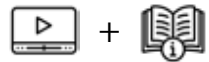




Exaco edits 06.05.24 Janssens VERSION 2024.1

# MOUNTING INSTRUCTIONS

## ARCADIA



<https://docs.janssens.be/manuals/arcadia.pdf>

*Note: This is an all-inclusive manual. It shows optional accessories and customizations that may not apply to your greenhouse. Direct any questions to Exaco.*



**Assembly Videos can be found by scanning the code to the left with your smartphone.**

 **Janssens**  
since 1946



Or find the link to our YouTube page at [www.exaco.com](http://www.exaco.com). Go to the Arcadia Greenhouse Playlist for all videos.



**[www.exaco.com](http://www.exaco.com)**

**877-760-8500**

Thank you for purchasing a Janssens' Greenhouse, imported and distributed in North America by Exaco in Austin, TX. Exaco will provide all the North American based customer support for you greenhouse. Please feel free to reach to Exaco customer service with any questions you may have during assembly!

### **Questions? Need Assembly Support?**

**Please call Exaco at 877-760-8500 or email [customerservice@exaco.com](mailto:customerservice@exaco.com).**

## **Introduction**

In this manual, you will find the assembly instructions for all basic/standard-model Arcadia greenhouses. However, this manual also contains pages which apply to optional accessories that may not be included with your kit. Victorian greenhouse "kits" vary by retailer. Some retailers may bundle additional accessories with their greenhouses - please check your order closely so you understand which accessories your greenhouse includes before building. It is also very helpful to plan out where each of these additional accessories will go to determine if you need to insert bolts/hardware during the build.

This greenhouse is designed for cultivation of plants/flowers. Therefore leakage, water drops and condensation inside the building are allowed. The building may only be entered by competent persons during cultivation or maintenance. Painted aluminum profiles/extrusions are powder-coated for a durable finish. The rubber strips have been treated with oil/silicone on the interior to facilitate the assembly. The building should be mounted on a solid concrete foundation deep enough to get a solid and frost-free ground. Anchoring of the foundation is vital and should be checked periodically. During winter, the roof will need to be cleared of snow or supported in a suitable way (see additional notes in "Maintenance" section). The greenhouse should be built in a location protected from strong winds. Protective gear (such as gloves) should be used during assembly in order to avoid injuries. One should at all times pay attention to the local building regulations.

This greenhouse has been engineered and manufactured in Belgium using the metric system. We strongly recommend having a metric or combination tape measure on hand during assembly. We have converted and added inches to the manual when feasible – however for the most accurate and precise measurements some do still remain in metric. Conversion of metric to inches results in unusual fractional increments or decimals that become difficult to measure on a standard US customary ruler/tape measure. Using the metric system keeps your measurements more precise. If you prefer to work only in inches, you may use a converter tool available in app stores for smart phones.

## **Basic Assembly Order of Greenhouse**

- Preparing your site – must be level and accommodate anchoring of the structure (see section on "Foundation and Anchoring")
- Sorting of the profiles/extrusions according to the model/size of greenhouse. The aluminum profiles (extrusions) are identified by their cross-section and length. It is helpful to have a metric or combination tape measure for this.
- Assembly of the complete aluminum framework

- Leveling of the construction using a level
- Anchoring/securing of the greenhouse to the ground
- Glazing installation

### **Required/Recommend Tools**

- Metric or Combination Measuring Tape (highly recommended)
- Socket wrench or spanner - 10mm (it is helpful to have multiple)
- Needlenose or other pliers (helpful when installing corner posts)
- Level
- Screwdrivers (Phillips and Flathead)
- Drill + bits
- Impact driver and 1/2" drill bit (useful to notch channel to insert missed bolts)
- Scissors (to cut the rubber)
- Stable Ladder at least 6' tall

### **Safety Considerations**

- Glass safety
  - Store the pallets of glass on firm level surfaces ONLY.
  - Keep your glass pallet dry! Moisture can cause the panes of glass to stick together and may be difficult to separate.
  - Important! Please follow glazing removal instructions on the pallet for steps to safely remove glass panes from the pallet. Contact Exaco if you have not seen these steps!
  - Tempered glass is surprisingly strong. The corners are the most vulnerable – please be aware of the corners when handling and installing glass.
  - Use a quality glass suction cup when handling glass, gloves are recommended.
- Watch your step! Be sure ladders are securely placed before climbing them.

### **Helpful Suggestions**

- Understand which greenhouse accessories you have and where they will be placed. There will be prompts throughout the manual to insert bolts during assembly for doors, window, shelves, shade cloth, misting system, etc.
- If you forget to add a bolt where one is needed, you may create an insertion point in the channel with a 1/2" drill bit and an impact driver. If possible, do it in a place that will be covered by the piece you will be attaching. We do also have hammerhead/T bolts available for purchase that may be added later.
- Look through the entire manual and watch the assembly video to help you prepare and understand the greenhouse assembly process.
- You may start with assembly of the doors and roof windows. This helps create familiarity with the materials and construction process and gives a head start when it comes to assembly time.
- **The stainless-steel hardware included with your greenhouse is preferred for damp greenhouse settings. This high-quality metal is malleable however, and the heads of the screws can be stripped or break if proper precautions are not taken. Set your driver**

(impact driver is preferred) to a low setting and hand tighten the screw at the end to avoid snapping the screw head.

*Please thoroughly read the email that was sent to you from Exaco customer service for additional addendums to the manual and other important information.*



Refer to the Exaco YouTube Playlist for the Arcadia Greenhouse for animated assembly videos as well as specific installation videos regarding your greenhouse. This playlist is also accessible via the QR code to the left.

### **Questions? Need Assembly Support?**

**Please call Exaco at 877-760-8500 or email [customerservice@exaco.com](mailto:customerservice@exaco.com).**



### **Doors**

Royal Victorian doors may be placed on the long or short side of the greenhouse in any bay. Exceptions apply for corner placement, please call Exaco to discuss if you are considering this placement. Upgrades to additional single or double sliding doors and/or hinged doors are available.

#### **Door Options:**

- **Sliding Doors:** Single or double options are available. The sliding door/s of the greenhouse hang/slide along the outside of the greenhouse and feature brush weatherstripping. Keyed locks attached at the bottom of the door. Double doors will have no center support. For standard kits, the sliding door threshold will be the 4 ½" high base frame unless a low threshold kit (see below) is purchased. If you are building on a stem wall - please note special considerations for sliding doors on stem walls before building your stem wall.
- **Low Threshold Kits:** Standard greenhouse sliding doors will have the 4 ½" base frame as the threshold for the doorway. The upgrade to a low threshold kit requires cutting the base frame at the doorway to allow installation of a 1" high threshold to secure the sliding door guide and make walking in and out of the greenhouse easier. The premium low threshold kit now includes a full 4 sided frame for the door opening with lock at a more comfortable height. Available for single or double sliding doors.
- **Hinged Doors:** These are a very handsome upgrade, but are significantly more challenging. We recommend installation by a highly skilled handyman. The hinged doors are time-consuming, require adjustments, and special tools (such as a grinder) may be needed. The doors are inset into the frame of the greenhouse and are further weatherproofed with rubber gaskets. The doors feature their own door jamb including low threshold and high-quality adjustable hinges for easier hanging. Traditional handles with a keyed lock will keep your greenhouse secure. Double or single hinged doors are available. A hinged door can be easier to work with if the greenhouse is placed on a stem wall. It is preferable to order a

hinged door with the greenhouse as the hinged doors must be sent via freight truck and shipping costs can be prohibitive if shipped at a later date.

### **Custom Centering a Door on a Wall**

With additional parts and on-site customization, you may center a single door on a wall with an even number of bays - or a double door on a wall with an odd number of bays by creating narrow side lights on either side of your doorway. Please order one additional PRO1456 from Exaco to frame this extra pane. Once completed, you will need to purchase the narrower side light glass locally as this is a custom size that Exaco does not stock.

### **Windows**

Each greenhouse may have a combination of roof vents and side wall windows. The roof vents allow hot air up at the ridge to escape, while the side wall window acts as an intake for cooler air. The roof vents are usually staggered and some placed on both sides of the ridge beam. Occasionally if there is prevailing wind from one direction, more windows may be placed on that side. We recommend the manual spindle opener be used for windows facing strong gusts of wind. The windows cannot be placed side by side. There are a variety of openers available for roof vent windows.

- **Roof Vent Openers**

- Manual Stick openers - these will be packaged in every roof window kit. They are entry level openers that work on a peg/notch system. Not recommended for daily use but may be used to "lock down" the window if needed (auto openers must be disengaged or your piston will burst).
- Manual Spindle openers - a high-quality stainless steel threaded rod to securely crank the window to desired open position with use of a removable long handle. These are heavy-duty and will hold up well to strong winds if needed.
- Automatic Opener (Ventomax) - this opener utilizes a piston that is filled with oil that expands between 68 to 70 degrees. The oil pushes out the rod of the piston to open the window. When the piston is engaged, there is no manual control of the window. If there is rain when the temperature is above 68 in the greenhouse, it is likely that the roof vent will be open and rain will come in. During the cold months the pistons may be disengaged if heating the greenhouse.

- **Louver/Jalousie Side Wall Window**

- Placed in a sidewall bay, often opposite the door for a cross breeze
- Comes with a manual opener installed or included auto opener (Sesam Liberty) may be installed
- If you are installing an exhaust fan, the louvered window with auto opener may act as your intake vent.

- **Push Out/Top Hang Side Wall Window** - optional upgrade that is included with Retro Victorian models. It hangs from a hinge at the top and the bottom pushes out. An auto opener may be used.

### **Optional Accessories**

There are a variety of optional accessories available, some of which are listed below. Some retailers may bundle a shade cloth/shelves with their greenhouse kits.

- Shade cloth – not available for Arcadia
- Shelves
  - Seed tray/Seedbed - in Royal Victorians the seed tray installs along the longest side of the greenhouse at your preferred height. The seed tray is 20" wide and has a 4" planting depth with a white polycarbonate bottom to allow for drainage. It is best to order at the same time as the greenhouse as it has to ship via freight truck due to the length.
  - Top Shelf - is 4" wide and it installs along the longest side of the greenhouse, either above the seed tray or on its own at your preferred height. It is best to order at the same time as the greenhouse as it has to ship via freight truck due to the length.
  - Slat shelves - extremely flexible in terms of height, usage, and all around placement. They are 59" long (across two sections of glass) and may be run end to end for a long stretch of shelving. They may also be centered across 3 panes of glass if desired. Slat design works well for holding pots/planters or it may be used for a work surface. These shelves may be shipped via FedEx or UPS.
    - 2 Slat Shelves - 9" wide x 59" long
    - 5 Slat Shelves - 21" wide x 59" long
- Fly Screens are a brand new addition from Janssens
  - Roof Window Fly Screen - easily installs into roof vent opening
  - Louver Window Fly Screen - clips onto outside of louvered window
  - Door Fly Screen - Slides along the INSIDE of the greenhouse so as not to interfere with the existing doors. May be used with sliding or hinged door (not compatible with hinged door auto closers). Not compatible with greenhouses placed on a wall.
- Ventilation - An exhaust fan may be installed in the gable of the greenhouse to blow out the hottest air. Replace a glass pane with a lexan panel into which you can mount the fan (polycarbonate greenhouse panels may be cut to accommodate the fan). Many exhaust fans will use an external thermostat to control at what temperature it turns on and off. Place an exhaust fan opposite your louver window to create a cross breeze. For the most effective cross breeze, it is often recommended to close window vents to force airflow through your louver window.
- Heaters - see below "Heating the Greenhouse"

### **Placement of the Greenhouse**

The placement of the greenhouse varies by intended usage, climate, location, and space available.

There is a wealth of information to be found online on this subject, here are some considerations:

- Will your greenhouse be in full sun or get afternoon shade? Glass greenhouses do what they are intended to do - heat up quickly on sunny days. Great for the winter, but depending on your climate, it can be a challenge during summer months. Think about what you will be growing as well as the seasonal usage of your new greenhouse to determine appropriate sun exposure. It may help to watch the seasonal variations of sun angles in your yard to determine the placement.

- Depending on what you are growing and where you are located, you may wish to orient your greenhouse east/west or north/south - many garden bloggers have weighed in on this and research may help you consider the options. In many areas of the US, we do get plenty of hours of sunlight. Some users end up placing the greenhouse based on layout/space available, aesthetics and convenience.
- The site must be level. If it is not, you will need to prepare the area to provide a firm and level surface to construct your greenhouse. This may include building a retaining wall or placing your greenhouse on a stem wall - or just leveling out the site. Consider rainwater flow in your yard if you are in a hilly area.

### **Foundation and Anchoring**

All greenhouses must be securely anchored. All Victorian greenhouses include corner brackets attached to the foundation/base frame that extend an additional 12" below ground level. If you are in a very high wind area or are trying to meet the structural specifications for a permit - you may wish to purchase additional corner anchor posts (PRO210) for use at the vertical members.

The manufacturer recommends an 8" wide concrete strip foundation that extends down to the frostline in your area. Please consult your local building codes for this information. It is recommended to leave a 4" diameter hole at the corner for the anchors to be embedded in concrete after the greenhouse frame is assembled and it is confirmed to be level and square.

Alternatively, you may also choose to anchor the greenhouse by trimming the corner anchors off at ground level, cutting them in sections to be used as L brackets to secure the greenhouse frame to your anchoring surface with the appropriate hardware.

Some users have chosen a variety of alternative anchoring methods based on their climate, location, soil composition, and site considerations. These include full concrete slabs, concrete footers, pier and beam constructions, and even timbers. If you are considering the use of wood in your construction, be aware that your greenhouse will likely outlast your wood. If you use pressure treated wood, it is recommended to use a barrier material between the wood and the aluminum frame. When planning your anchoring method, you should keep in mind frost line/ground heaving, wind load, greenhouse location, ground composition, weather, climate, and local building code. If you are unsure, you should consult with a local and experienced builder. Warranty coverage does not extend to damage resulting from improper anchoring of the greenhouse outside of manufacturer's recommendations (see above).

If a permit is needed in your area, we do have structural certification letters and permit sets for most of our greenhouses. They are Texas stamped. We may be able to obtain other state stamped documents, however if you need them specific to your state, we do not cover this expense. Please contact Exaco if structural documents are needed.

### **Flooring**

The greenhouse does not include flooring material, allowing it to be customized to your needs and use. When planning your flooring, consider the intended use of the greenhouse, the plants that will be grown, drainage, heat sink benefits of the material, insulation, weed blocking, as well as aesthetics. If

you use a natural flooring option - consider including a weed barrier. Here are a variety flooring options to consider:

- Soil - this is a great option if you have fertile soil and wish to plant directly into the ground. This can be used in combination with other options below.
- Pea gravel, crushed stone, etc. - provides natural drainage and some crushed rocks help with weed control
- Pavers and bricks - A very nice looking option with natural drainage capabilities. May also be used for paths in combination with in ground planting areas.
- Wood - Looks very nice, but requires more maintenance. Keep in mind that the wood may deteriorate before the greenhouse lifespan is over.
- Full concrete slab - This can double as your anchoring surface as well. Keep in mind that greenhouses can be wet environments so texture and drainage need to be considered.
- Tiling - this can be a beautiful option as well. If your greenhouse is a functioning greenhouse, consider water drainage. Tile may get very slippery when wet.

### **Water and Electricity**

You may choose to bring water and electricity into your greenhouse. If possible, it is recommended to plan for this ahead of time so that you can plumb/wire underneath the base frame of the greenhouse. Generally users will bring electricity under the frame at the most convenient location and then attach conduit to the frame of the greenhouse to the desired location. Custom matched spray paint is available if needed.

The irrigation/misting system (included with some model) may be directly plumbed or attached to a hose with a hose clamp (available at garden stores). The hookup end of the irrigation pipe will be at one of the gable ends, near the ridge. It is helpful to purchase a hose timer so watering can be automated.

### **Ventilation and Cooling of Greenhouse**

Glass greenhouses are effective at heating up quickly on summer days. If you discover your greenhouse is becoming warmer than you desire, here are some options for cooling.

- There is no shade cloth from Janssens for the Arcadia, but you may be able to find some aftermarket options.
- Exhaust Fan - recommended to be installed in the gable of the greenhouse to blow out the hottest air. Replace a glass pane with a lexan panel into which you can mount the fan. Many exhaust fans will use an external thermostat to control at what temperature it turns on and off. Place the exhaust fan opposite your louver window to create a cross breeze. For the most effective cross breeze, it is often recommended to close window vents to force airflow through your louver window.
- Misting System - in dry environments, a misting system turning on at the hottest point of the day can cool a greenhouse up to 15 degrees.
- Tinting - Aftermarket tinting may be applied to the glass panes
- Whitewash - available from some greenhouse retailers, this can be washed off when the hot season is over.



- Exterior shade cloth - an exterior shade cloth, though not as beautiful, can be highly effective. An aluminet shade cloth is a metallic woven shade cloth that goes up and over the outside of the greenhouse. The metallic surface reflects the heat of the sun's rays before they get inside the greenhouse, while also providing shade.

### **Heating the greenhouse**

Although the greenhouse heats up quickly during sunny days, you will likely find you will need to provide supplemental heat during cold winter nights and cold cloudy days.

- Heaters - electrical, propane and wood stoves have all been used. Be sure to properly vent according to manufacturer instructions. Find a BTU calculator online to determine how powerful a heater you need. This is based on a variety of factors including greenhouse material, size, location/climate, low temperatures and desired goal temperature.
- Heat Sink - The more mass you have inside your greenhouse, the more heat can be absorbed during the warm day to release at night. This can help mitigate huge temperature swings during light frost, but can also reduce your heating costs. Easy ways to add mass that can retain heat are raised beds, a large dark water tank, or organic material. There is much information online about planning/designing more in depth heat sinks in your greenhouse - including flooring choices.
- Resources on insulated floors and geothermal heat can be found on many garden blogs.

### **Can I Use My Greenhouse as an Additional Living Space?**

- These structures are designed to be a greenhouse first and foremost. As packaged, the greenhouse is not designed to be water/air tight. Greenhouse plants do benefit from a turn of air. You will need to do some extra sealing with silicone on the roof around the glass to achieve watertightness.
- We recommend any furniture be indoor/outdoor and that fine wood furniture/electronics be avoided or sufficiently protected.
- The glass is single pane, so there is a good chance for condensation on the inside that might drip. The roof windows do have auto openers, so it is likely the roof vents will be open during a rainstorm if the temperature in the greenhouse is above 68 degrees. You can switch to all manual openers if preferred.
- On sunny days, glass greenhouses can get warm very quickly. Depending on your climate, you will likely be fighting the heat in the summer (late spring/early fall).

It has been done, but you will need to make customized adjustments such as extra sealing, climate control, window tinting and heating. Indoor/outdoor furnishings are strongly recommended. Exaco will not be held responsible for any damages.

### **Maintenance of Greenhouse**

The following will help keep your greenhouse in tip top shape:

- **WINTER/SNOW/ICE CONSIDERATIONS:**
  - The roof will need to be cleared of snow, this removes weight from the roof and also allows the sun to shine in and heat your greenhouse

- Heating your greenhouse may also help some of the snow melt/slide off to assist in keeping the roof clear. If you are heating the greenhouse, you may wish to disengage your pistons so the roof vents do not open.
- If you are expecting heavy snowfall that you will not be able to clear in a timely manner, we recommend bracing your ridge beam with a 2x4 in the center to help support the weight. Snow should still be cleared as soon as it is possible.
- If you are in an area that routinely gets significant snow there are some options to strengthen and support your greenhouse:
  - Install self-tapping screws in addition to the bolts where the rafters meet the ridge beam and the gutters (noted in assembly manual).
  - Purchase extra spandrels/snow supports for your greenhouse for the ridge and gutters.
  - Add a stainless steel cable with a turnbuckle connecting opposite sidewalls/spandrels to prevent the sidewalls from bowing out if there is excessive weight on the roof.
- Pistons and openers - Several times each year oil your piston rods, threading, and moving parts of your openers. You may use WD40 or even olive oil. If your pistons stop opening your windows, you likely need to oil them to loosen them up.
- Glass Maintenance
  - Cleaning Glass - use a gentle cleaner, such as Palmolive dish soap with a soft cloth. A squeegee with a long handle is helpful as well. Distilled white vinegar can be used to remove hard water spotting.
  - Replacement Glass - if you need to replace a piece of broken glass, please refer to the glass spec sheet in this manual. Replacement panes of 3/16" standard tempered safety glass should be ordered from a local glass shop. Exaco will not ship large pieces of glass, locally ordered replacement panes of standard tempered safety glass will match the original panes.
- Polycarbonate Cleaning - use a gentle cleaner, such as Palmolive dish soap with a soft cloth.

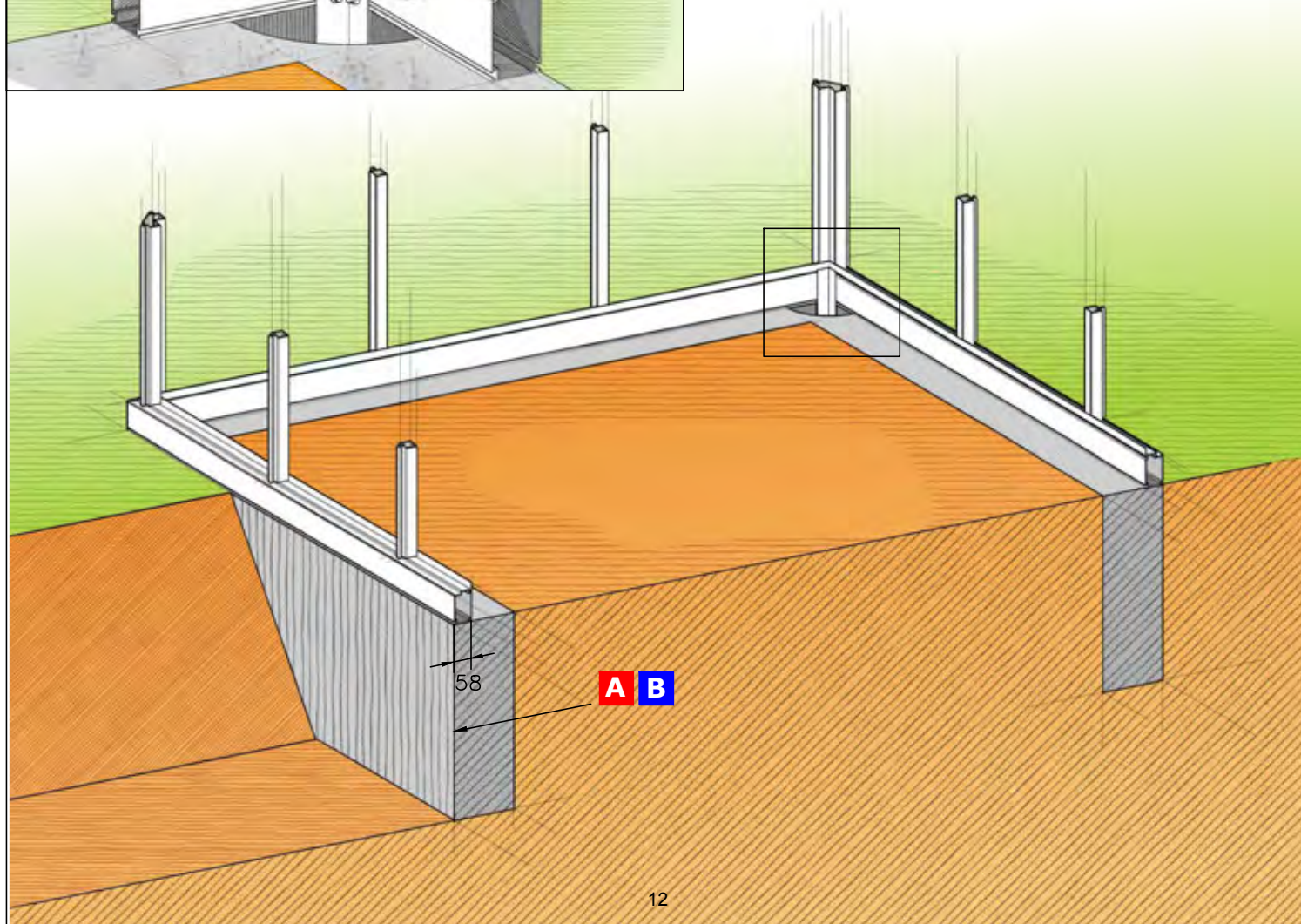
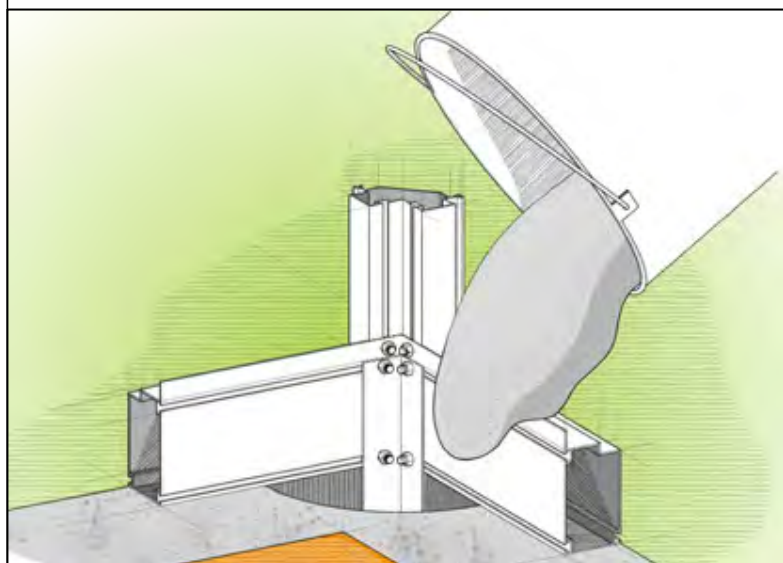
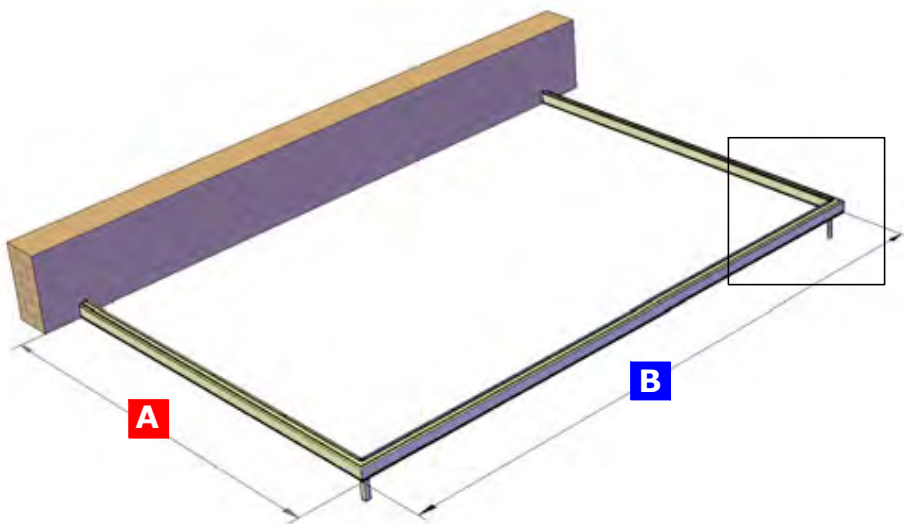
### **Questions? Need Assembly Support?**

