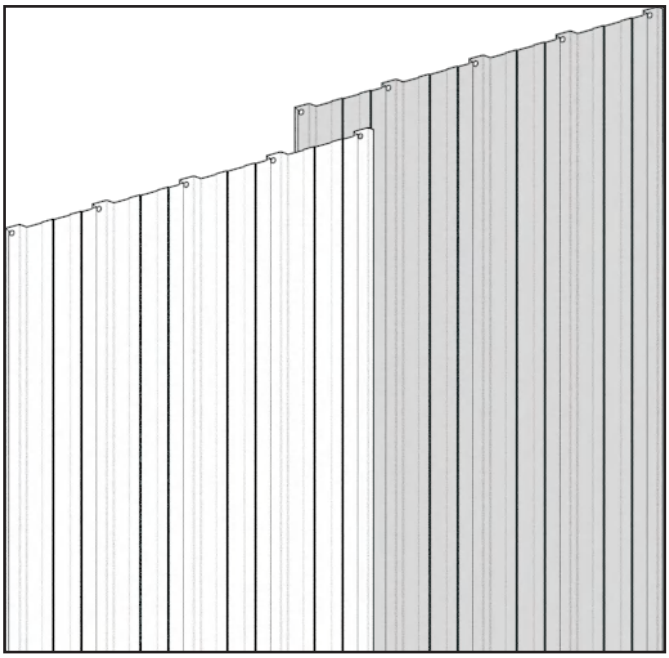
Notice

This page serves as a reference to the layout of [B1]~[B6].

A,B,C,D show what the four corners look like when you are inside the shed.

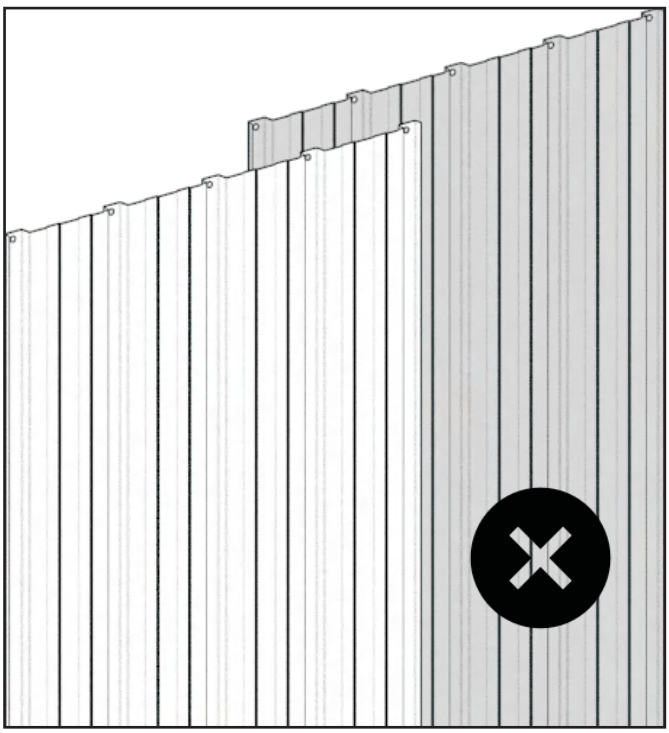
GENERAL RULES

Wall Panel Stacking



Starting from here you will be stacking panels. These general rules apply to wall panels only. Stacking of roof panels will be talked about later.

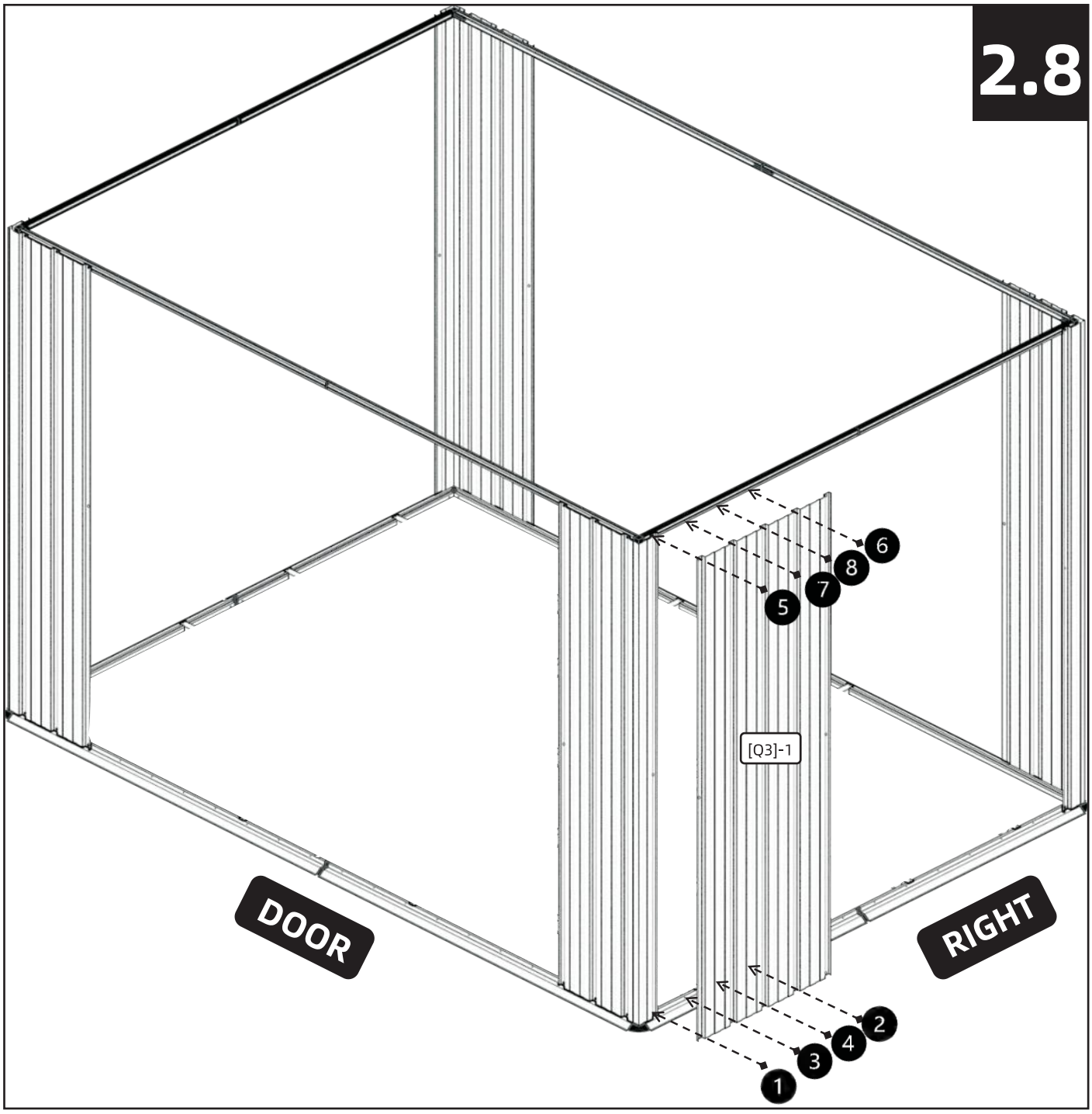
The picture on the left illustrates how two wall panels are stacked together, from a top to bottom perspective, outside the shed. As you can see, only one channel of each wall panel is stacked. It makes no difference which panel is on top.



COMMON MISTAKE: Extra Overlap

If you had an unlimited supply of wall panels you could create large overlap as you see fit. But you don't. So, do not create extra overlap like this.

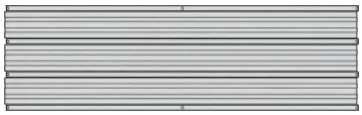
	
[Q3] x 1	[S3]+[S4] x 8

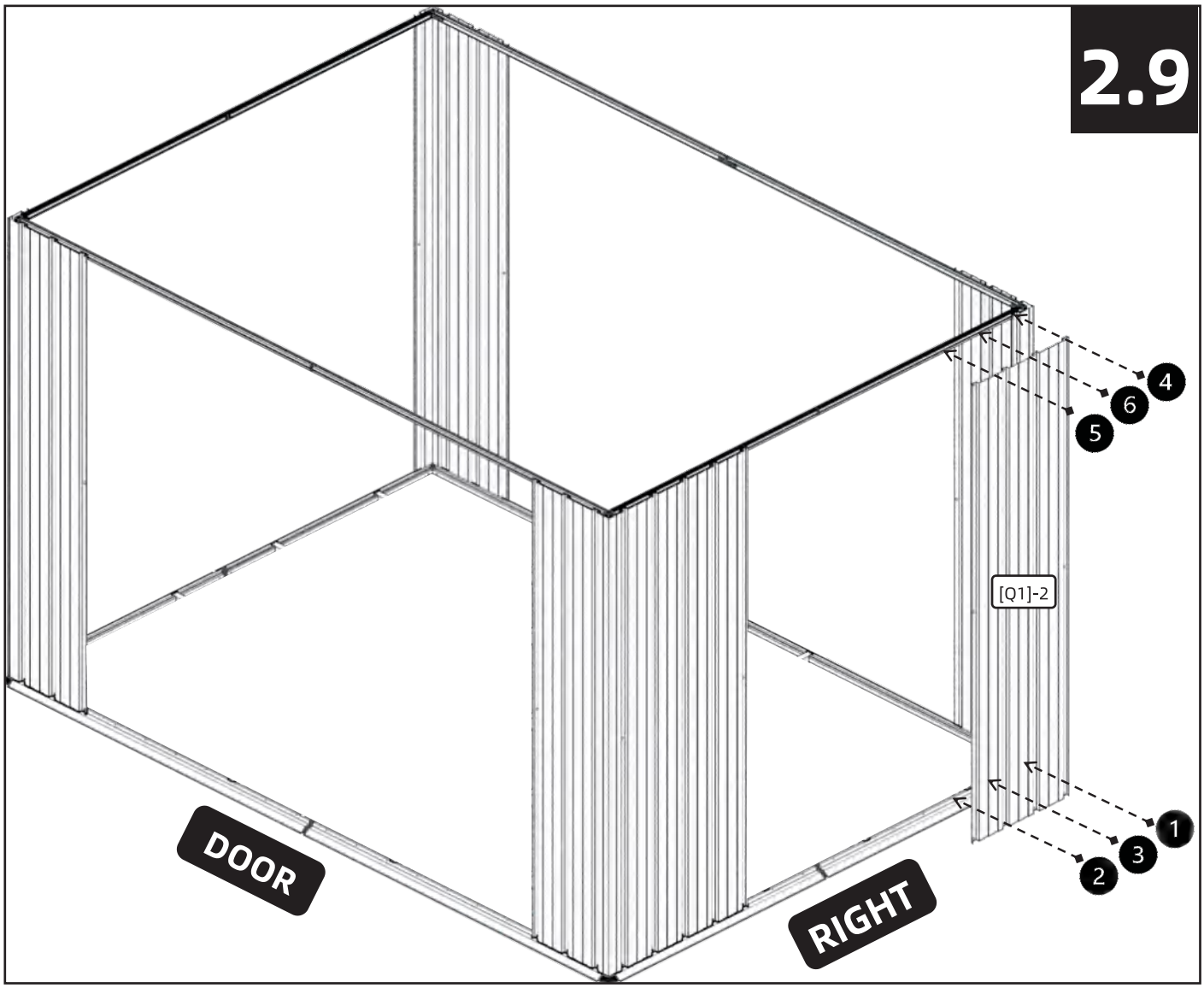


Fix the screws following the order of ①~⑧. Don't be tempted to fix the screws that are not marked.

This [Q3] can be stacked above or under [Q2]. There are no corresponding screw holes on the top frames for ⑥⑦⑧.

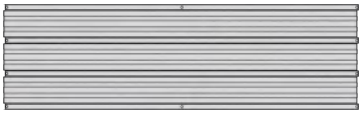
Make sure that Screw ⑤ indeed goes into the screw holes on the top frame.

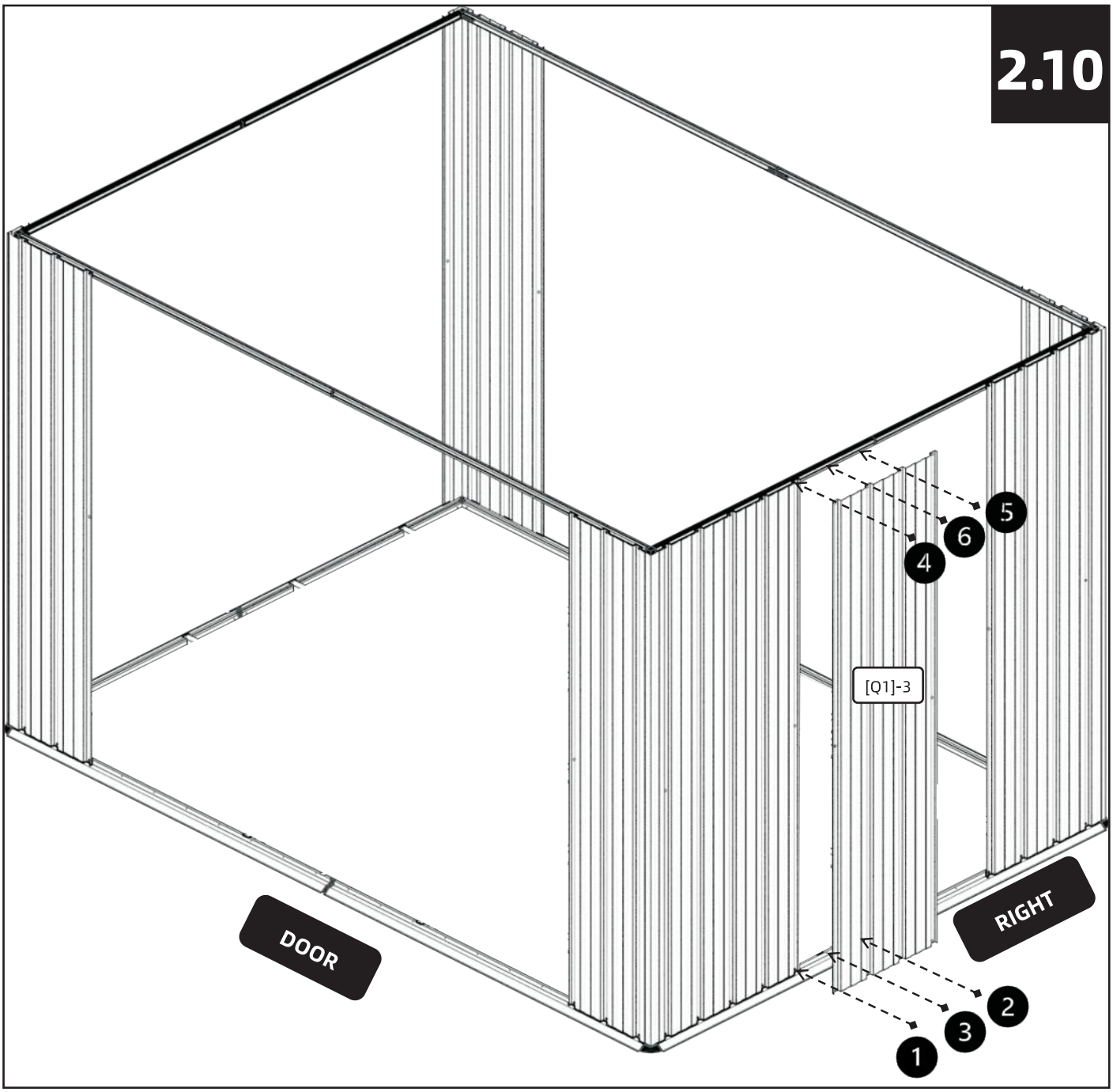
	
[Q1] x 1	[S3]+[S4] x 6



Fix the screws following the order of ①~⑥. The [Q1] can be stacked above or under panel next to it.

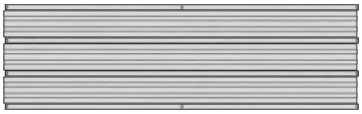
There are no corresponding screw holes on the top frames for ⑤⑥. Make sure that Screw ④ indeed goes into the screw holes on the top frame.

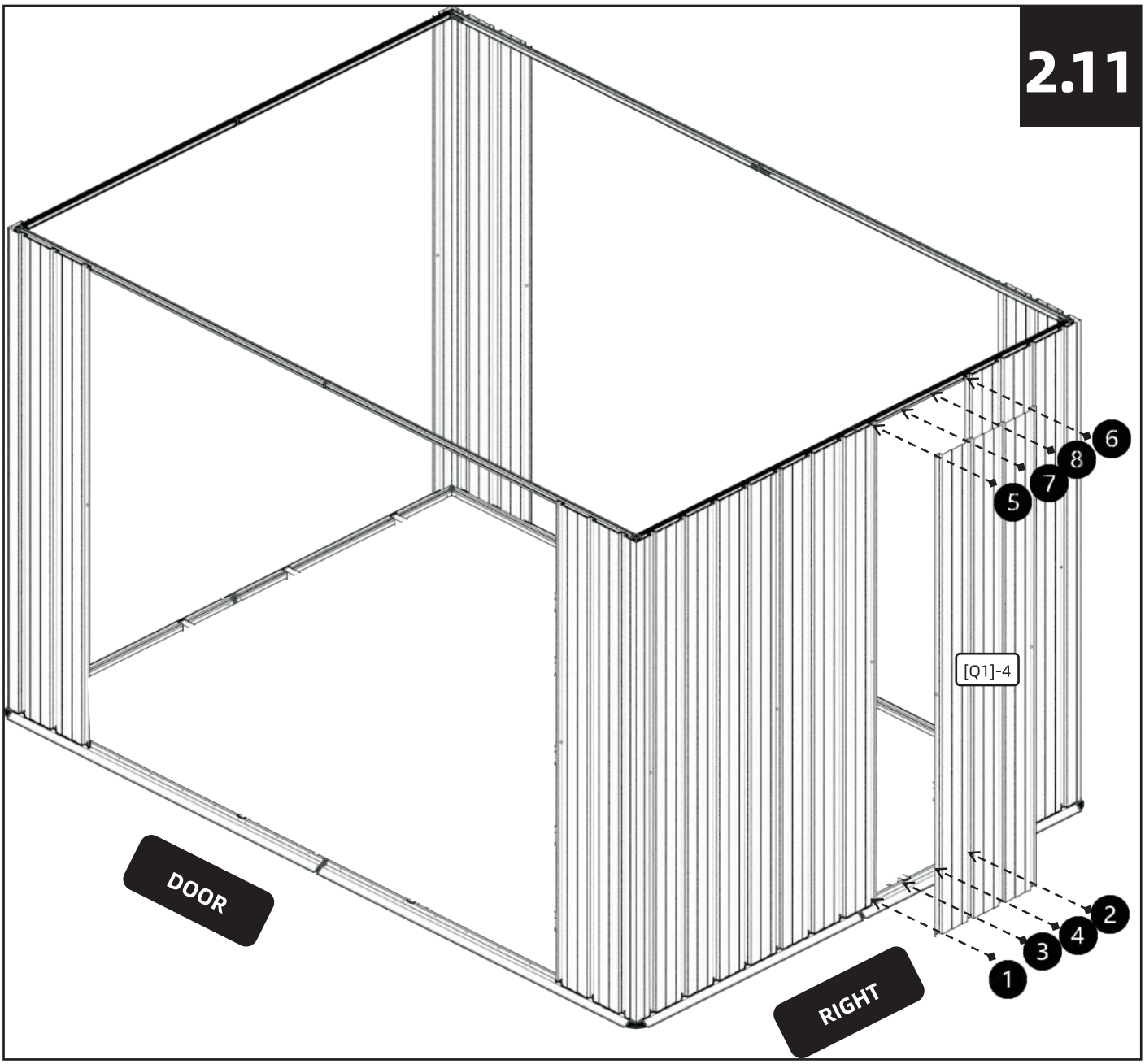
	
[Q1] x 1	[S3]+[S4] x 6



Fix the screws following the order of ①~⑥. The [Q1] can be stacked above or under panel next to it.

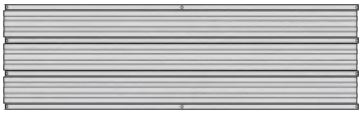
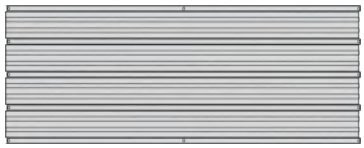
There are no corresponding screw holes on the top frames for ④⑤⑥.

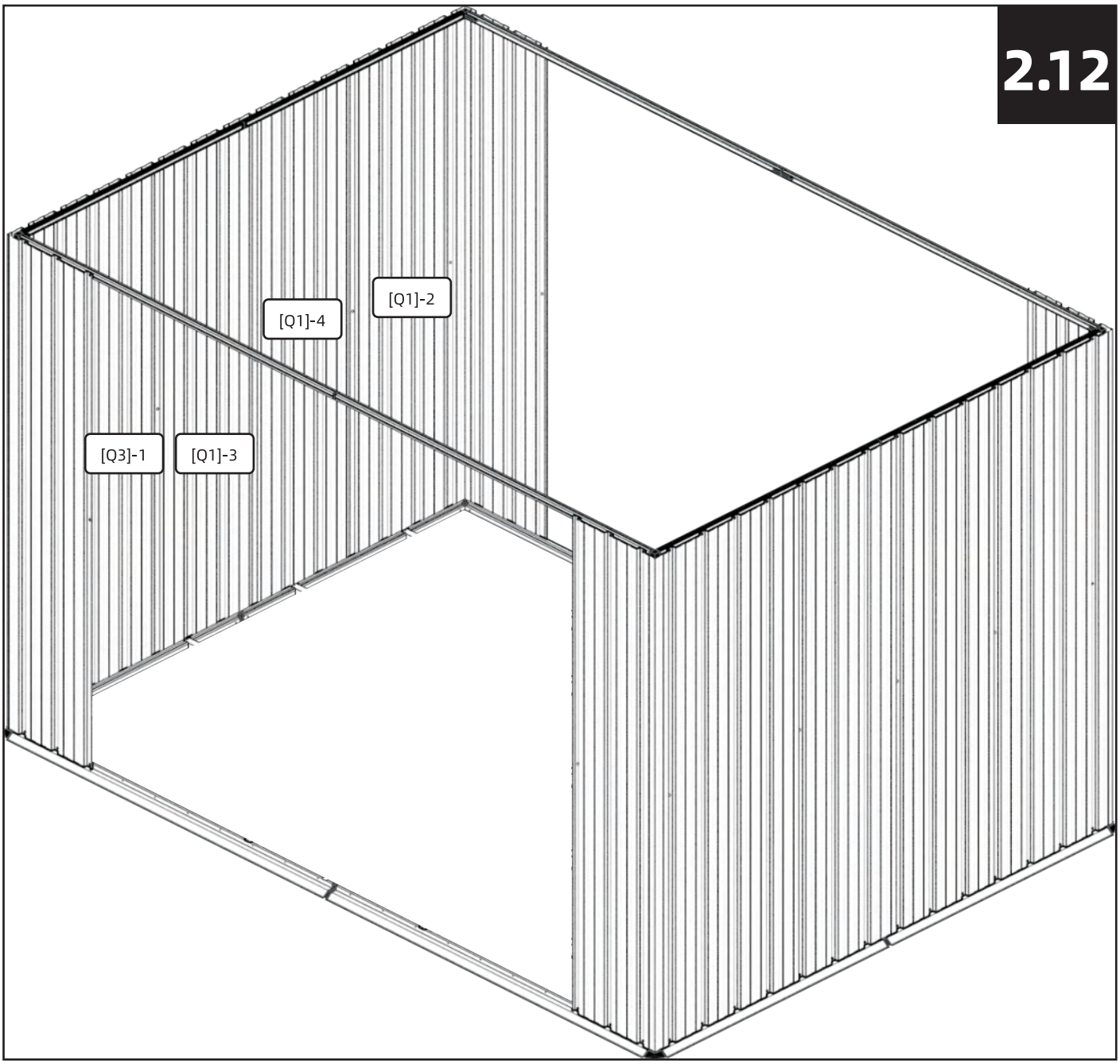
	
[Q1] x 1	[S3]+[S4] x 8



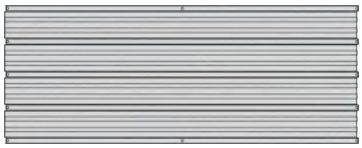
Fix the screws following the order of ①~⑧. The [Q1] can be stacked above or under panel next to it.

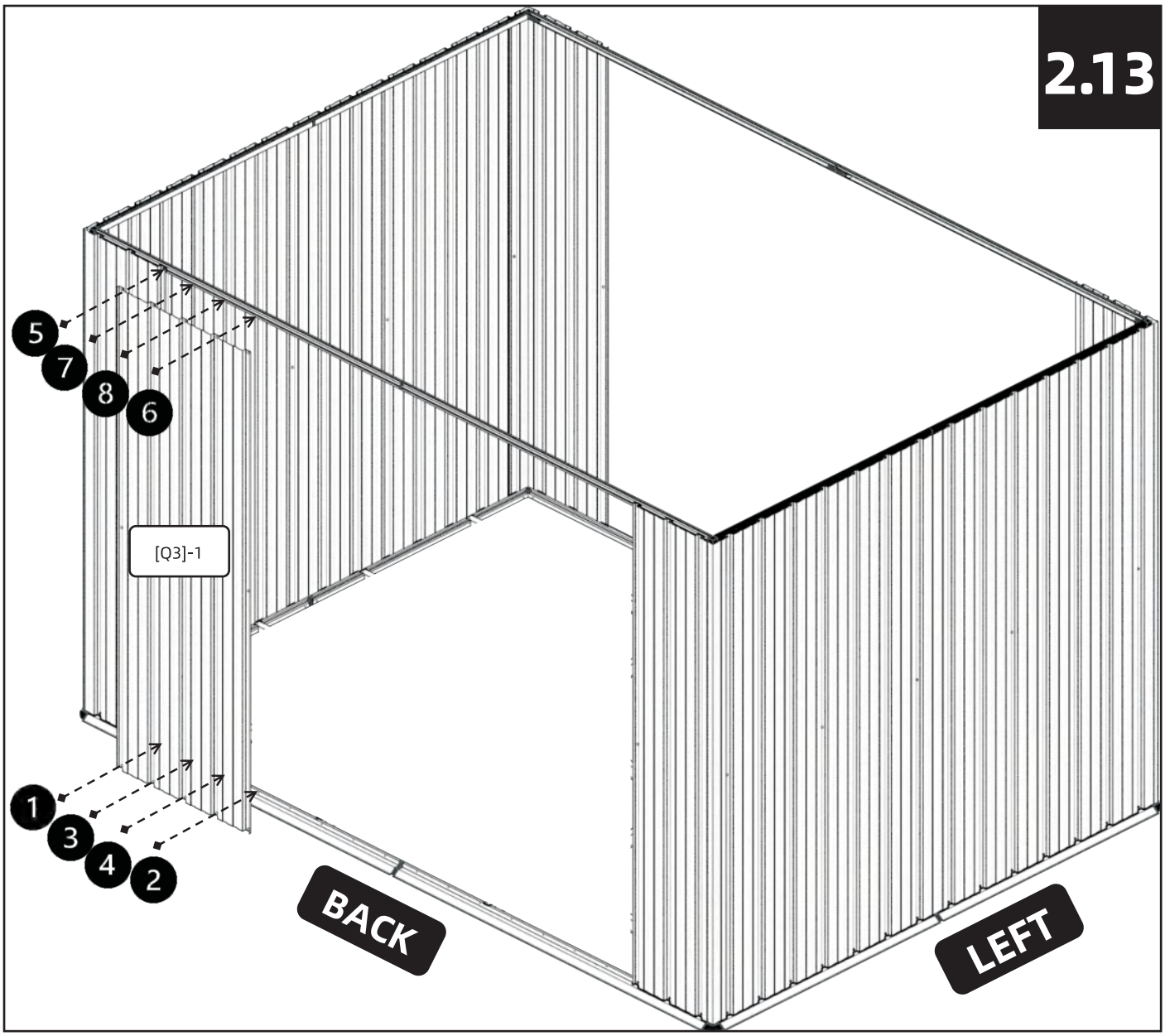
There are no corresponding screw holes on the top frames for ⑤⑥⑦⑧.

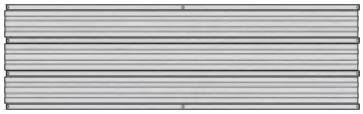
		
[Q1] x 3	[S3]+[S4] x 28	[Q3] x 1

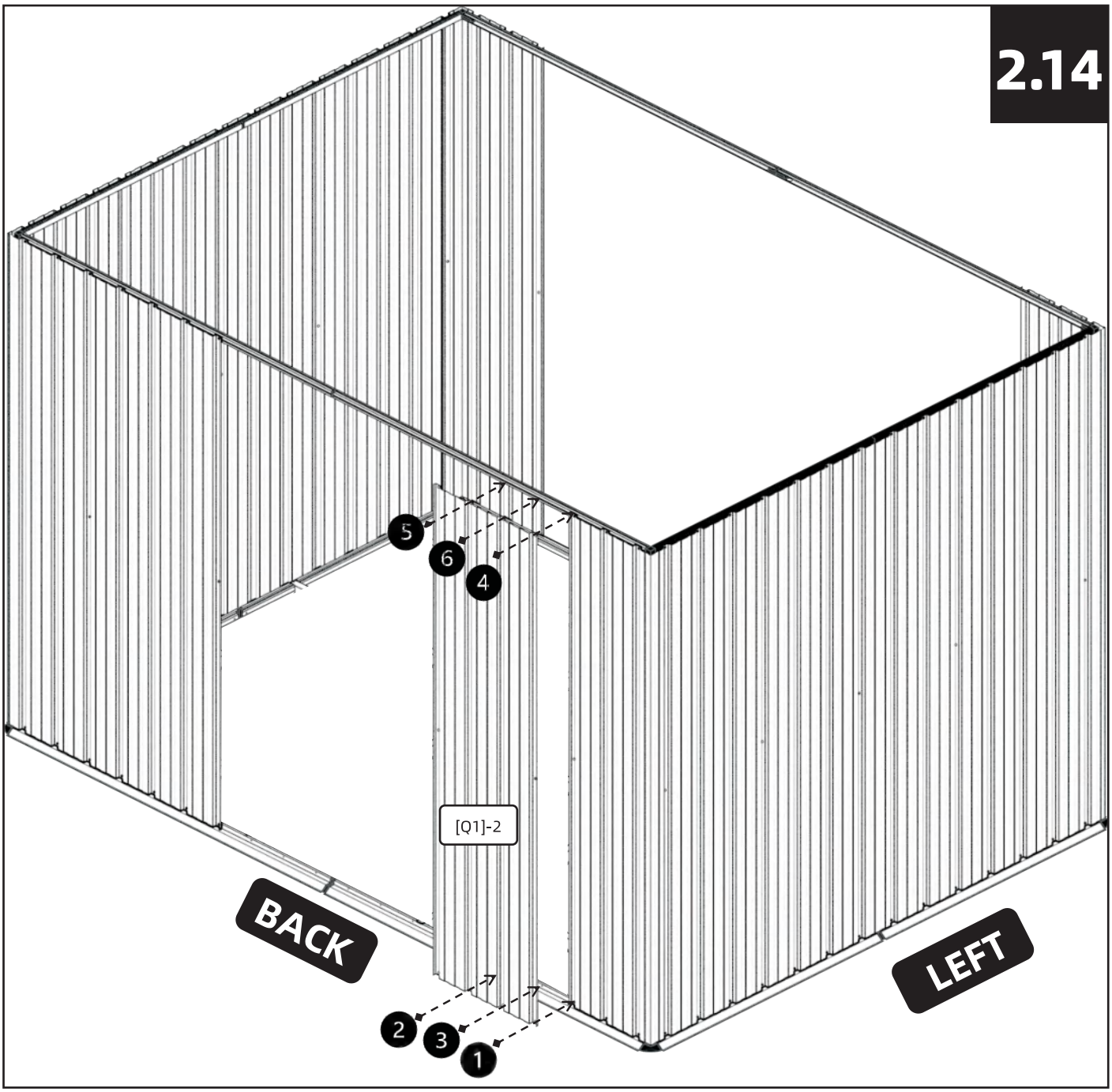


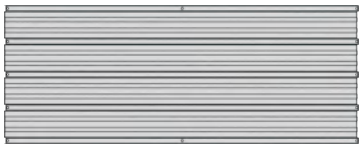
Repeat Step 2.8~2.11 and finish assembling the left four wall panels one by one.

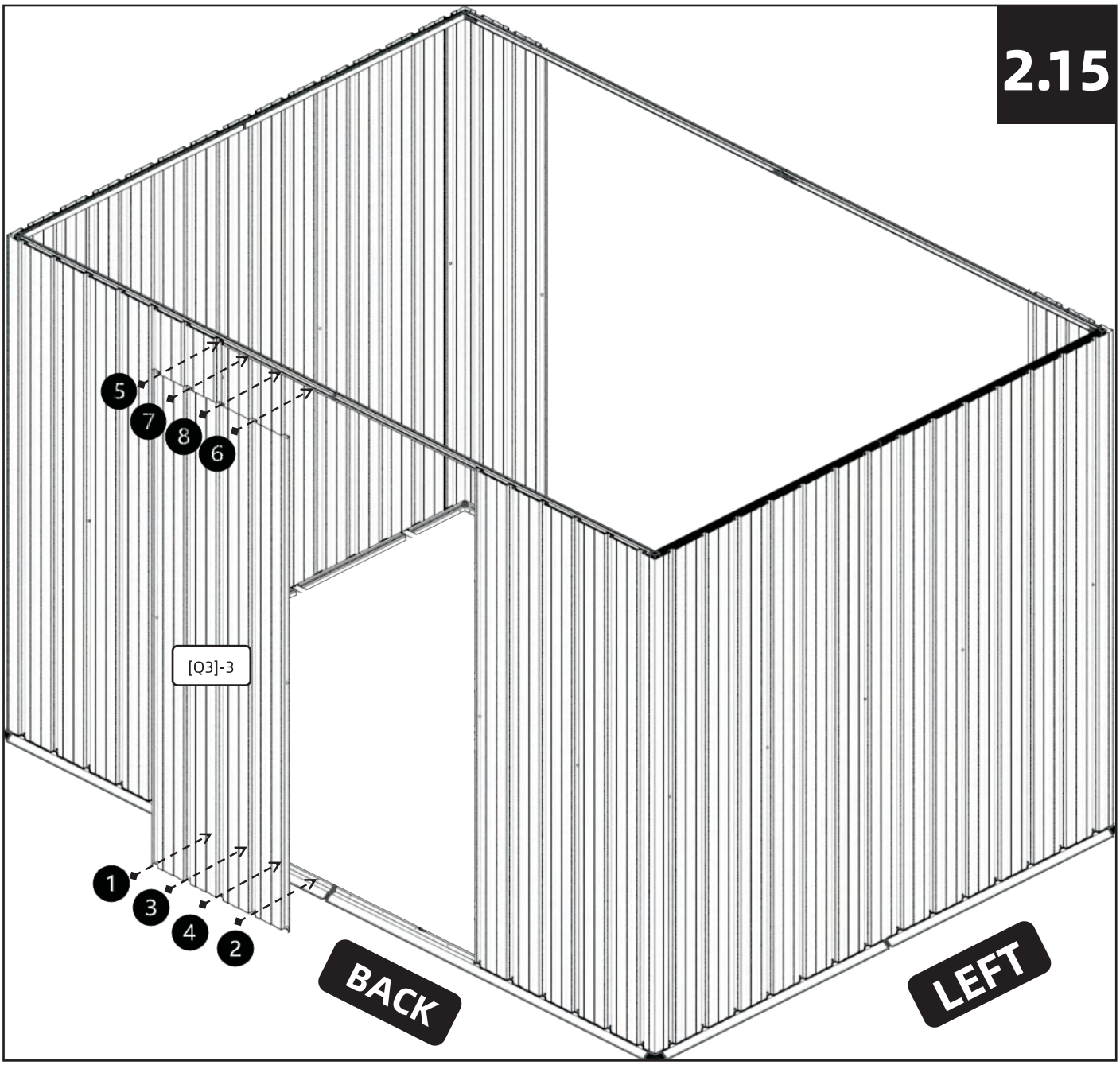
	
[Q3] x 1	[S3]+[S4] x 8

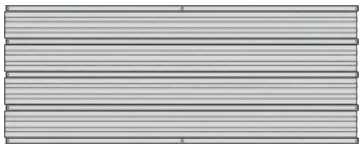


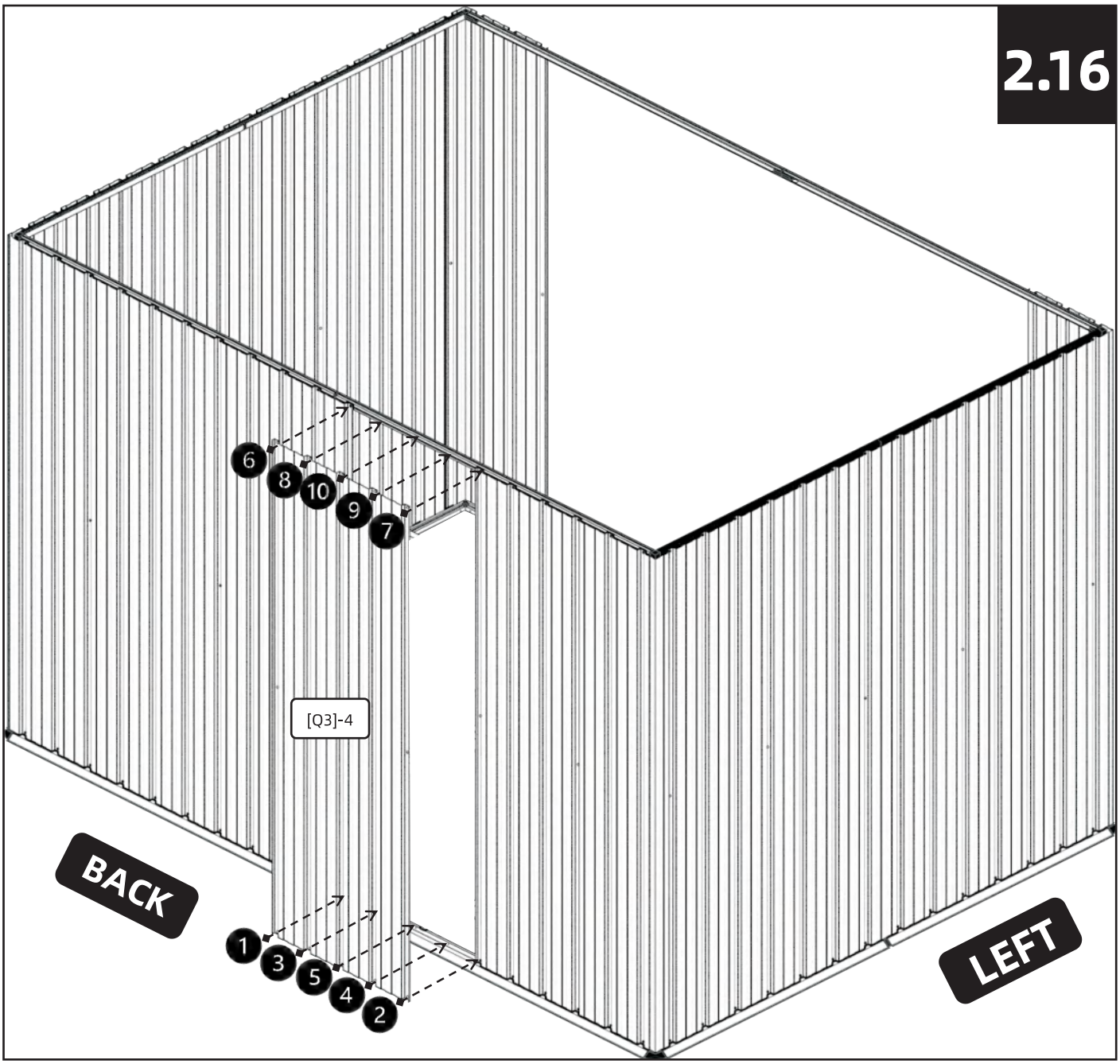
	
[Q1] x 1	[S3]+[S4] x 6

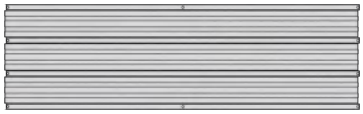


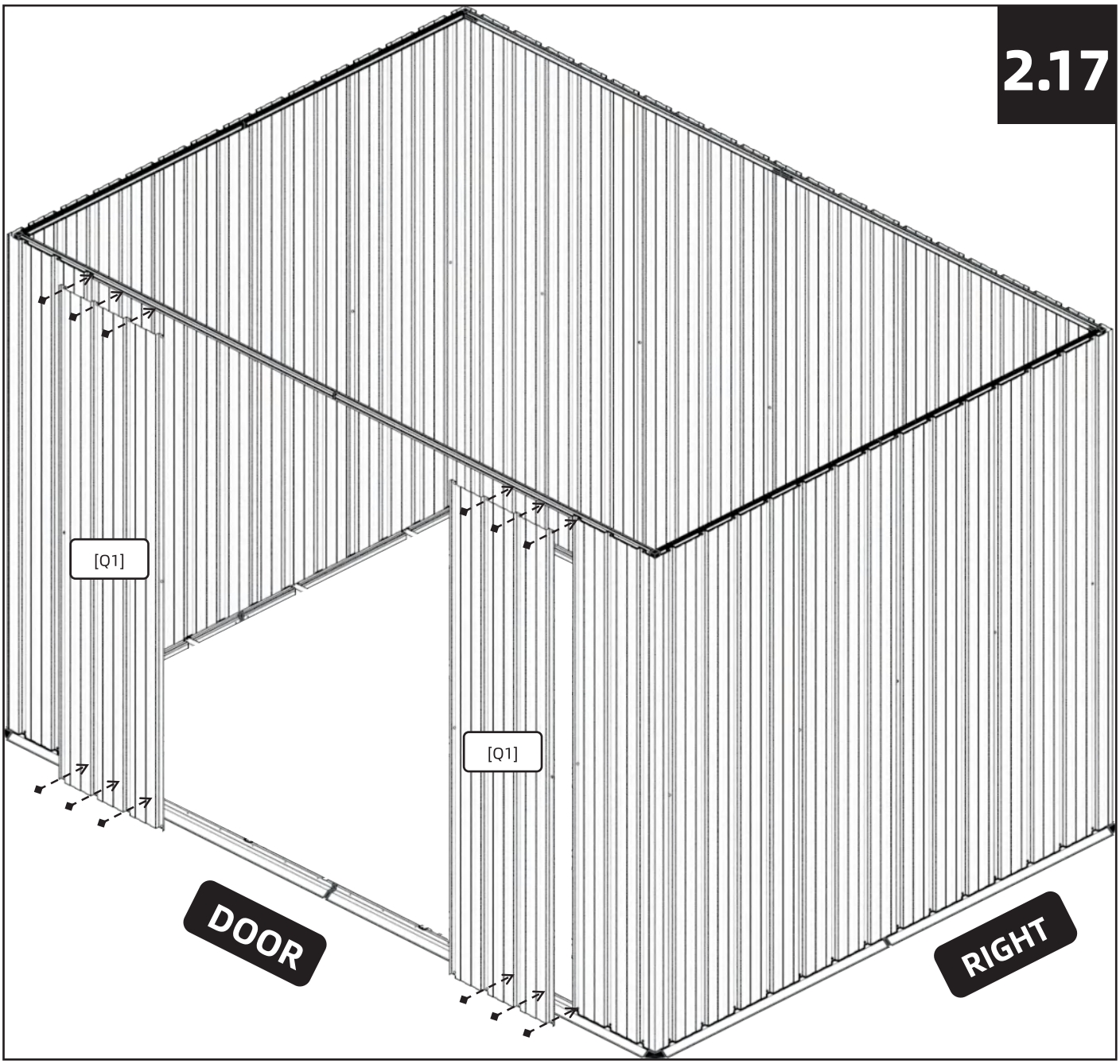
	
[Q3] x 1	[S3]+[S4] x 8



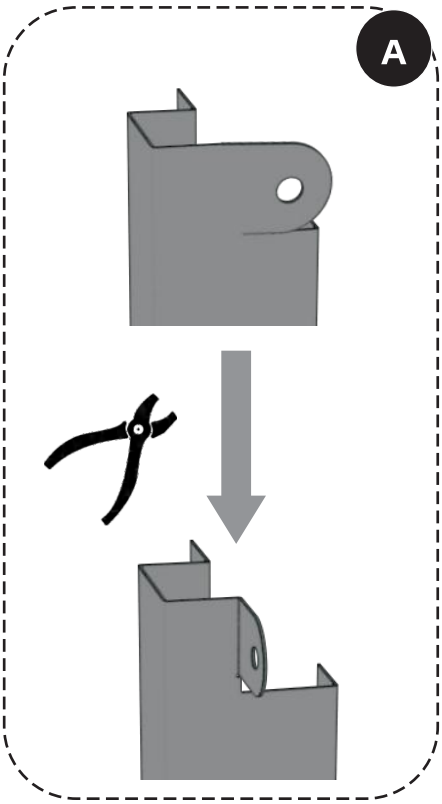
	
[Q3] x 1	[S3]+[S4] x 10

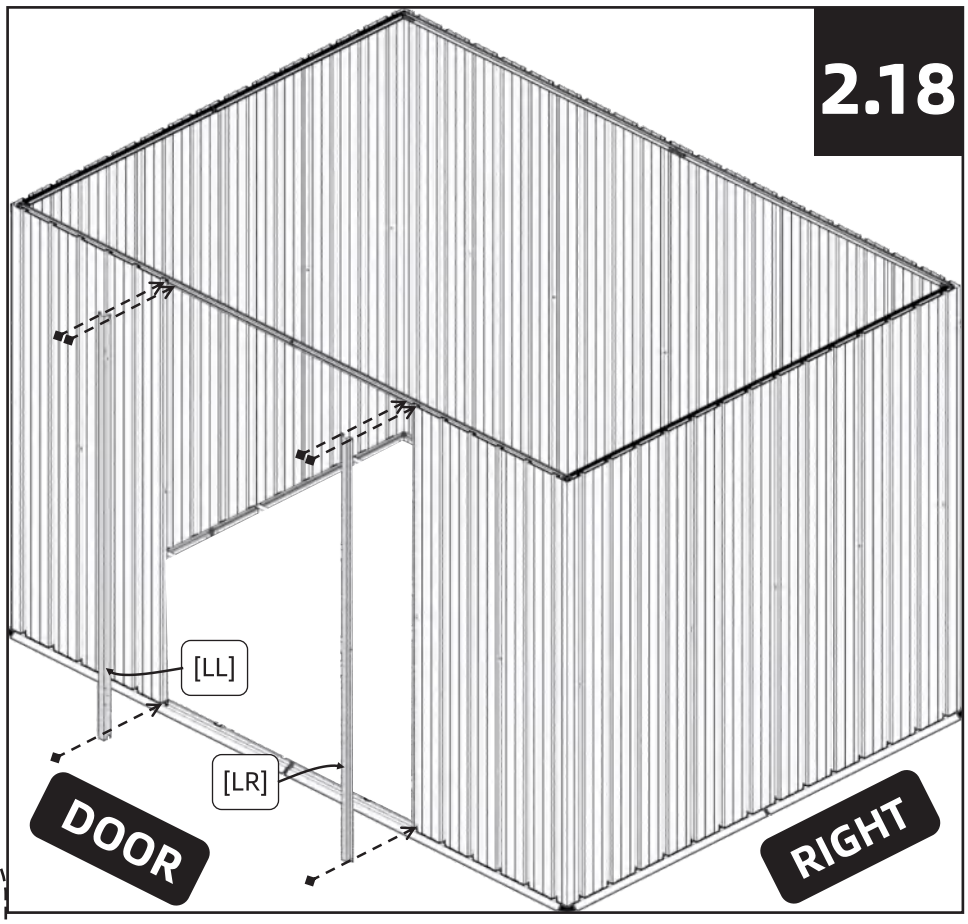


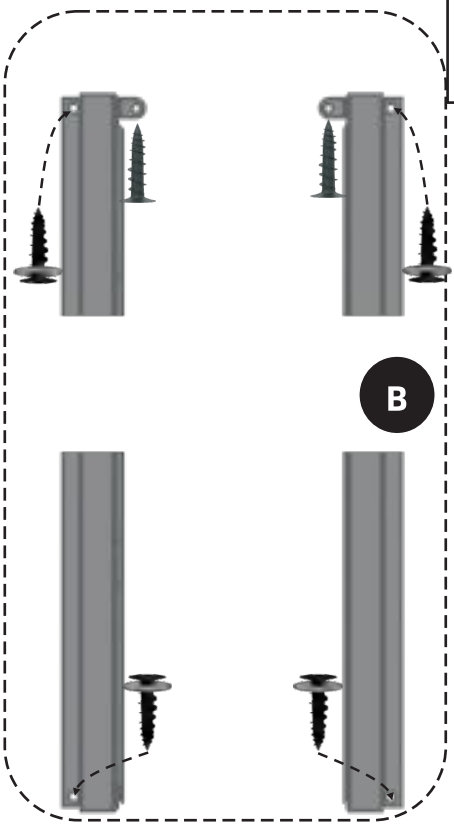
	
[Q1] x 2	[S3]+[S4] x 6



			
[S4] x 4	[S3] x 6	[LL] x 1	[LR] x 1



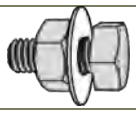




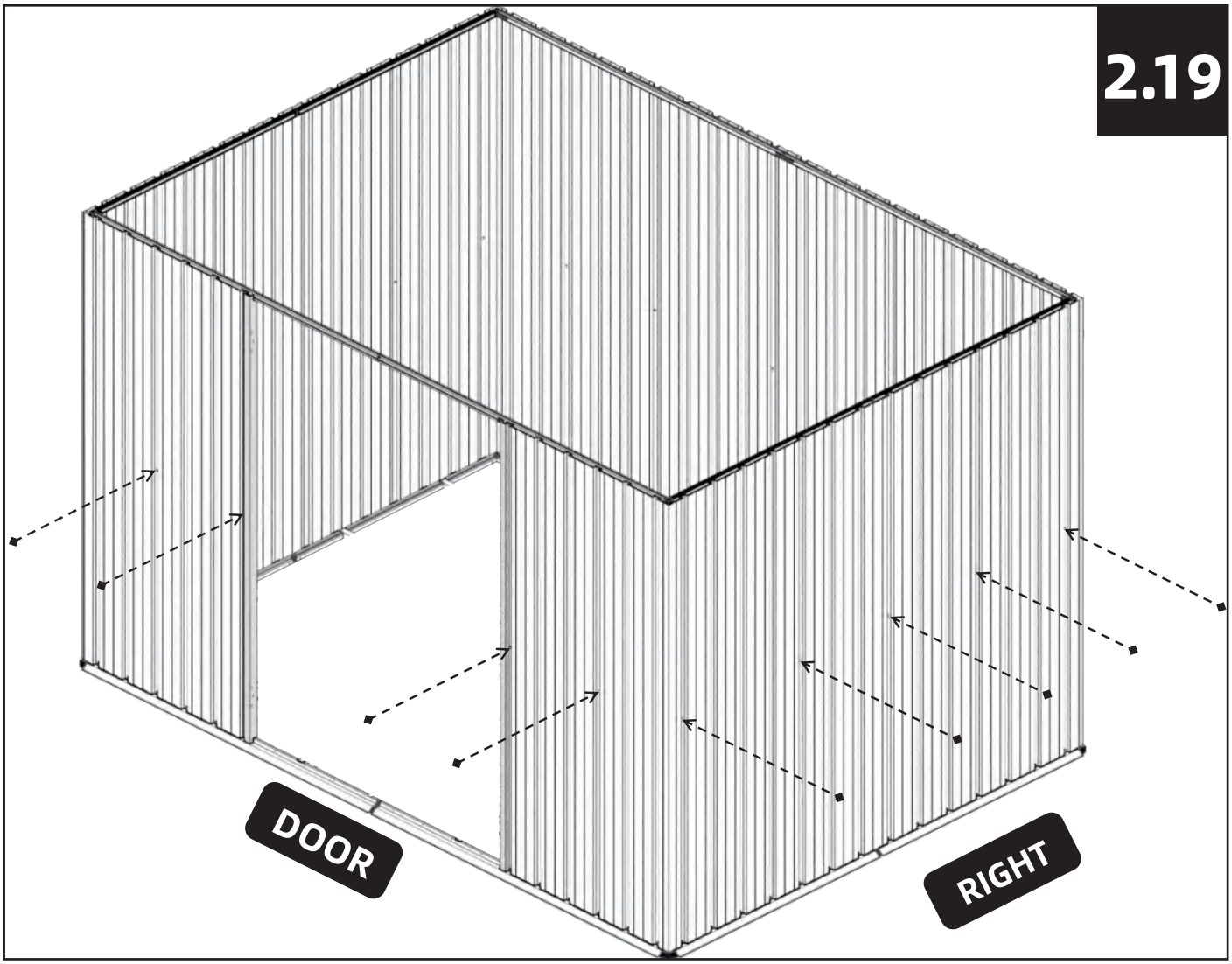
Use a plier to bend [LL] and [LR] following step A.

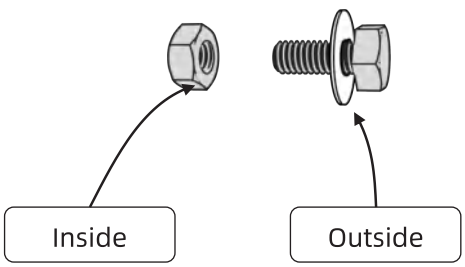
Notice that in Step B, the top end of [LL] or [LR] has two screw holes each. But only one needs a [S4].