**Please call Exaco at 877-760-8500 or email [customerservice@exaco.com](mailto:customerservice@exaco.com).**

FUNDERINGSPLAN  
PLAN DE FONDATION  
FOUNDATION DRAWING  
FUNDAMENT PLAN

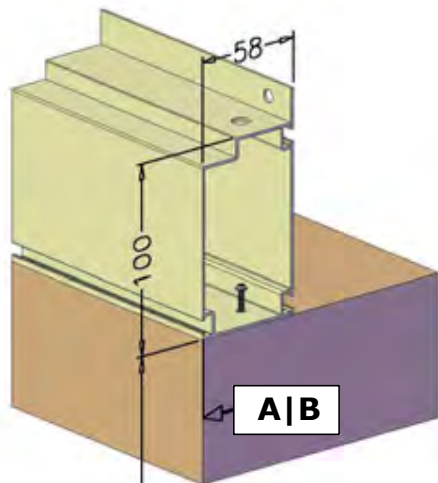
# " ARCADIA "

<b>A</b>	X	<b>B</b>
829mm		1.622mm
1.567mm		2.360mm
2.305mm		3.098mm
3.043mm		3.836mm
		4.574mm
		5.312mm
		6.050mm

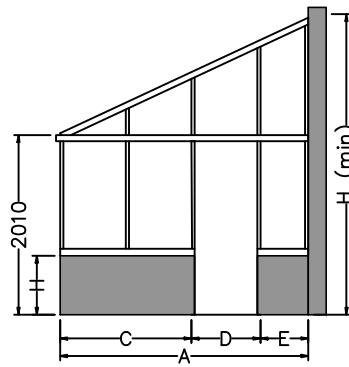
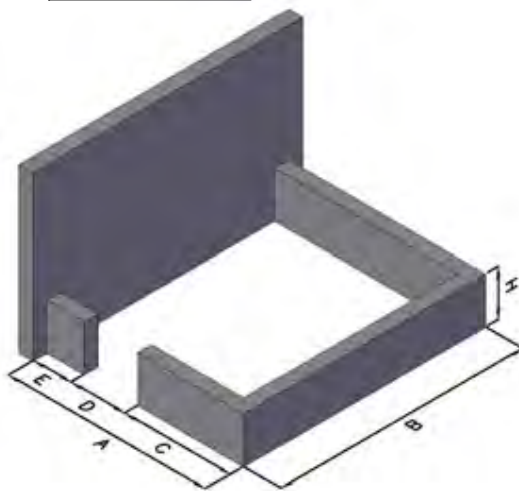




# " ARCADIA - MUR"

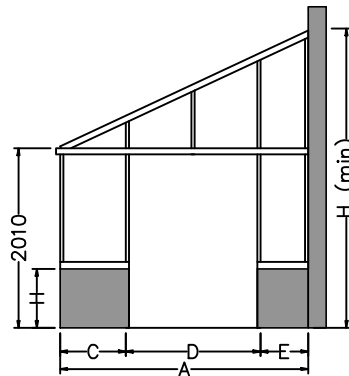


200 | 400  
H 600 | 1.025



**A** = 829 | 1.567 | 2.305  
3.043  
**B** = 1.622 | 2.360 | 3.098  
3.836 | 4.574 | 5.312  
6.050  
**C** = 91 | 829 | 1.567  
**D** = 703  
**E** = 35 | 773 | 1.511

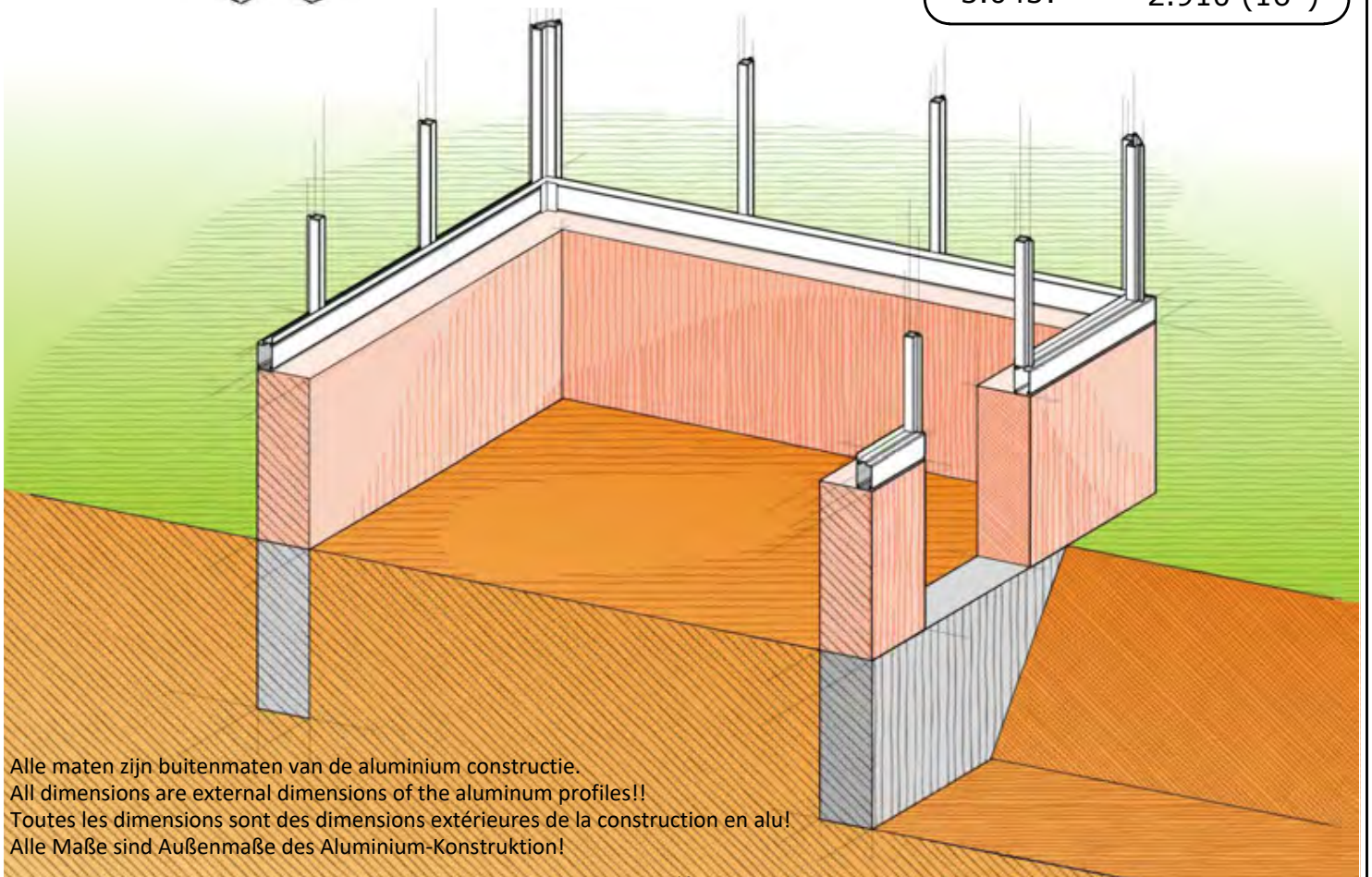
**!!! A = C + D + E !!!**



**A** = 1.567 | 2.305 | 3.043  
**B** = 1.622 | 2.360 | 3.098  
3.836 | 4.574 | 5.312  
6.050  
**C** = 91 | 829 | 1.567  
**D** = 1.441  
**E** = 35 | 773

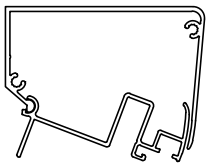
**!!! A = C + D + E !!!**

<b>A</b>	<b>H (min)</b>
829:	2.420 (25°)
1.567:	2.790 (26°)
2.305:	3.090 (24°)
3.043:	2.910 (16°)

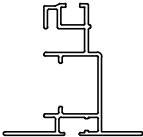


Alle maten zijn buitenmaten van de aluminium constructie.  
All dimensions are external dimensions of the aluminum profiles!!  
Toutes les dimensions sont des dimensions extérieures de la construction en alu!  
Alle Maße sind Außenmaße des Aluminium-Konstruktion!

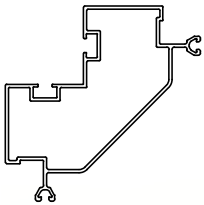
**HANDLEIDING**  
**INSTRUCTIONS DE MONTAGE**  
**MOUNTING INSTRUCTIONS**  
**AUFBAUANLEITUNG**



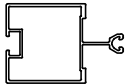
PRO33326  
PRO33329



PRO20229



PRO6578



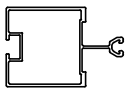
PRO1456



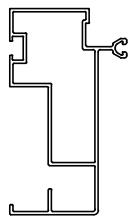
PRO20362



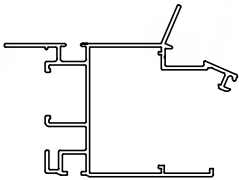
PRO210



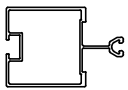
PRO1456



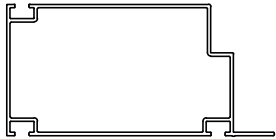
PRO6918



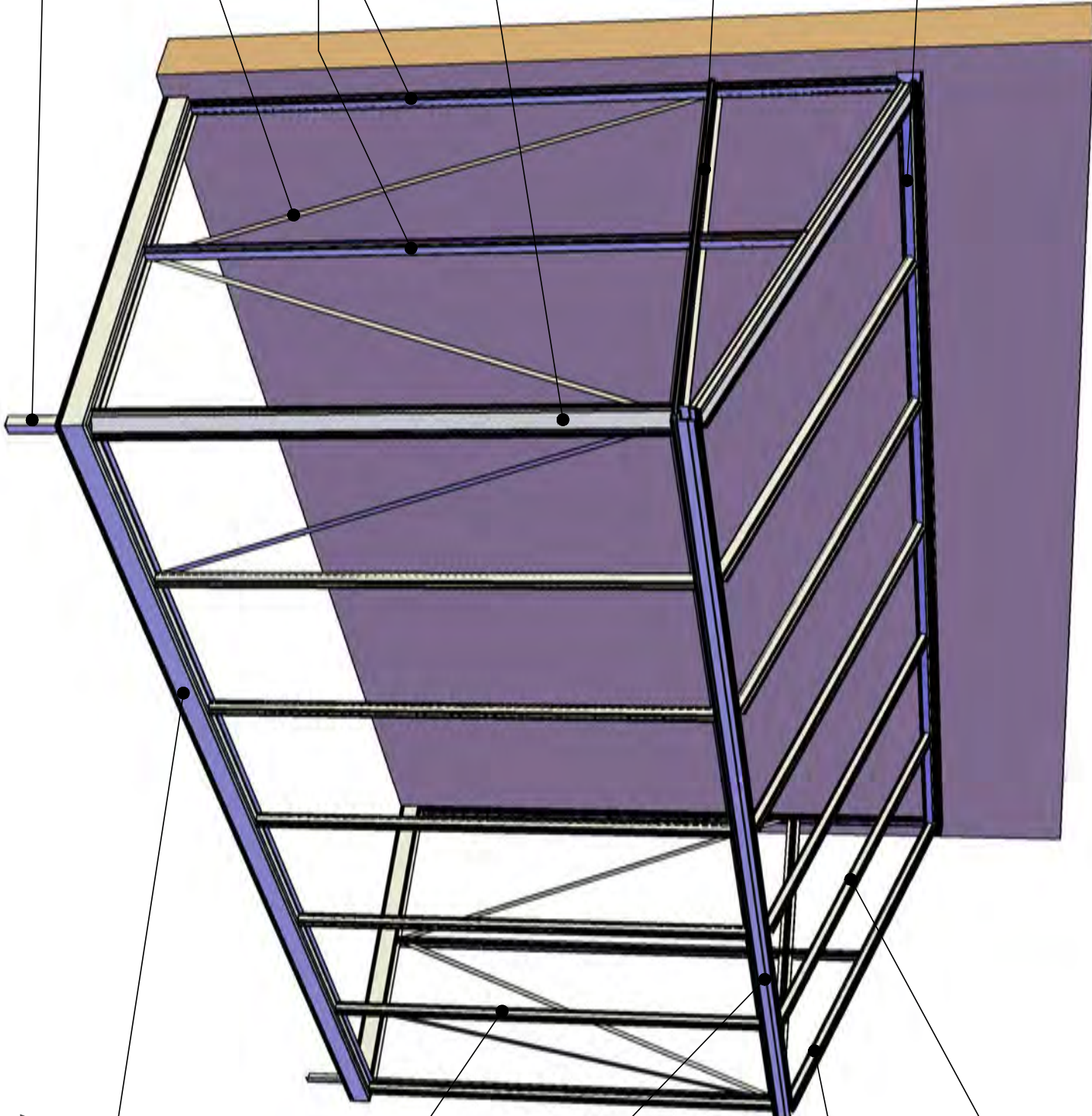
PRO20227



PRO1456

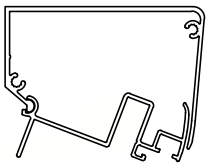


PRO6120

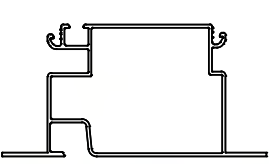


**ARCADIA**

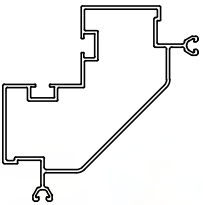




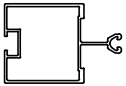
PRO33326  
PRO33329



PRO1454



PRO6578



PRO1456

PRO20362

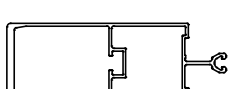


PRO210

A = 82 / 157

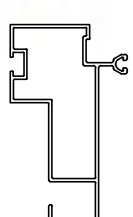


PRO1456

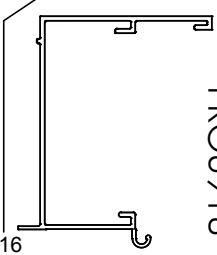


PRO33325

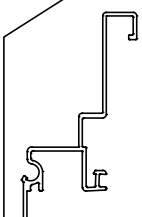
A = 230 / 305



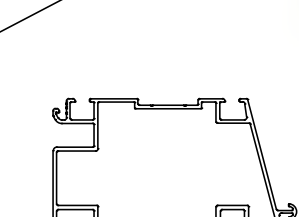
PRO6918



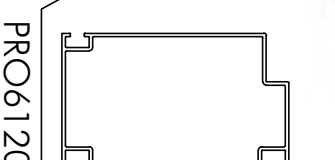
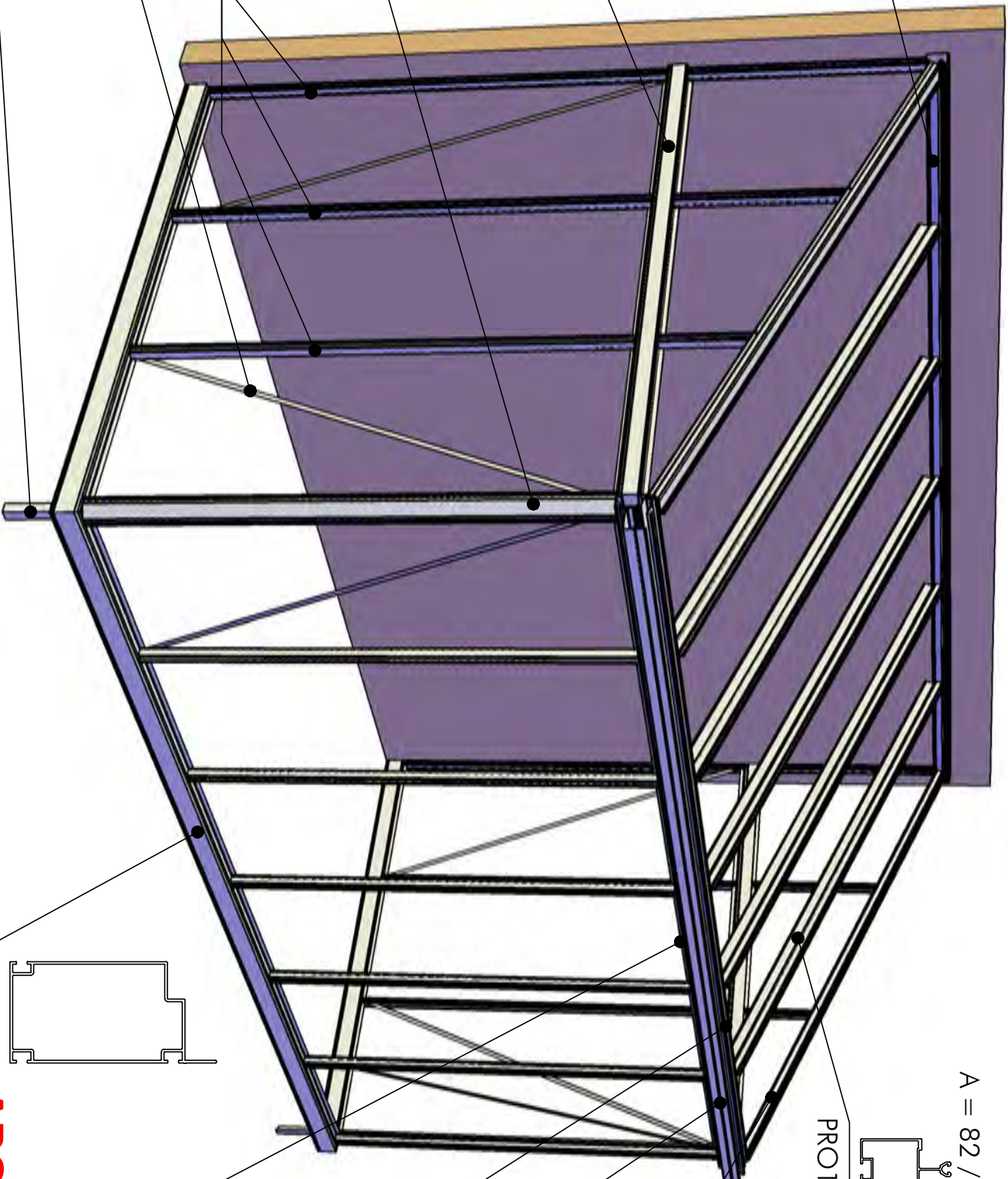
GTO



GSO



GDO

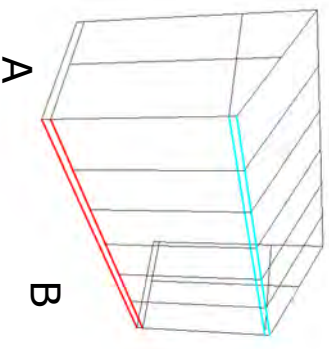
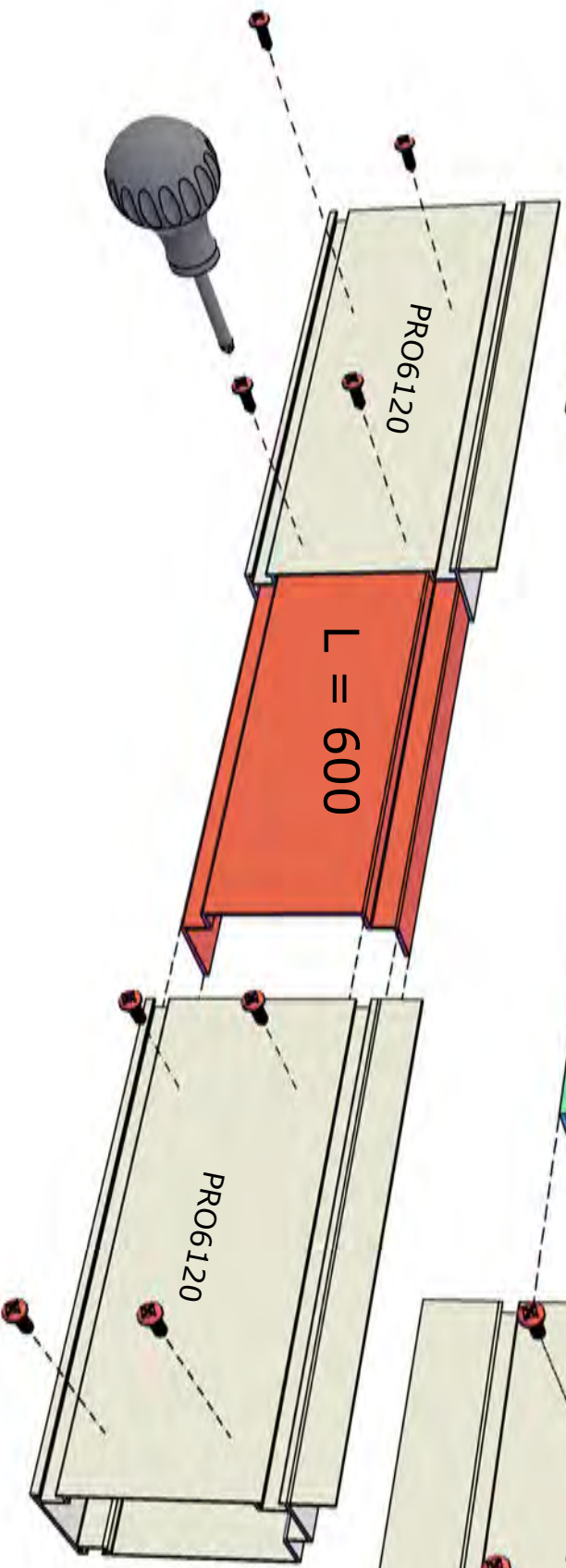
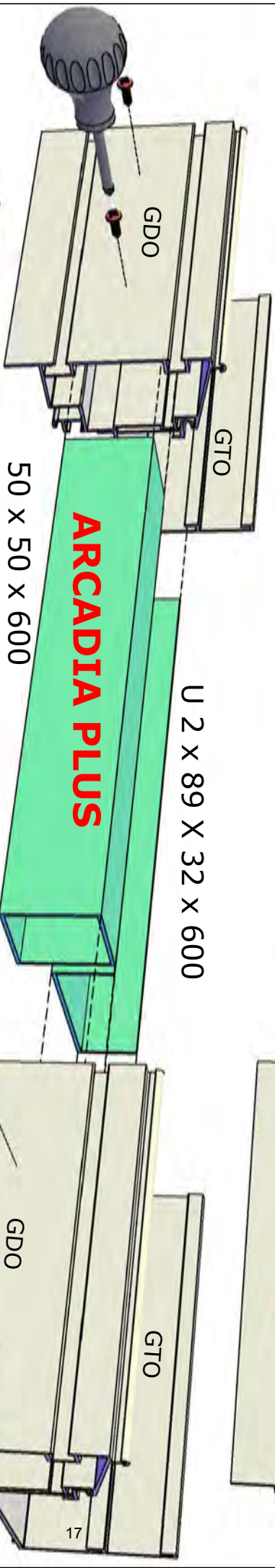
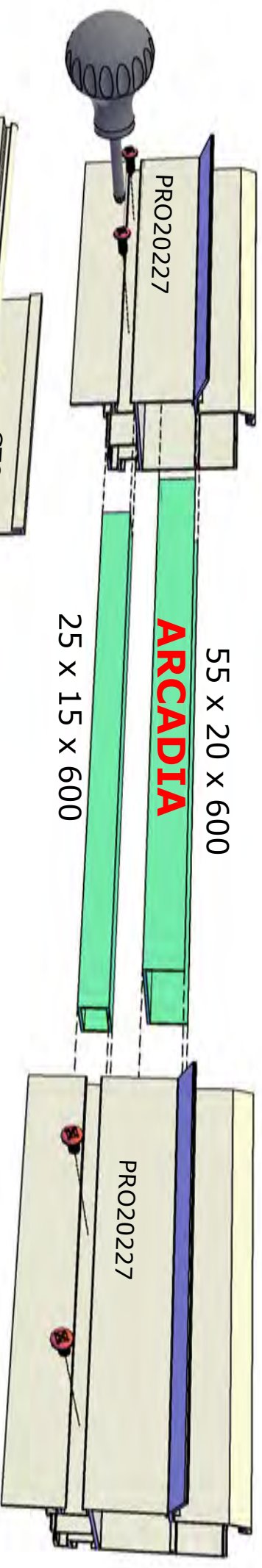


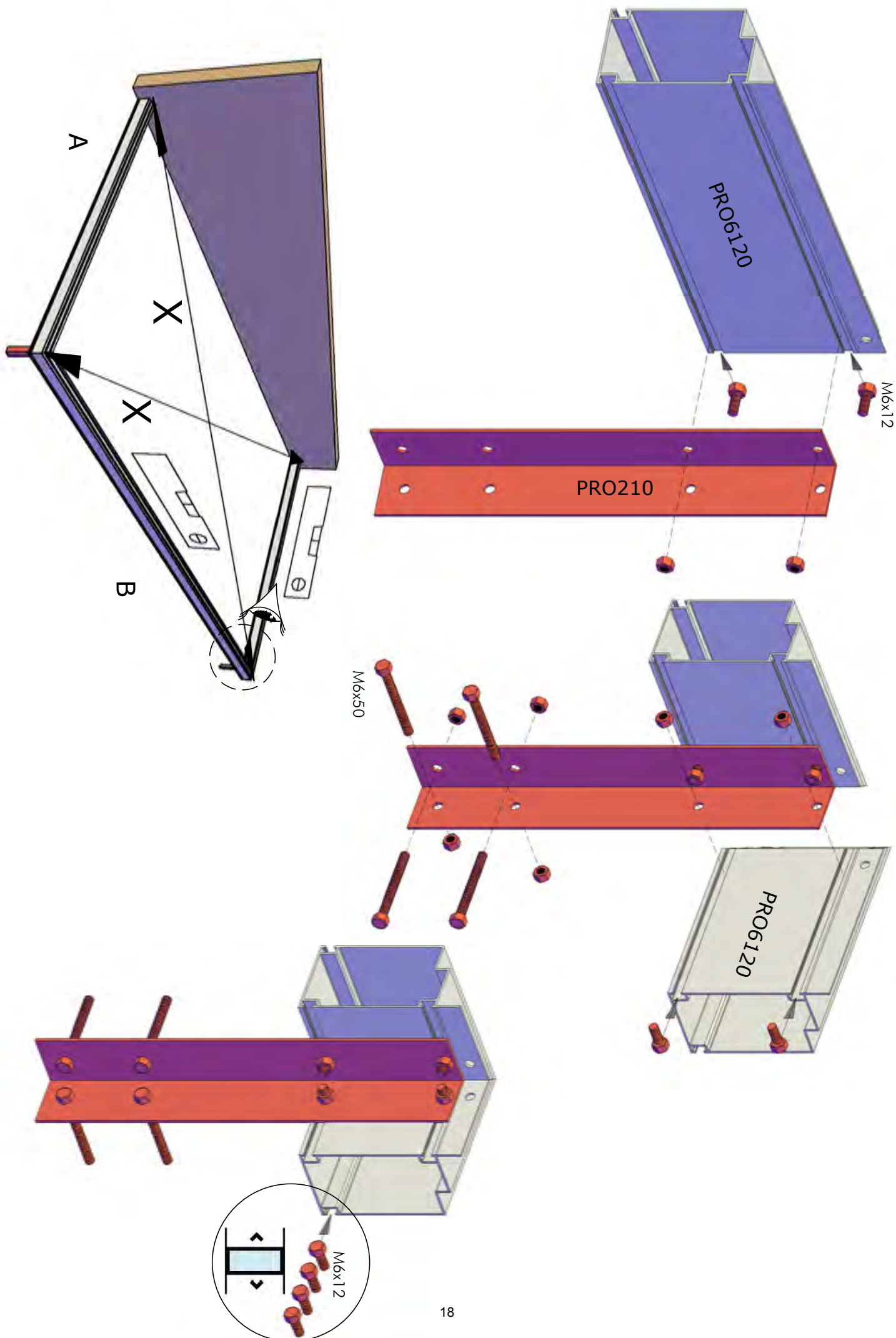
PRO6120

**ARCADIA PLUS**



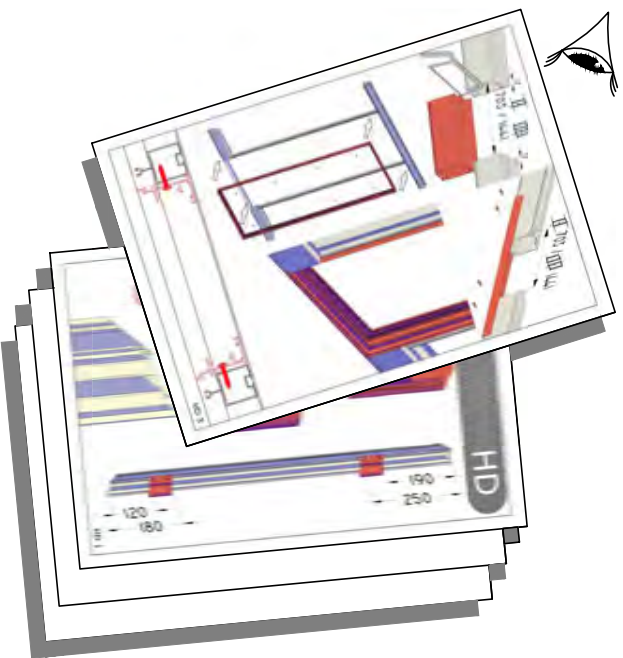
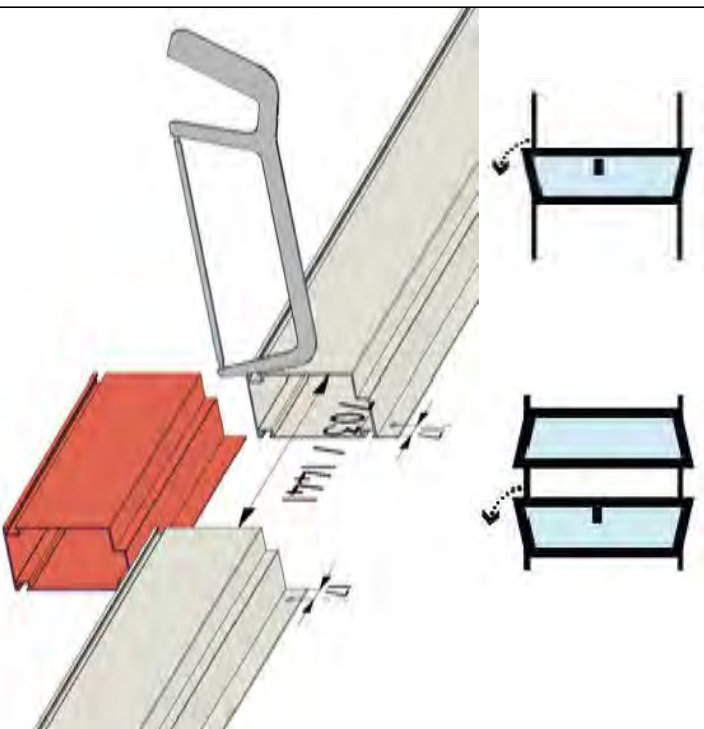
**⚠ B = LENGTH > 6m10 ⚠**



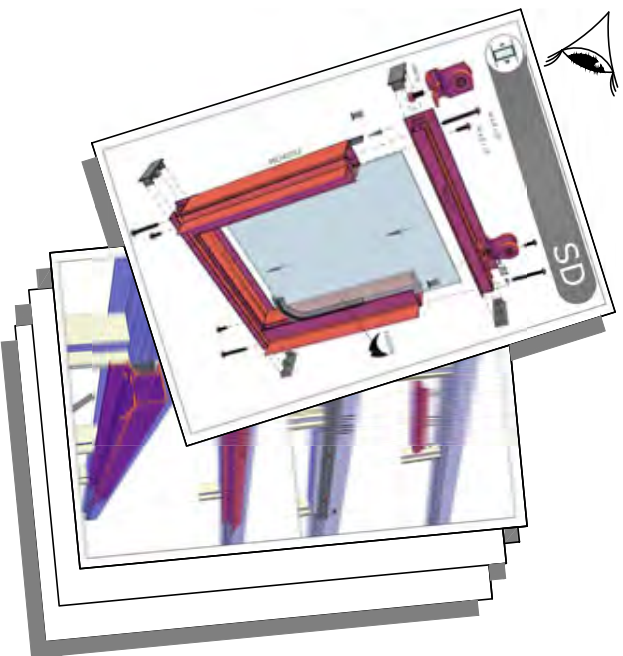
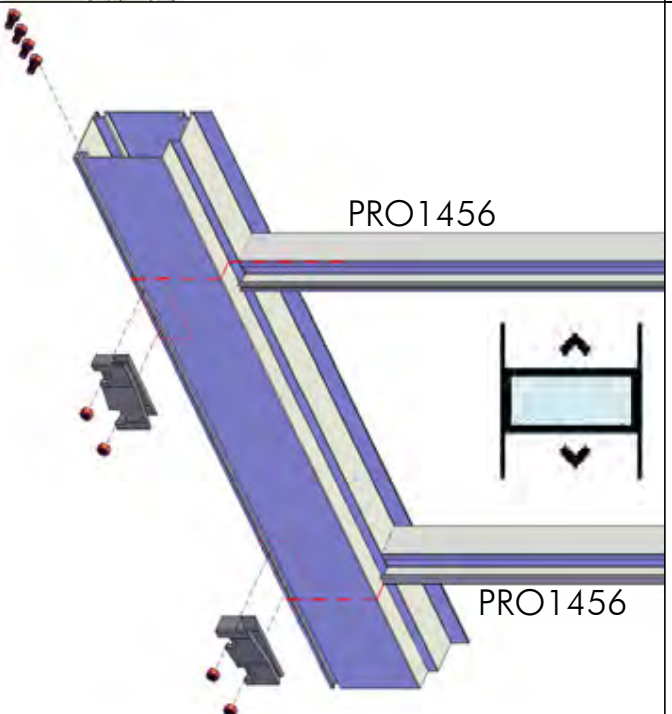




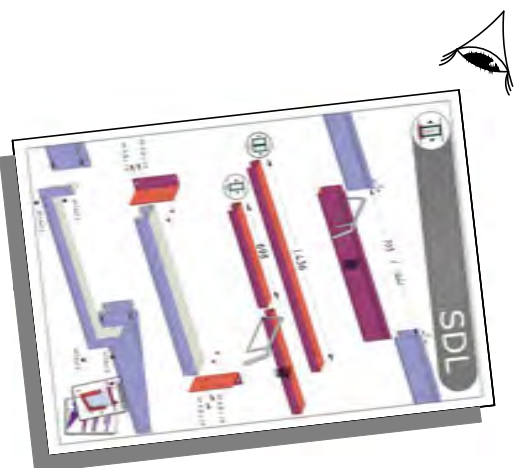
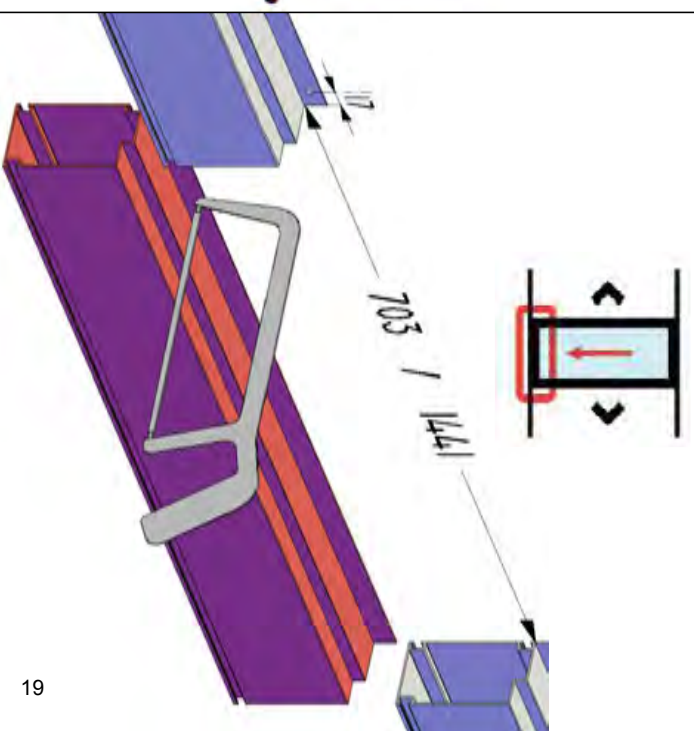
OPTION: **HD** (hinged door)

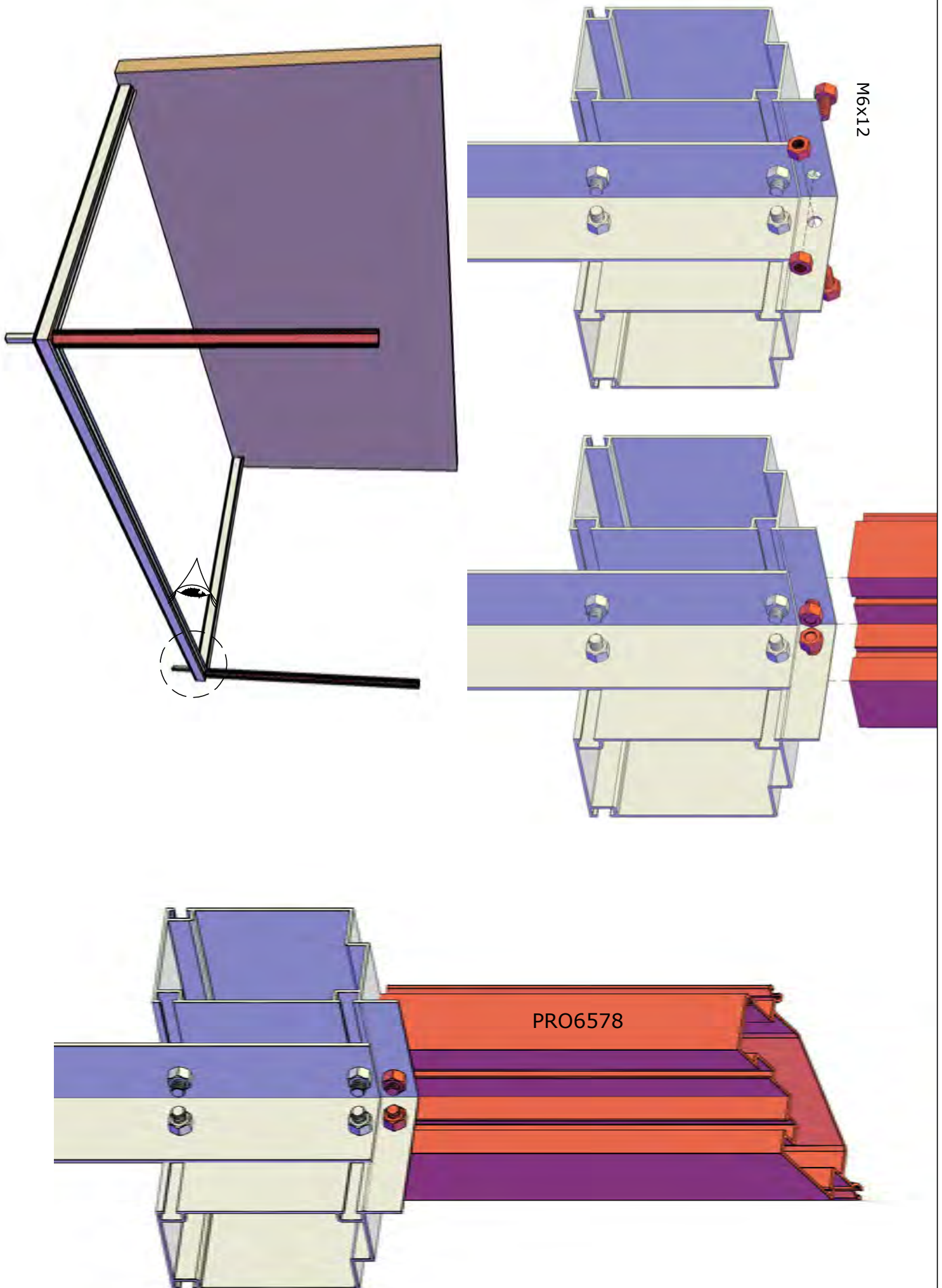


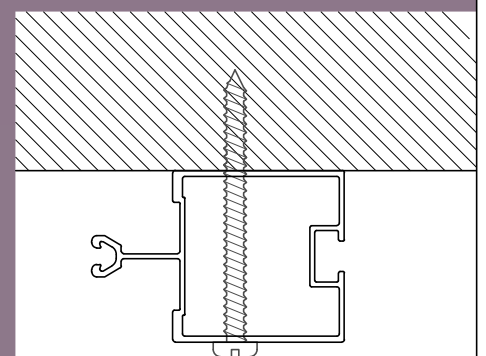
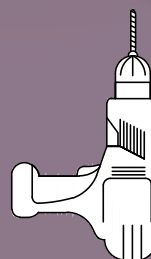
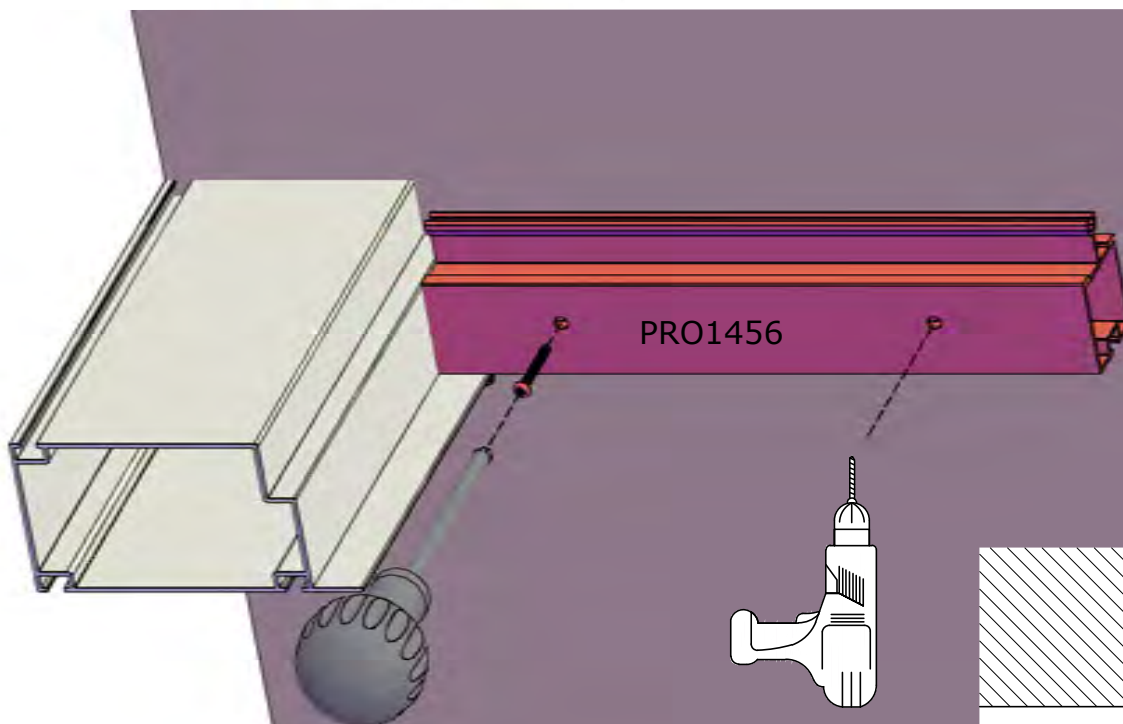
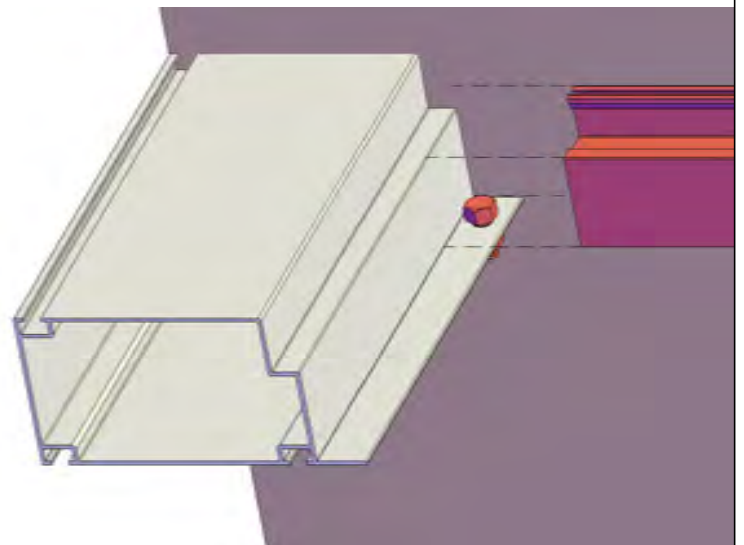
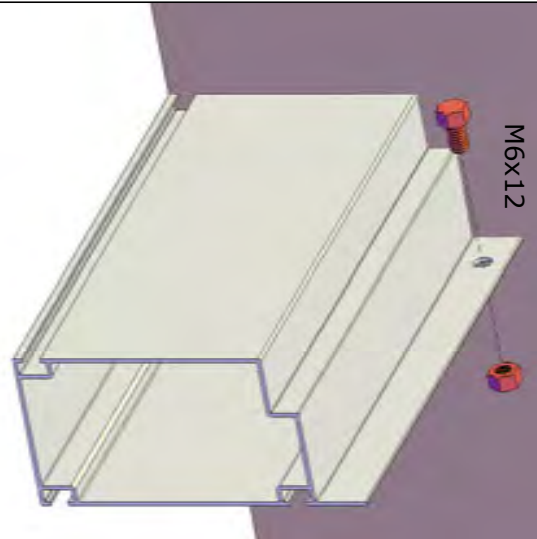
OPTION: **SD** (sliding door)



OPTION: **SDL** (low threshold)









**ARCADIA**

M6x12

**ARCADIA PLUS**

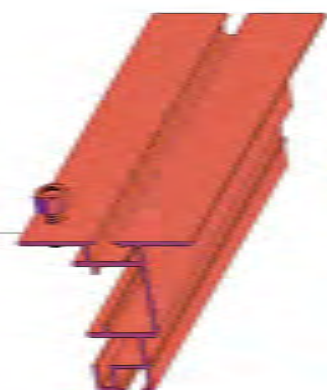
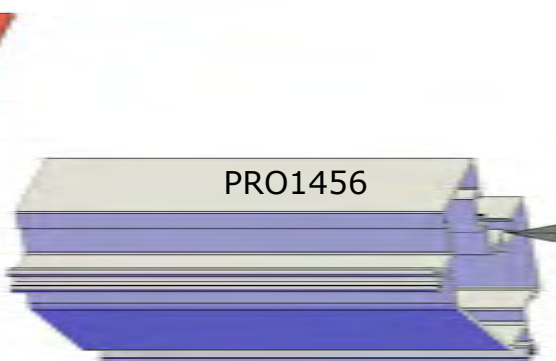
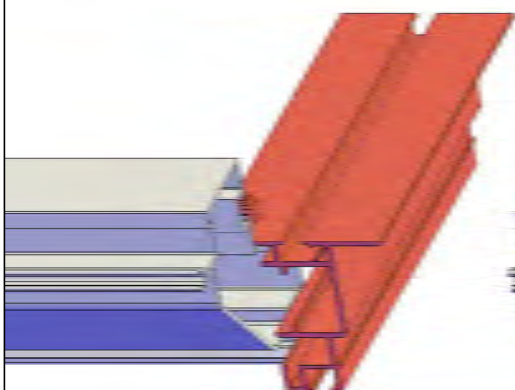
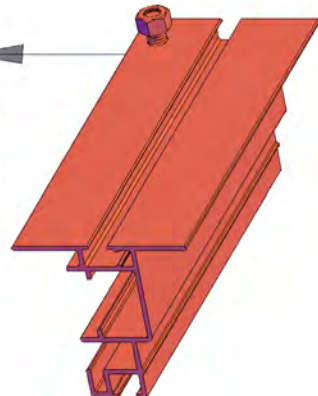
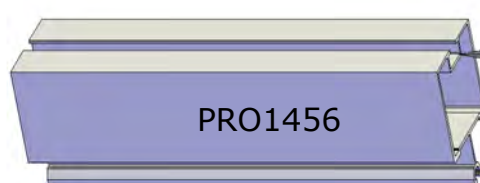
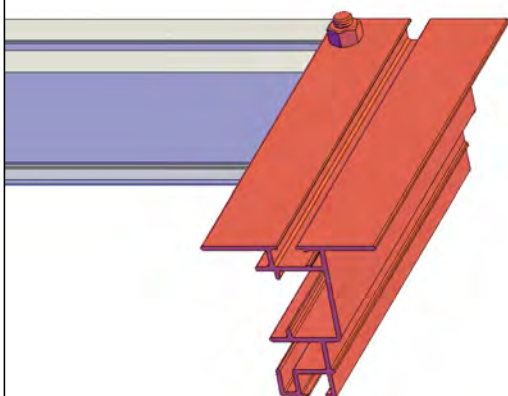
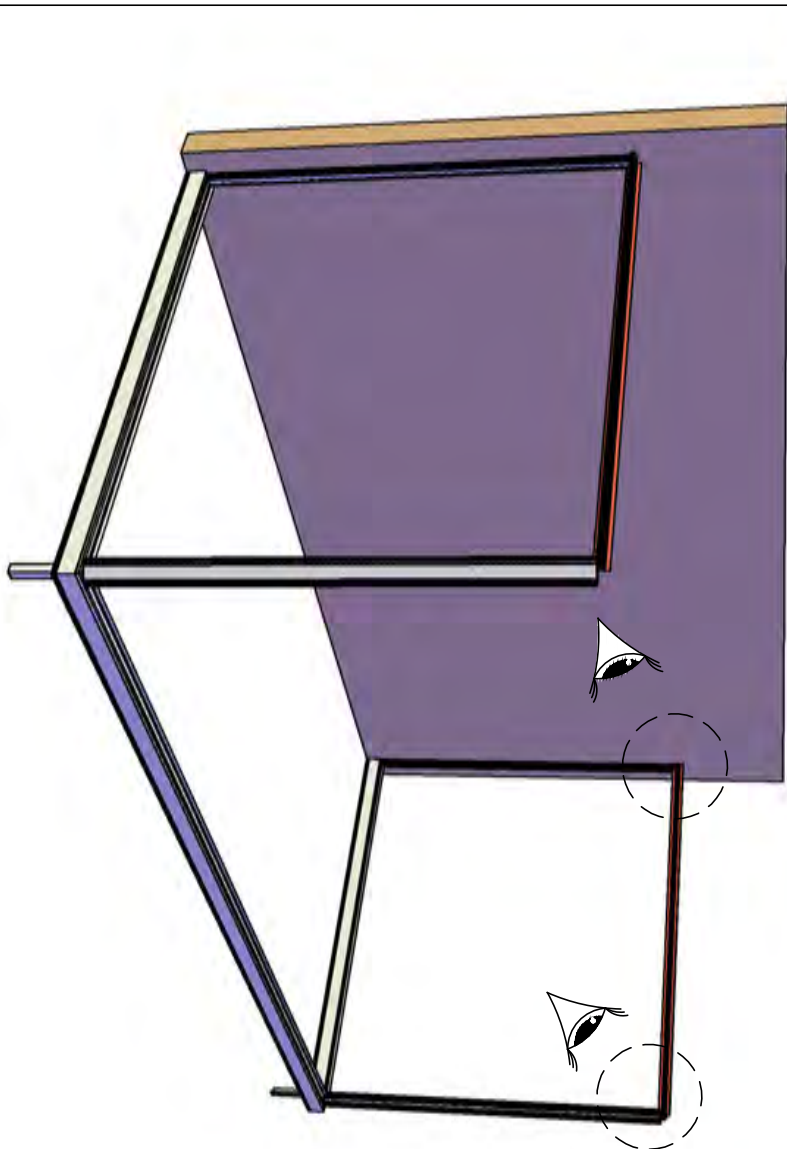
M6x12