[LL] and [LR] stack with [Q1]



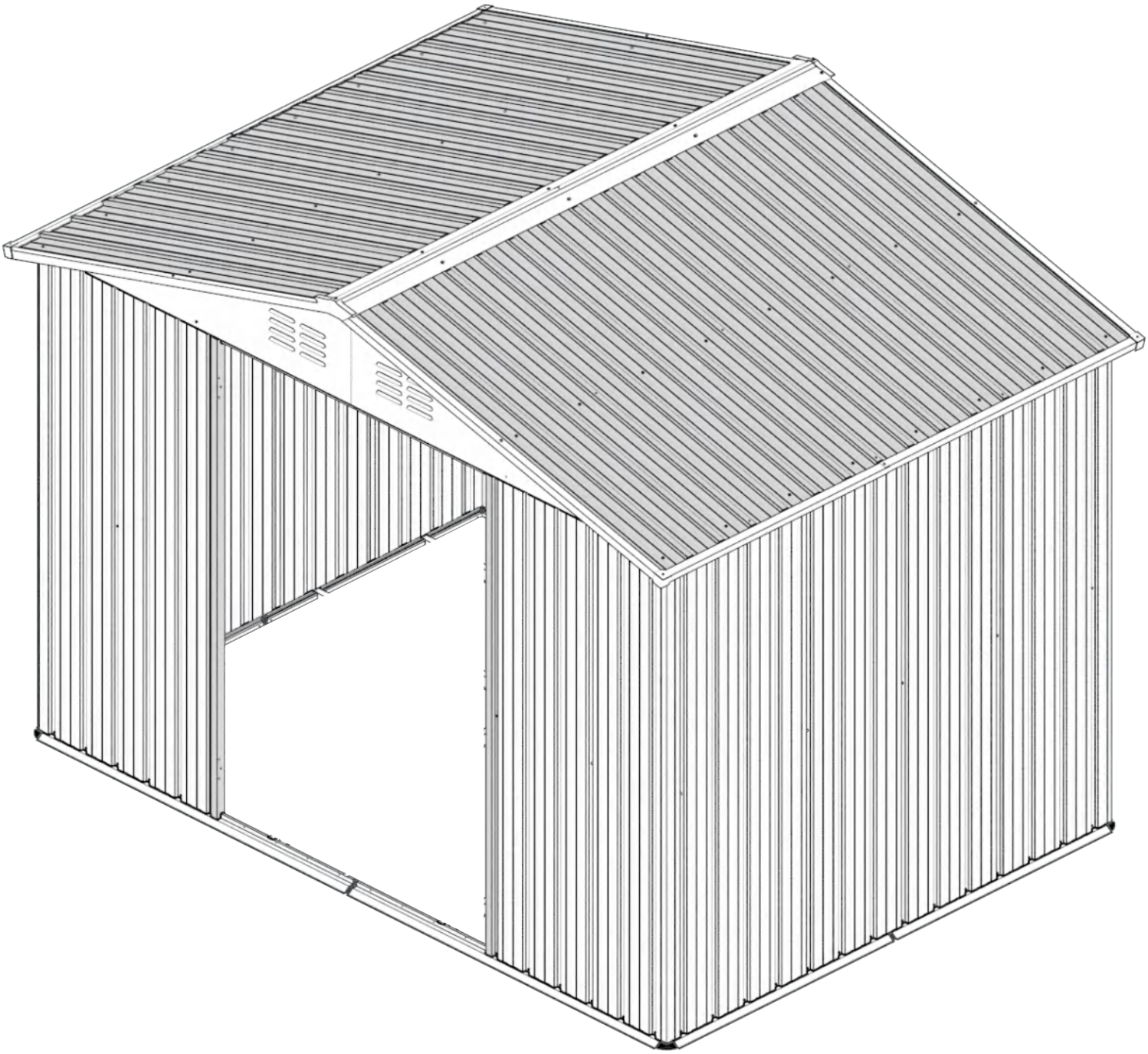
[S1]+[S2]+[S4] x 19

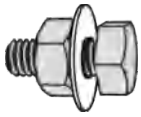
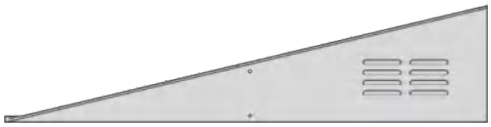


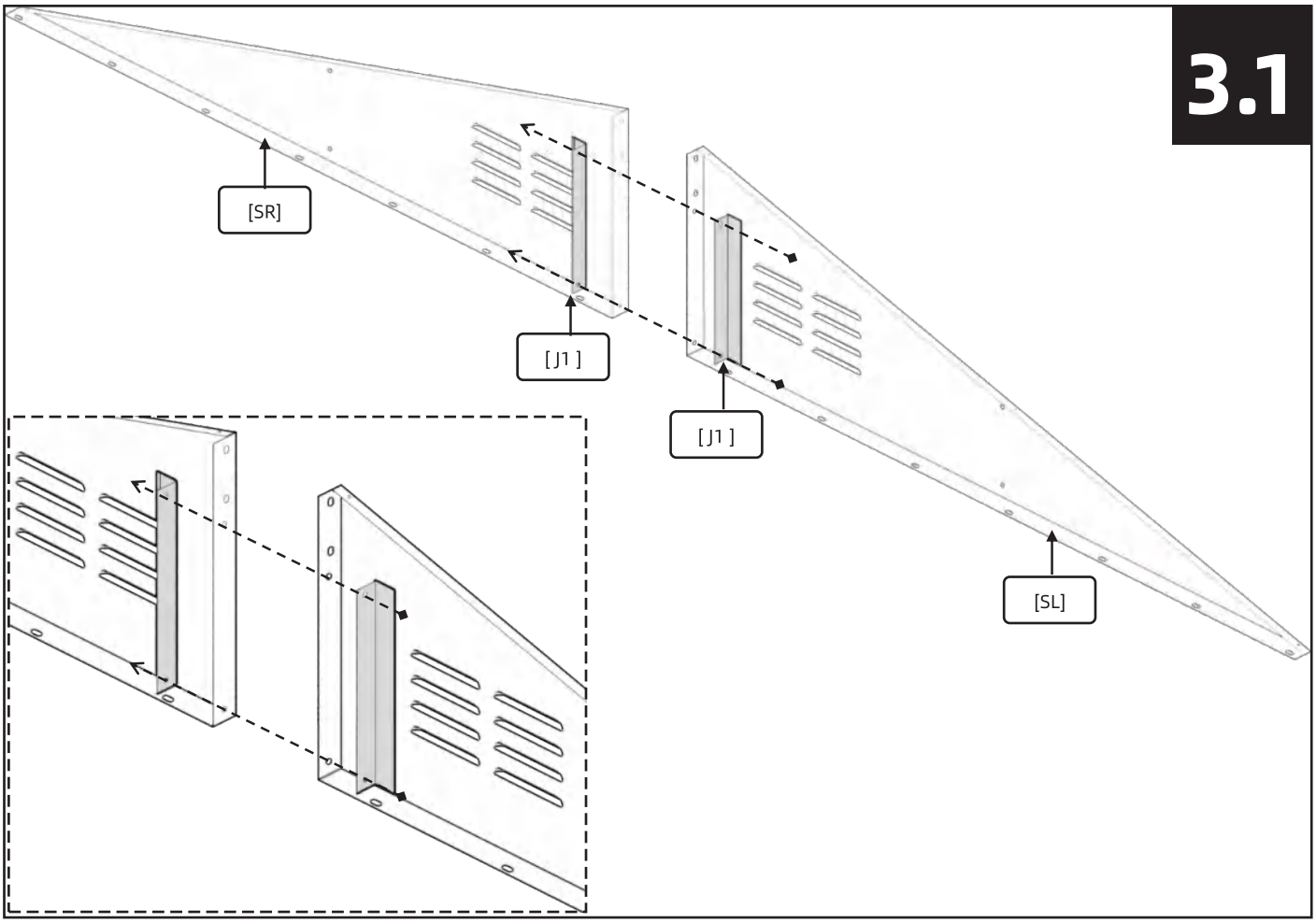


After all wall panels (including [LL] and [LR]) are done nailing, find the screw holes in the middle of the wall panels and use [S1][S2][S4] to enhance the overall steadiness of the shed.

3 Roof



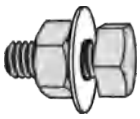
			
[S1]+[S2]+[S3] x 4	[J1] x 4	[SL] x 2	[SR] x 2

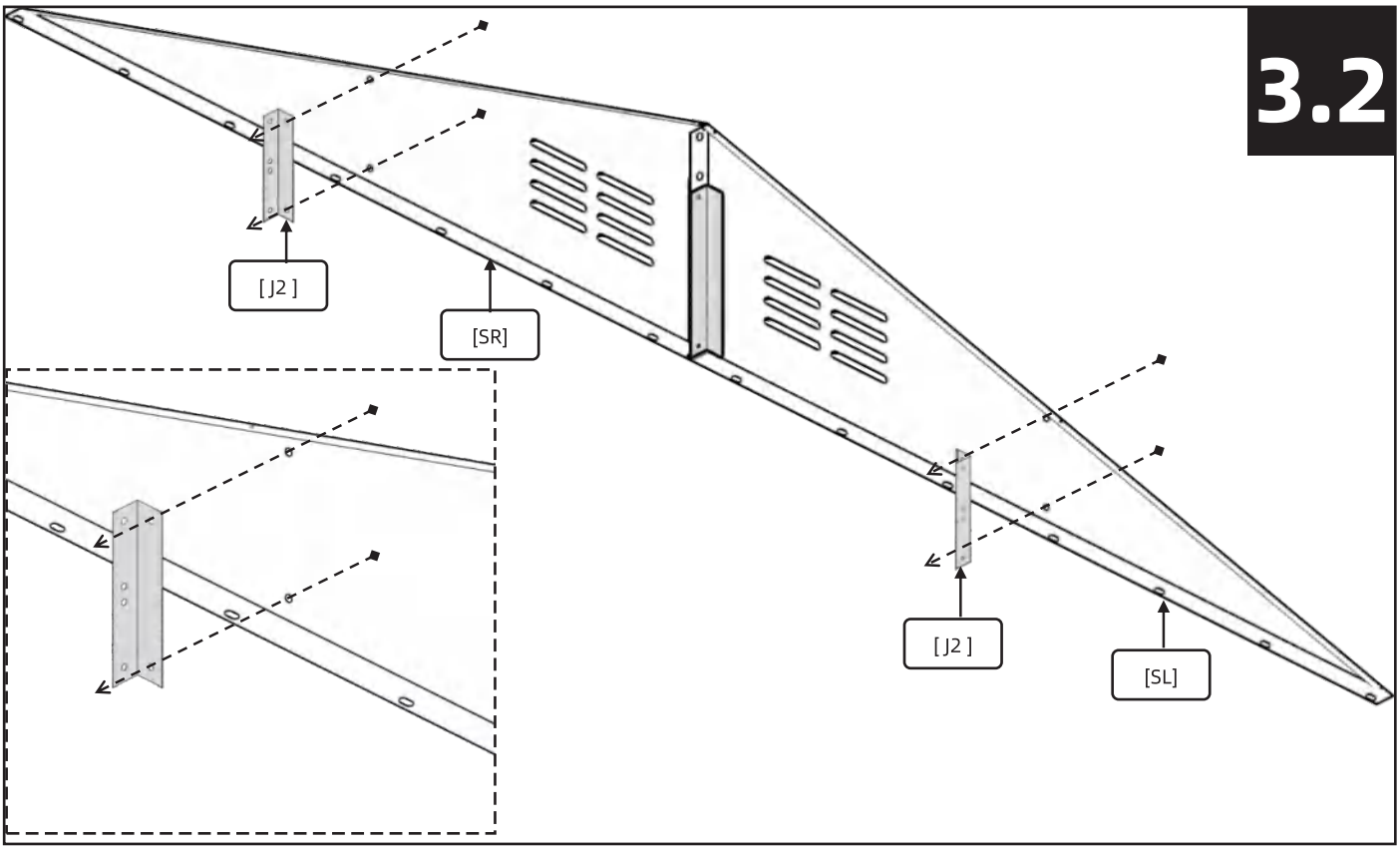


Notice

You have two sets of [SL] and [SR] so you will have to repeat this step.

Notice that you will find four screw holes on [SL] and [SR] in this step. Only attach [J1] to [SL] and [SR] using the lower two screw holes.

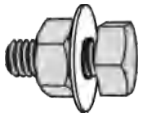
	
[S1]+[S2]+[S3] x 8	[J2] x 4

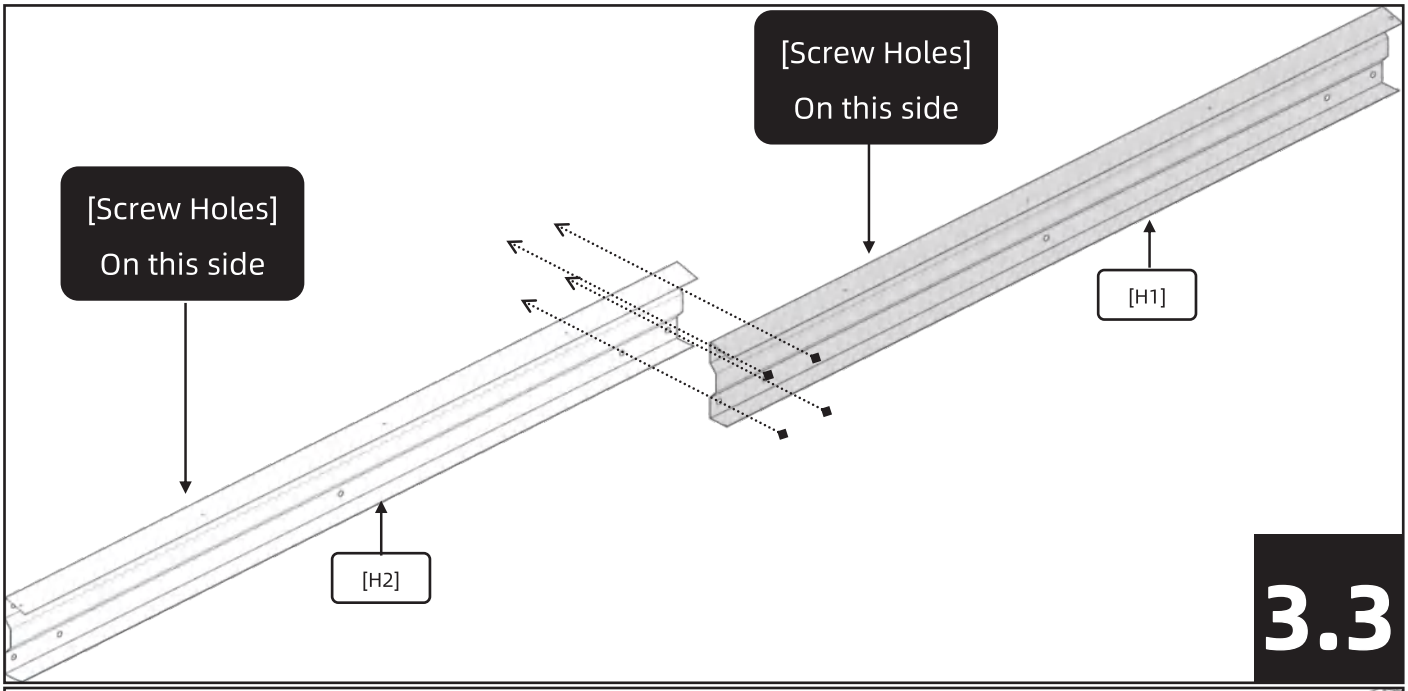


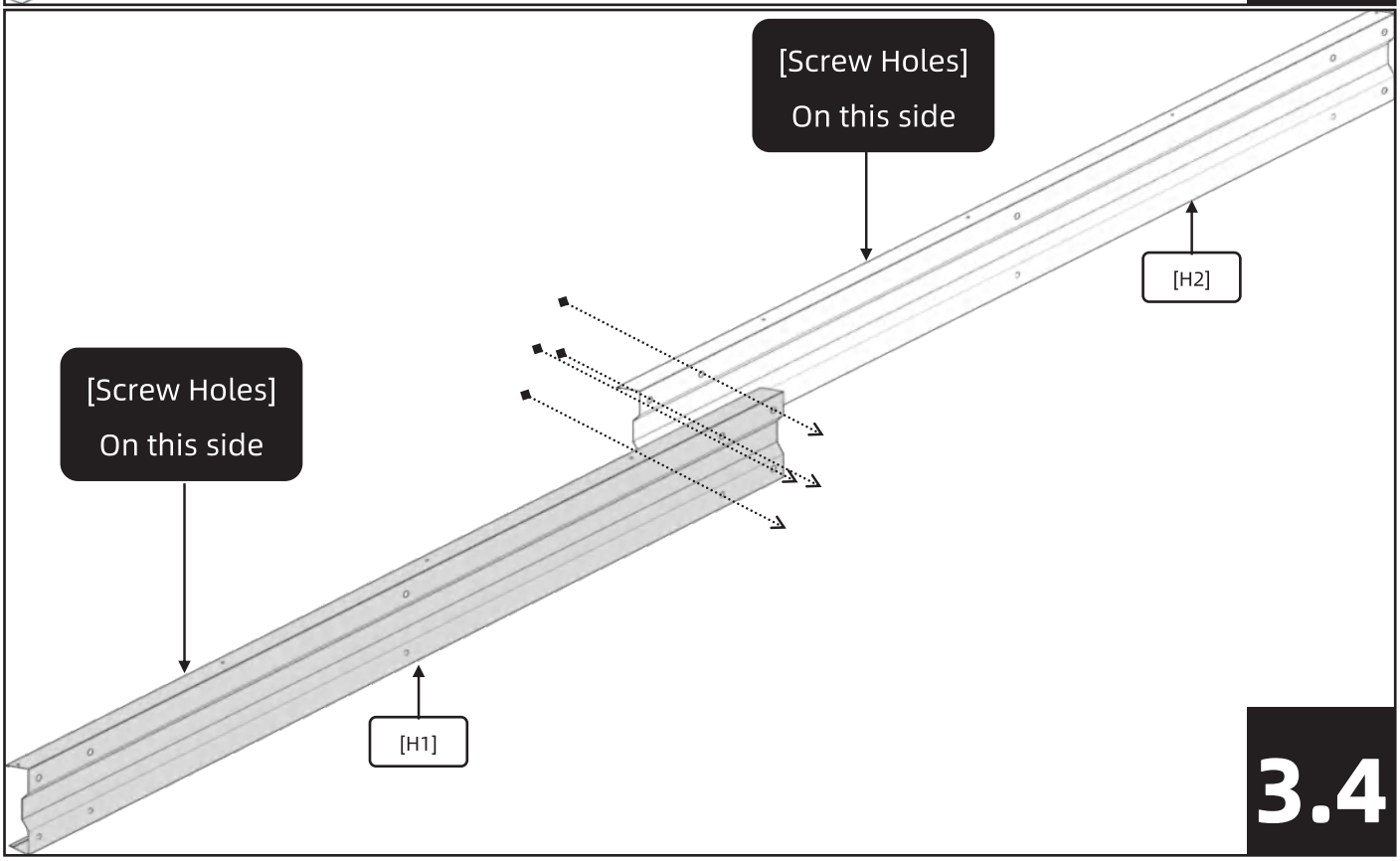
Notice

You have two sets of [SL] and [SR] so you will have to repeat this step.

Notice that you should position the [J2] so that you are attaching [J2] to [SL] and [SR] using the side of [J2] with two screw holes.

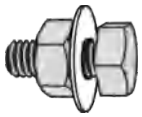
		
[S1]+[S2]+[S3] x 8	[H1] x 2	[H2] x 2



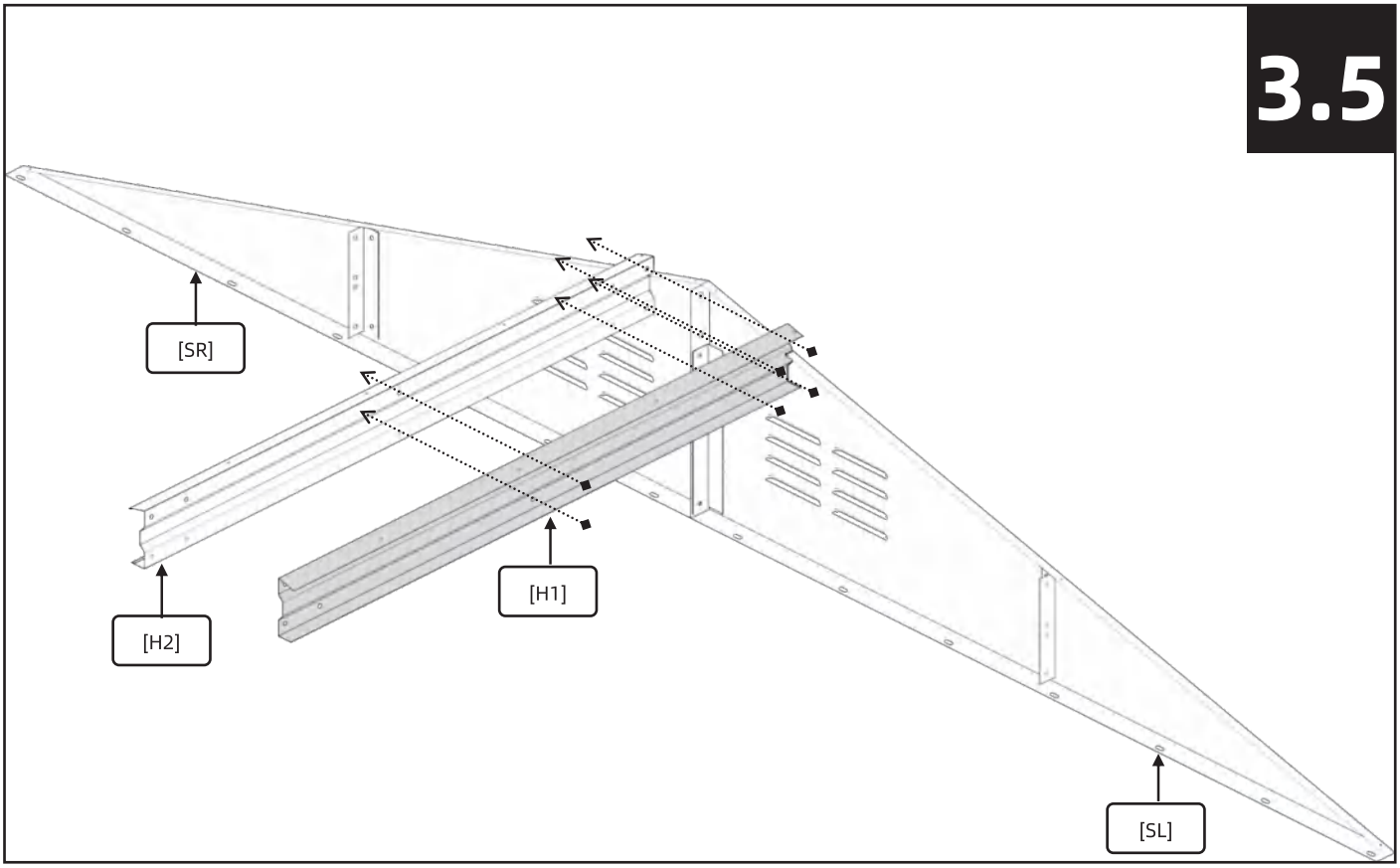


Notice

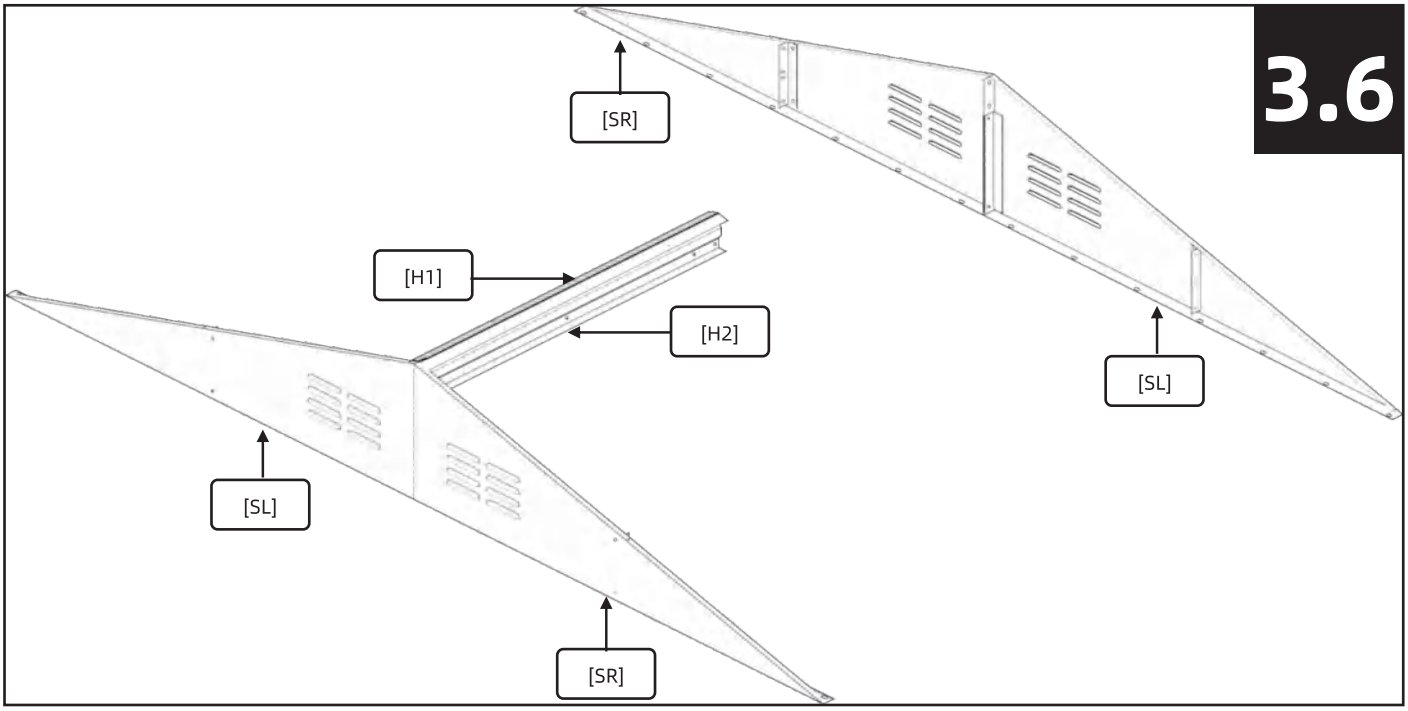
While performing **Step 3.3** and **following steps**, position the [H1] and [H2] so that the side with screw holes are upward. Step 3.3 and Step 3.4 are different. Do not expect to repeat Step 3.3 to get Step 3.4. Do not repeat Step 3.4 either. The left [H1] and [H2] will be used in later steps.