PRO20229

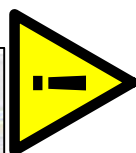
PRO1454

PRO1456

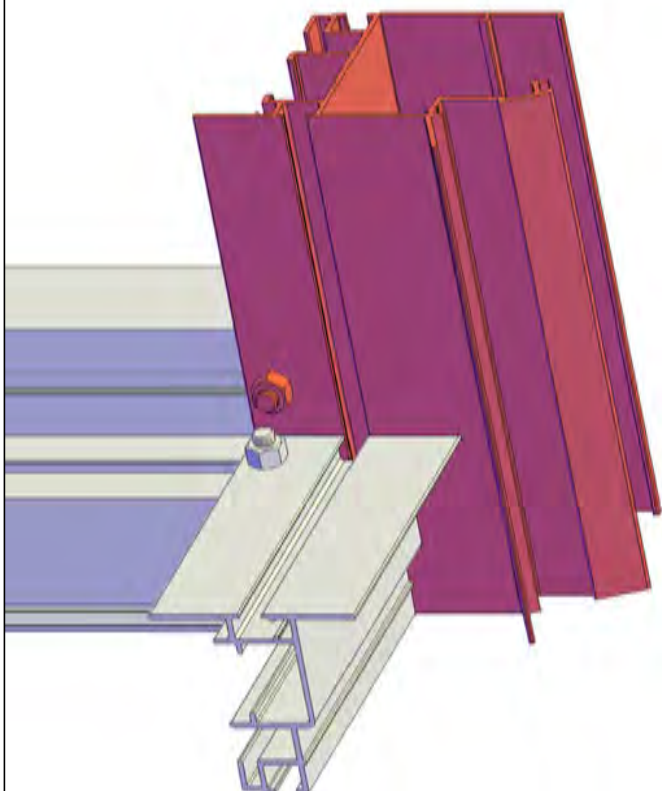
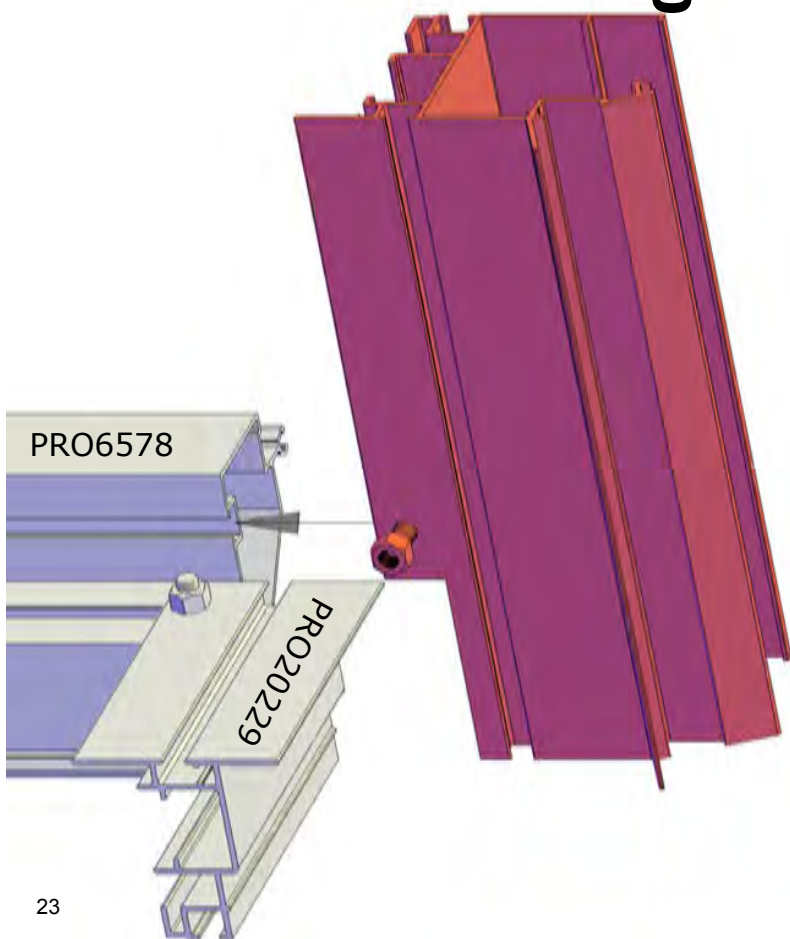
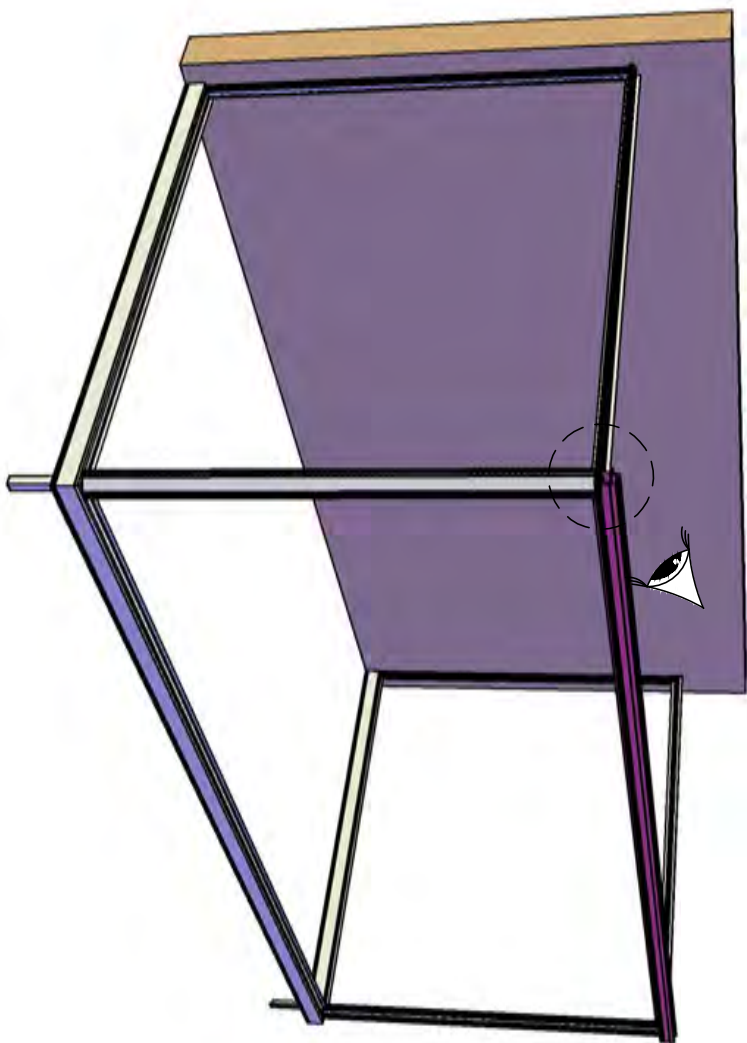
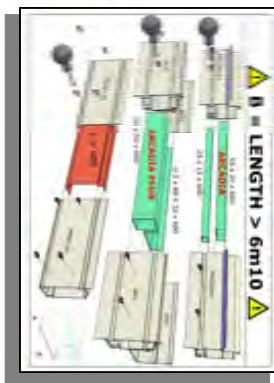
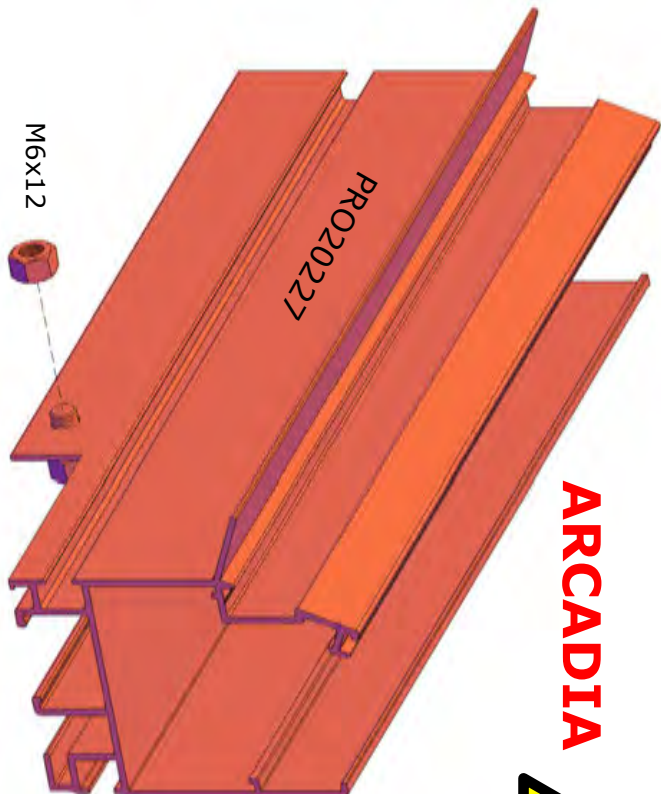
PRO1456



ARCADIA

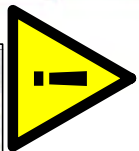
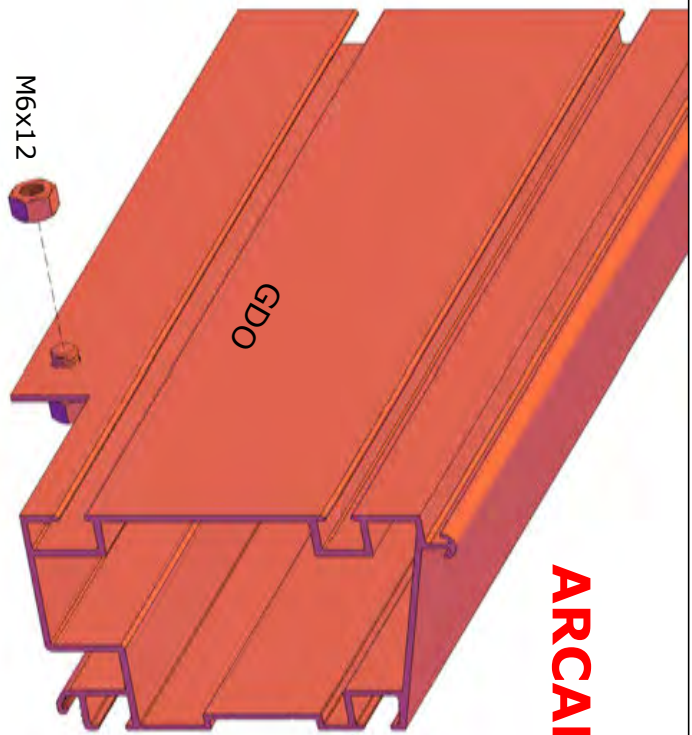


B > 6m10

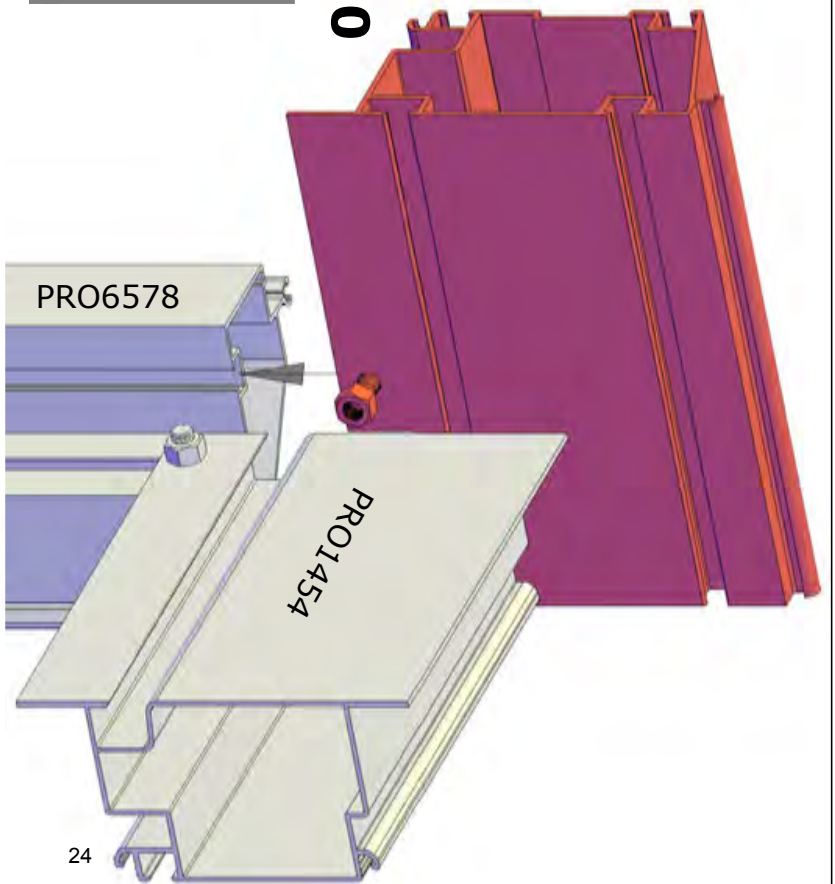
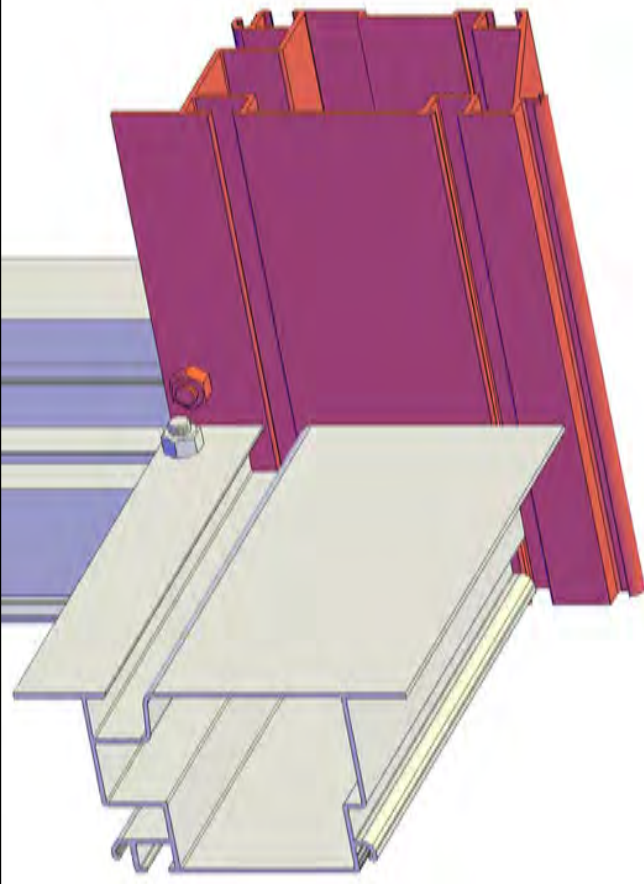
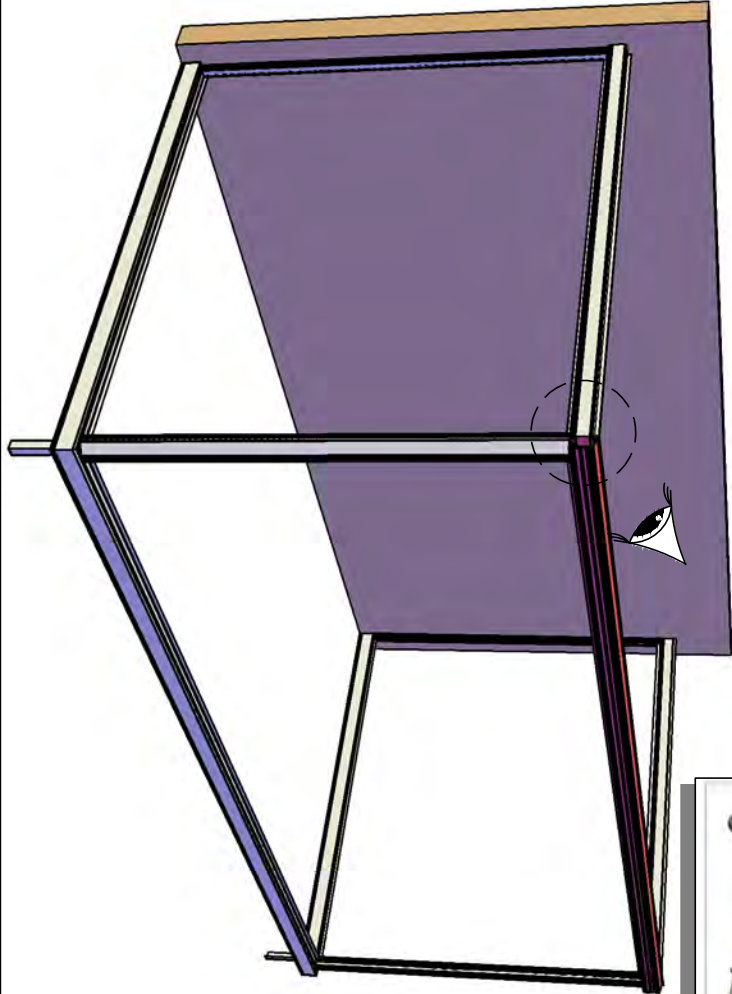
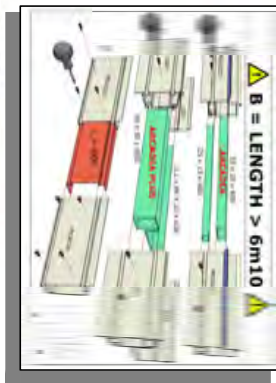




**ARCADIA PLUS**

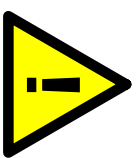


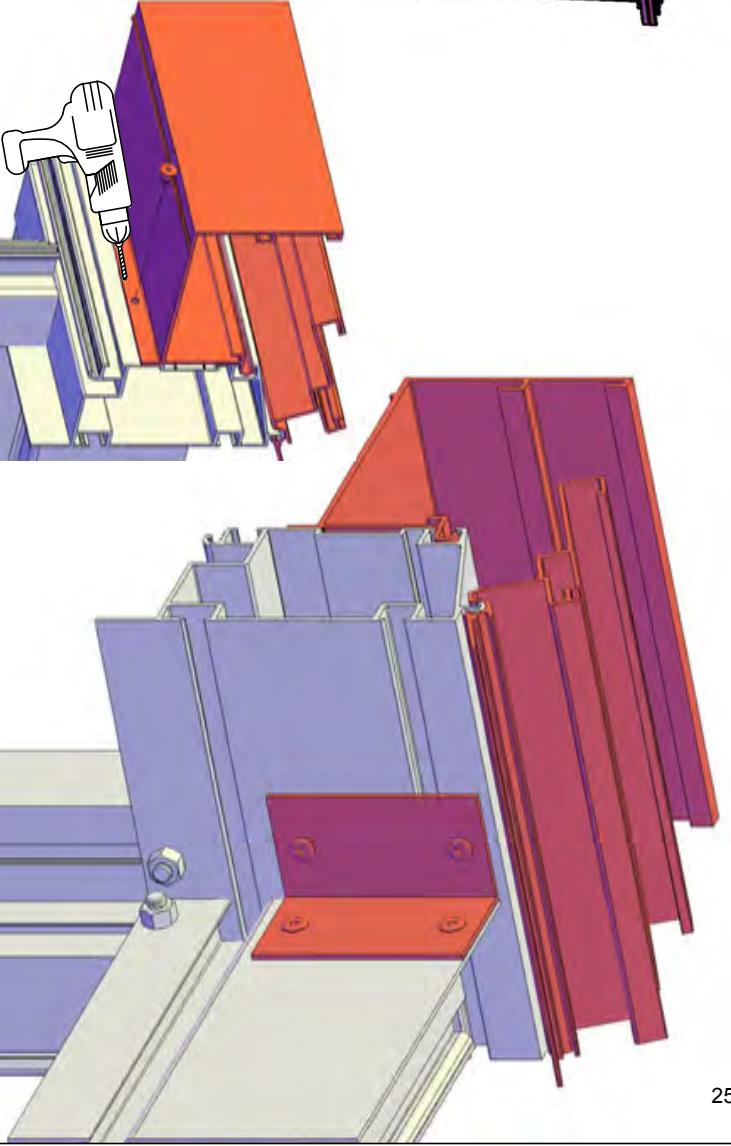
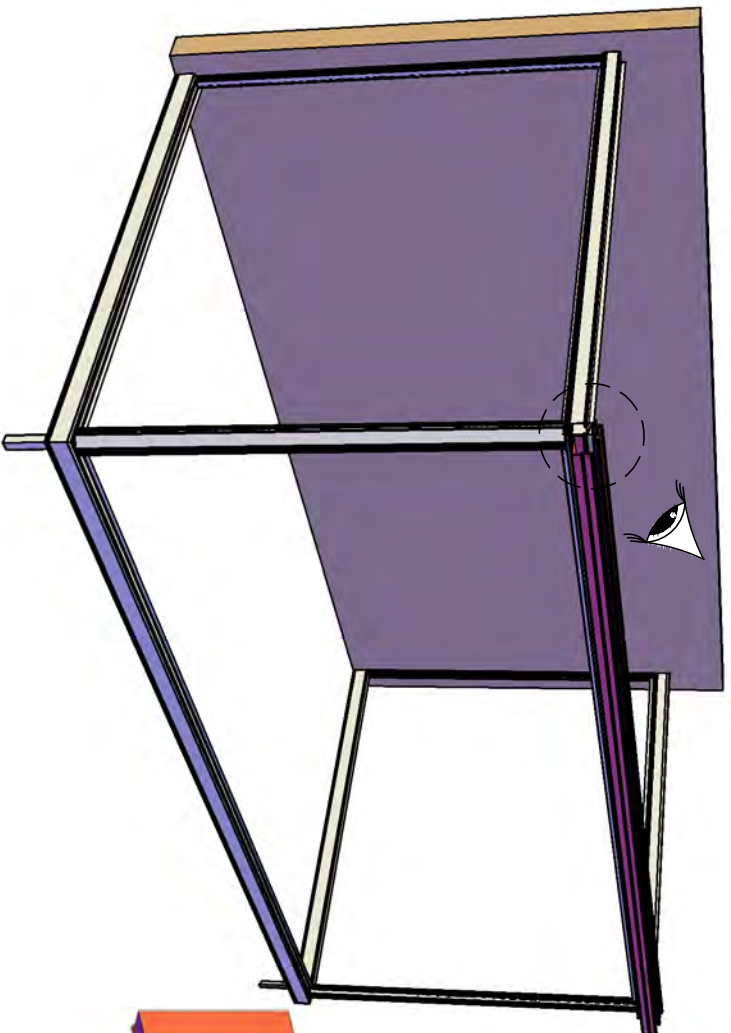
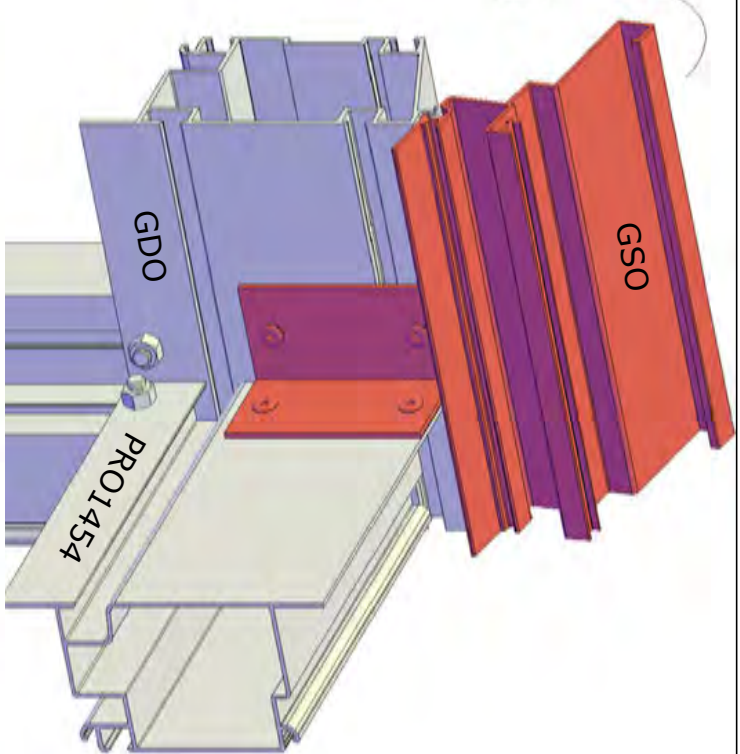
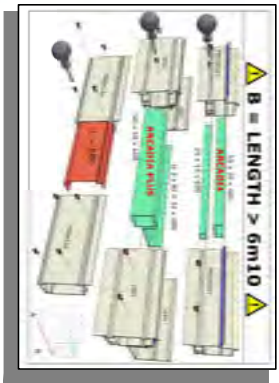
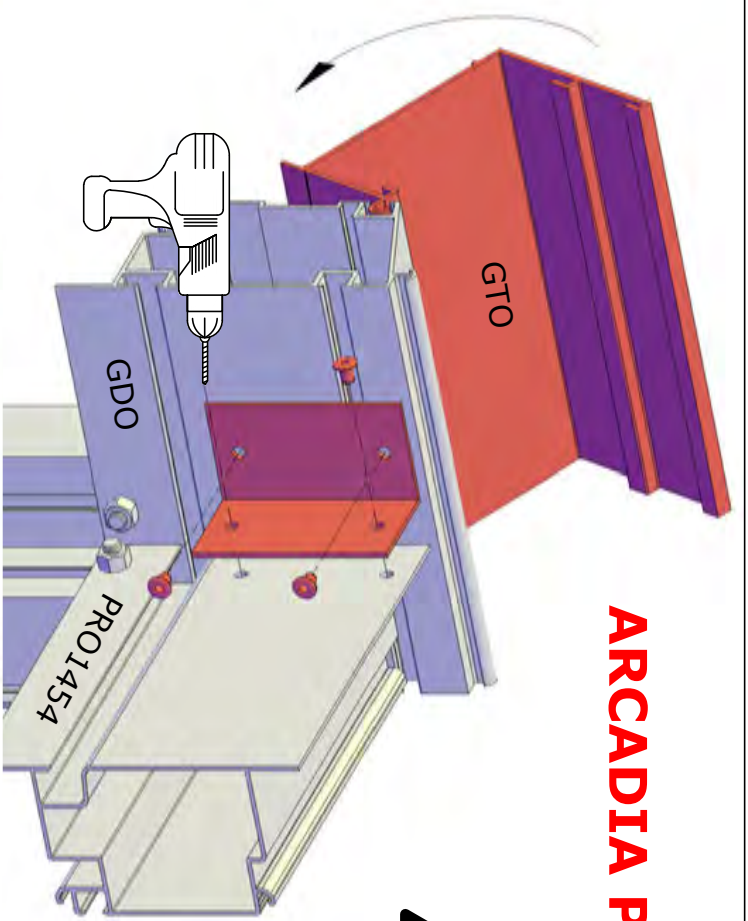
**B > 6m10**