		
[S1]+[S2]+[S3] x 6	[H1] x 1	[H2] x 1

3.5

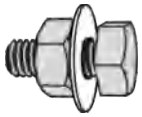


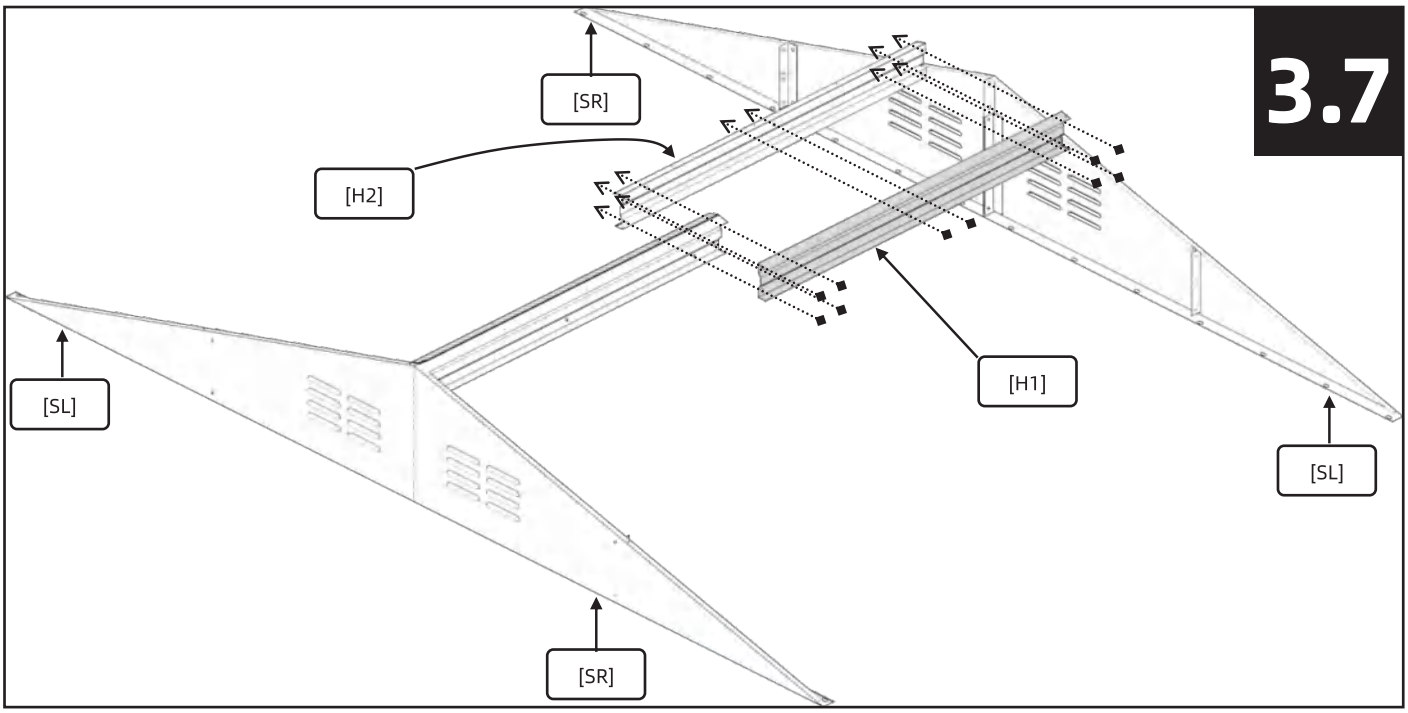
3.6

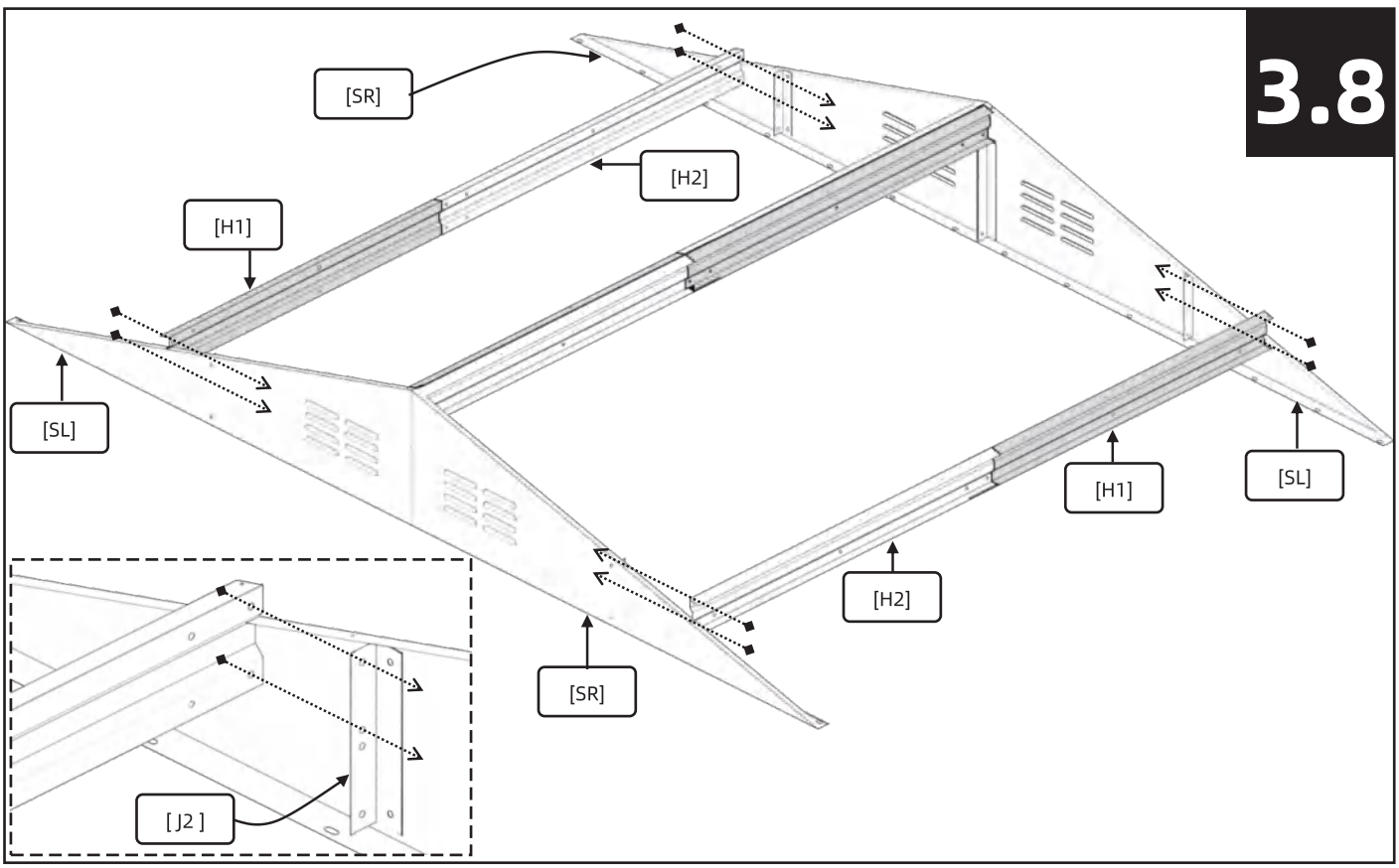


Notice

All you need to do in Step 3.6 is to flip over the assembly you finished in Step 3.5, and find the other assembly of [SL]+[SR].

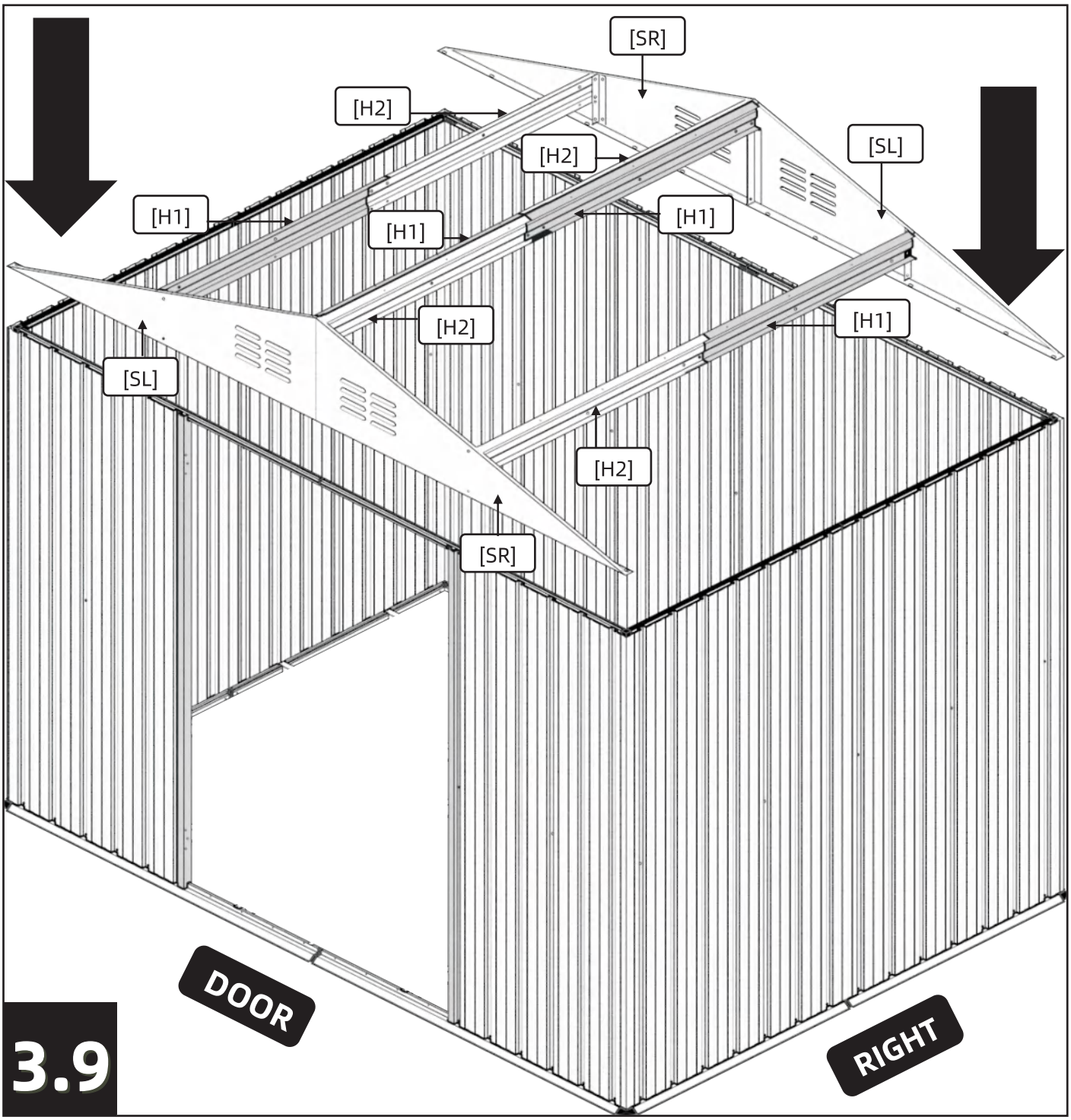
		
[S1]+[S2]+[S3] x 18	[H1] x 1	[H2] x 1





Notice

While attaching [H1] or [H2] to [J2], make sure they are attached through the top two screw holes on [J2].

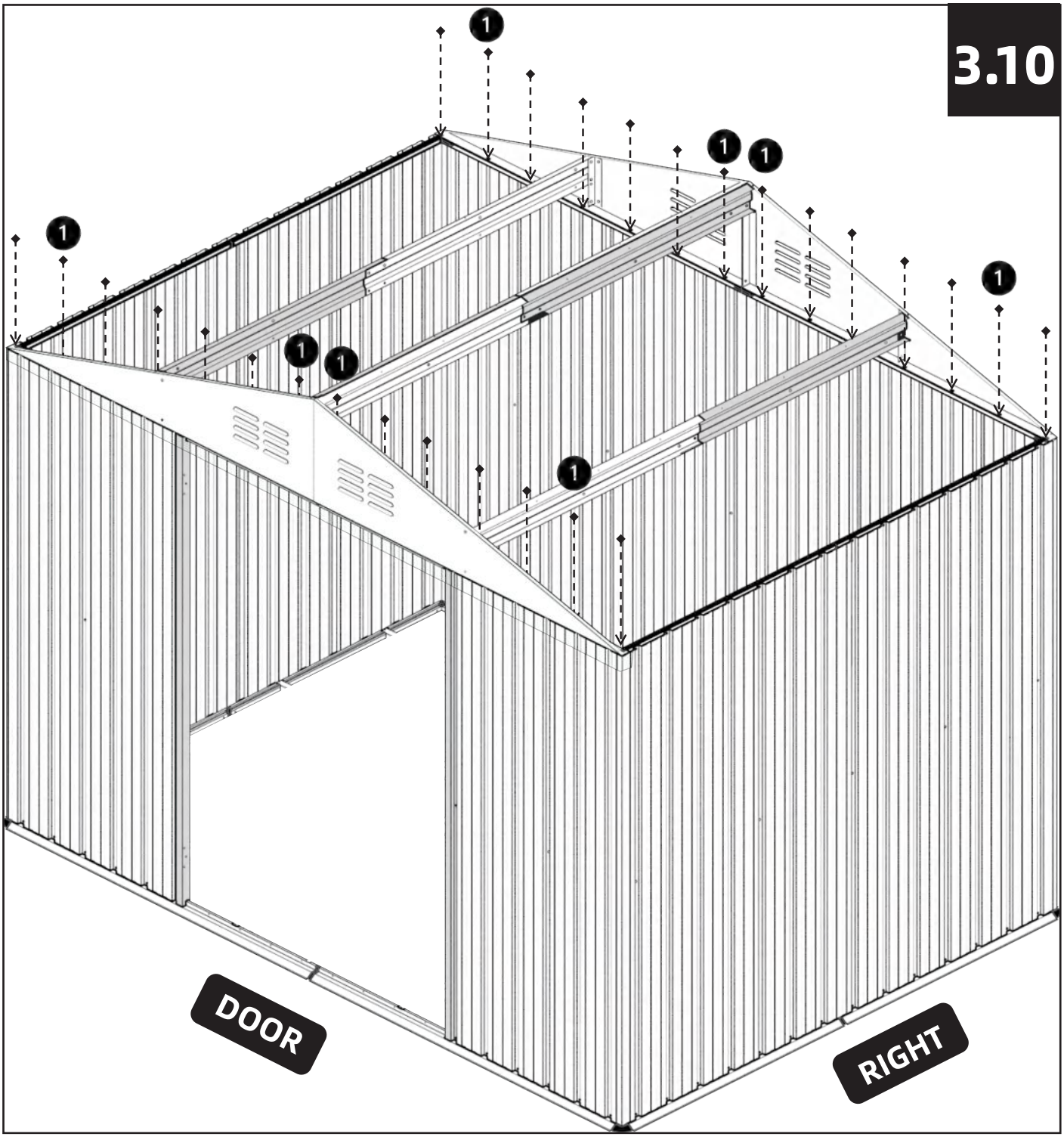


Notice

For this step, do not try to attach the roofing support([SL]+[SR]+[H1]+[H2]) to the rest of the shed yet. Take some time to check that your layout is the same as the layout above. And make sure that the screw holes on [H1][H2] are visible

This is the only acceptable layout.

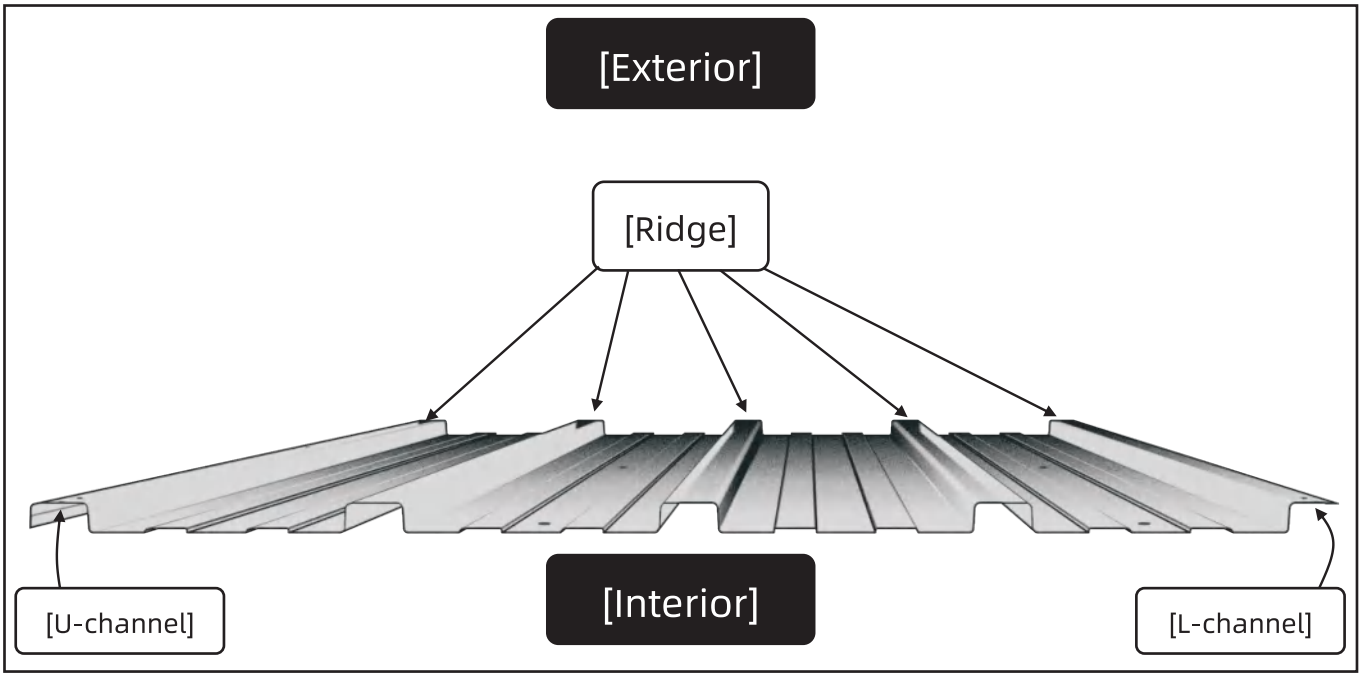
[S3] x **28**



Notice

28 [S3] are used in this step, seven for each [SL] or [SR]. Notice that eight [S3] are marked ①. Lift the roofing support a little bit, and you will find ① marked [S3] are the only screws that have correspondent screw holes on the top frames. While nailing the roofing support to the rest of the shed, make sure that you fix the eight marked [S3] first, and that the screws are indeed going into the screw holes on the top frames.

Anatomy of a Roof Panel



We do not have an 'Anatomy of a Wall Panel' chapter because wall panels are designed in a failproof way. Roof panels, on the other hand, are not.

Here are the terms that will be used in later chapters.

Exterior: the side of a roof panel with you selected color.

Interior: the side of a roof panel with a uniform grey color.

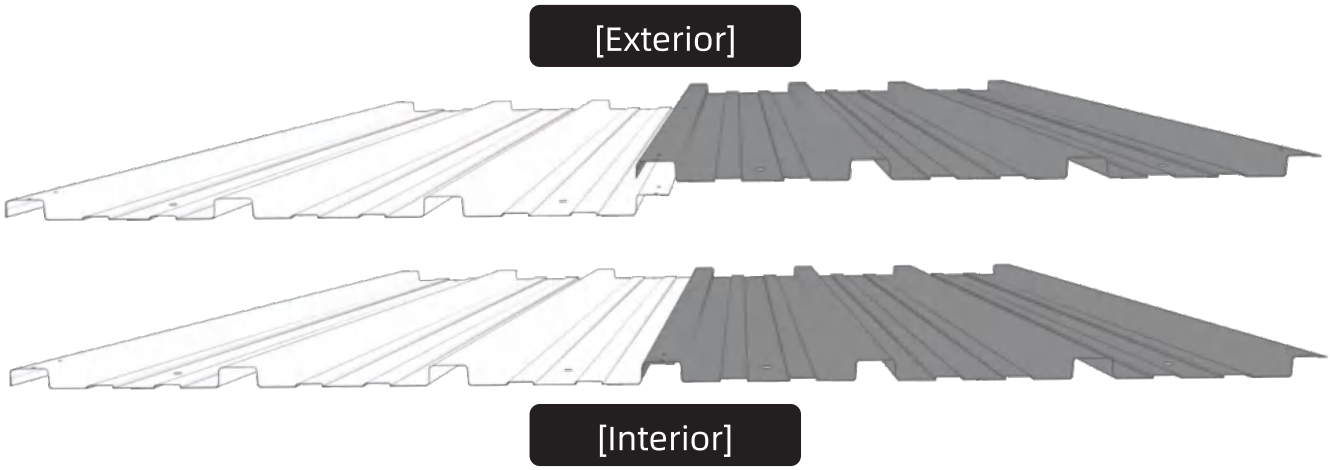
Ridge: The long narrow upper section of a roof panel.

[U-channel]: the Ridge at the very edge of a roof panel. There are five screw holes on the [U-channel] of every roof panel.

[L-channel]: the incomplete Ridge at the very edge of a roof panel. There are five screw holes on the [L-channel] of every roof panel.

GENERAL RULES

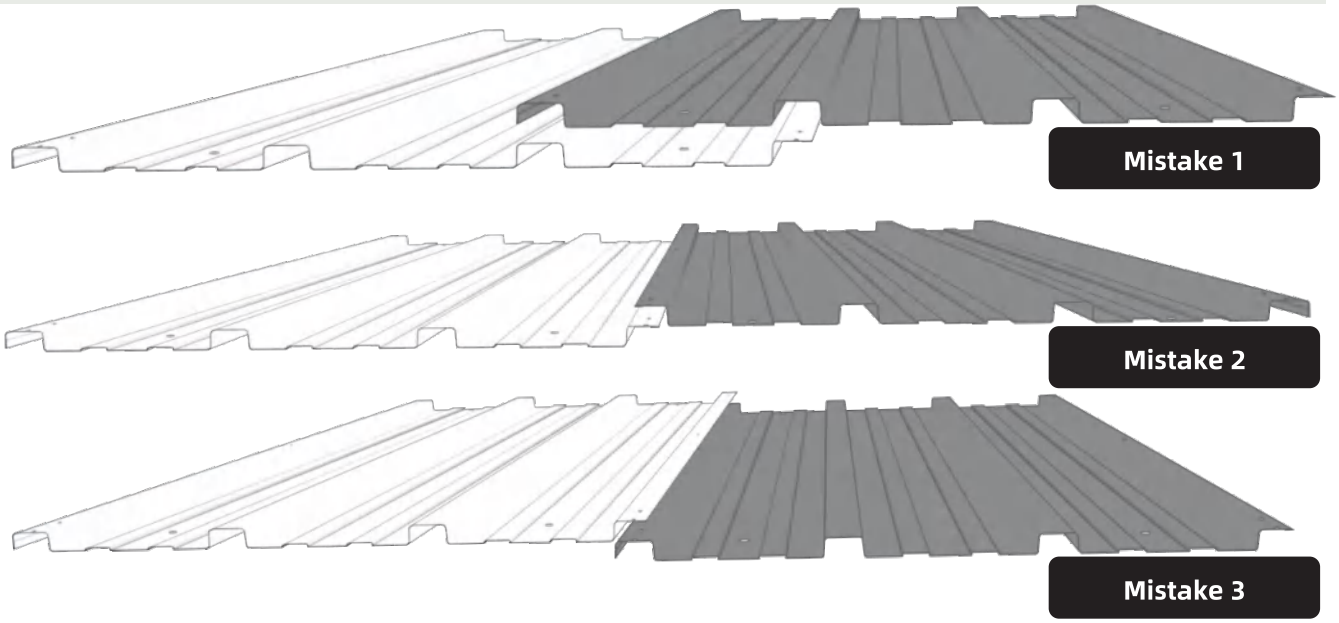
GENERAL RULES: Roof Panel Stacking



Starting from next step you will be stacking roof panels.

The two pictures above illustrate how two roof panels are stacked together. As you can see, only one channel of each panel is stacked.

Notice that the roof panel on the right has a U-channel while the one on the left has an L channel. It is always the roof panels with a U channel that is on top. There are cases where two U channels are stacked together.



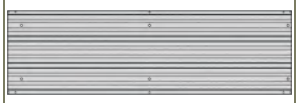
COMMON MISTAKE: ROOF PANEL STACKING

The three pictures above illustrate three common mistakes when stacking roof panels.

Mistake 1: Two channels of each panel are stacked.

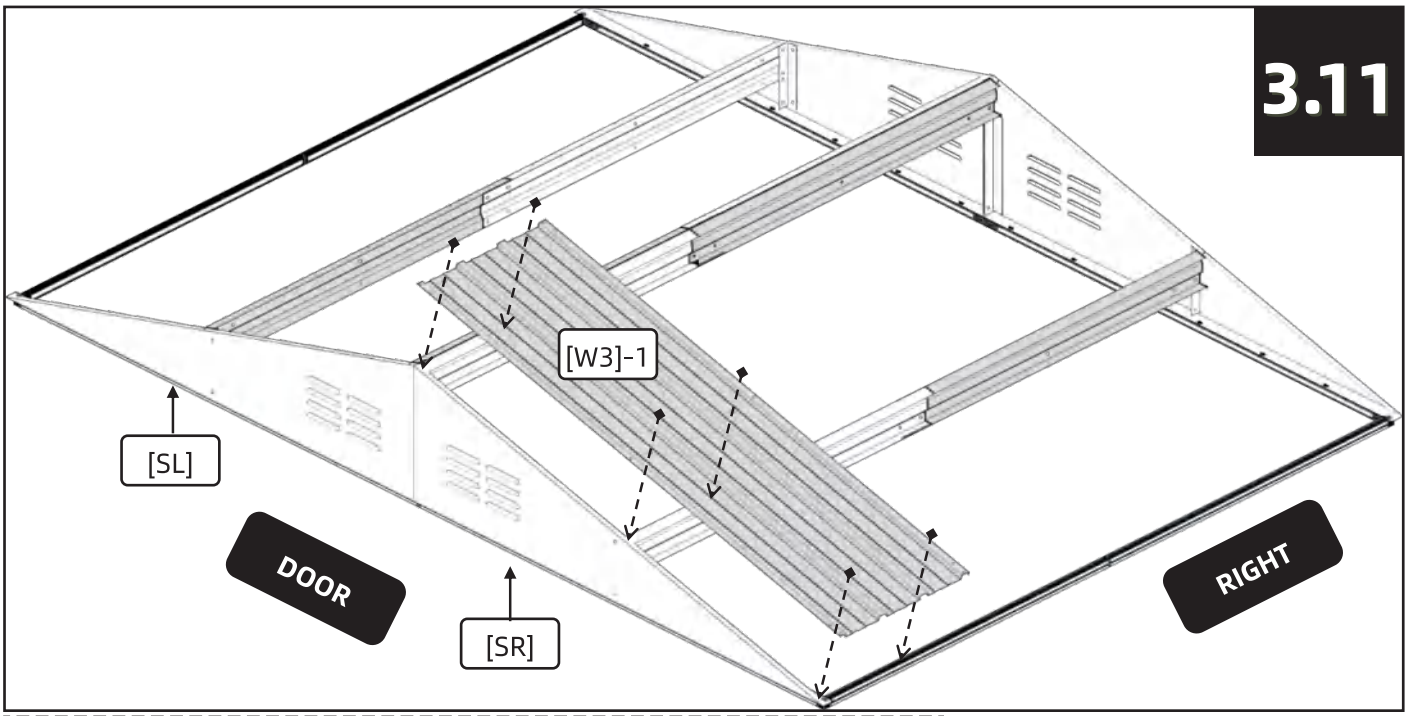
Mistake 2: Two L channels are stacked. It is the result of mistaking the top and bottom of a roof panel.

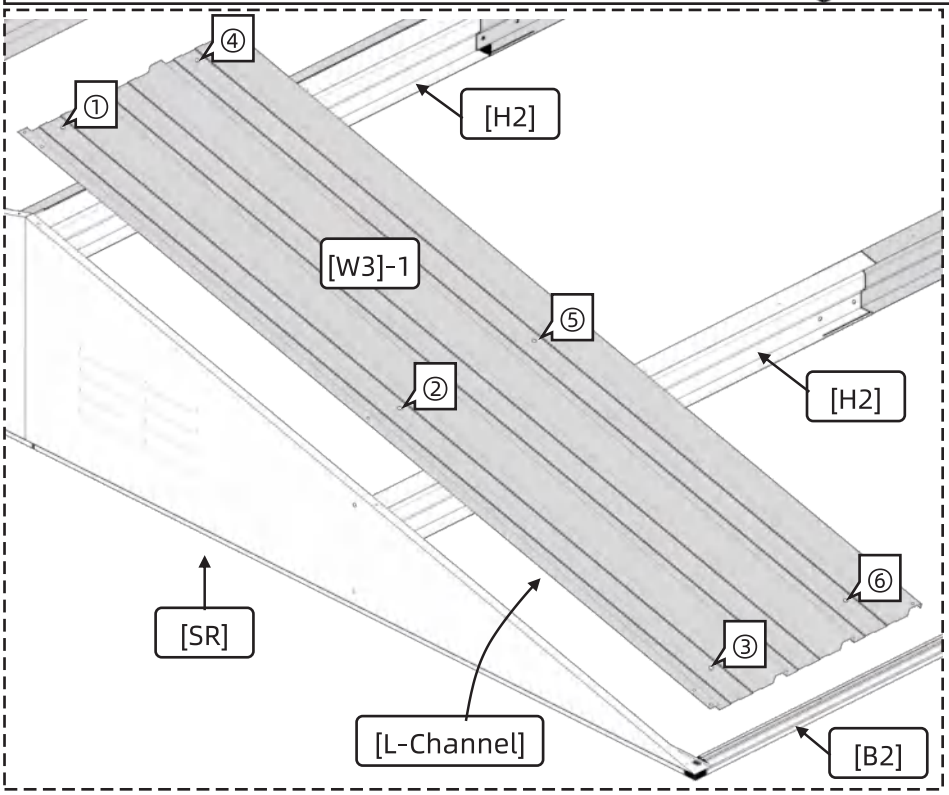
Mistake 3: It is always the roof panels with a U channel that is on top.