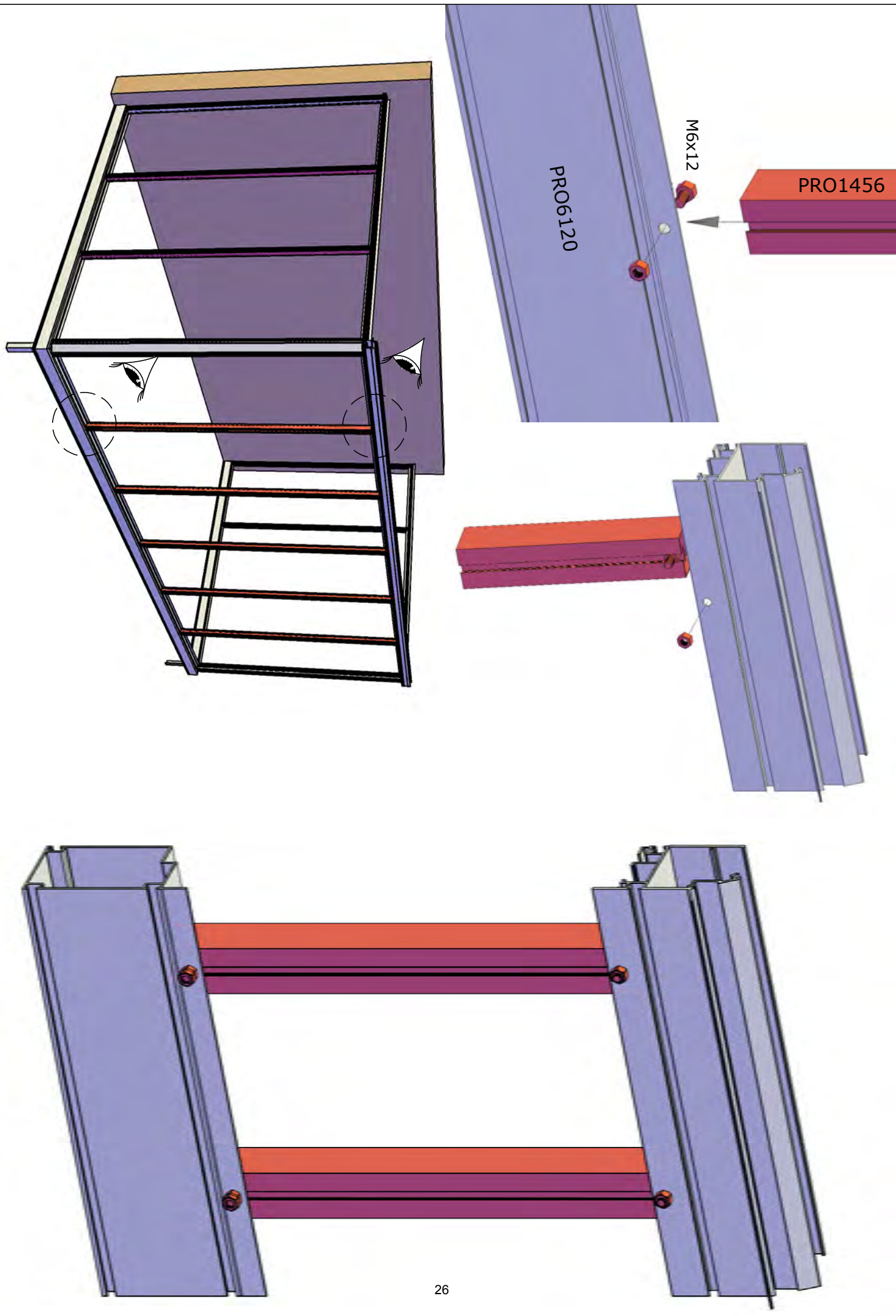




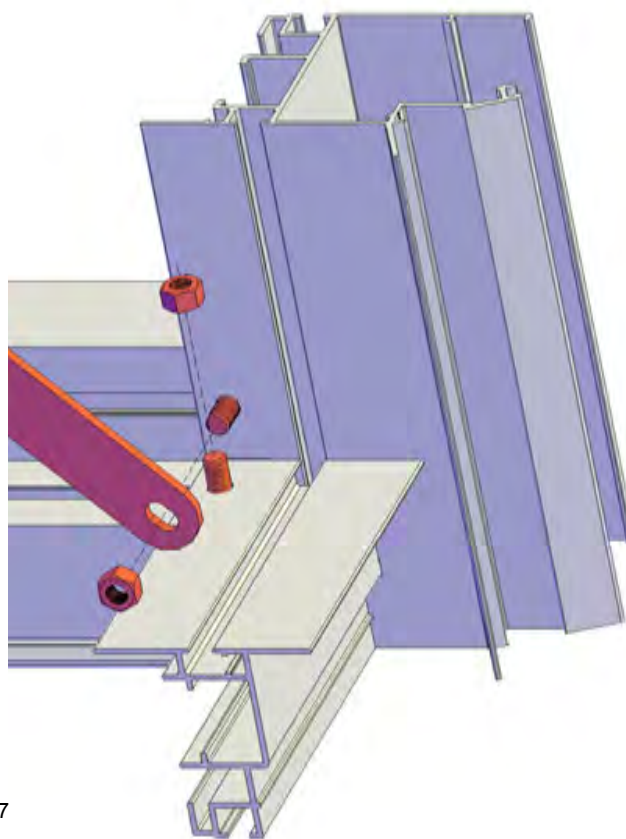
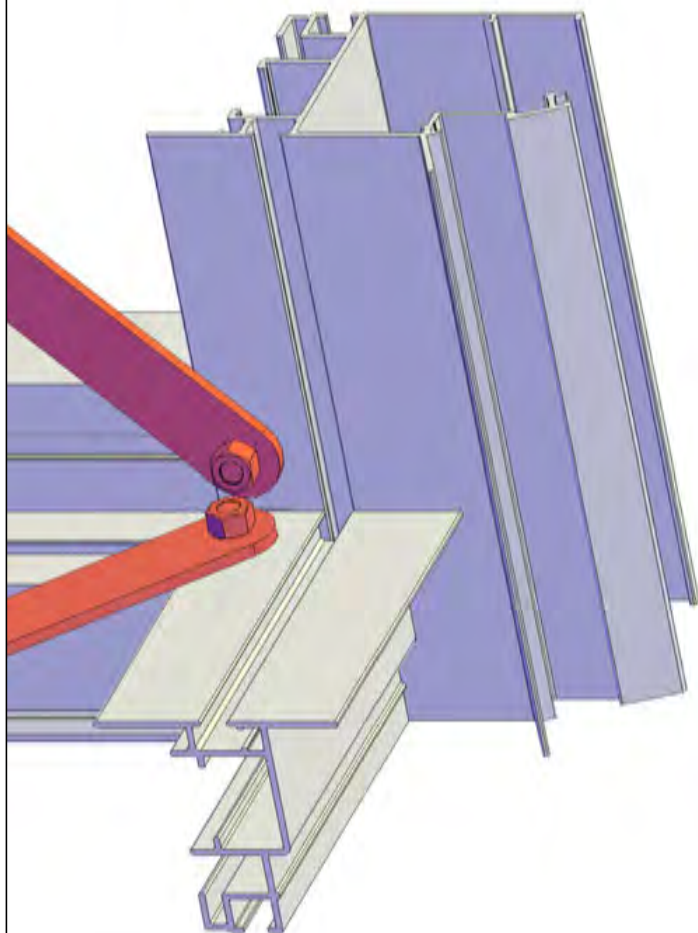
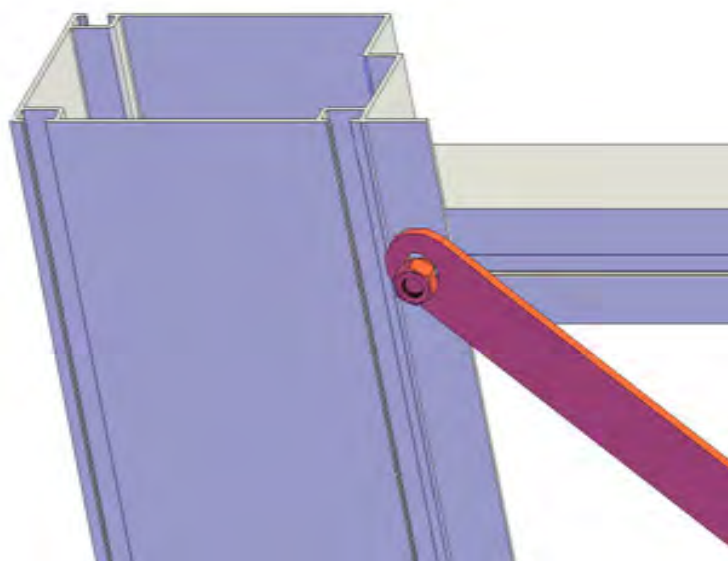
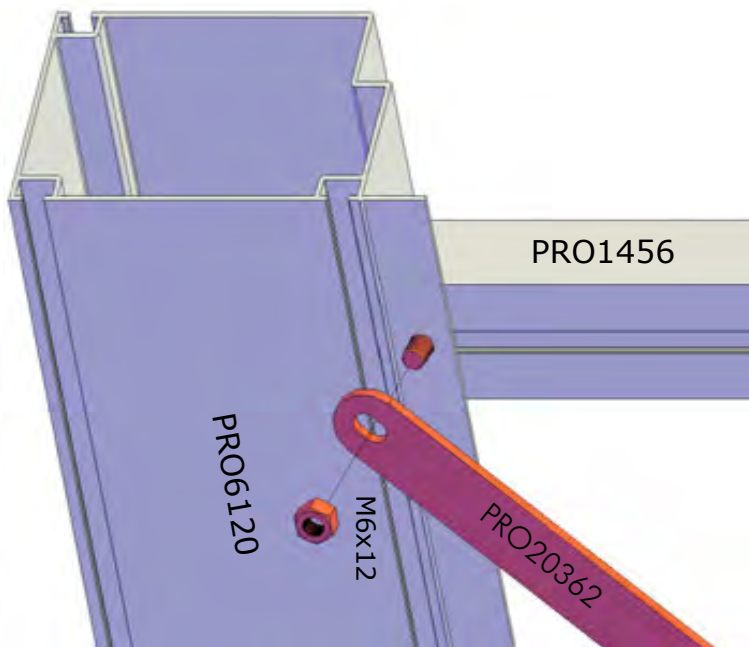
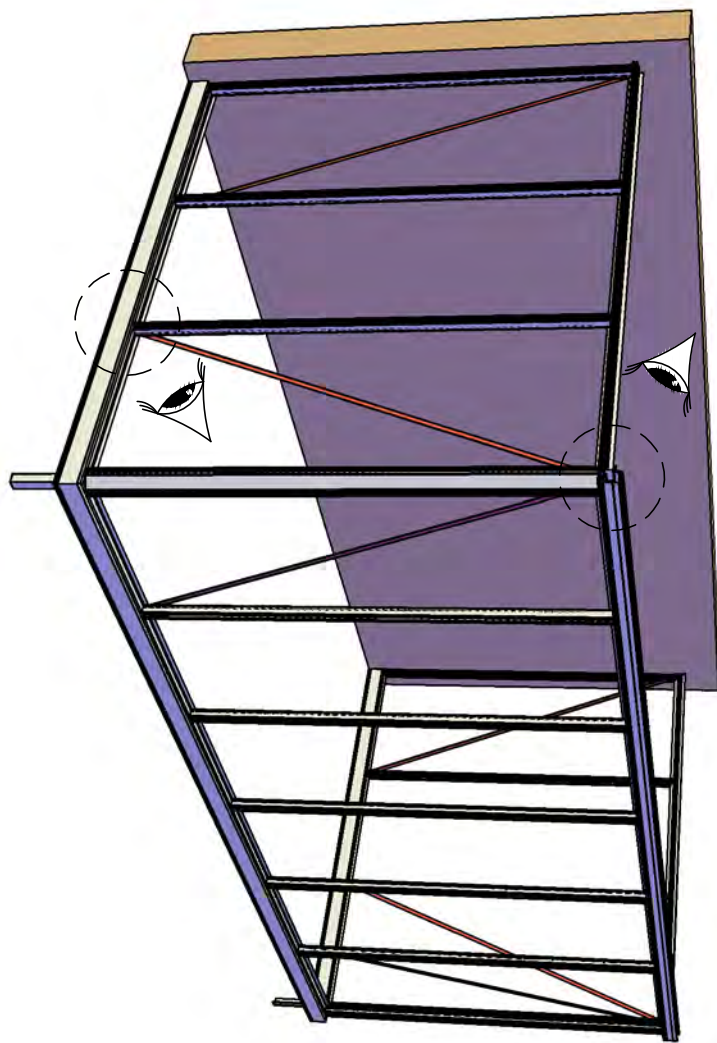
# ARCADIA PLUS

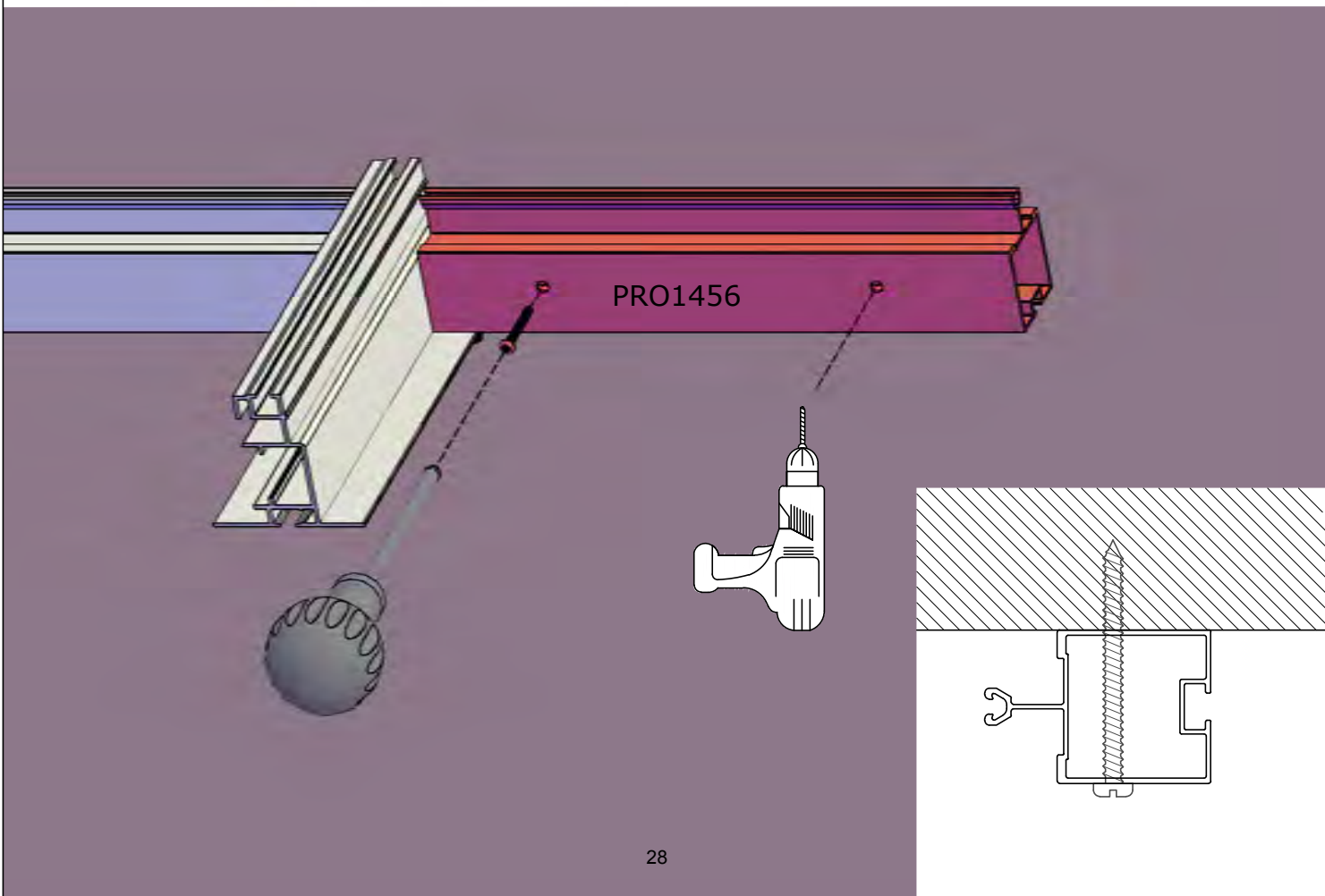
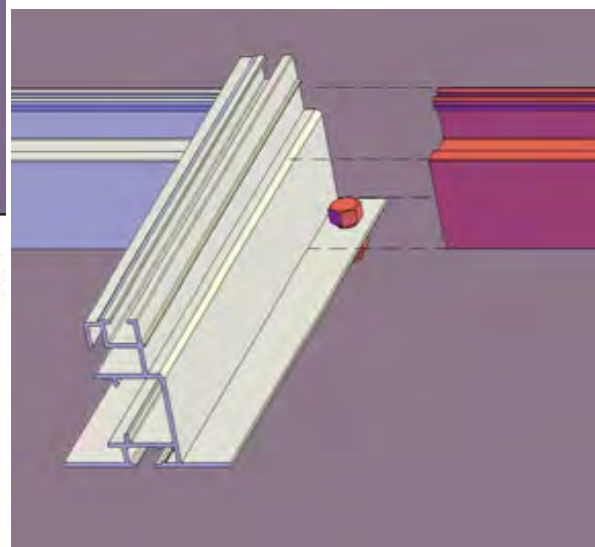
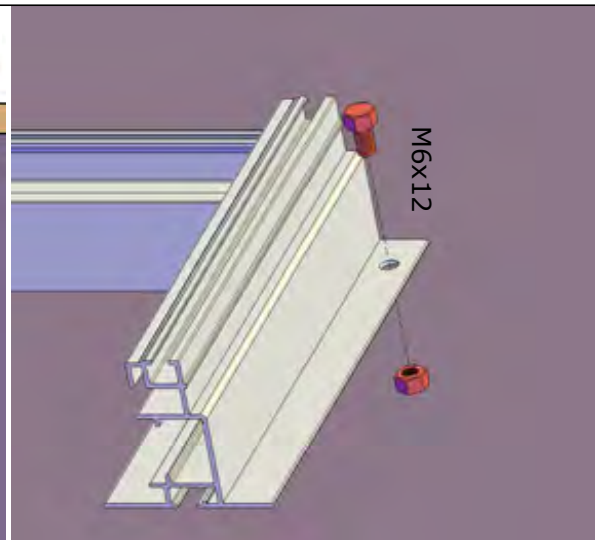
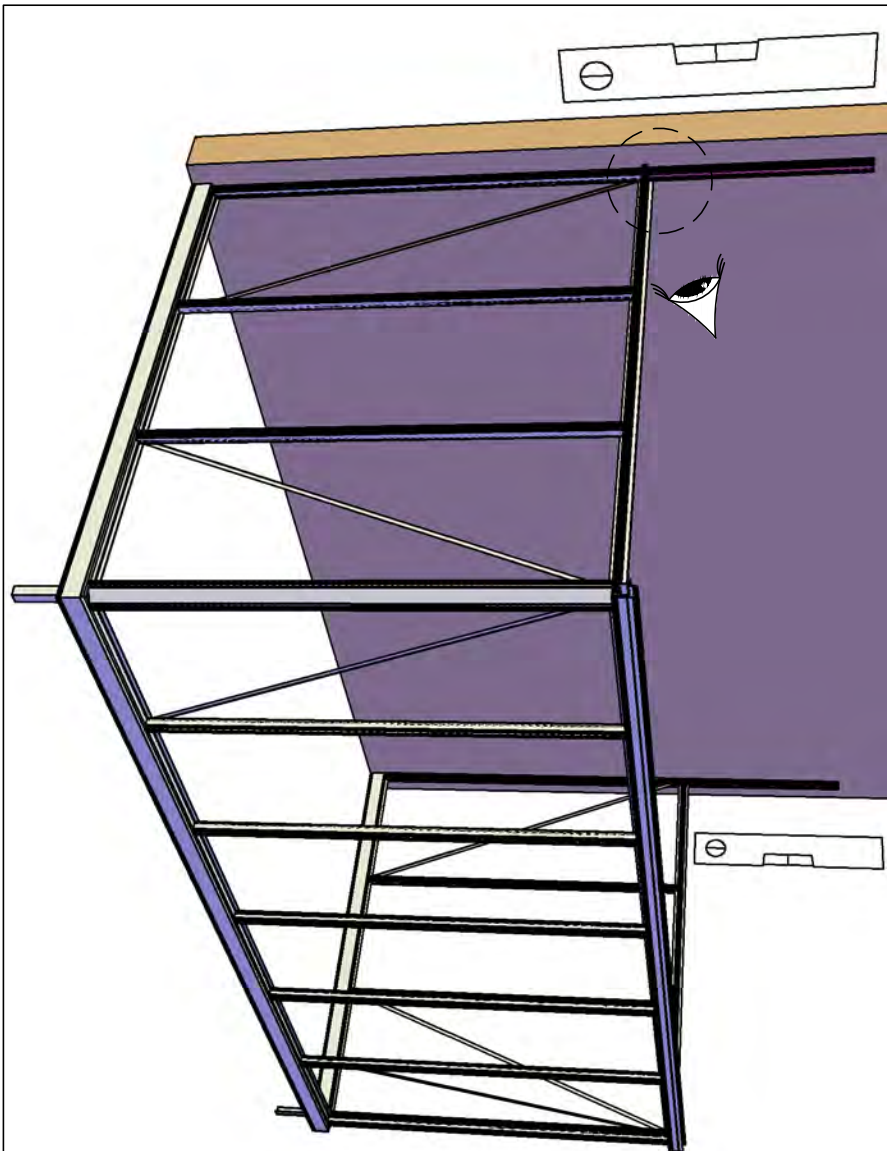
 **B > 6m10**



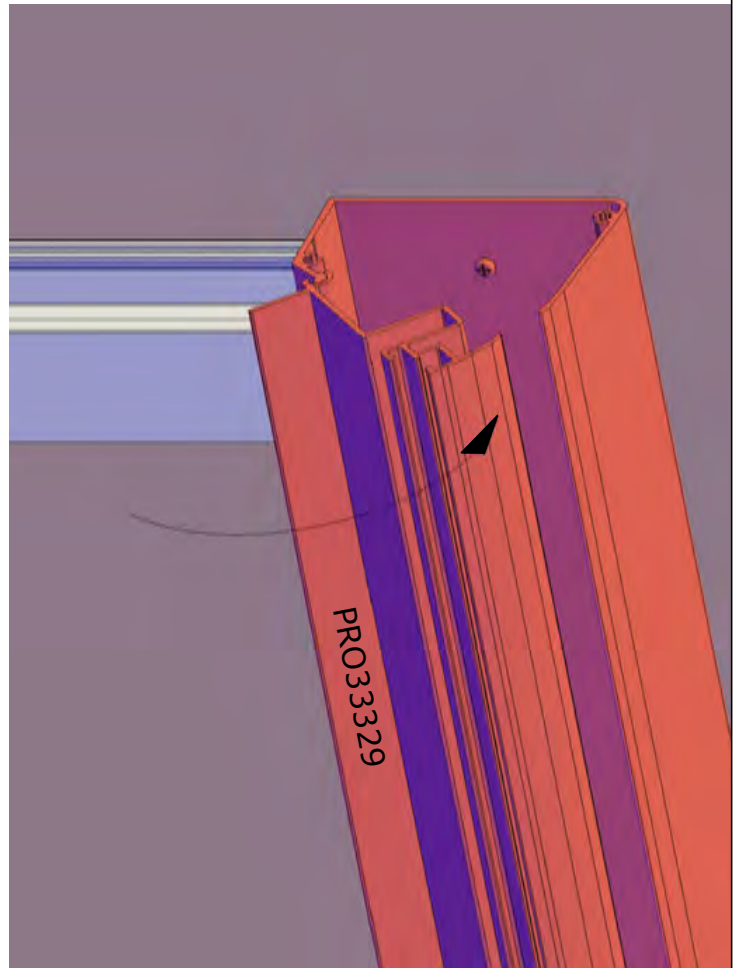
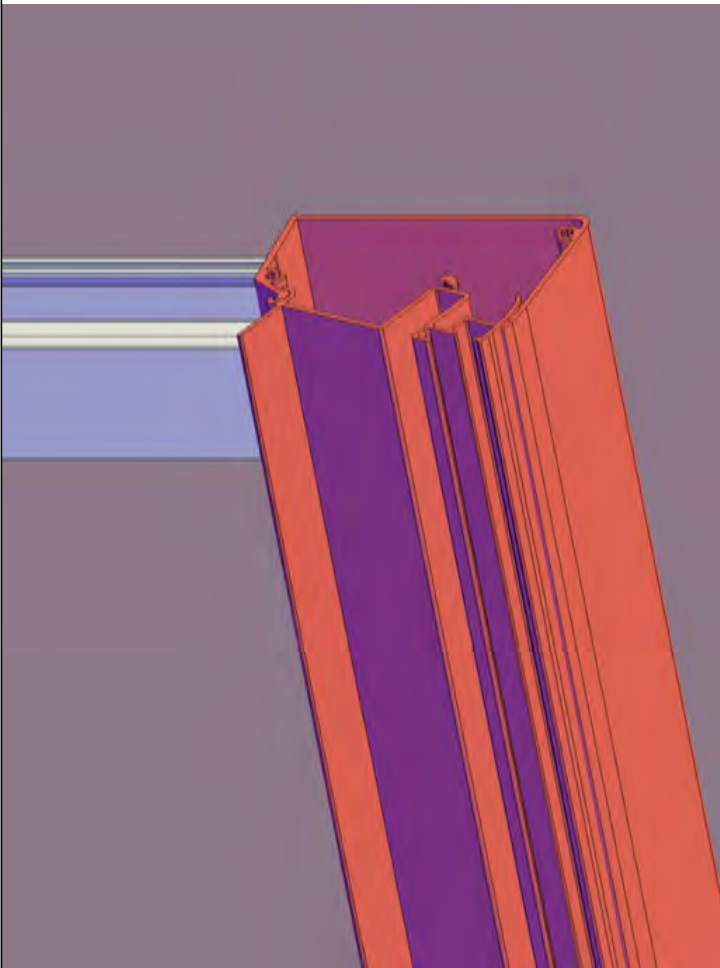
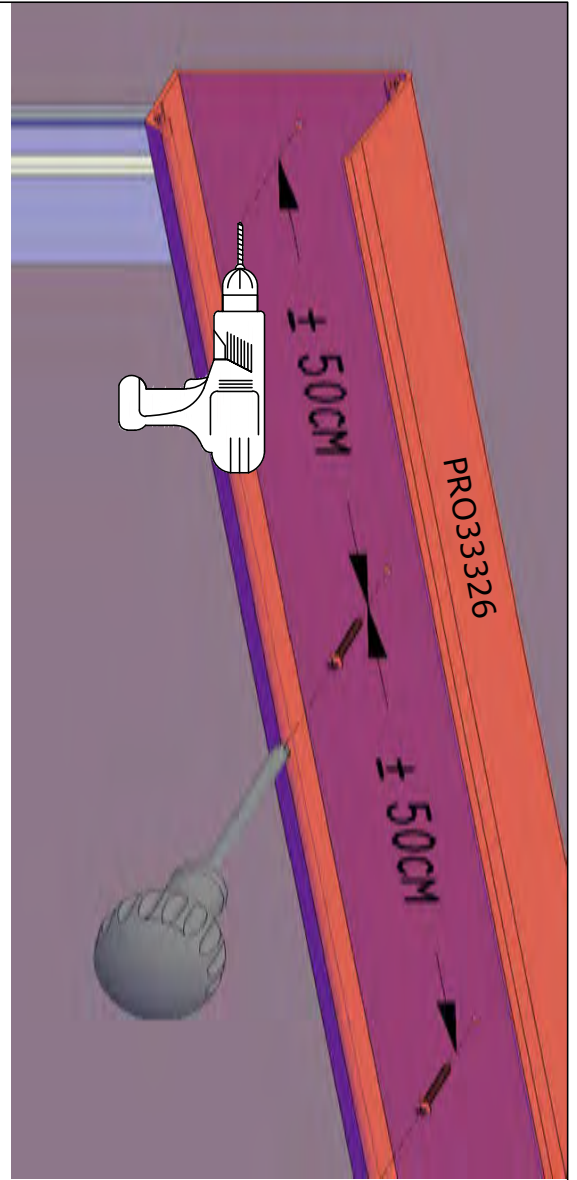
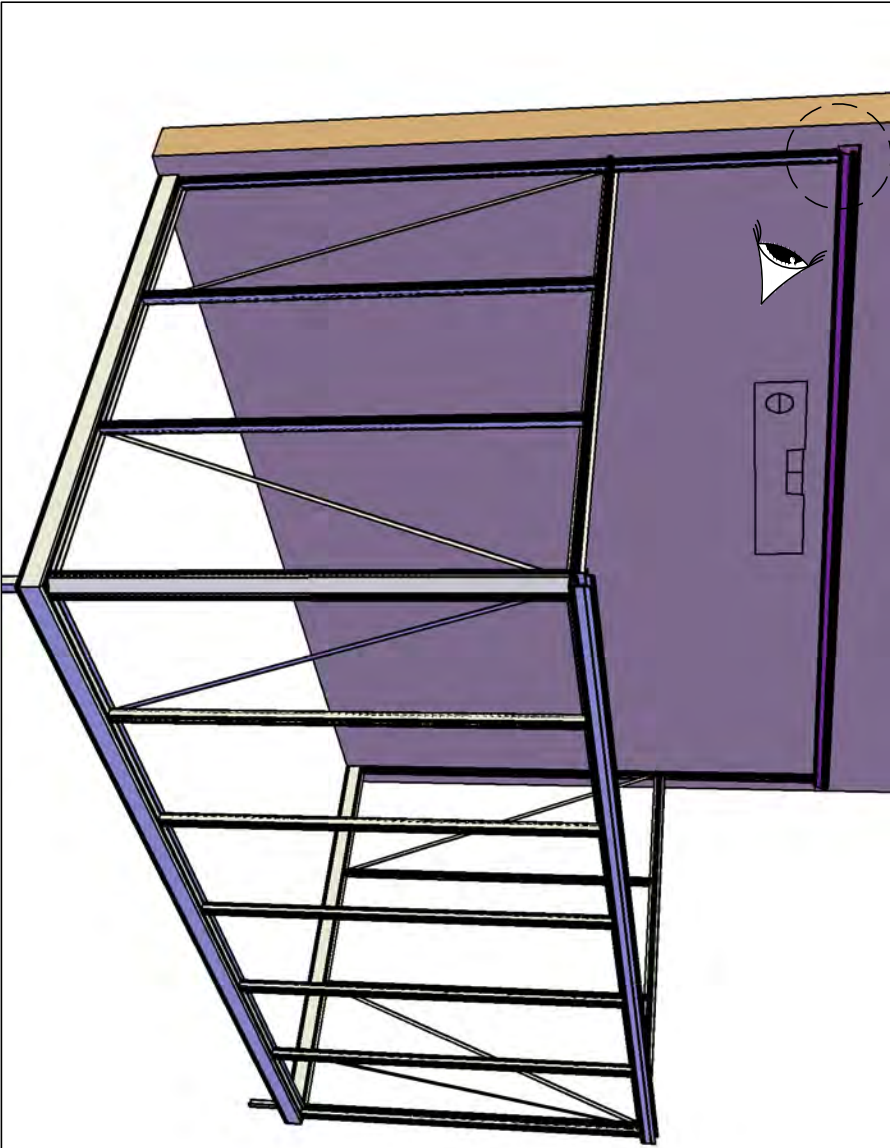


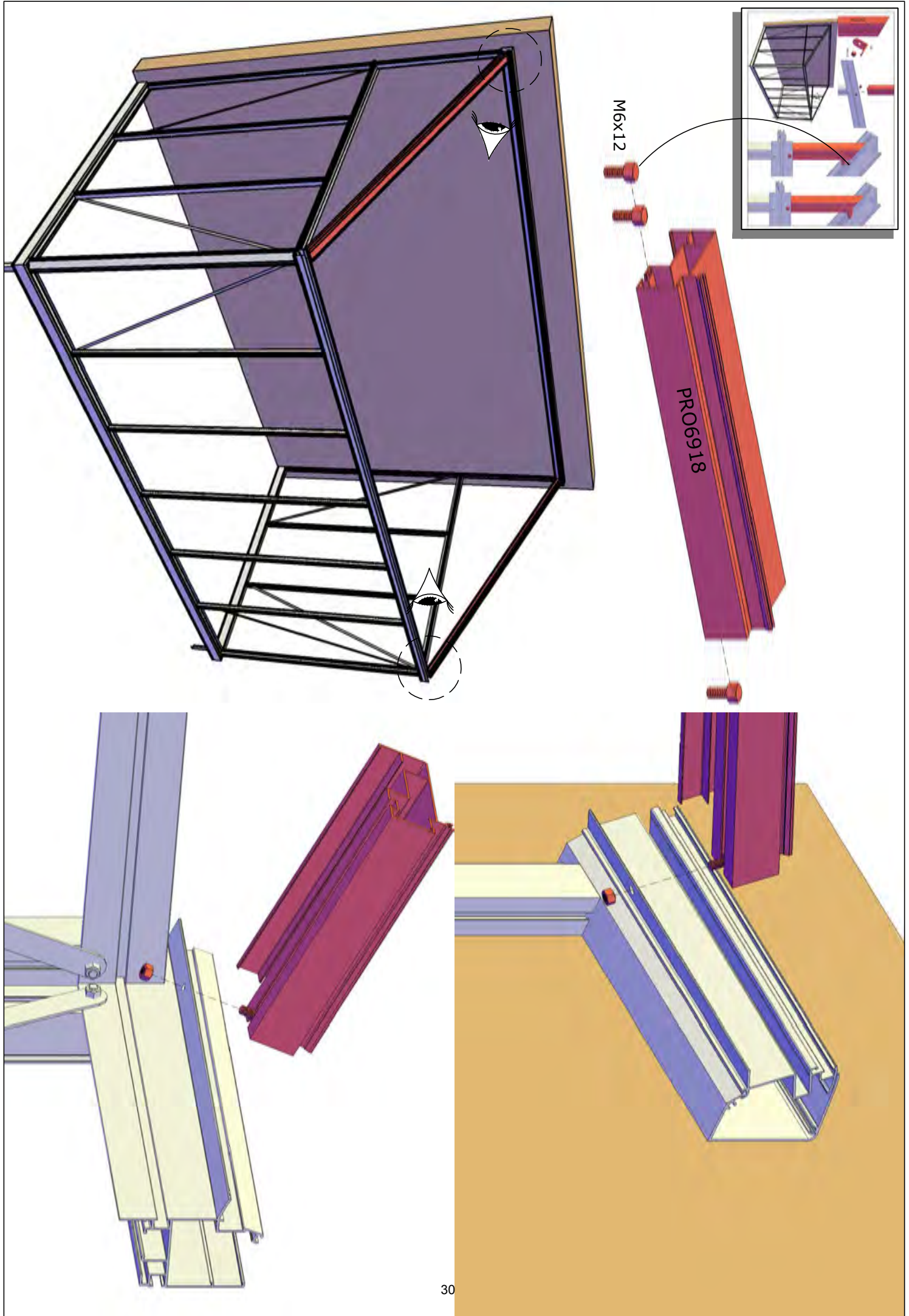




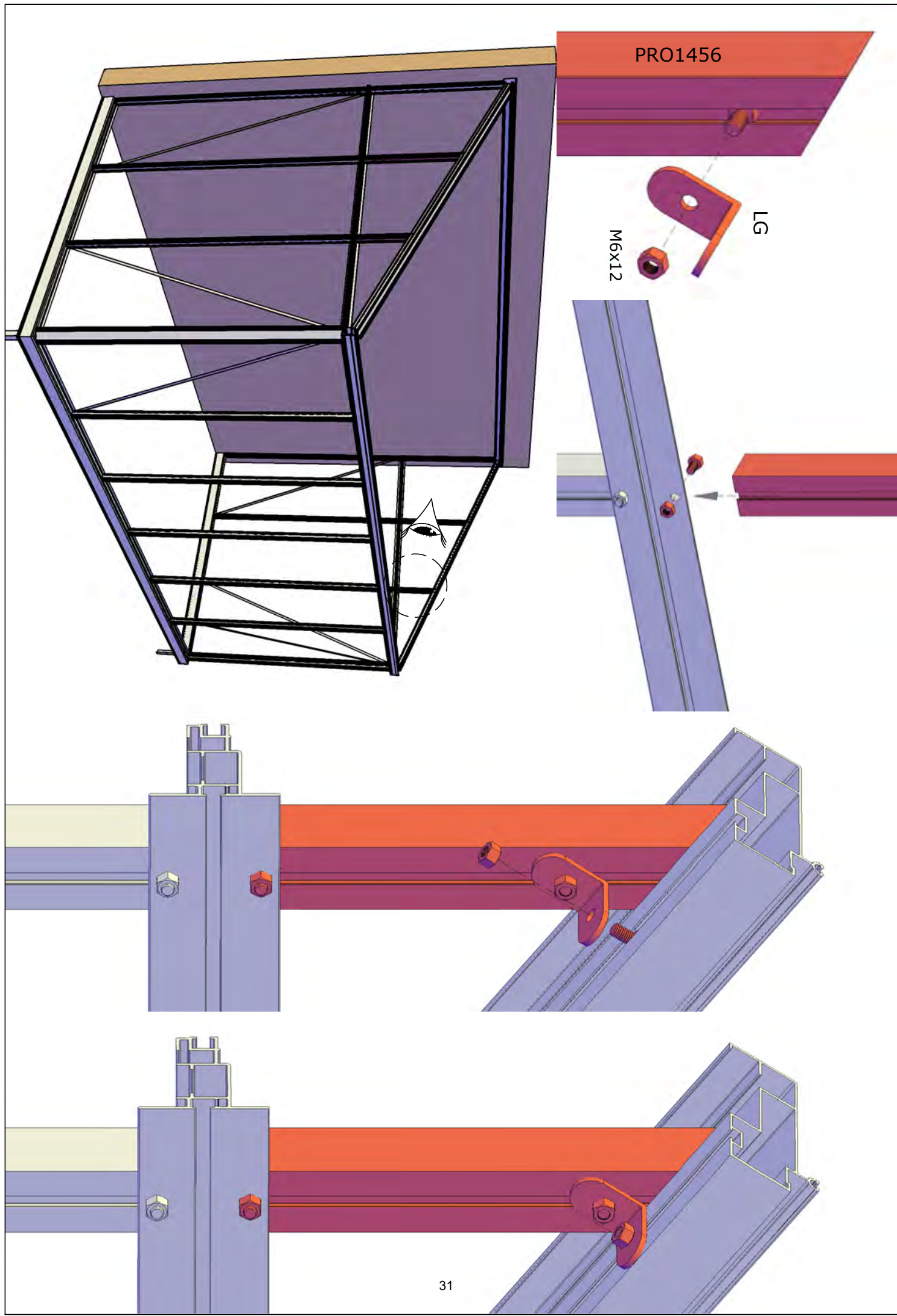


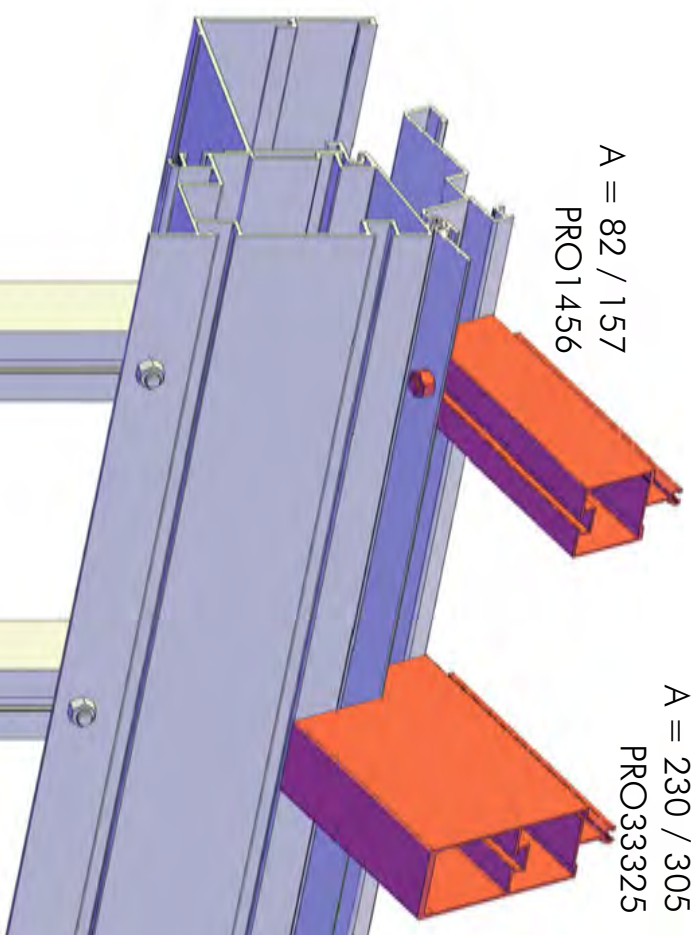
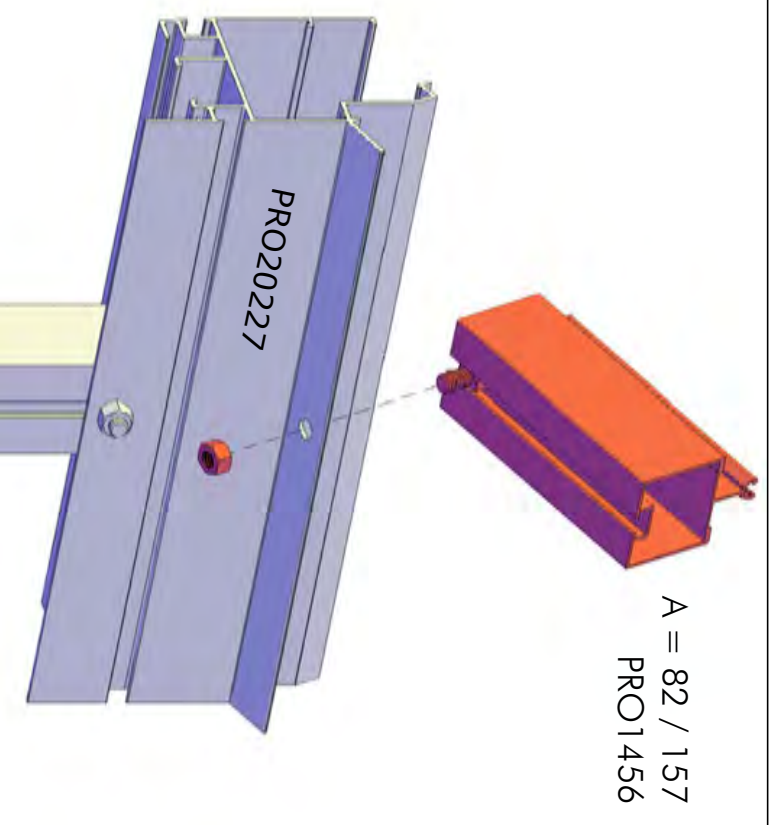
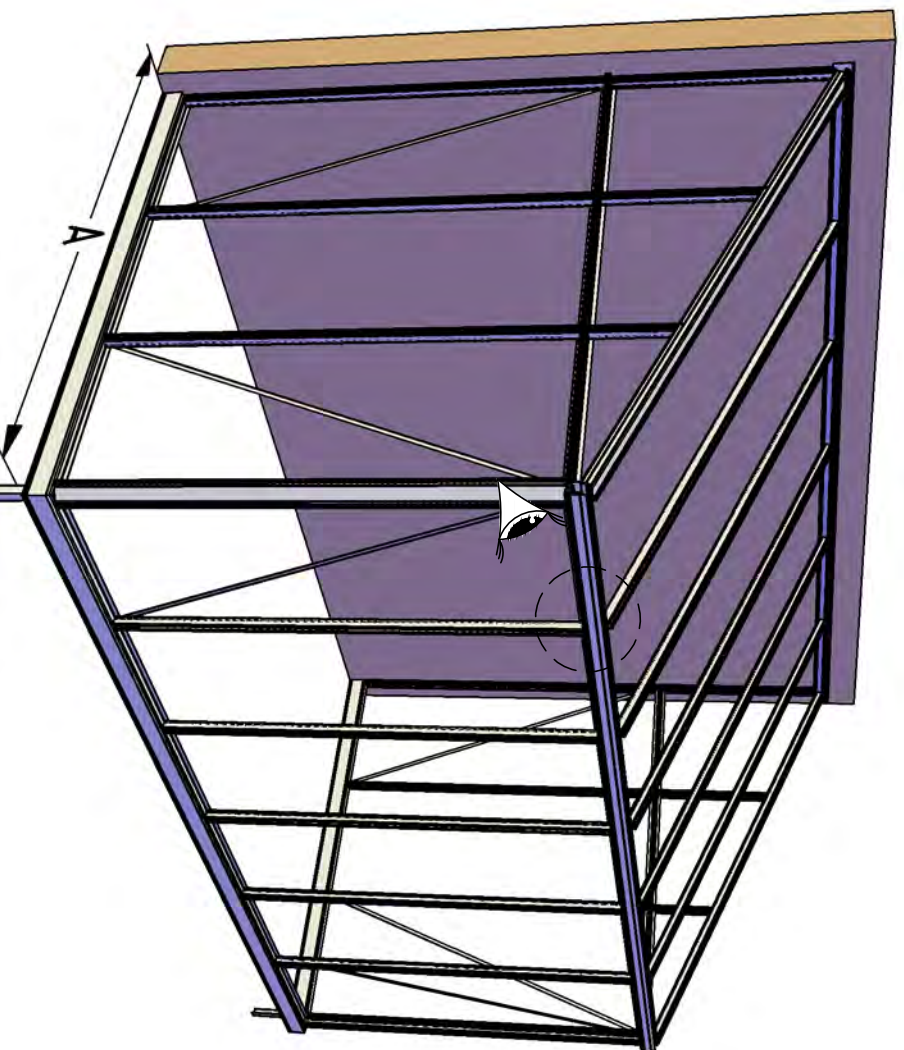
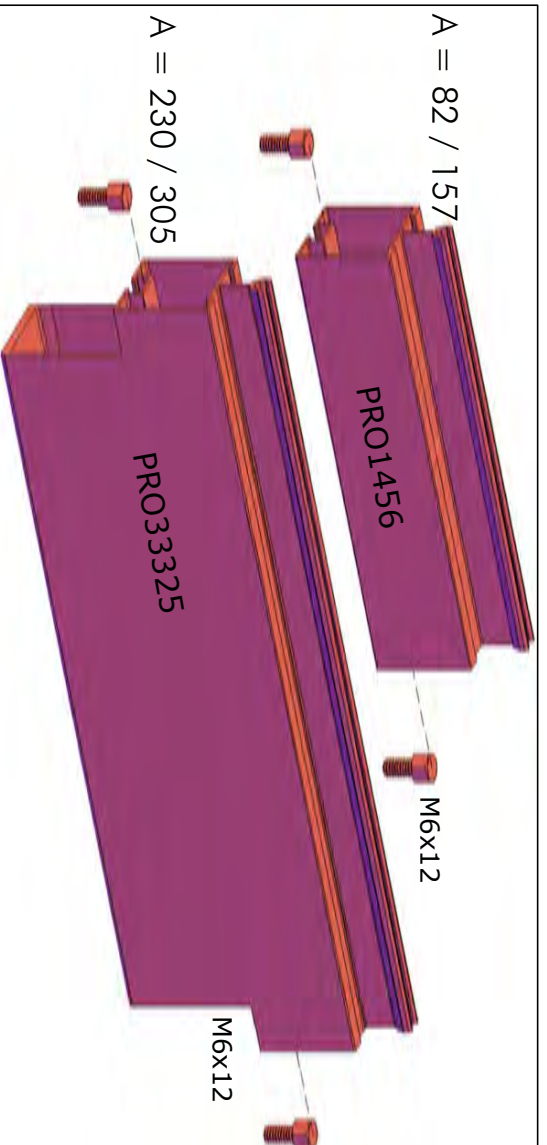




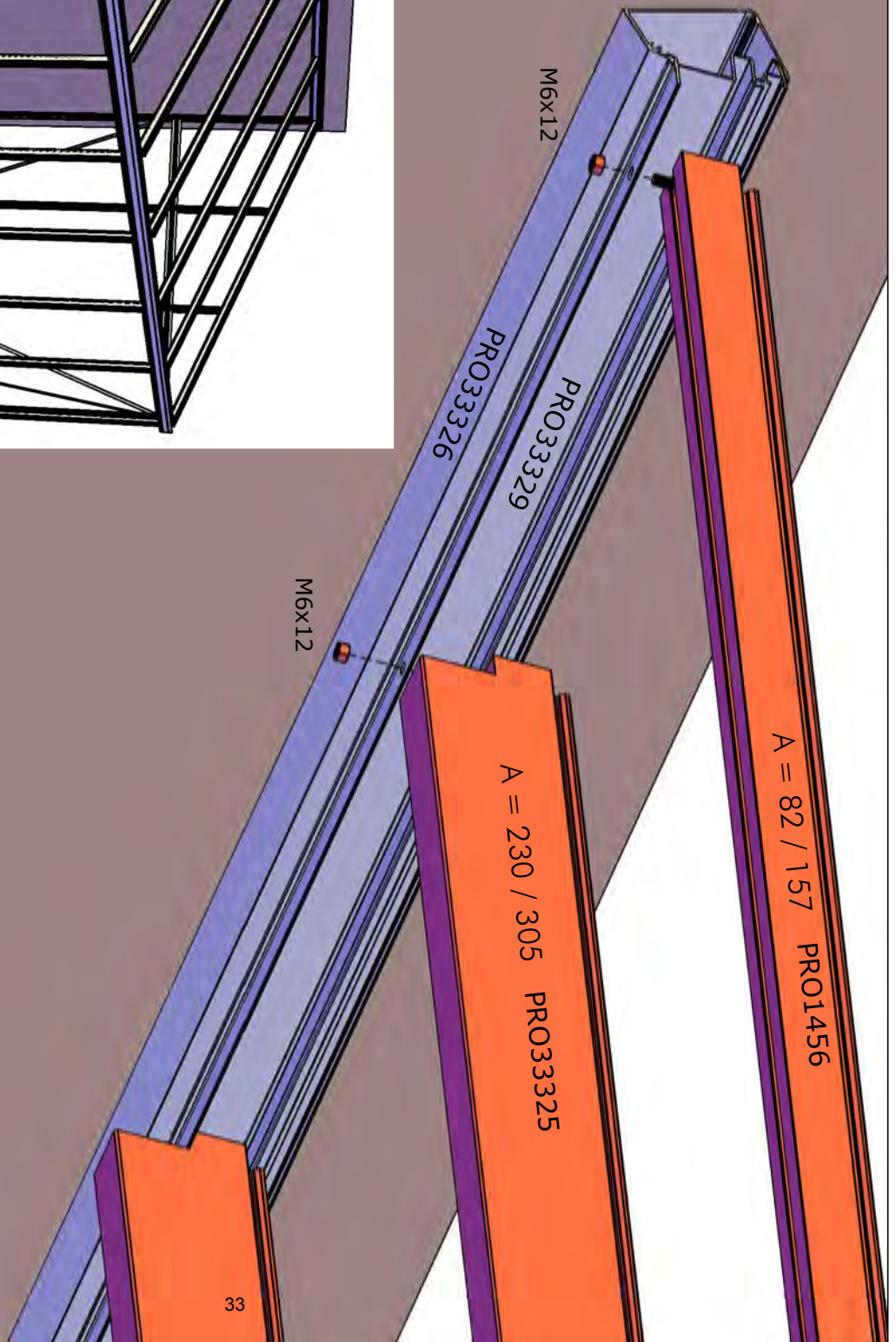
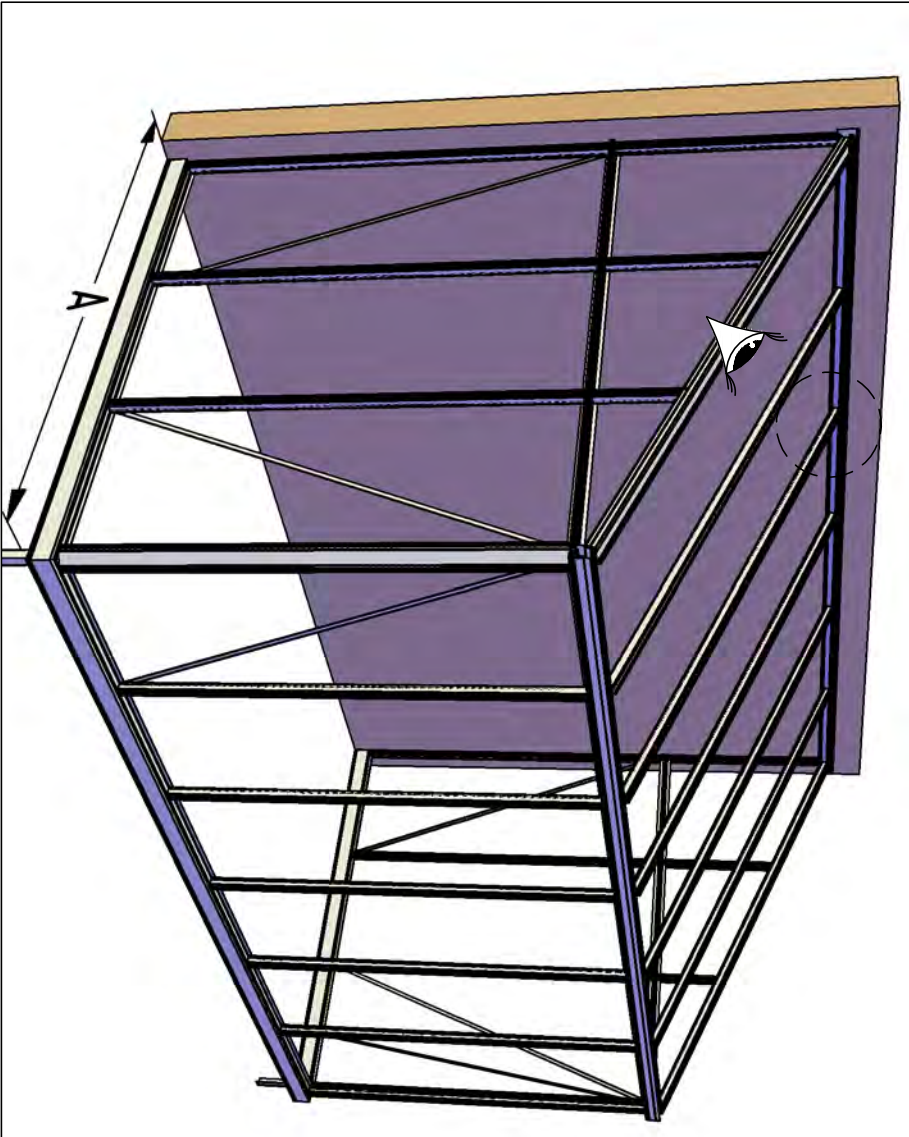