	
[W3] x 1	[S3]+[S4] x 6

For better visibility, wall panels and bases are hidden in the roof panel steps.

-1, -2, -3, -4 indicates the assembling order of roof panels.





Notice

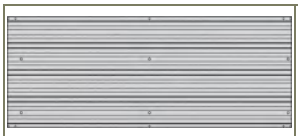
Notice that six [S3]+[S4] sets are used in this step. The ten smaller screw holes on the rib of [W3]-1 are not used in this step.

Through the left three screw holes①②③, [W3]-1 is nailed to [SR] and two [H2] which are beneath [SR].

Through the right three screw holes ④⑤⑥, [W3]-1 is nailed to two [H2] and [B2].

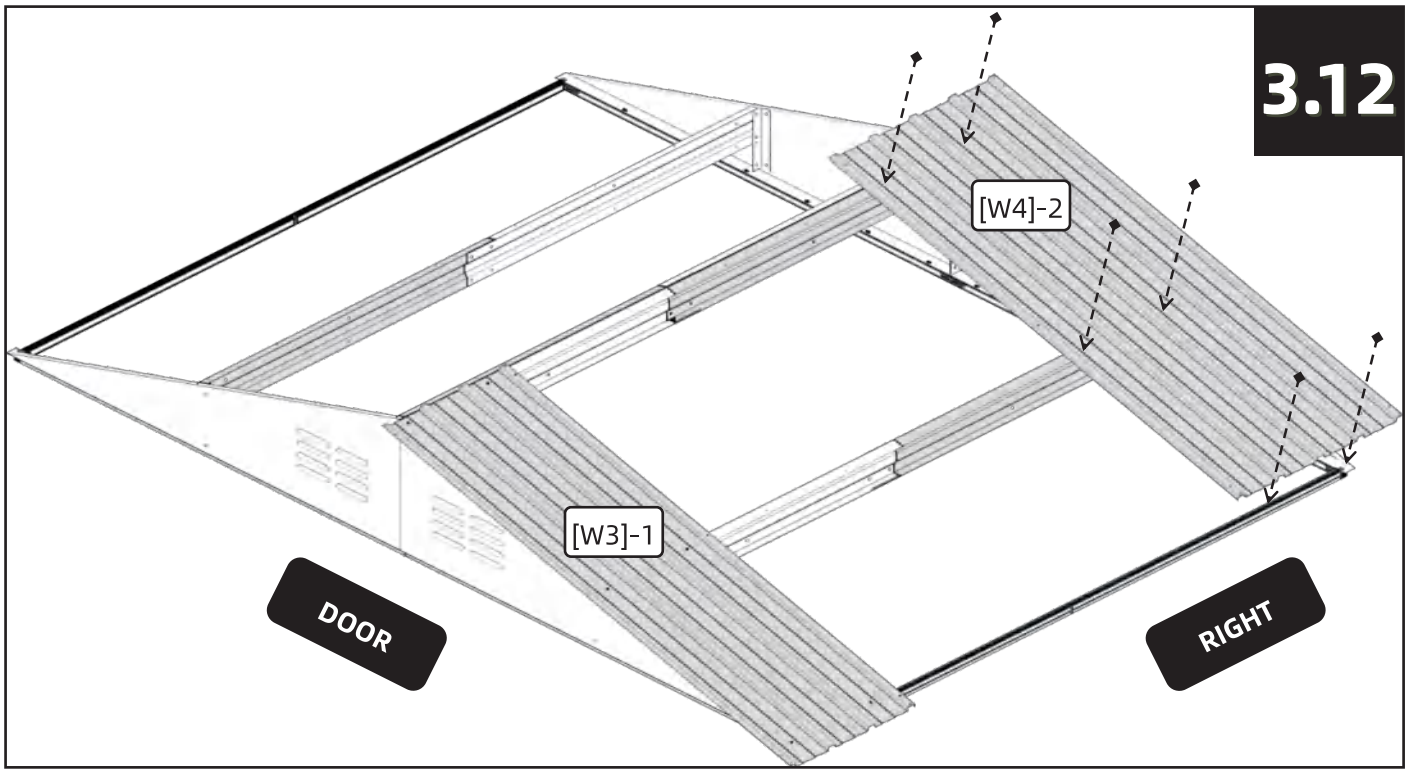
The screw that goes through ③ does not nail [W3]-1 to [B2], but ⑥ does.

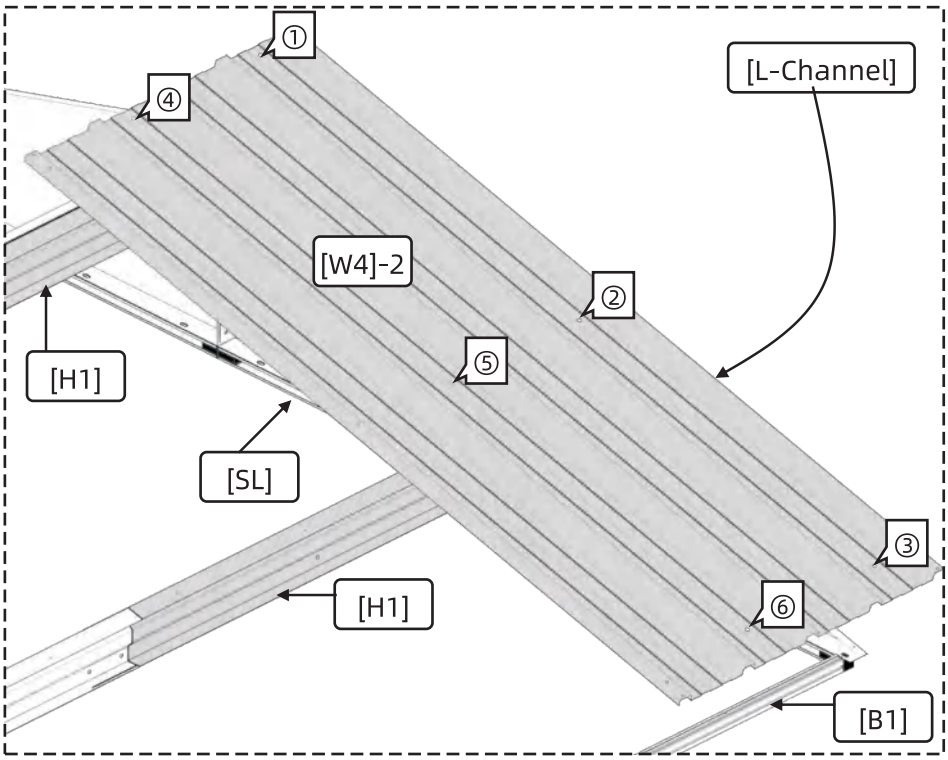
Position [W3]-1 so that the [L-channel] dangles outside the shed. This [L-channel] servers as a support for the eaves.

	
[W4] x 1	[S3]+[S4] x 6

For better visibility, wall panels and bases are hidden in the roof panel steps.

-1, -2, -3, -4 indicates the assembling order of roof panels.





Notice

Step 3.12 is almost identical to Step 3.11.

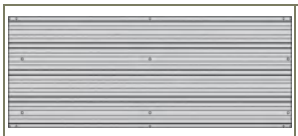
Notice that six [S3]+[S4] sets are used in this step. The ten smaller screw holes on the rib of [W4]-2 are not used in this step.

Through the right three screw holes①②③, [W3]-1 is nailed to [SL] and two [H1] which are beneath [SL].

Through the right three screw holes ④⑤⑥, [W4]-2 is nailed to two [H1] and [B1].

The screw that goes through ③ does not nail [W4]-2 to [B1], but ⑥ does.

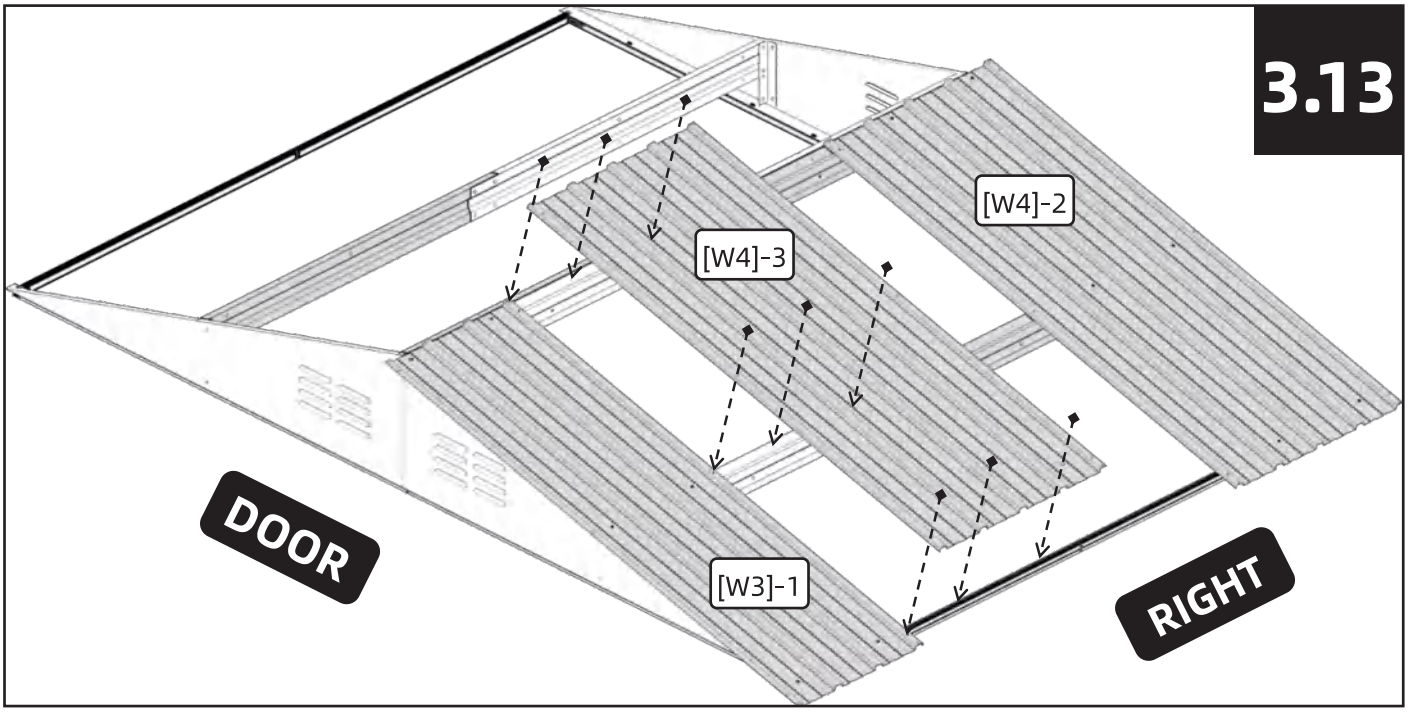
Position [W4]-2 so that the [L-channel] dangles outside the shed. This [L-channel] servers as a support for the eaves.

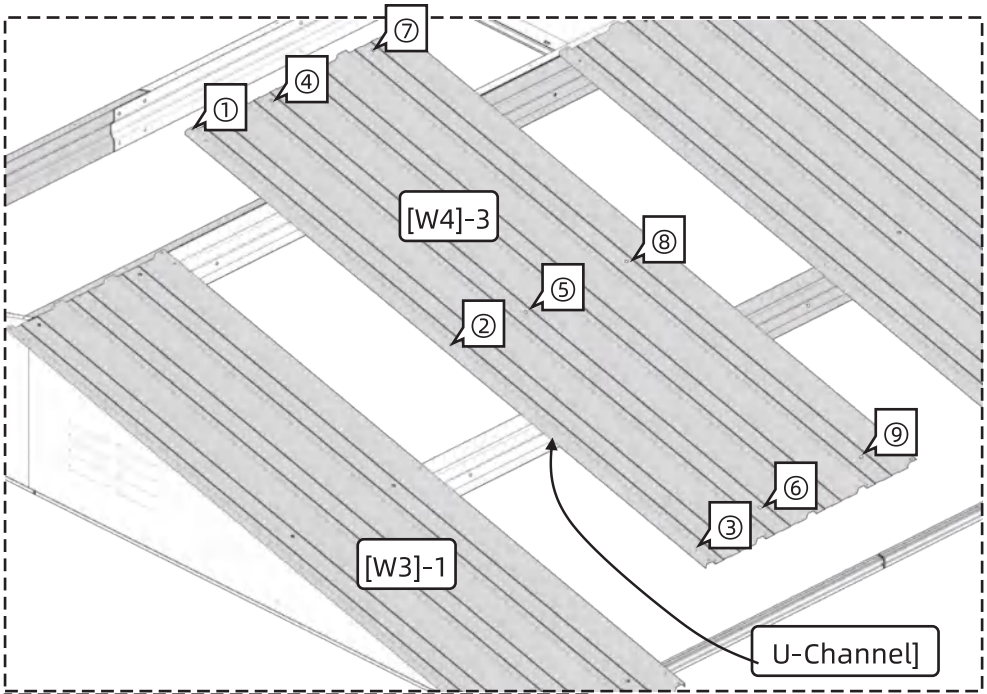
	
[W4] x 1	[S3]+[S4] x 9

For better visibility, wall panels and bases are hidden in the roof panel steps.

-1, -2, -3, -4 indicates the assembling order of roof panels.

3.13



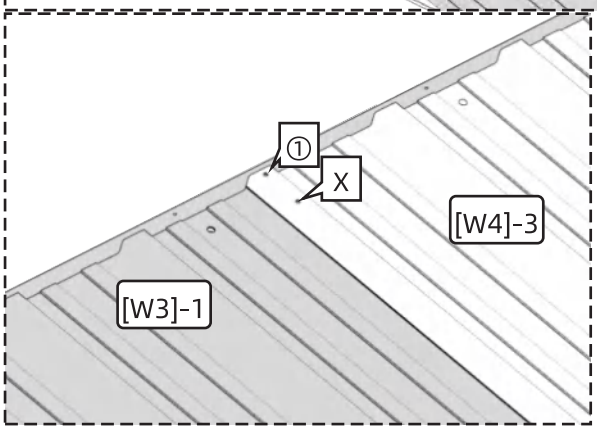


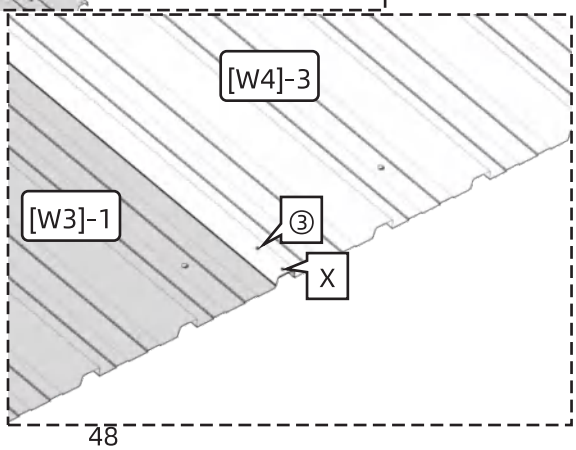
Notice

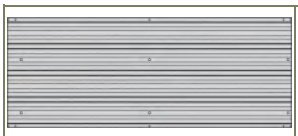
Screw holes ①②③ are on the ridge of [W4]-3. To be specific, they are on the [U-channel] ridge. Through ①②③, [W4]-3 is attached to [W3]-1.

Position [W4]-3 so that the [U-channel] of [W4]-3 is placed **above** the [U-channel] of [W3]-1. **This is very important.**

Notice that there are actually five screw holes on the [U-channel] of [W4]-3, two of which are not used in this step. The two unused screw holes are marked as x on the two illustrations below.

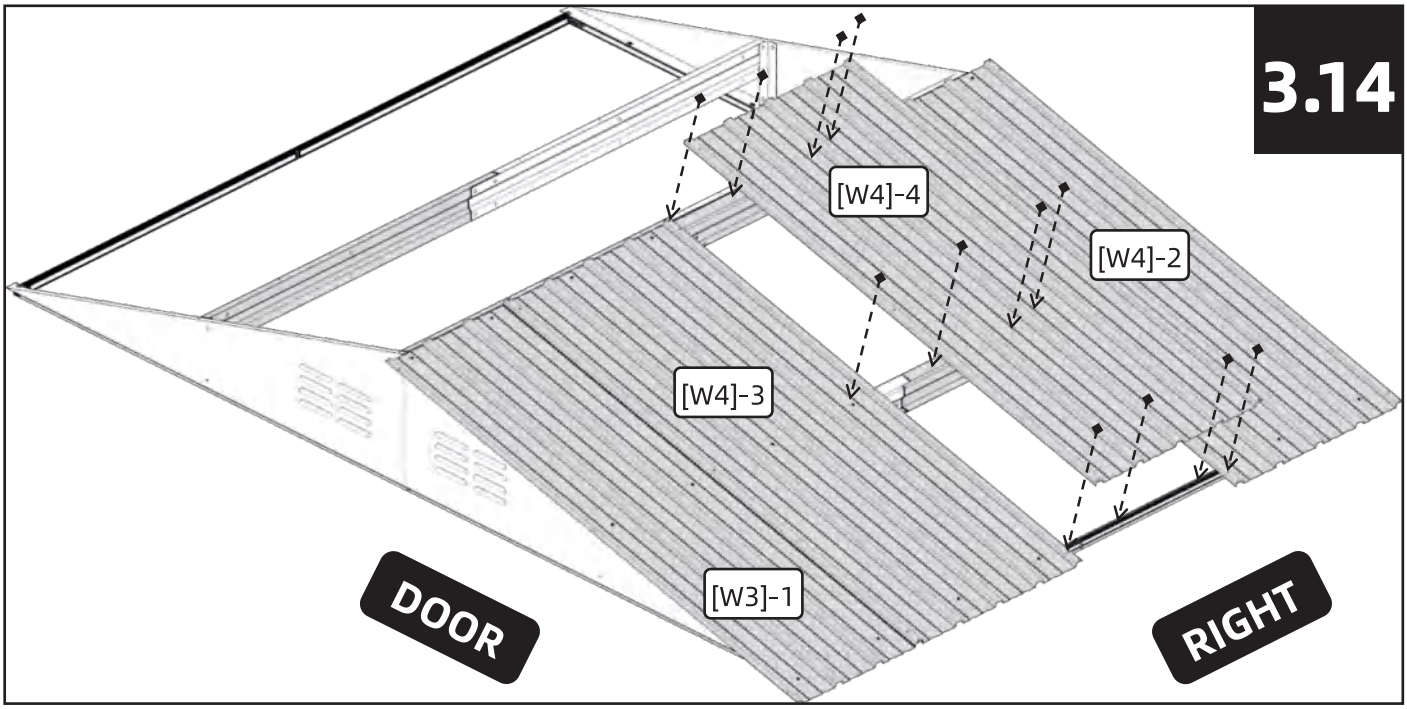


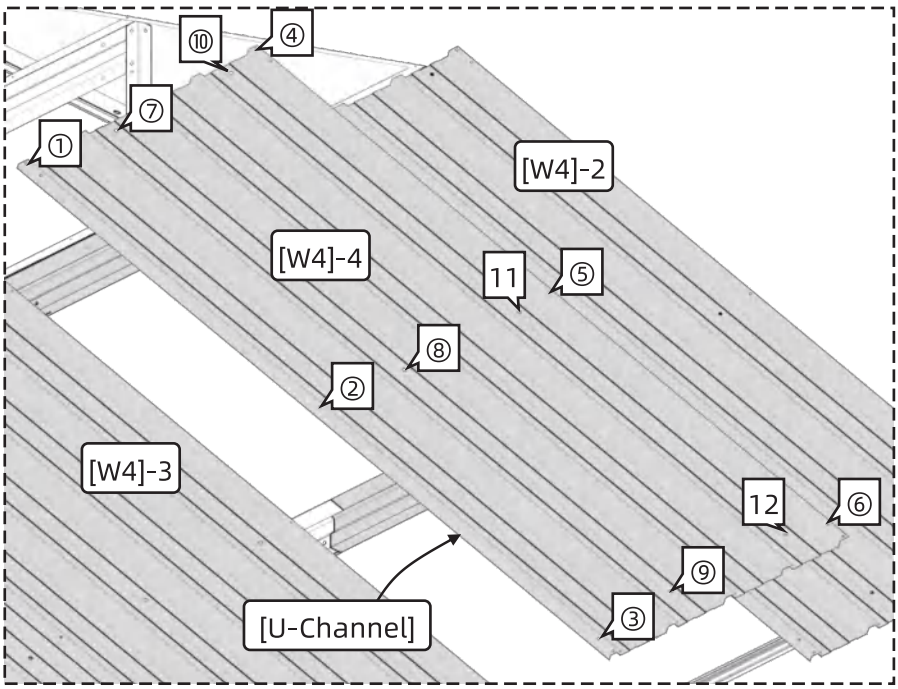


	
[W4] x 1	[S3]+[S4] x 12

For better visibility, wall panels and bases are hidden in the roof panel steps.

-1, -2, -3, -4 indicates the assembling order of roof panels.



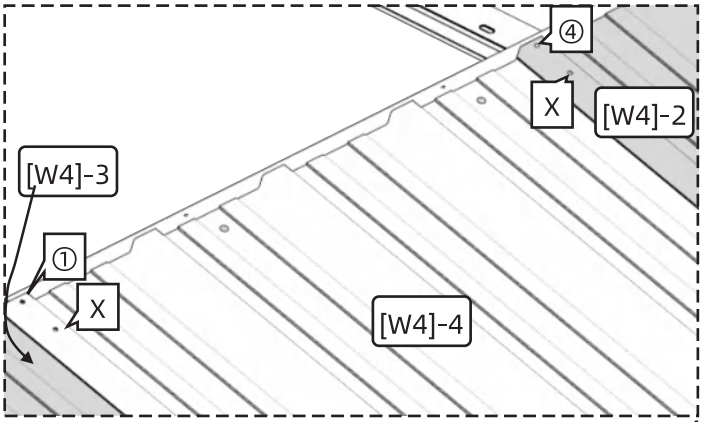


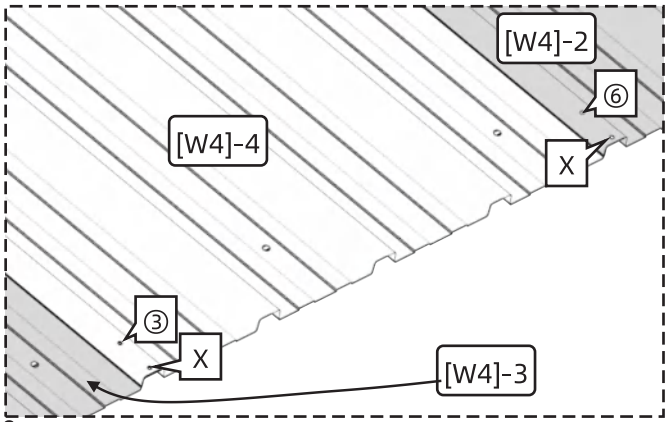
Notice

Screw holes ①②③ are on the [U-channel] ridge of [W4]-4, while screw holes ④⑤⑥ are on the [L-channel] ridge of [W4]-4. Through ①②③ and ④⑤⑥, [W4]-4 is attached to [W4]-3 and [W4]-2.

Position [W4]-4 so that the [U-channel] of [W4]-3 is placed **above** the [L-channel] of [W4]-3, and the [L-channel] of [W4]-4 is placed below the [U-channel] of [W4]-2. **This is very important.**

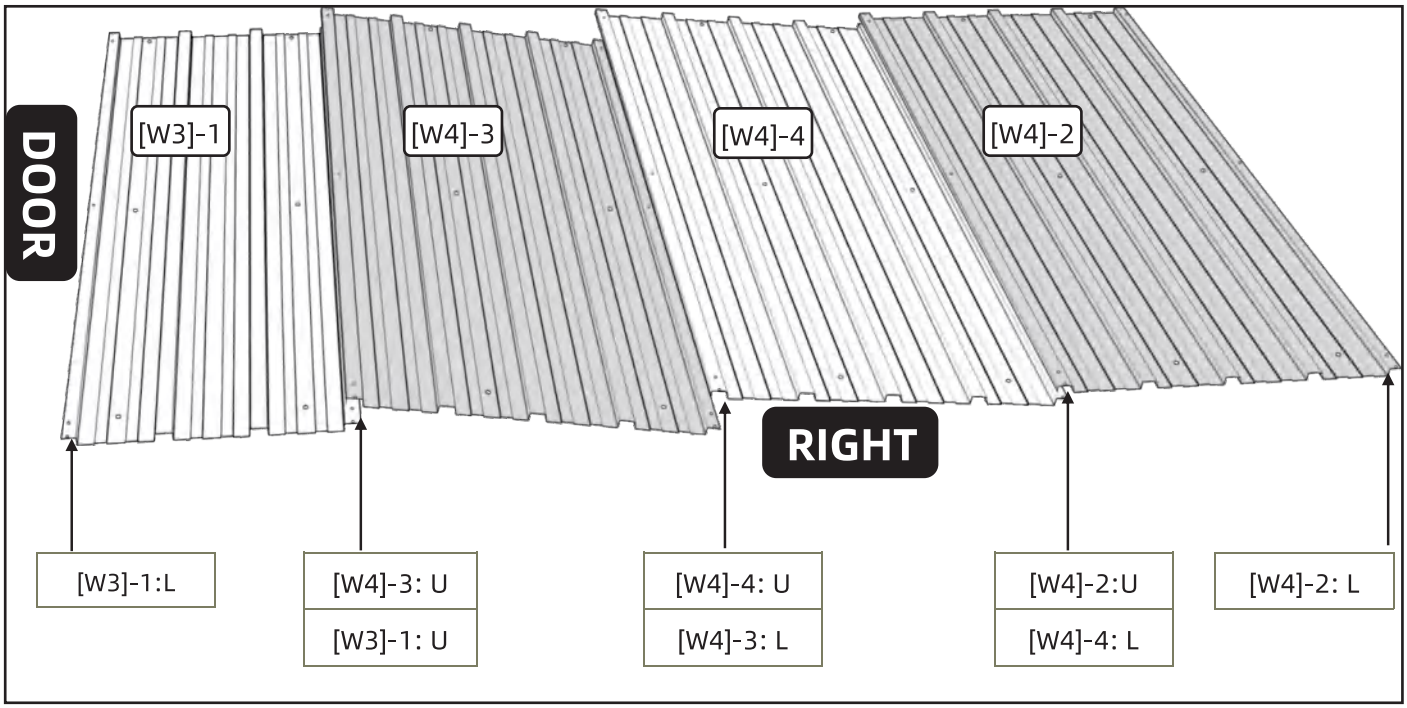
Notice that there are actually five screw holes on the [U-channel] or [L-channel] of [W4]-4, two of which are not used in this step. The two unused screw holes are marked as x on the two illustrations below.





For better visibility, wall panels and bases are hidden in the roof panel steps.

-1, -2, -3, -4 indicates the assembling order of roof panels.

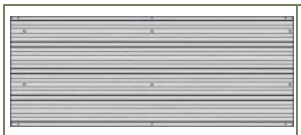
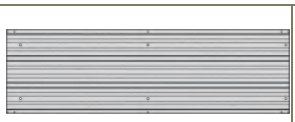


Notice

Use this illustration as a reference and check your layout. The :L means this is the [L-channel] of a roof panel.