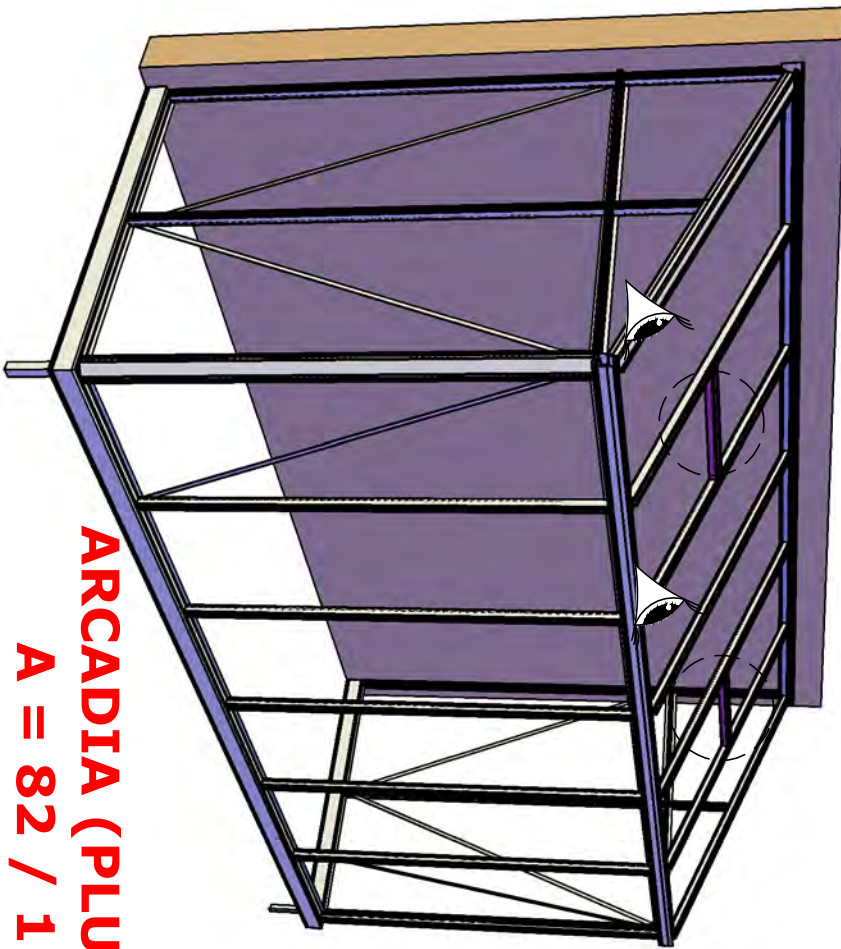




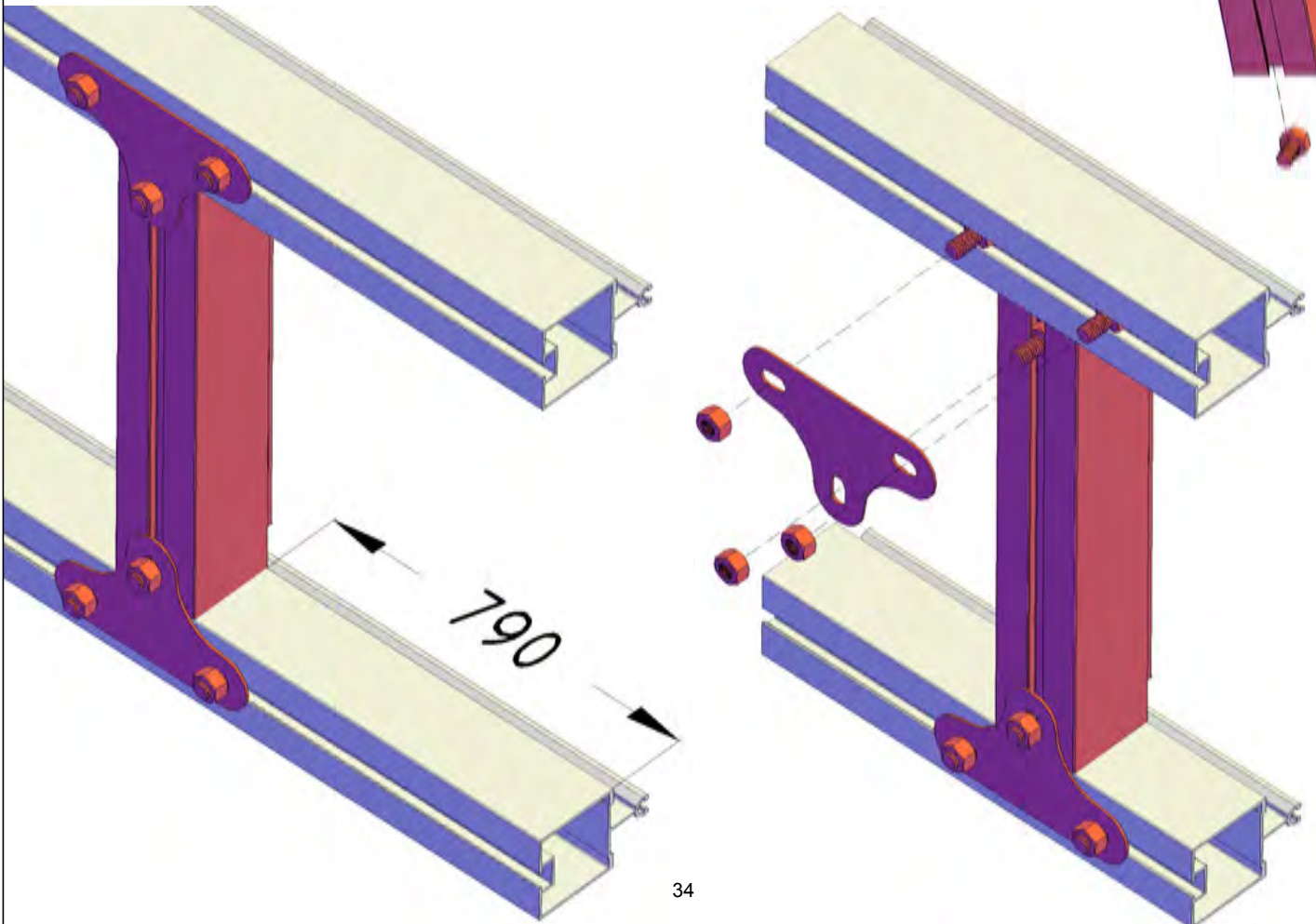
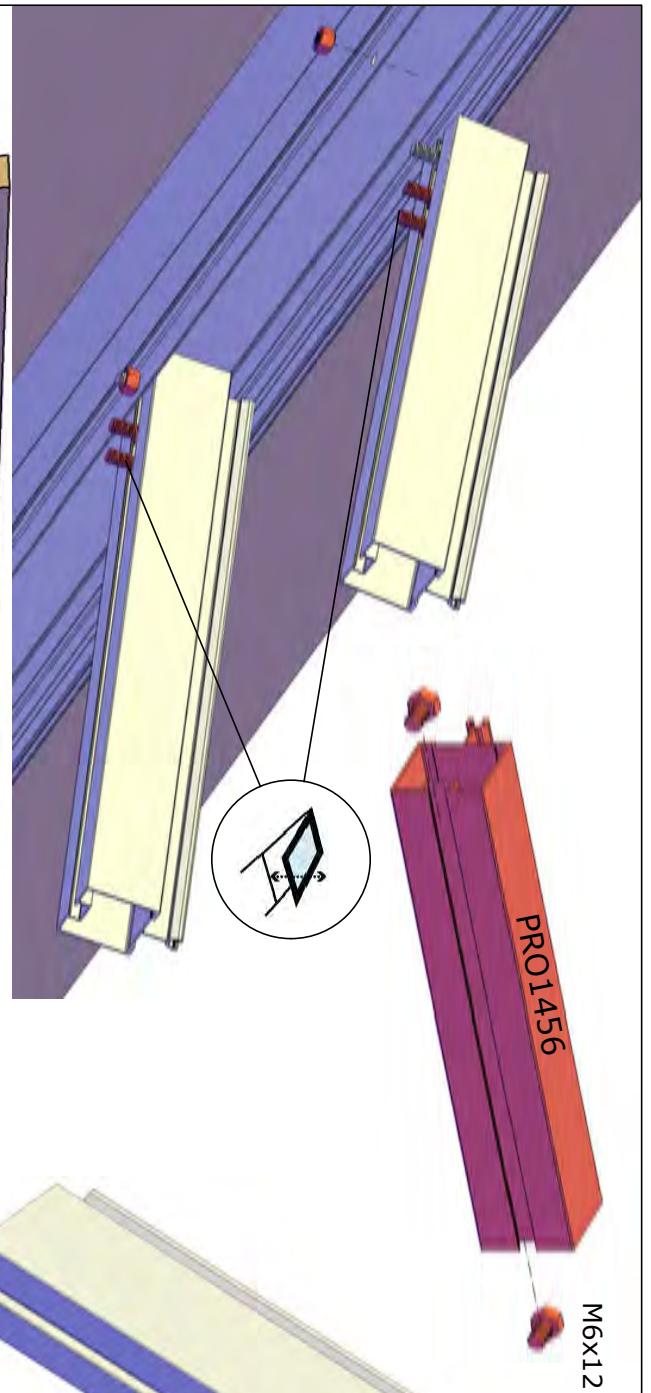








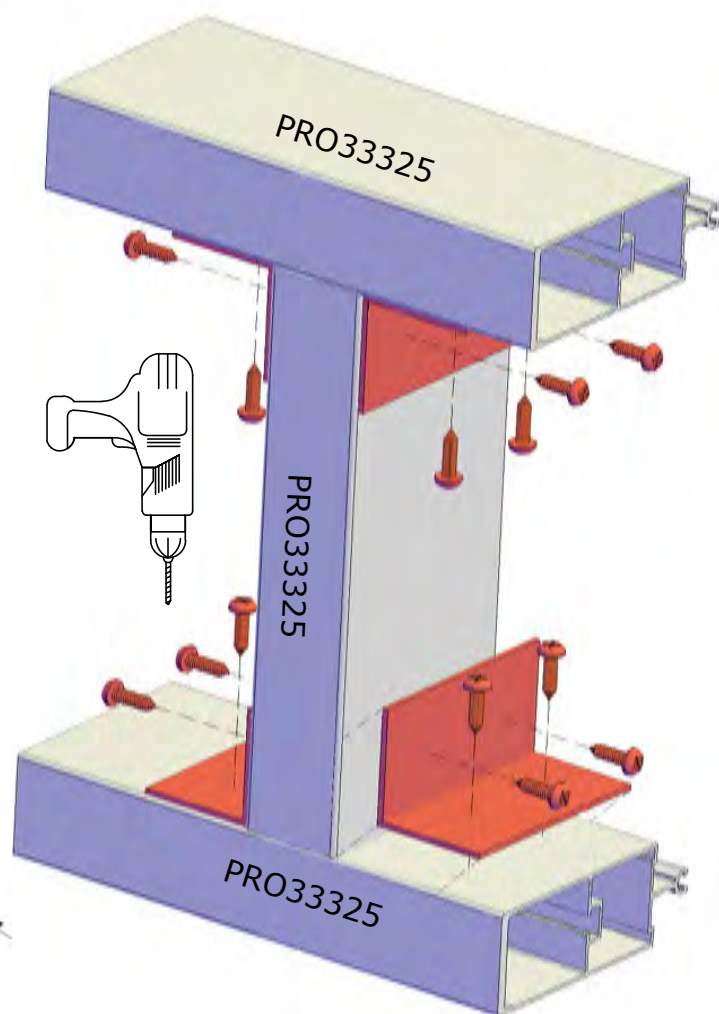
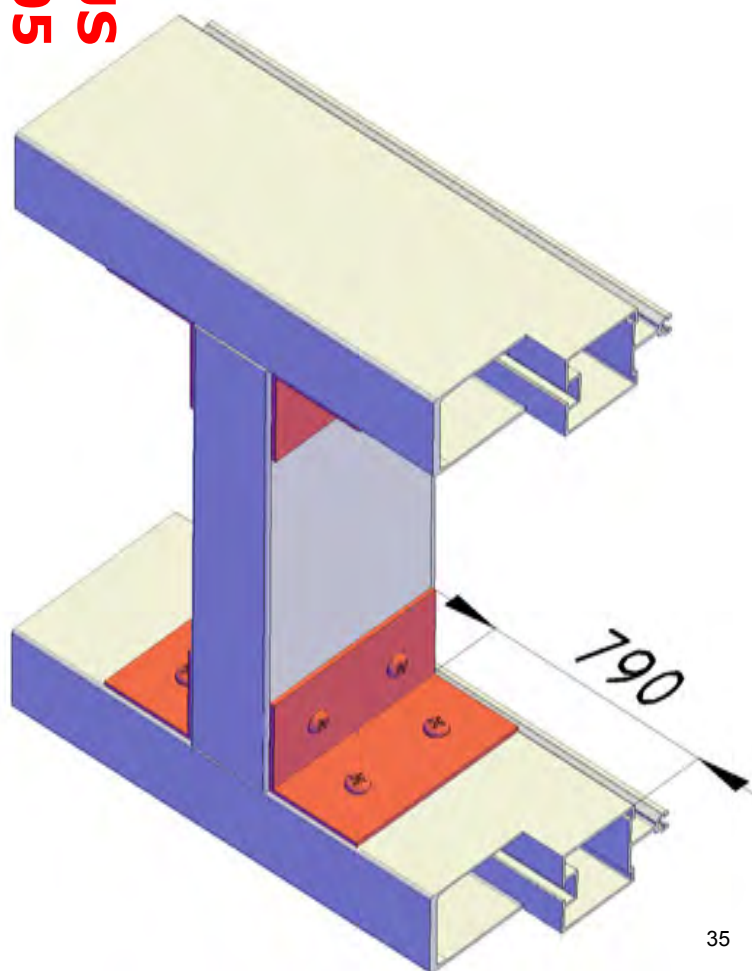
**ARCADIA (PLUS)**  
**A = 82 / 157**

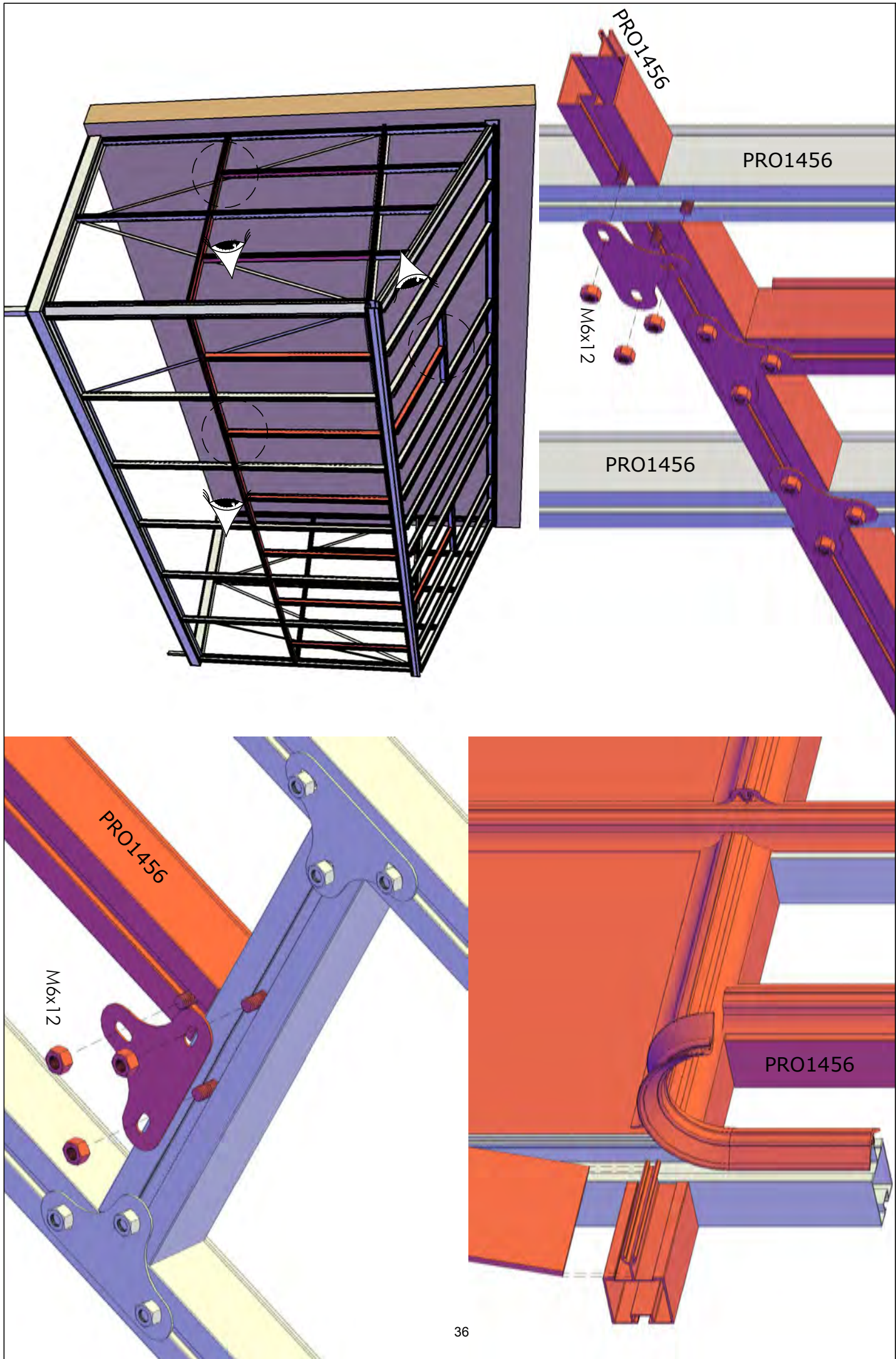




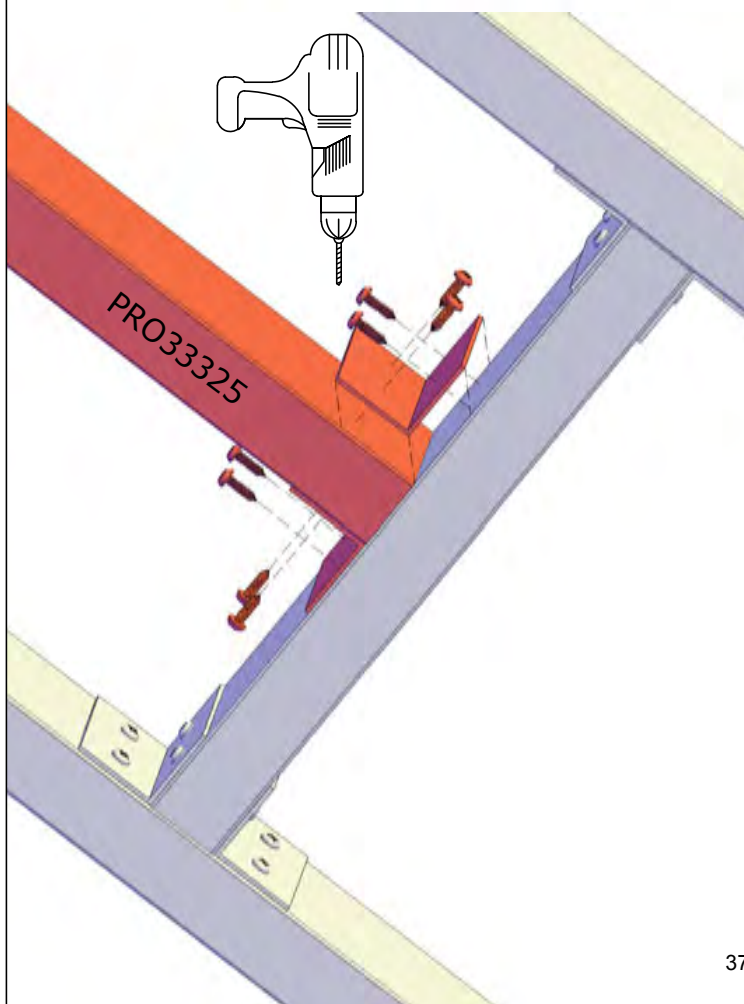
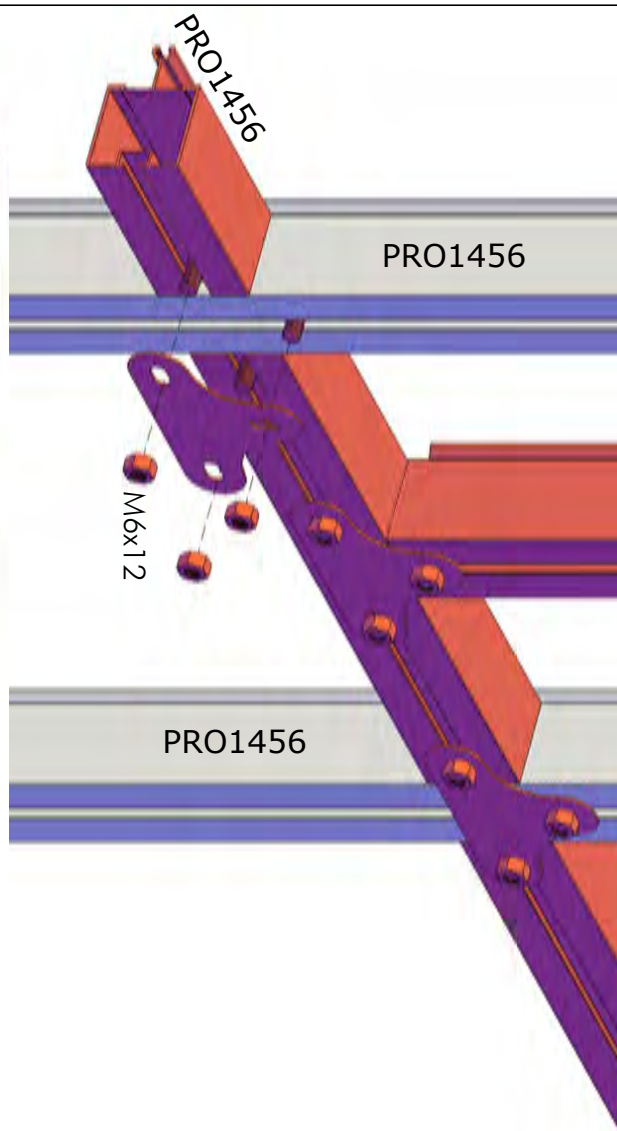
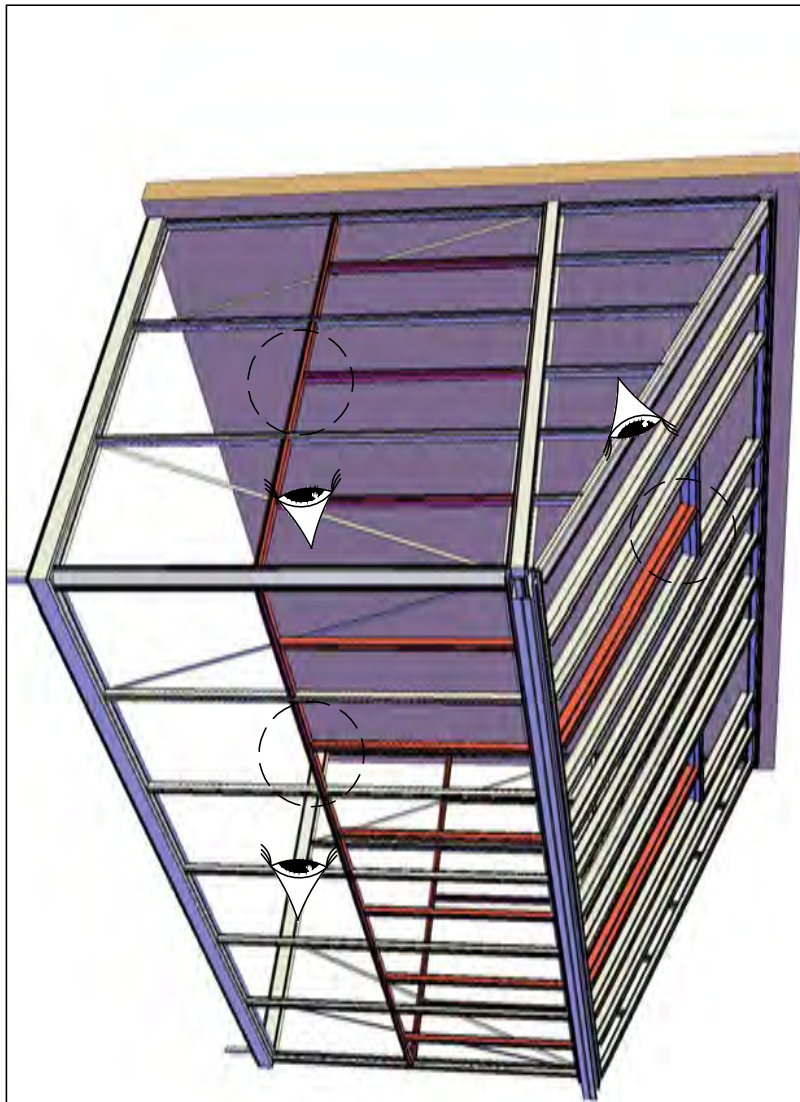