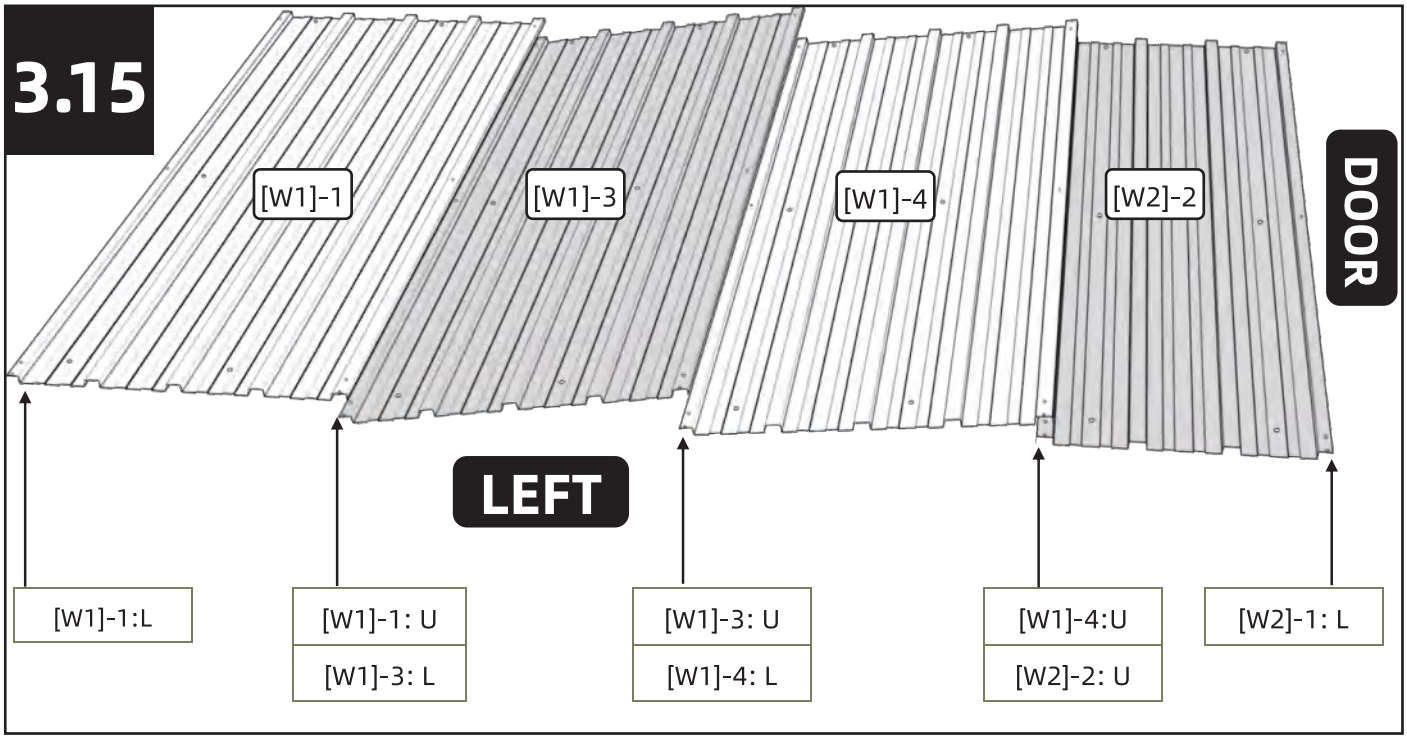
[W4]-3: U
[W3]-1: U

This table means that you could see the [U-channel] of [W4]-3 and the [U-channel] of [W3]-1. And [W4]-3 is placed above [W3]-1.

		
[W1] x 3	[W2] x 1	[S3]+[S4] x 33

For better visibility, wall panels and bases are hidden in the roof panel steps.

-1, -2, -3, -4 indicates the assembling order of roof panels.

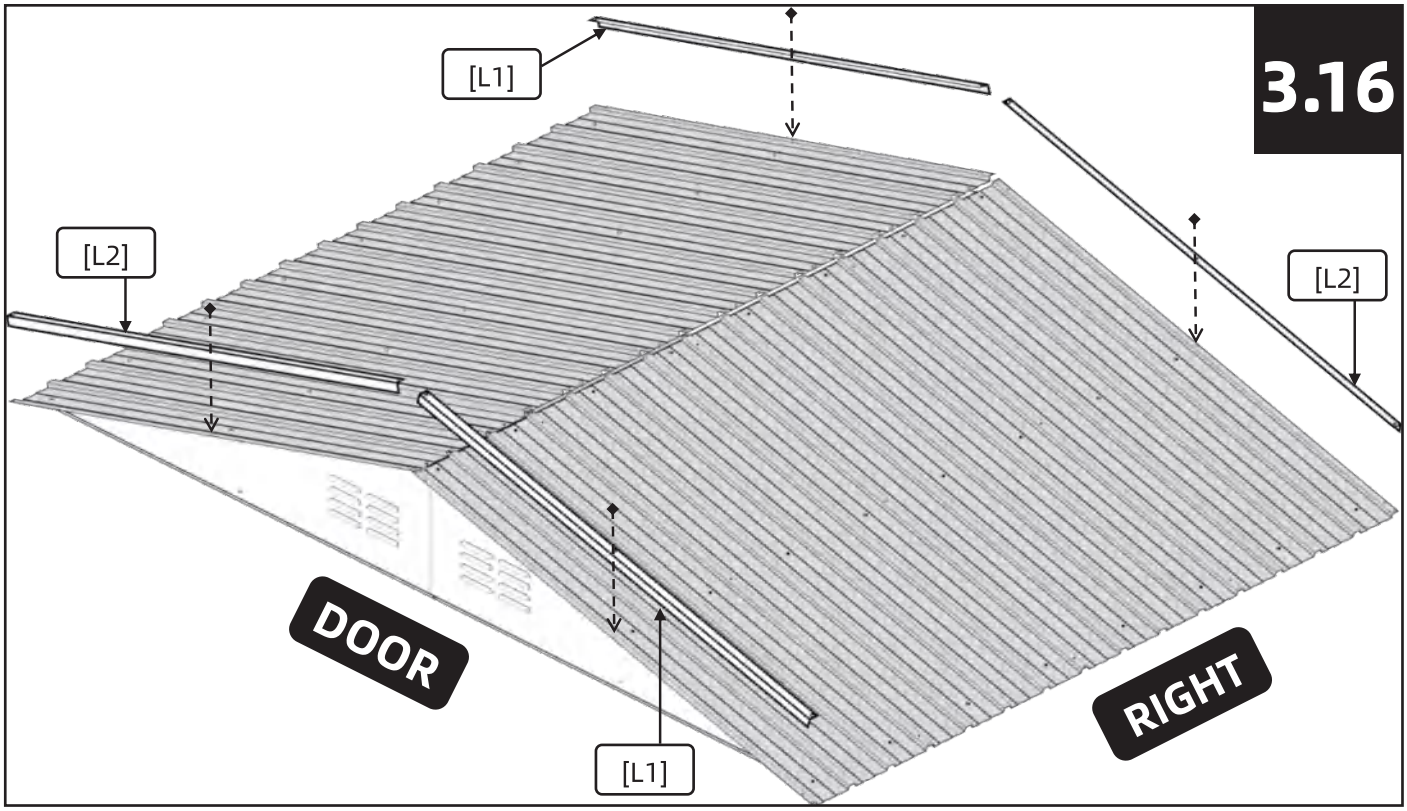


Notice

Repeat step 3.11 to 3.14 to finish this step.

[S3]+[S4] x 4

[L1] x 2	
[L2] x 2	

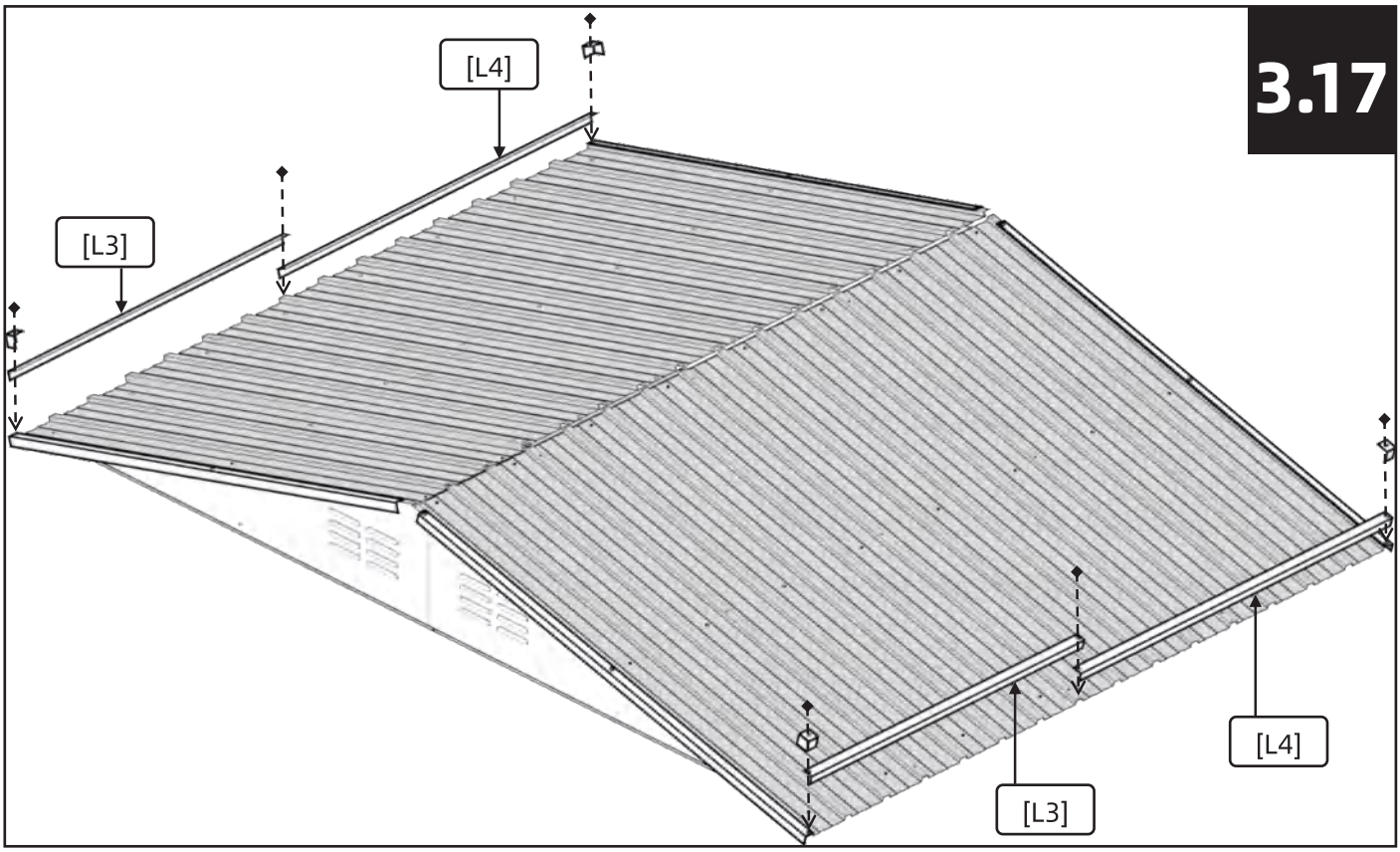


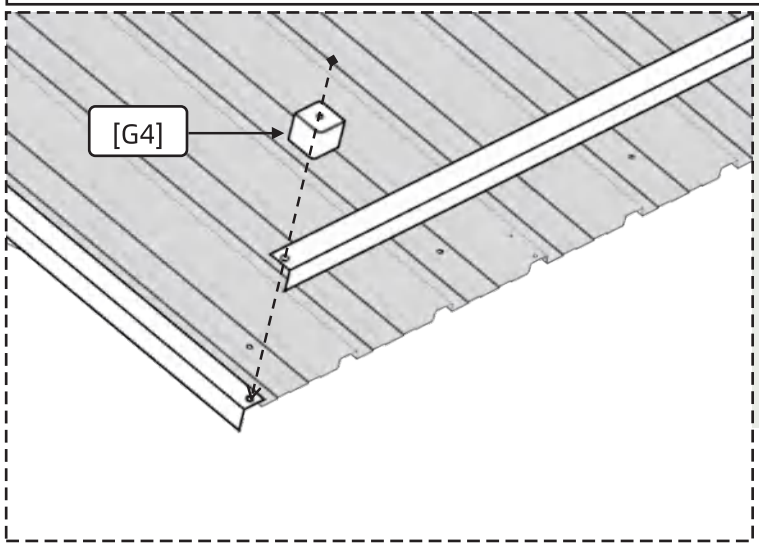
Notice

In this step, you are attaching [L1] and [L2] to the [L-channel]. If for whatever reason you are attaching them to a [U-channel], it means you made a mistake while assembling the roofing panels.

	
[S3]+[S4] x 6	[G4] x 4

[L3] x 2	
[L4] x 2	



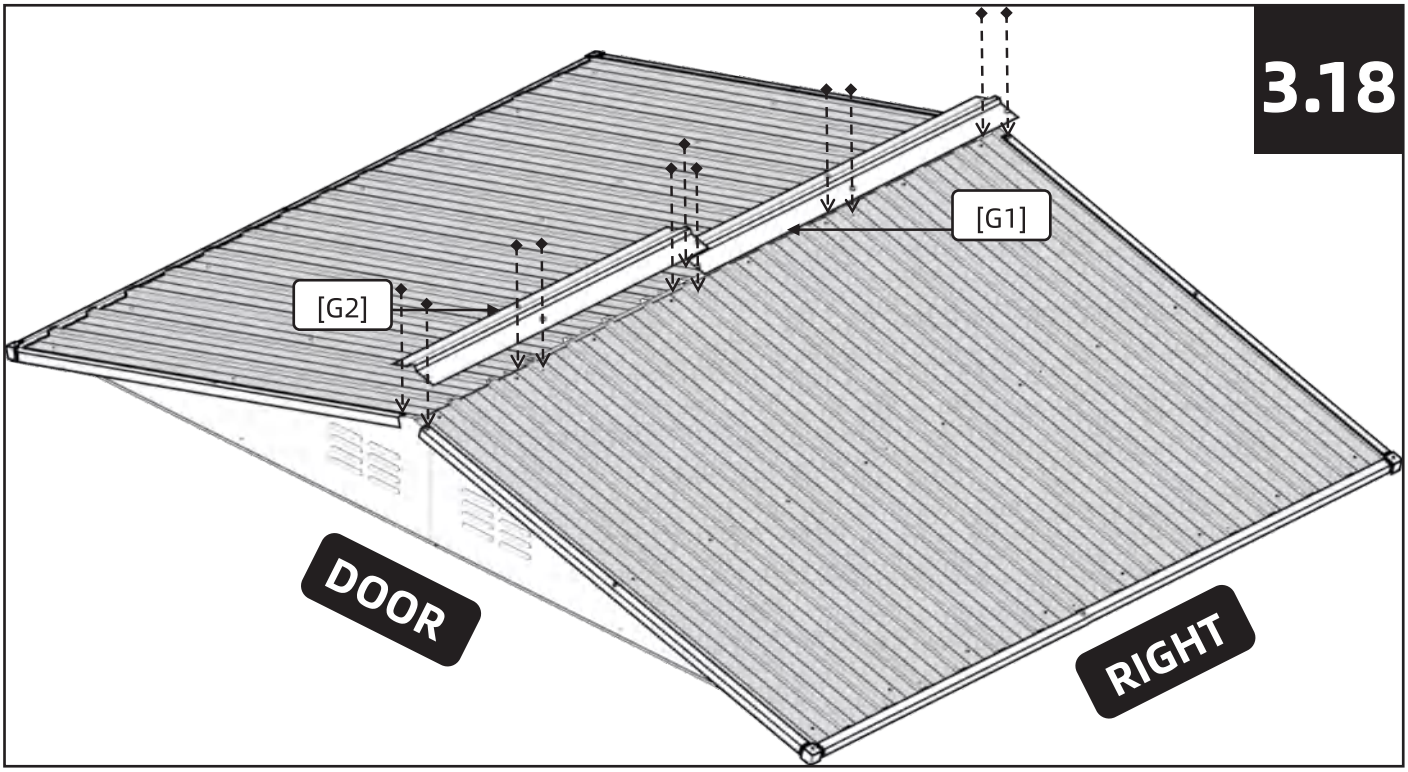


Notice

It doesn't really matter whether [L3] is above or under [L4]. In this manual we are letting [L3] covers [L4].

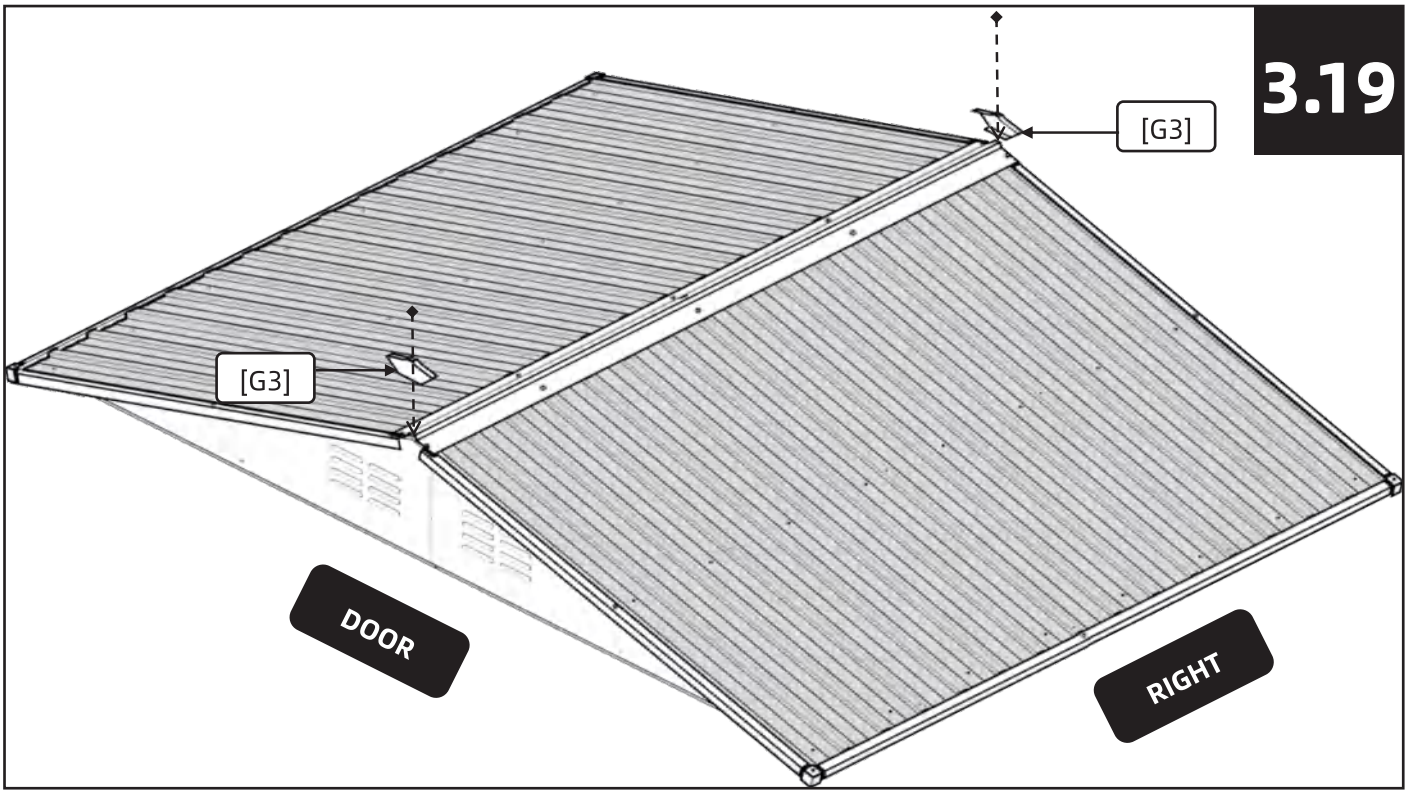
Notice that for [G4], a [S4]+[S4] set has to go through [S4], two eaves and then through a roofing panel.

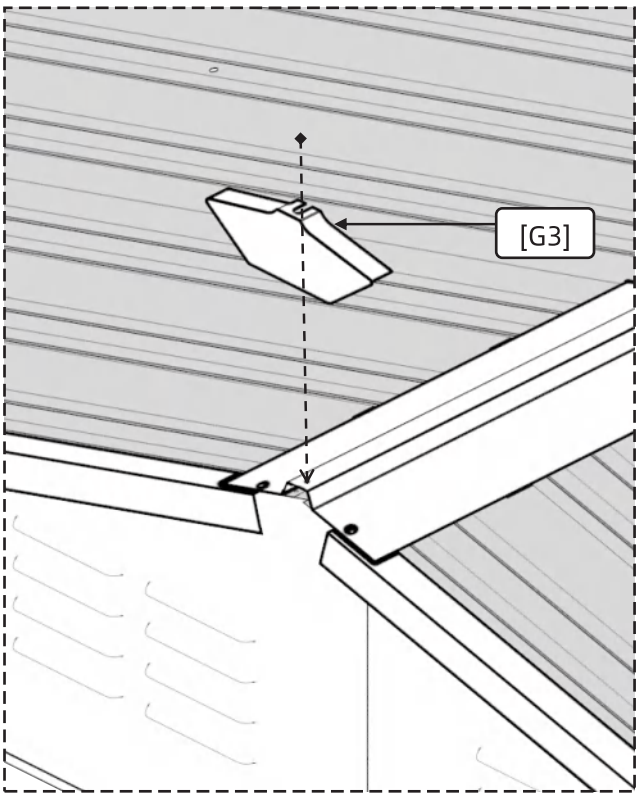
		
[S3]+[S4] x 11	[G1] x 1	[G2] x 1



	
[G3] x 2	[S3]+[S4] x 2

3.19

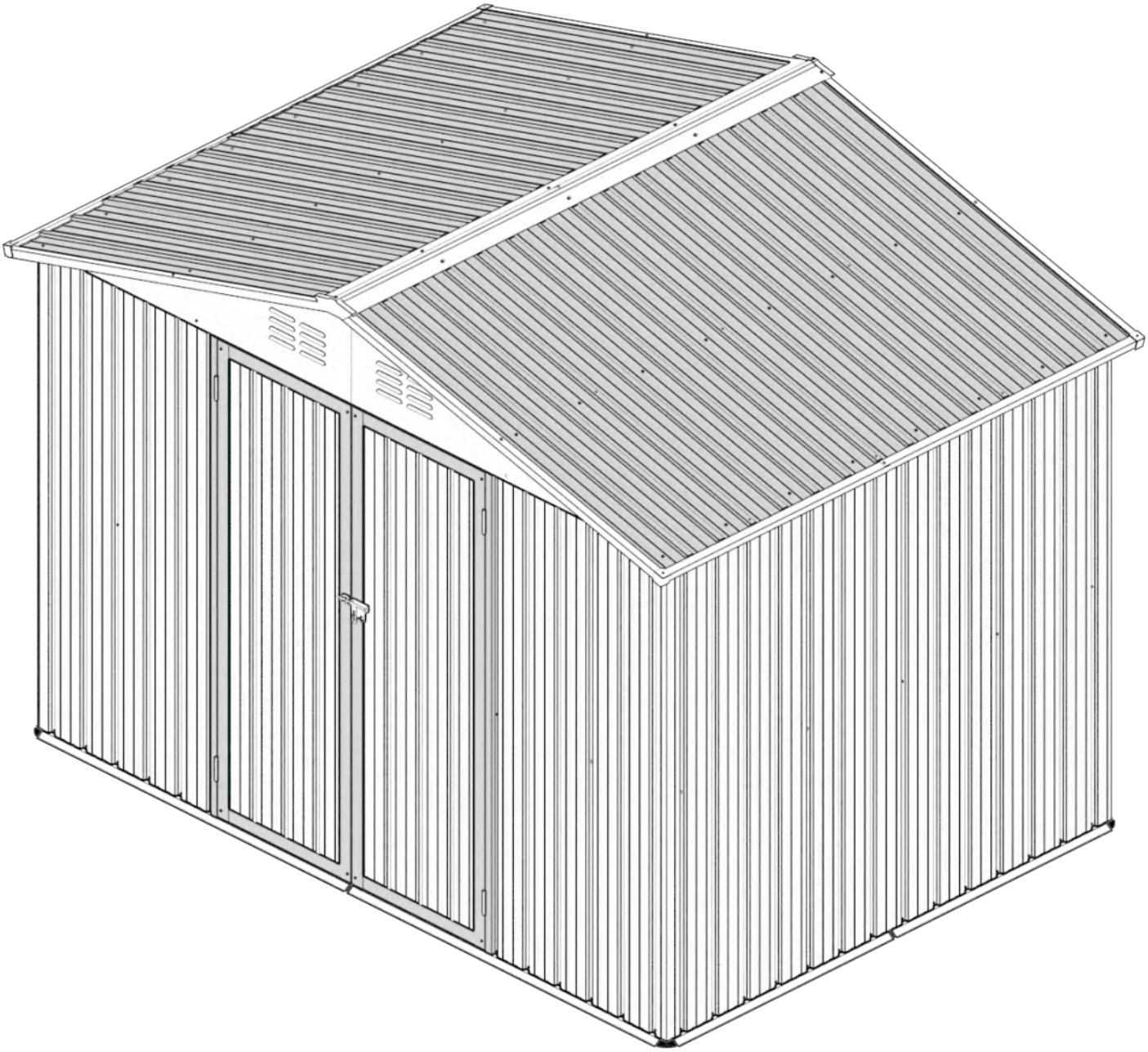




3.20

After all of the roof panels are nailed, go inside the shed and take a loot at the roof panels. You will find dozens of [S3] with their pointed tips. They are dangerous and it is necessary to seal the tips with [S5].

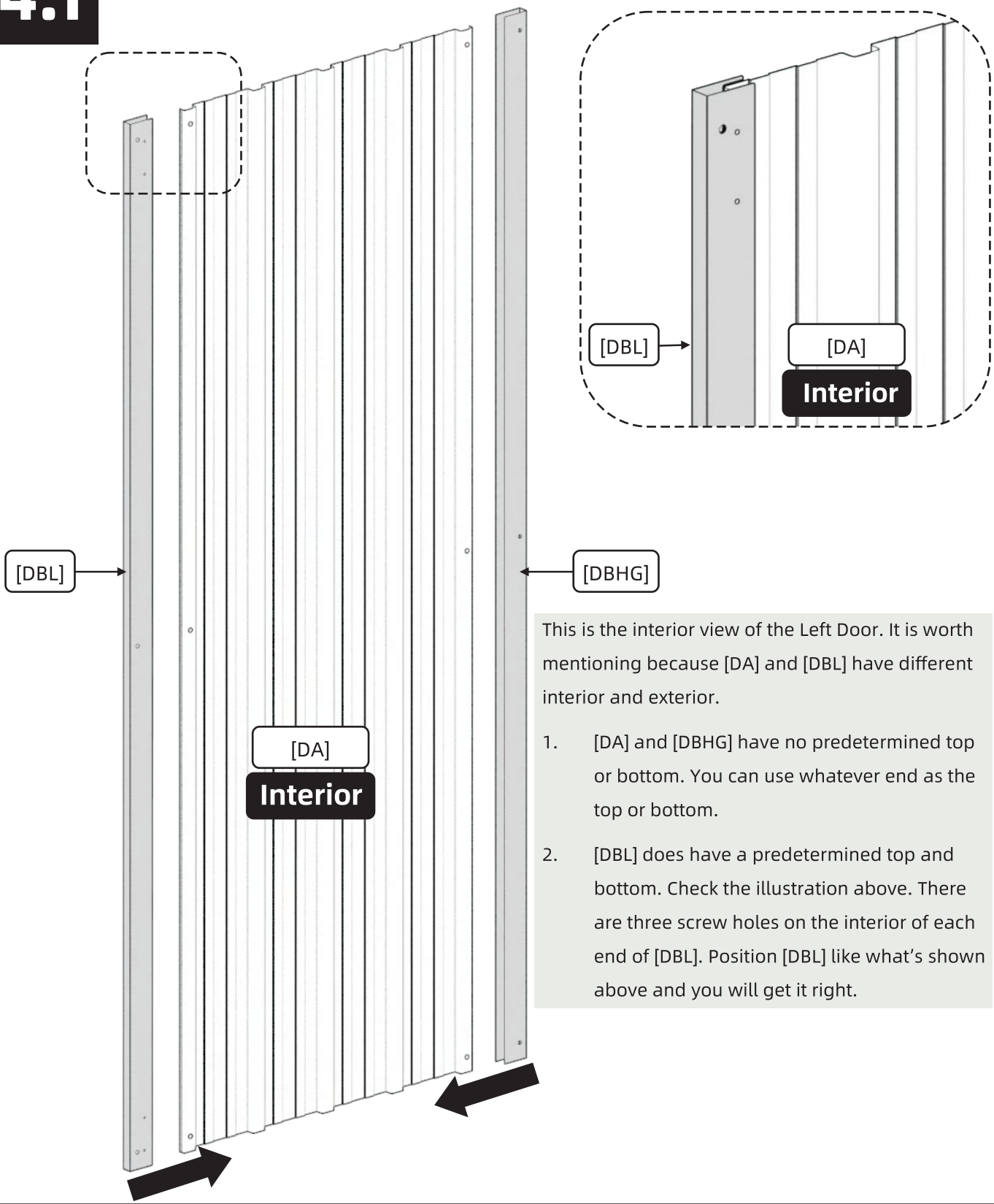
4 Doors



[DBHG] X 1	
[DBL] X 1	

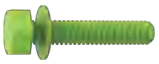
[DA] x 1

4.1

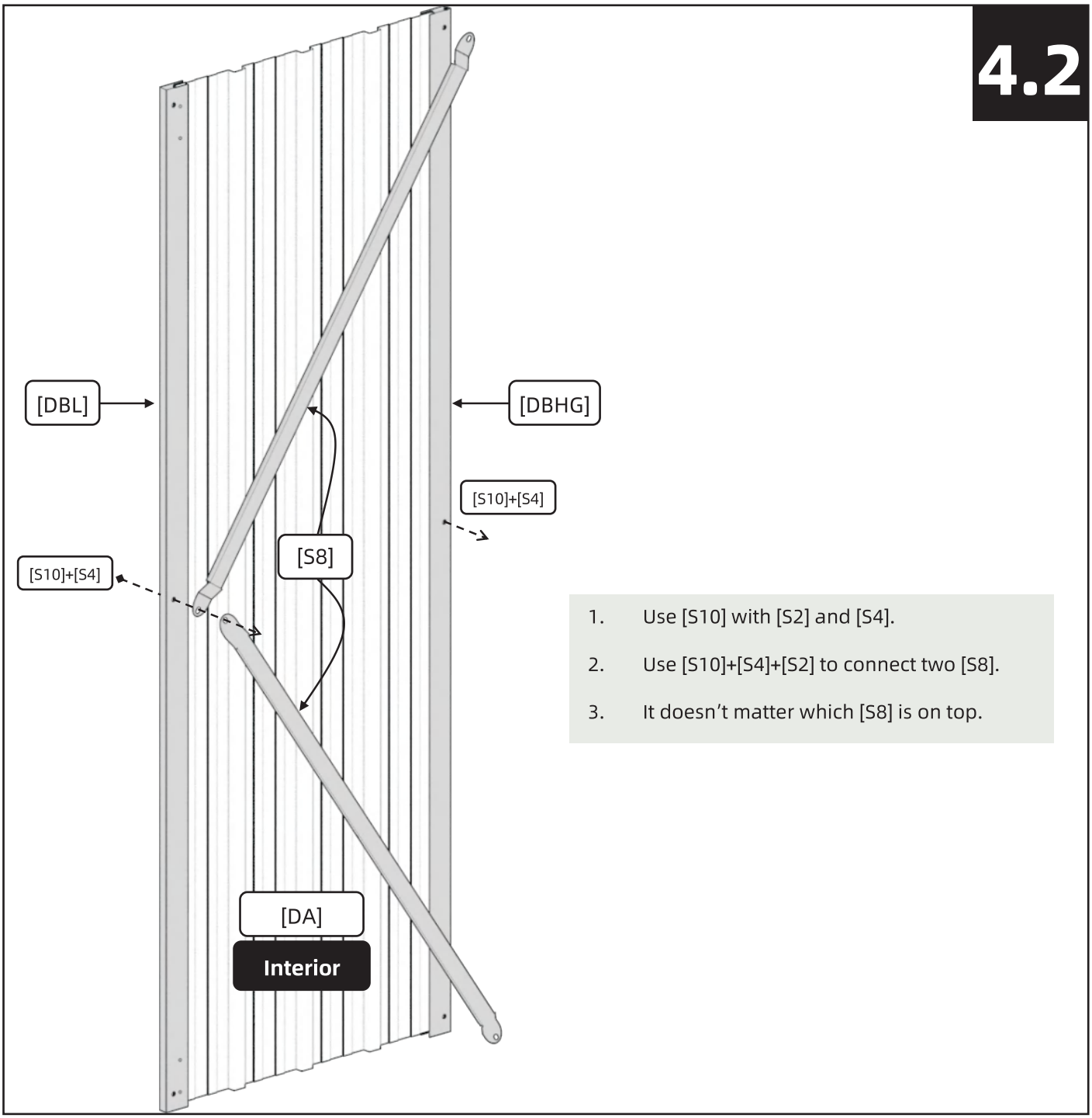


This is the interior view of the Left Door. It is worth mentioning because [DA] and [DBL] have different interior and exterior.

1. [DA] and [DBHG] have no predetermined top or bottom. You can use whatever end as the top or bottom.
2. [DBL] does have a predetermined top and bottom. Check the illustration above. There are three screw holes on the interior of each end of [DBL]. Position [DBL] like what's shown above and you will get it right.

	
[S10]+[S4] x 2	[S2] x 2
M4 x 25	

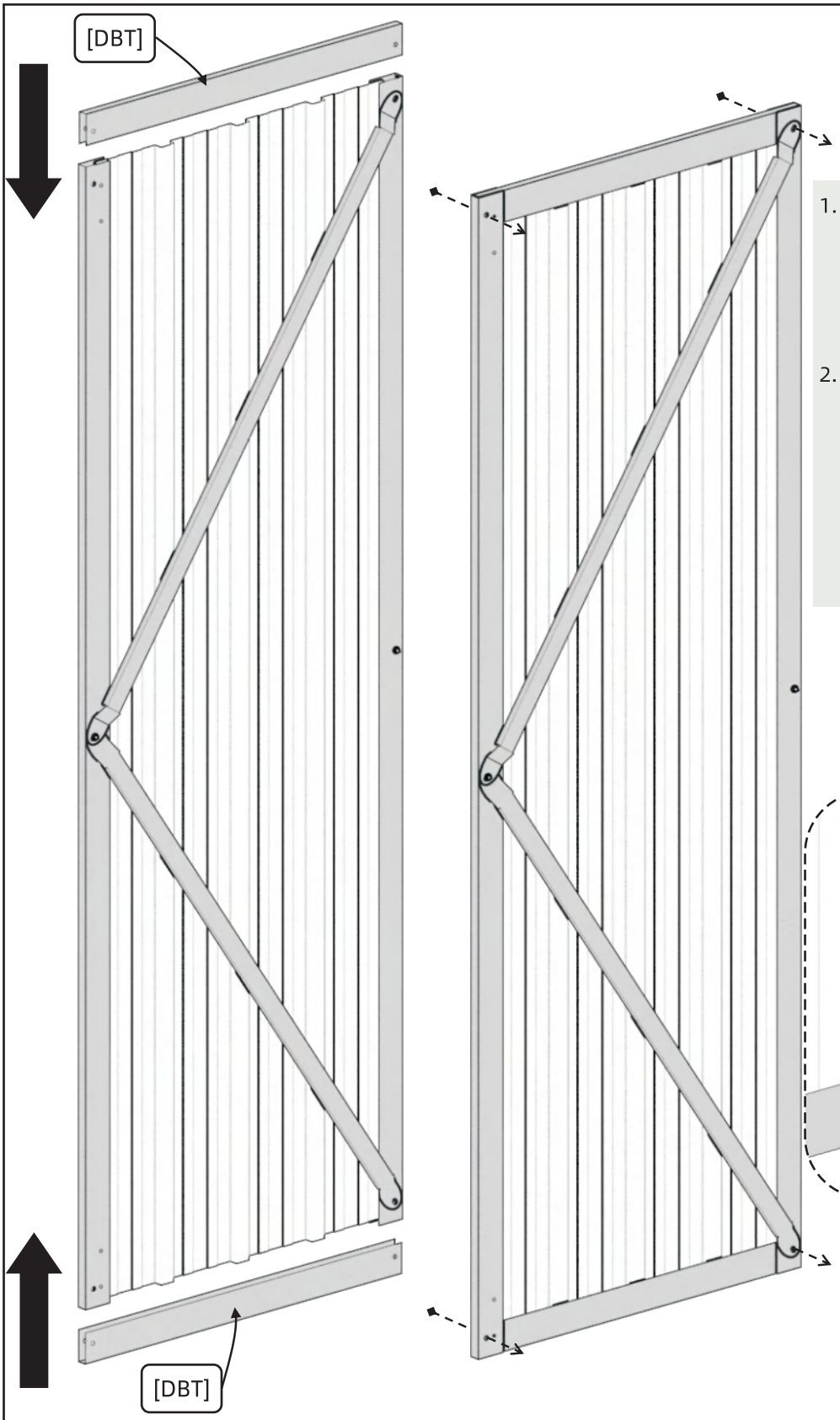
[S8] X 2	



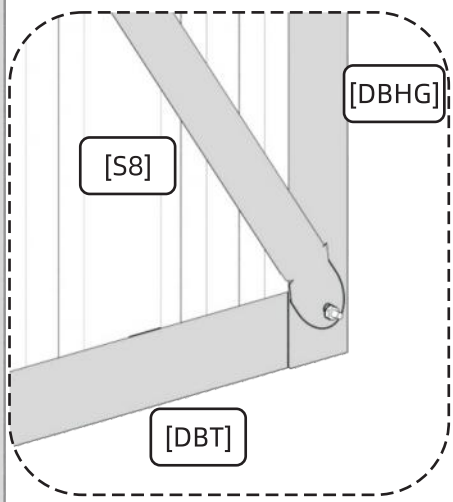
1. Use [S10] with [S2] and [S4].
2. Use [S10]+[S4]+[S2] to connect two [S8].
3. It doesn't matter which [S8] is on top.

		[DBT] X 2	
[S10]+[S4] x 4	[S2] x 4		
M4 x 25			

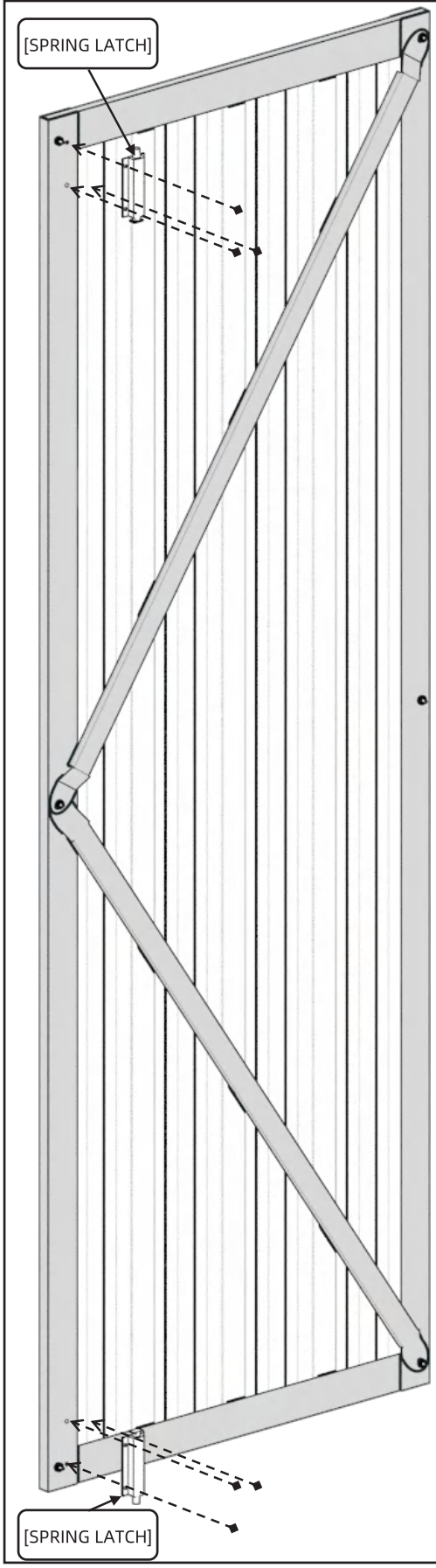
4.3



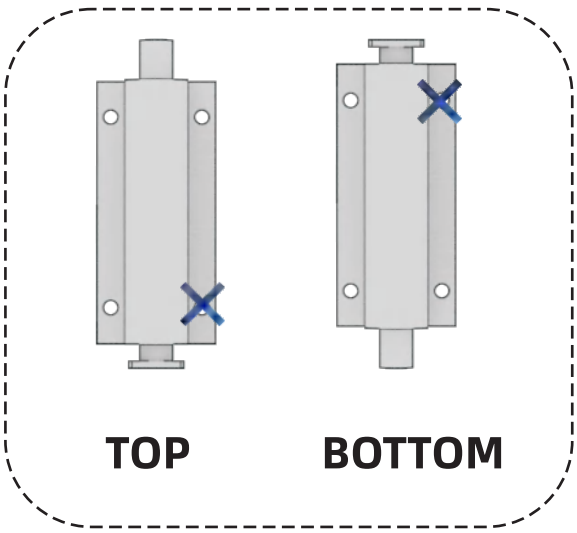
1. [DBT] has no predetermined top or bottom. You can use whatever end as the top or bottom.
2. Notice the stacking order of [DBT], [DBHG]/[DBL], and [S8]. [DBHG]/[DBL] is above [DBT] and under [S8], i.e., [DBT] is covered by [DBHG]/[DBL]. See the illustration below.



	
[SPRING LATCH] x 2	[S3] x 6



4.4



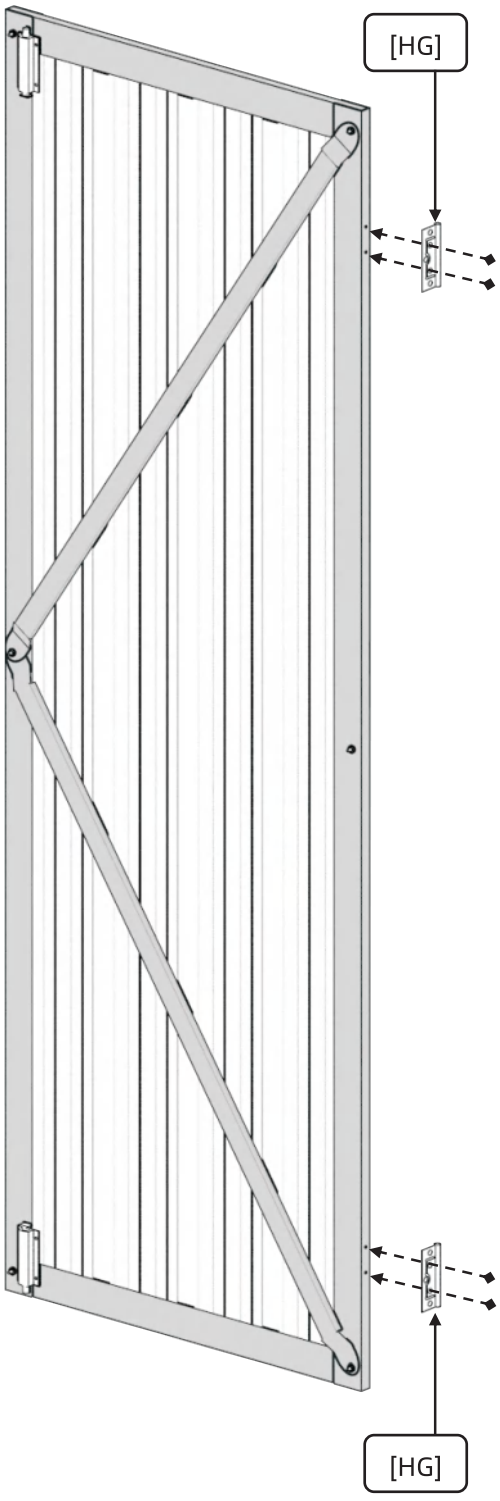
Some key points:

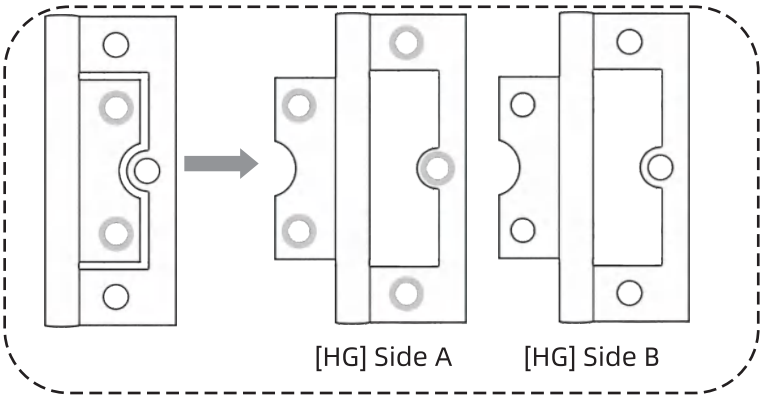
1. Notice that the orientation of the two [Spring Latch] is different.
2. [S4] is not used.
3. Each [Spring Latch] has four screw holes but only three are used. The unused one is marked as X.
4. Use some force while nailing [Spring Latch], because there are no corresponding screw holes on [DBT].

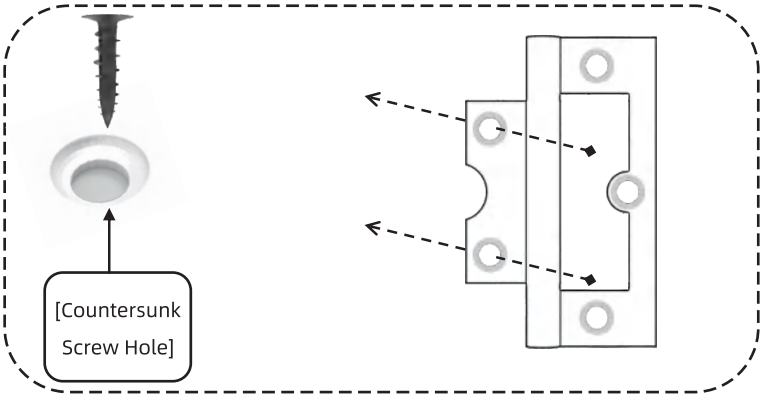
	
[HG] x 2	[S3] x 4

4.5

1. Bend the [HG] hinge before nailing it to the door. No tool is required.
2. Take a closer look at [HG], which has two sides. The difference is that there are five countersunk screw holes on Side A. While nailing [HG] to the door, make sure that [S3] goes into the countersunk screw holes. No [S4] is required.

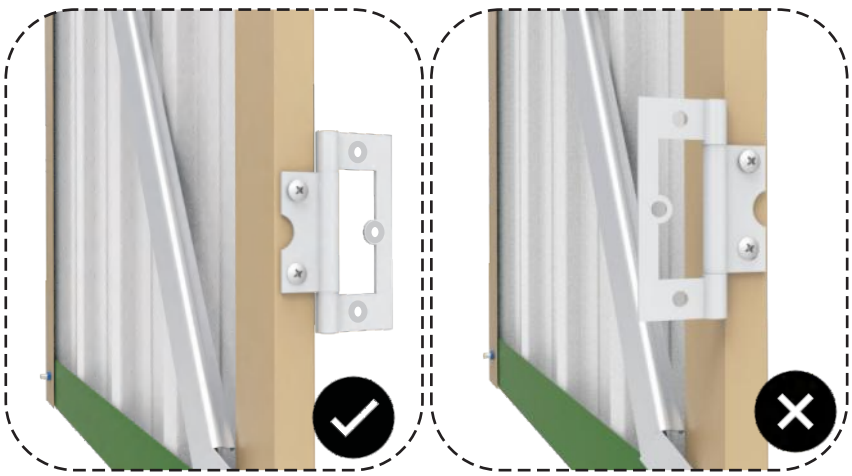


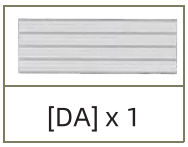




COMMON MISTAKE: [HG]

Aside from the countersunk screw holes, there is another catch about [HG]. After this step is done, the wing of [HG] should stick out to the exterior of the door. Another indicator is the crescent opening on [HG]. If done correctly, the opening points to the interior of the door, like the picture on the left below.

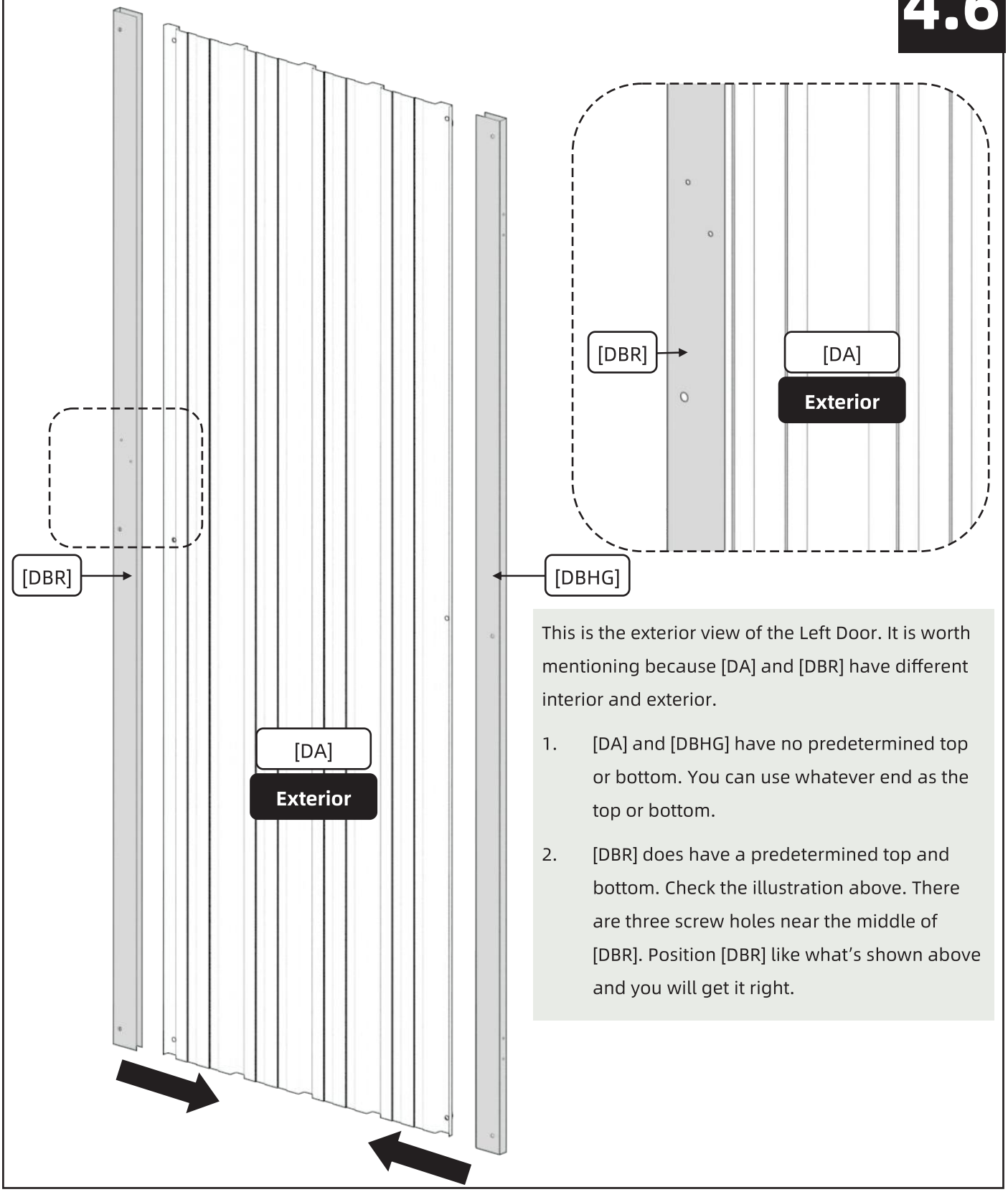




[DA] x 1

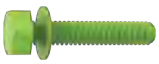
[DBHG] X 1	
[DBR] X 1	

4.6



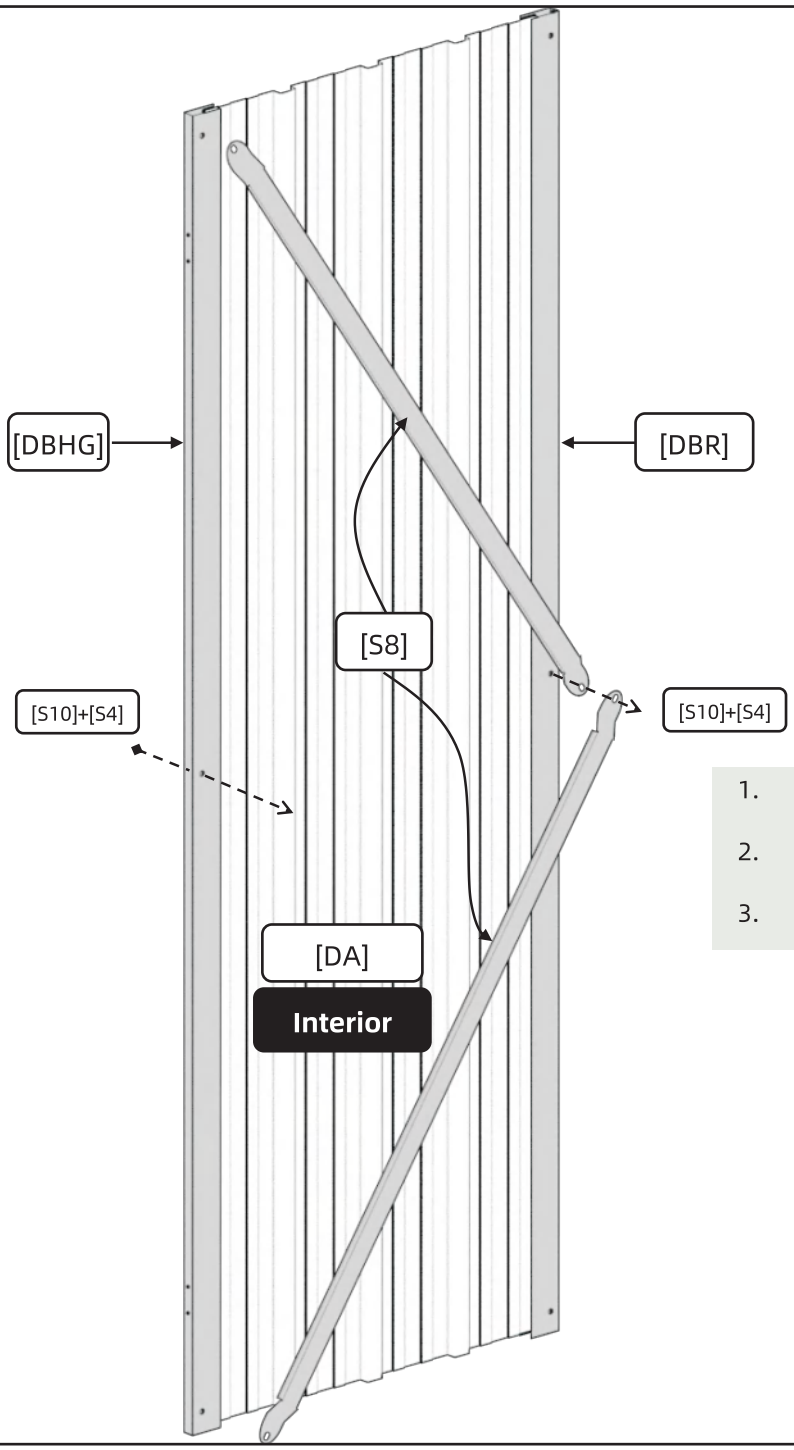
This is the exterior view of the Left Door. It is worth mentioning because [DA] and [DBR] have different interior and exterior.

1. [DA] and [DBHG] have no predetermined top or bottom. You can use whatever end as the top or bottom.
2. [DBR] does have a predetermined top and bottom. Check the illustration above. There are three screw holes near the middle of [DBR]. Position [DBR] like what's shown above and you will get it right.

	
[S10]+[S4] x 2	[S2] x 2
M4 x 25	

[S8] X 2	

4.7

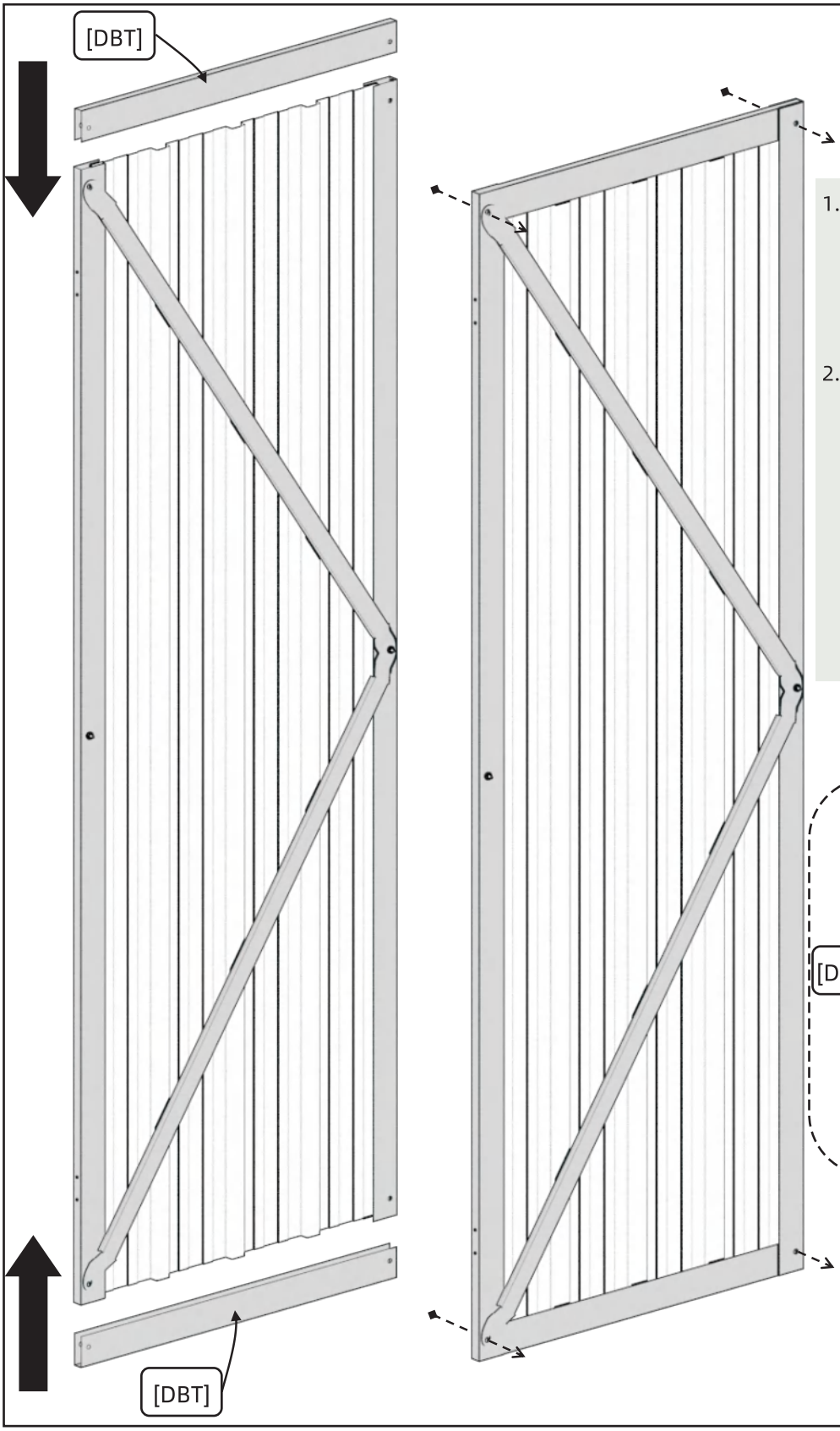


1. Use [S10] with [S2] and [S4].
2. Use [S10]+[S4]+[S2] to connect two [S8].
3. It doesn't matter which [S8] is on top.

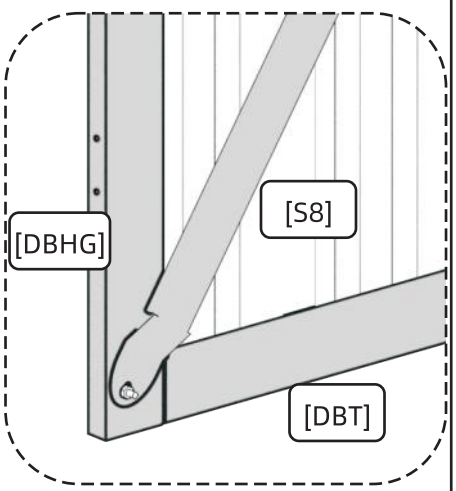
	
[S10]+[S4] x 4	[S2] x 4
M4 x 25	

[DBT] X 2	

4.8



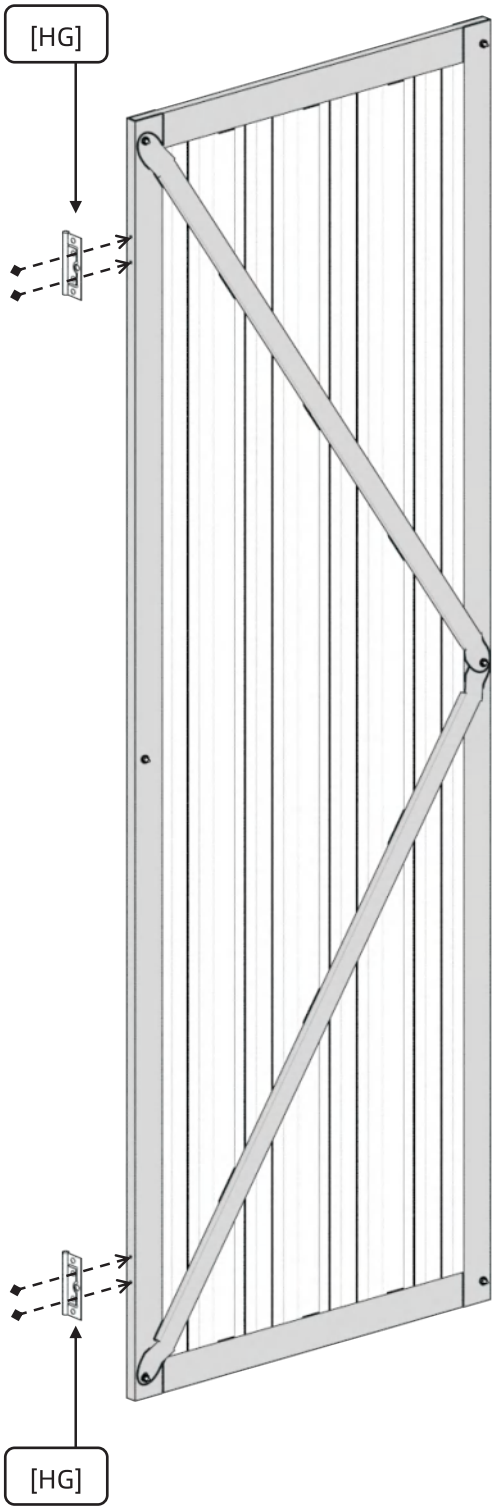
1. [DBT] has no predetermined top or bottom. You can use whatever end as the top or bottom.
2. Notice the stacking order of [DBT], [DBHG]/[DBR], and [S8]. [DBHG]/[DBR] is above [DBT] and under [S8], i.e., [DBT] is covered by [DBHG]/[DBR]. See the illustration below.

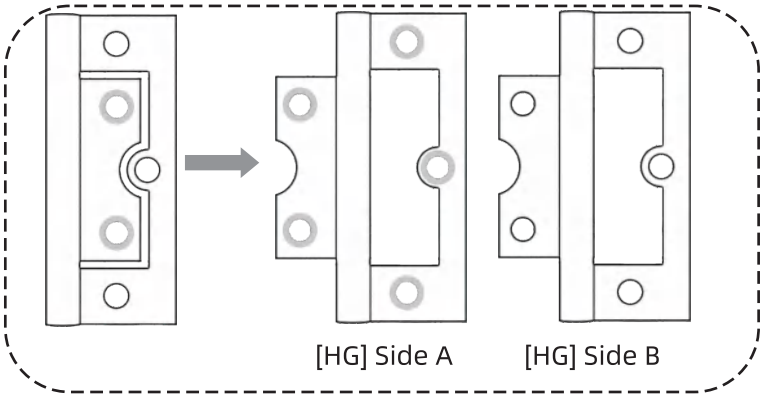


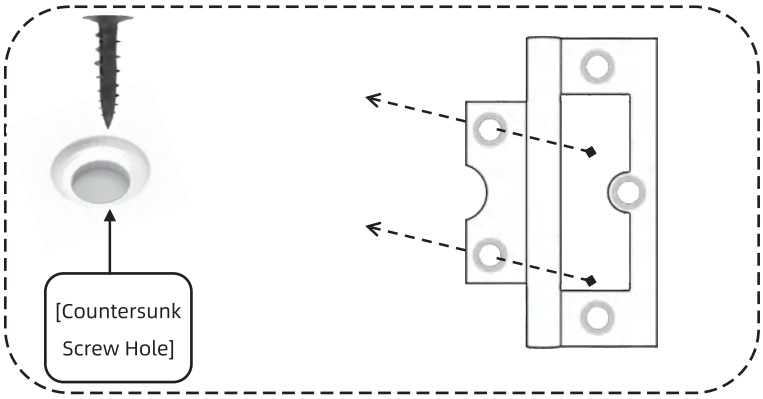
	
[HG] x 2	[S3] x 4

4.9

1. Bend the [HG] hinge before nailing it to the door. No tool is required.
2. Take a closer look at [HG], which has two sides. The difference is that there are five countersunk screw holes on Side A. While nailing [HG] to the door, make sure that [S3] goes into the countersunk screw holes. No [S4] is required.

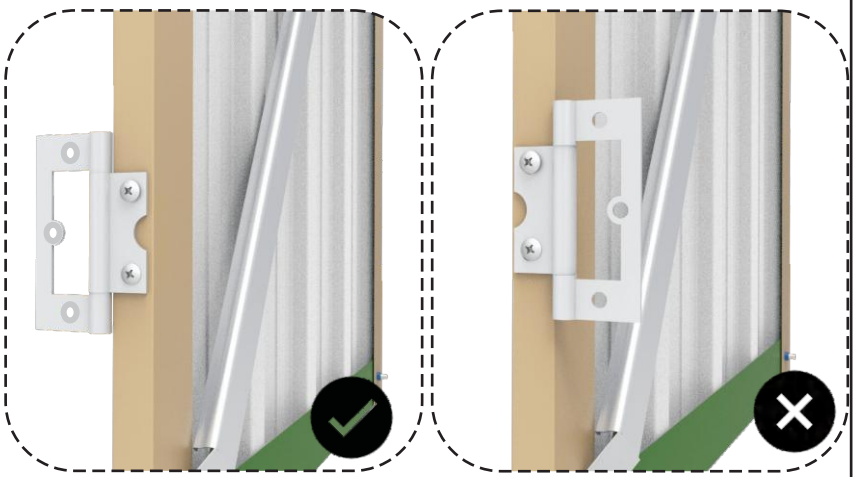


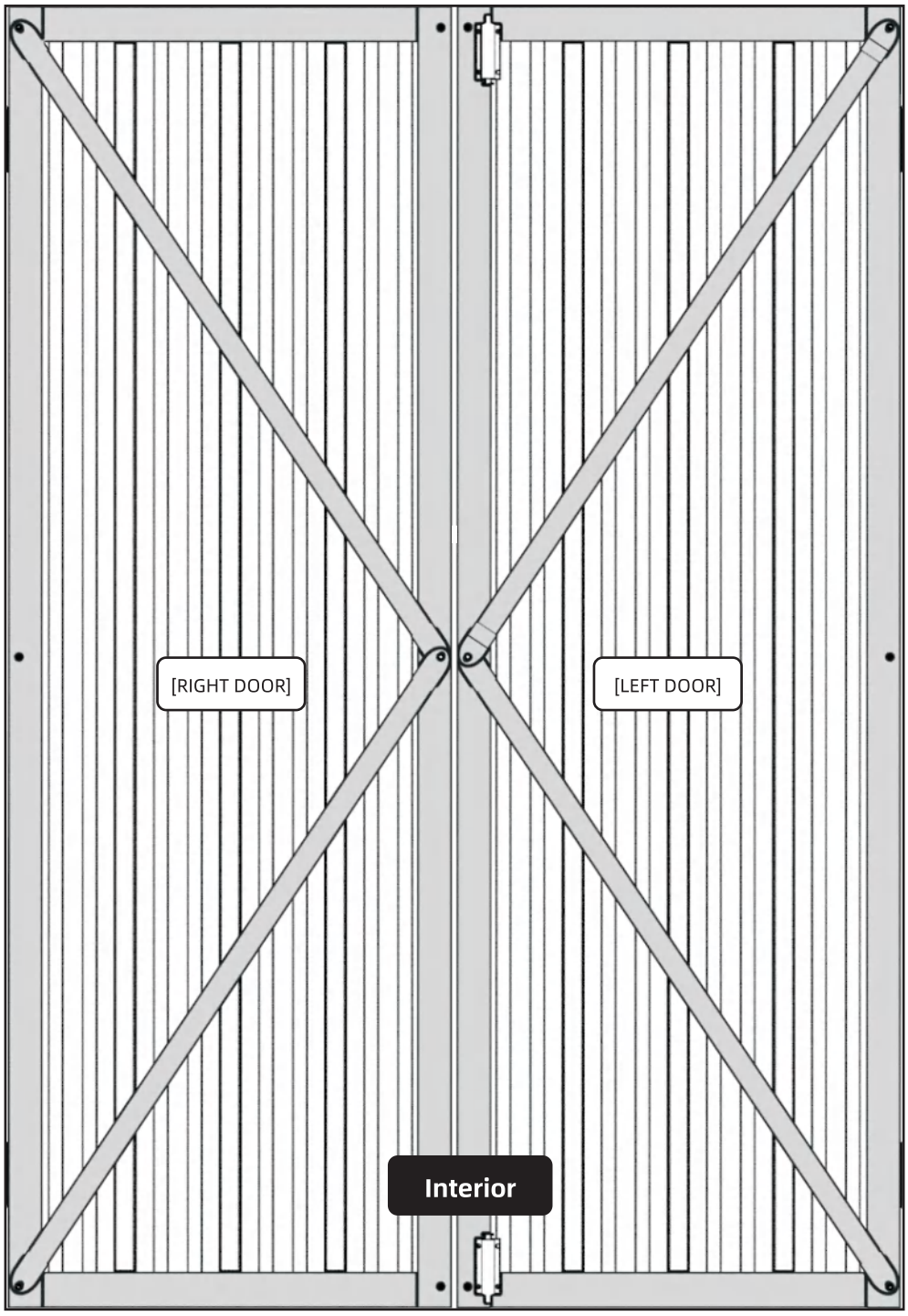




COMMON MISTAKE: [HG]

Aside from the countersunk screw holes, there is another catch about [HG]. After this step is done, the wing of [HG] should stick out to the exterior of the door. Another indicator is the crescent opening on [HG]. If done correctly, the opening points to the interior of the door, like the picture on the left below.

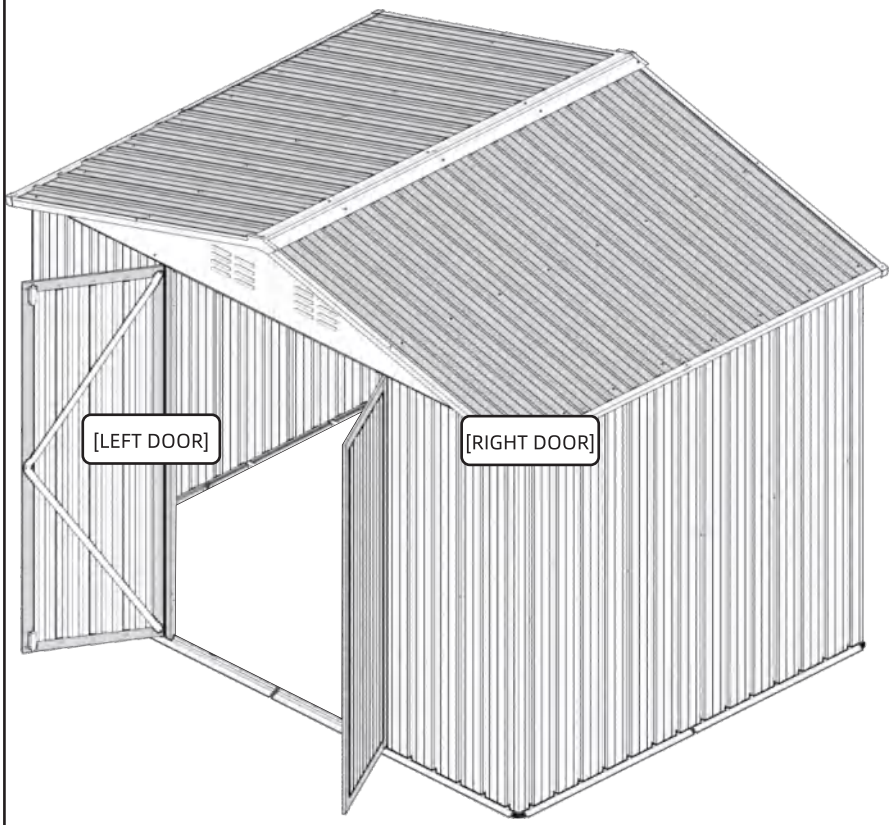




Above is the finished layout of the right door and the left door. It is obvious that the layout of [S8] is different and only the left door has [Spring Hinges] nailed to it.

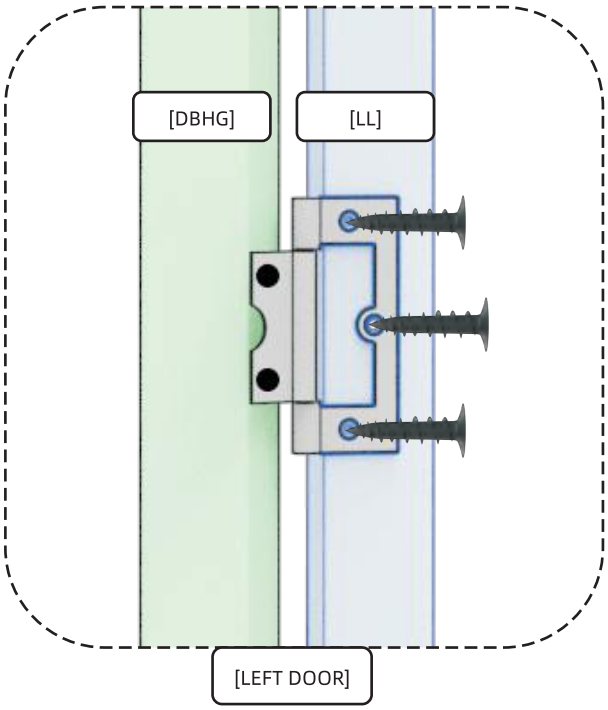
[S3] x 12

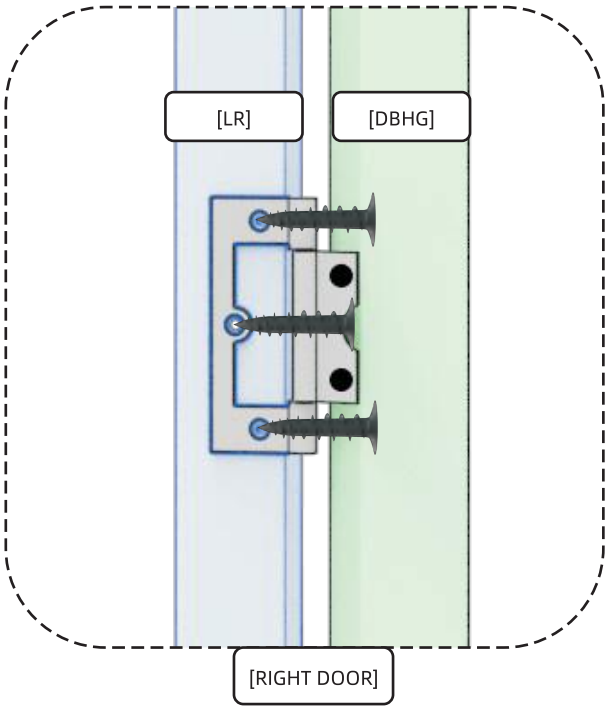
4.10



Bend the [HG] again so the wing part will touch the [LL]/[LR]. There are screw holes on [LL]/[LR] that match the countersunk screw holes on [HG].

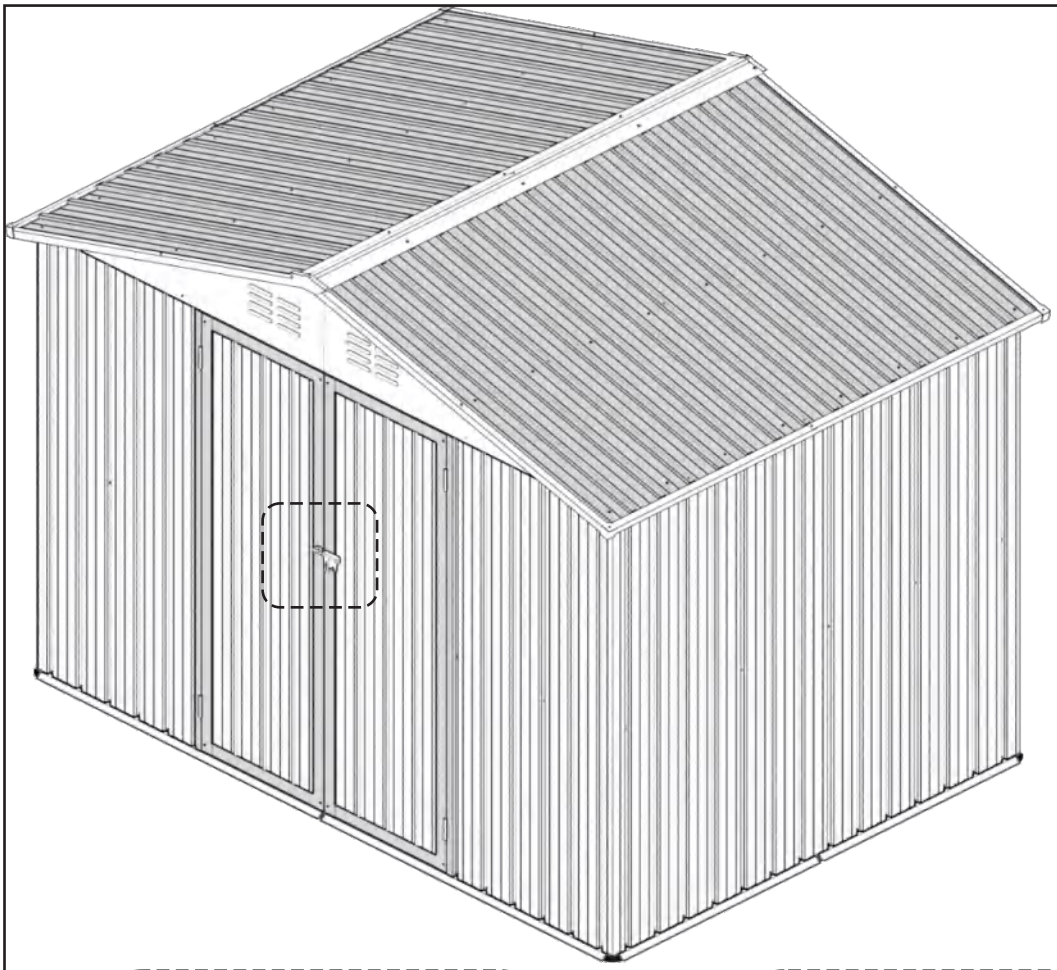
No [S4] is needed.

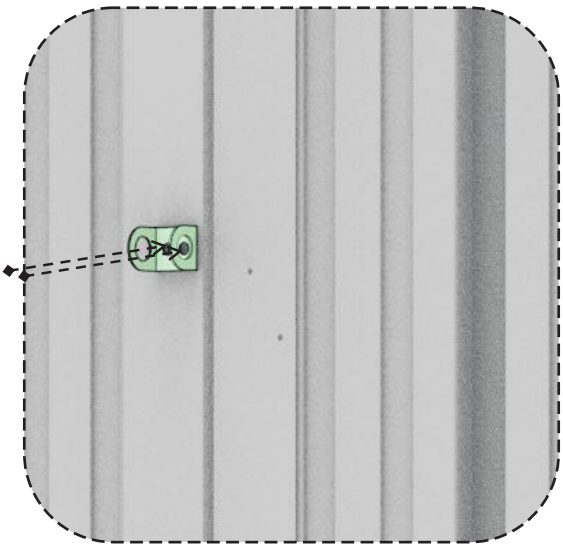


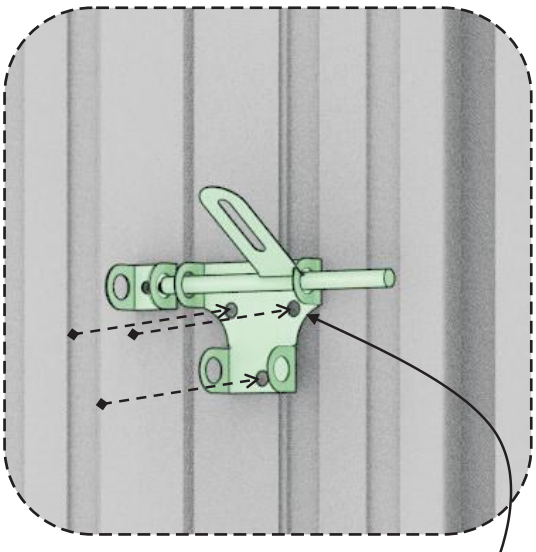


	
[LATCH] x 1	[S3]+[S4] x 5

4.11







This screw hole has no corresponding screw hole on the [DA], so use some effort while drilling.