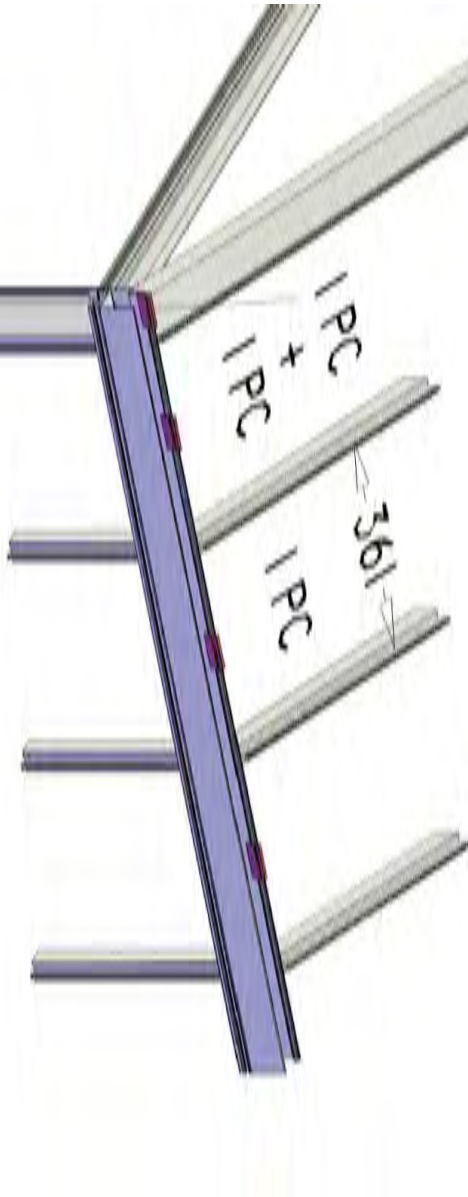
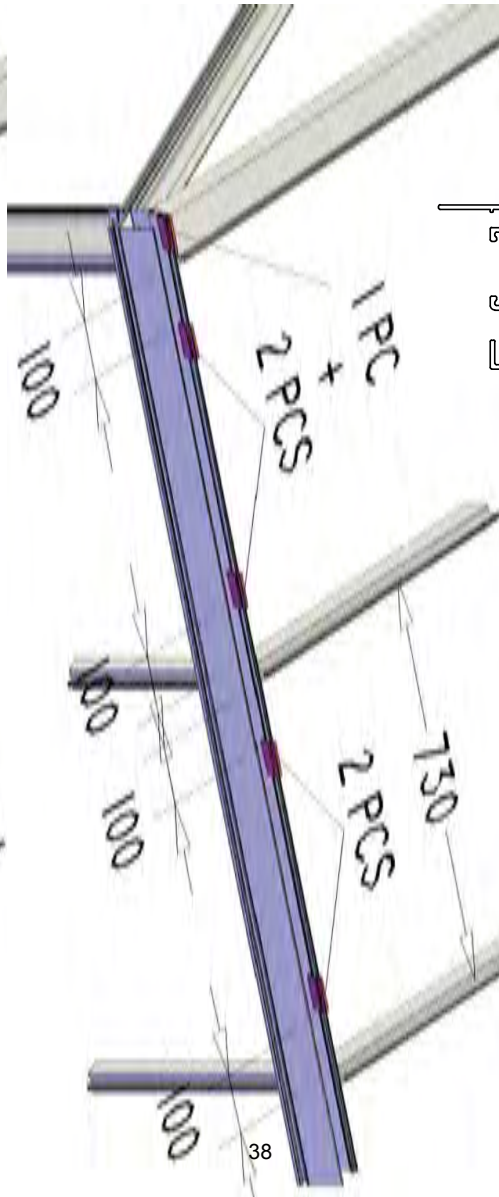
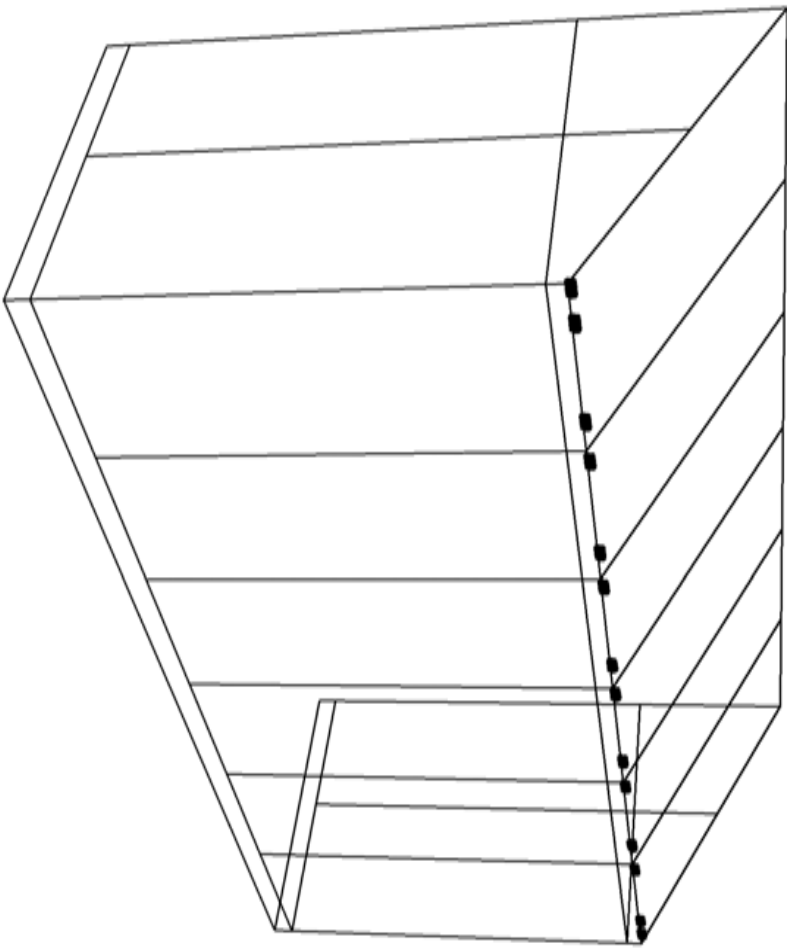
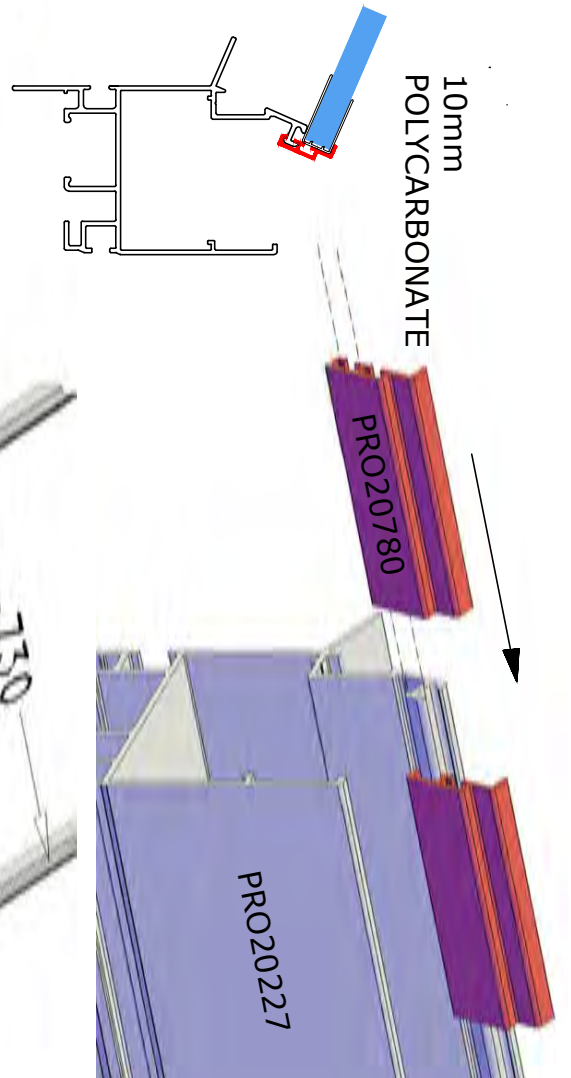
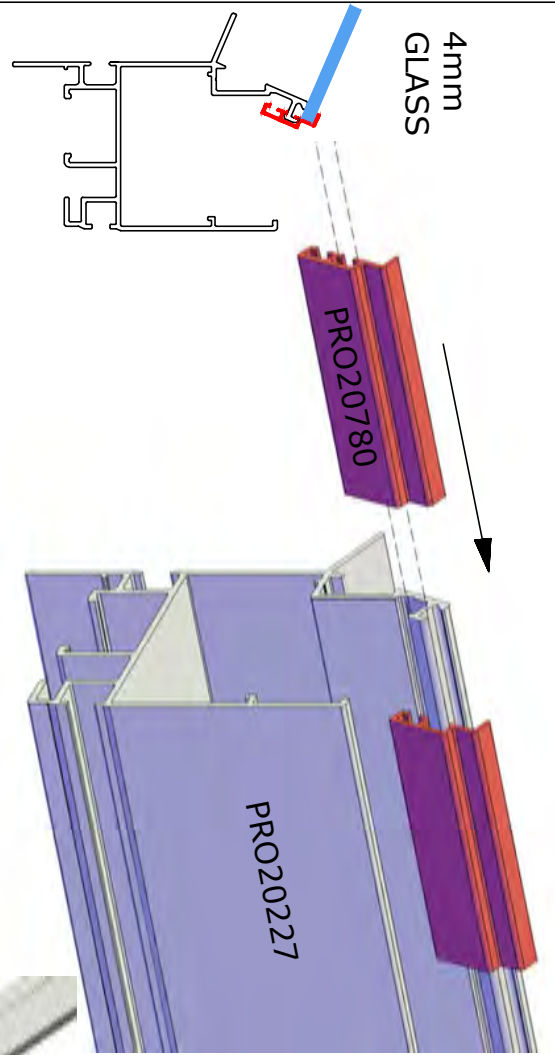
**ARCADIA PLUS**  
**A = 230 / 305**



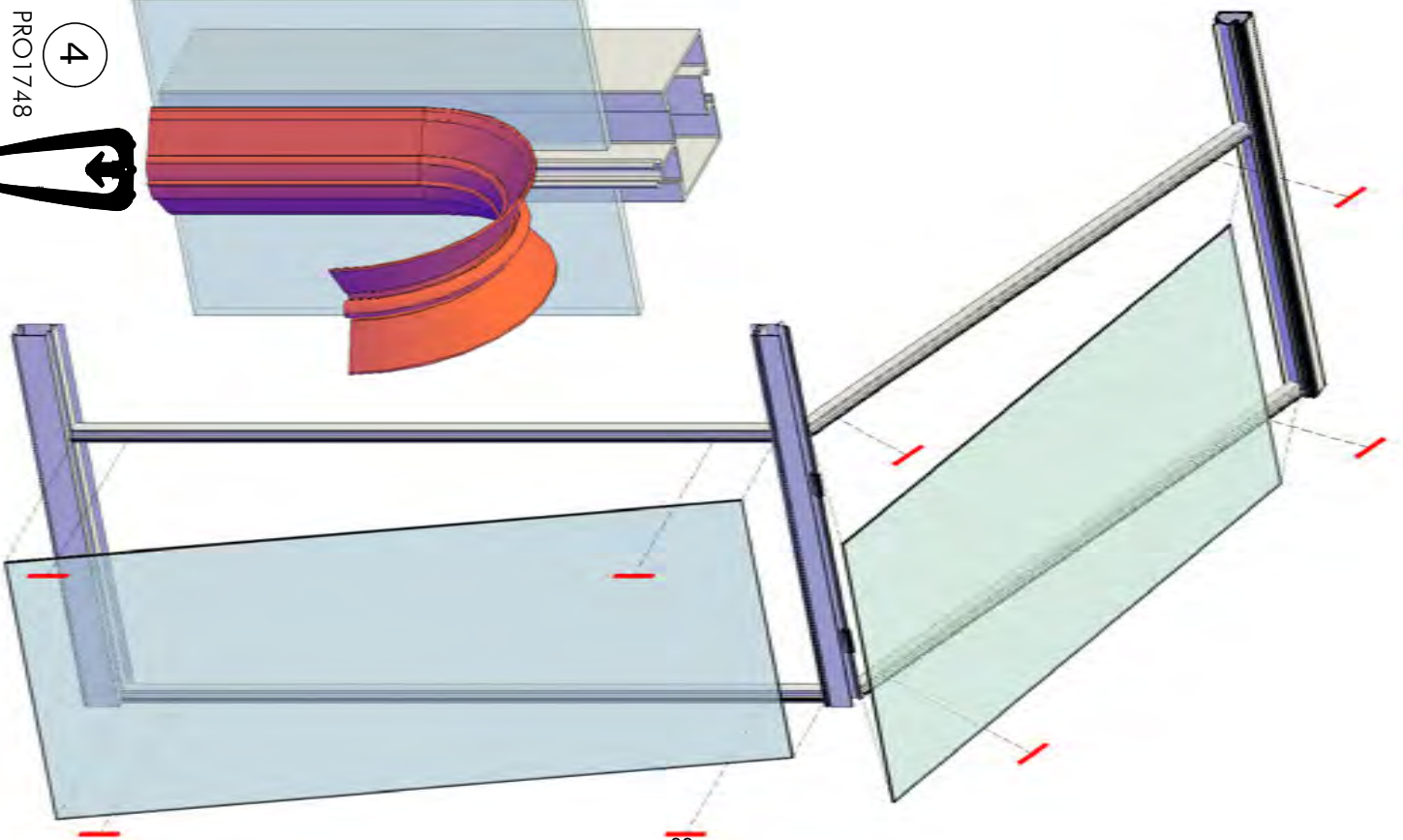
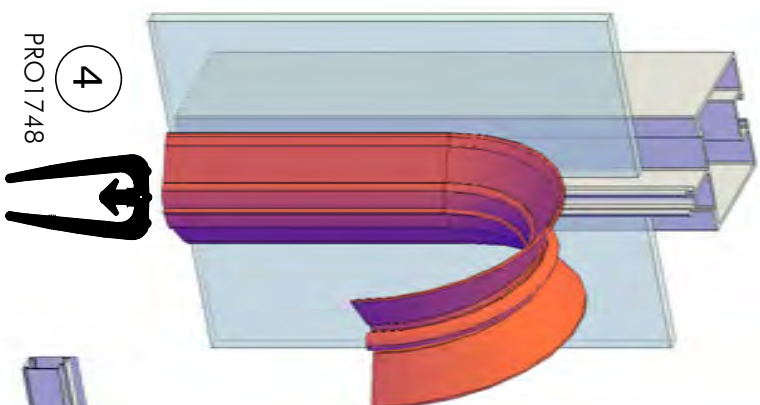
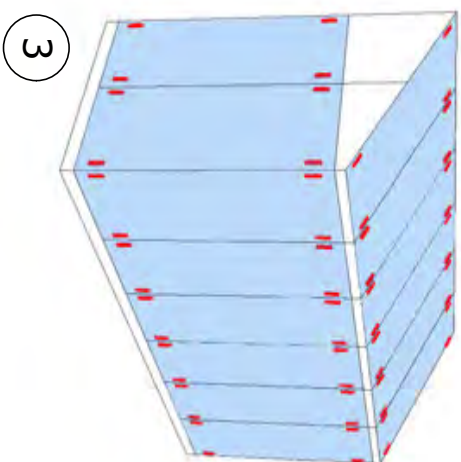
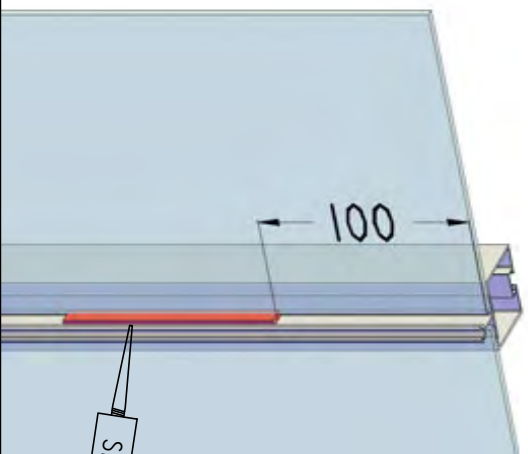
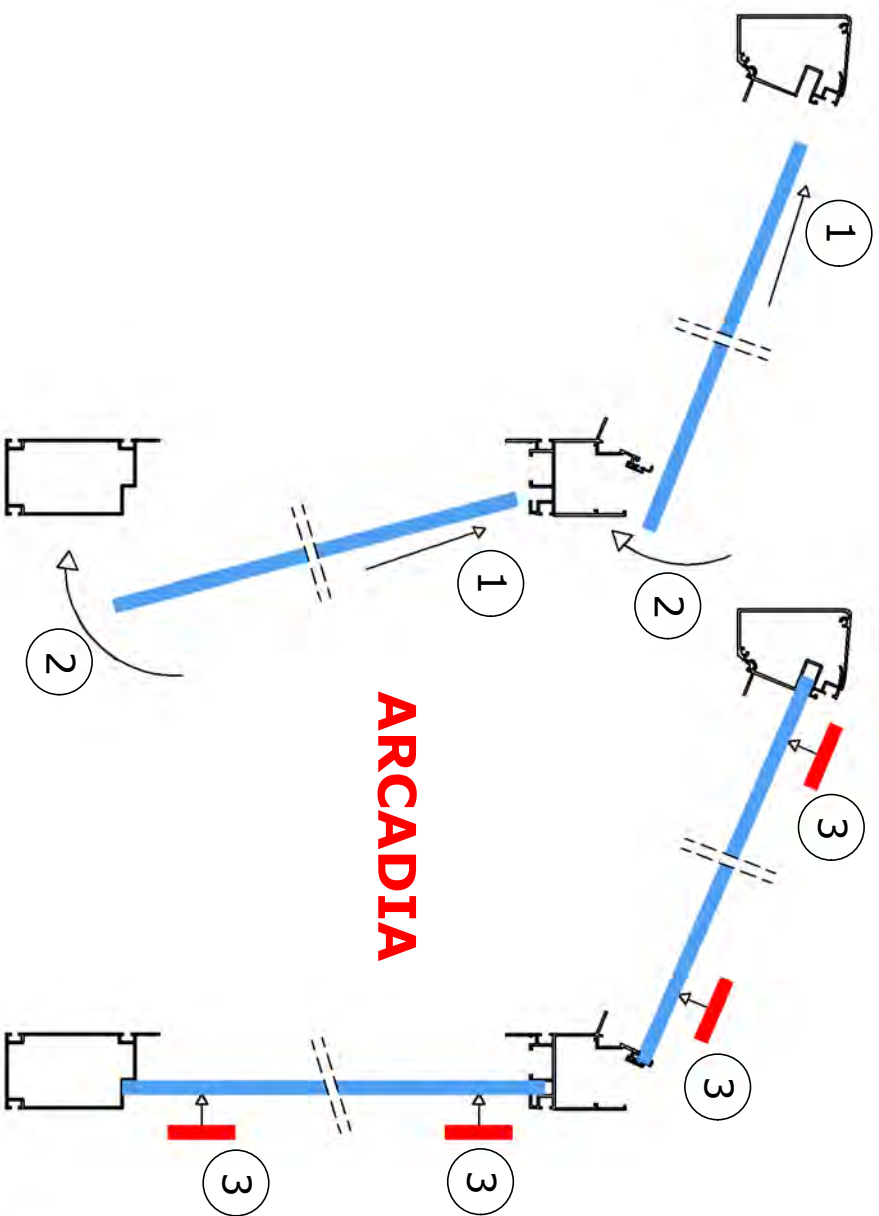


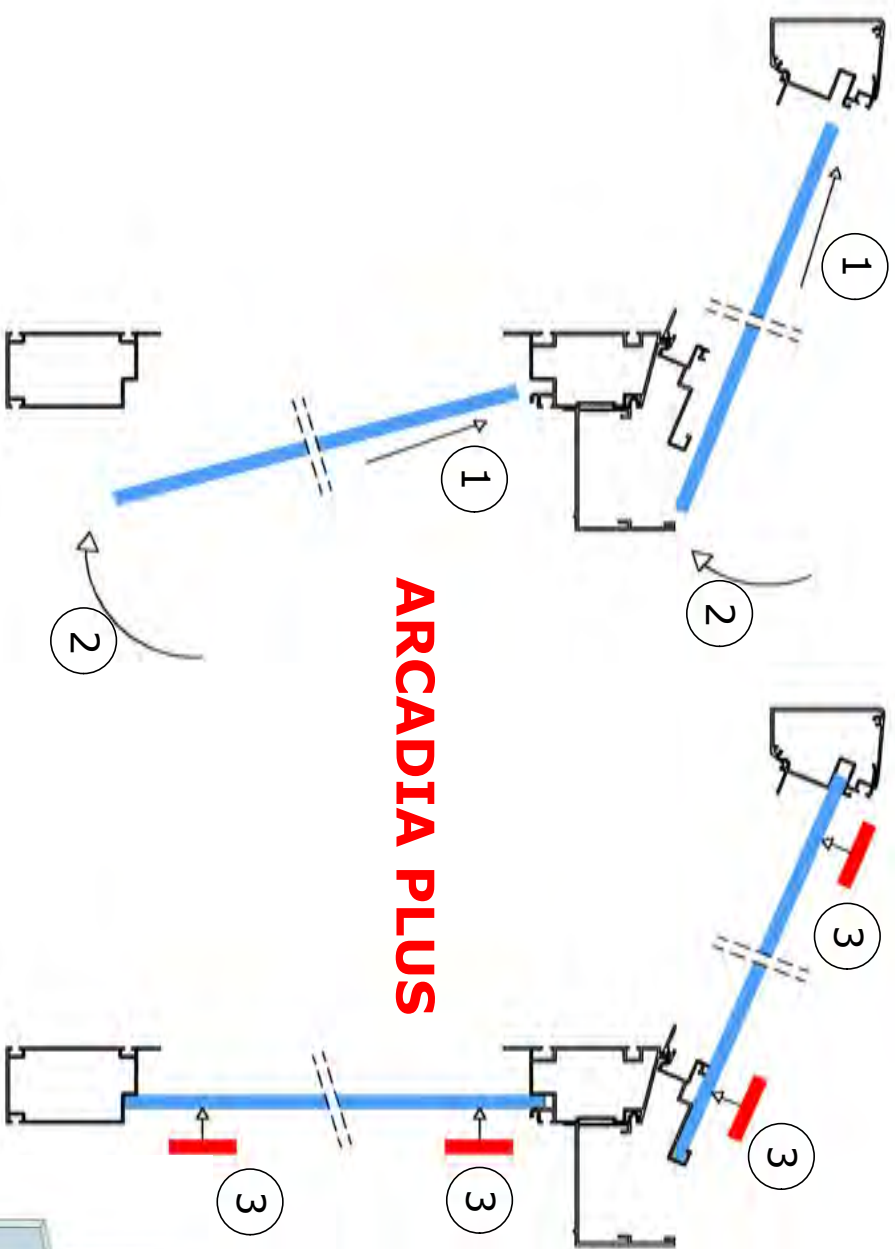




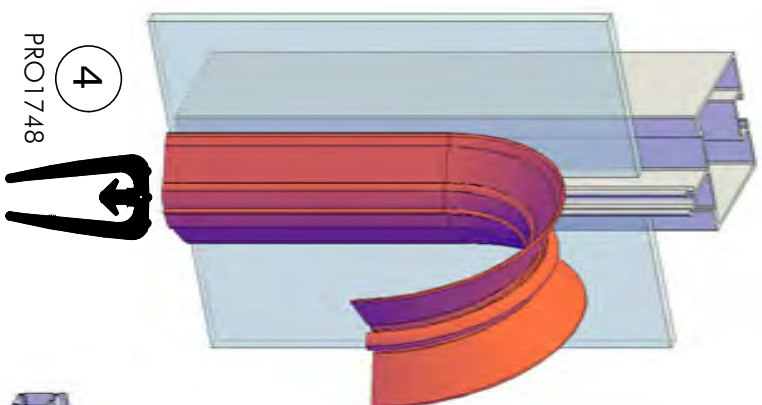
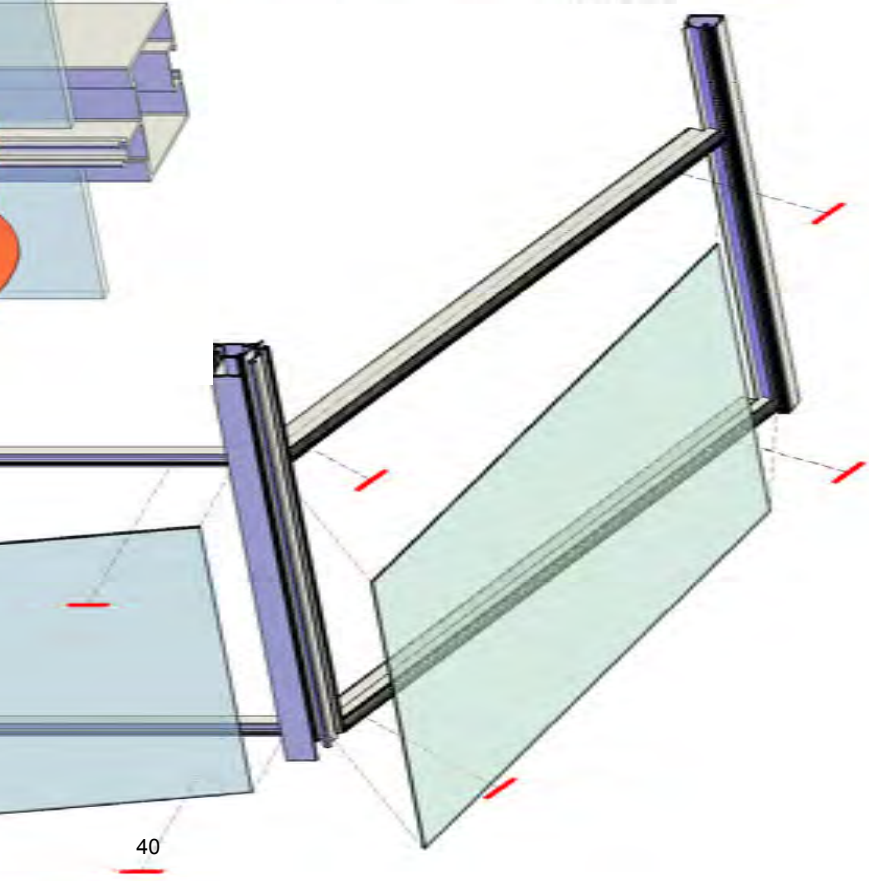
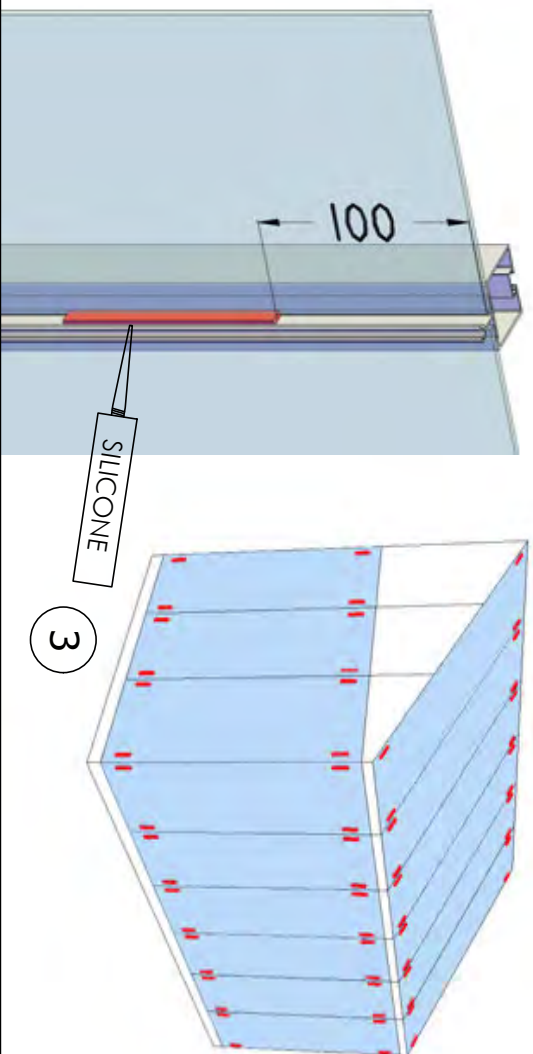




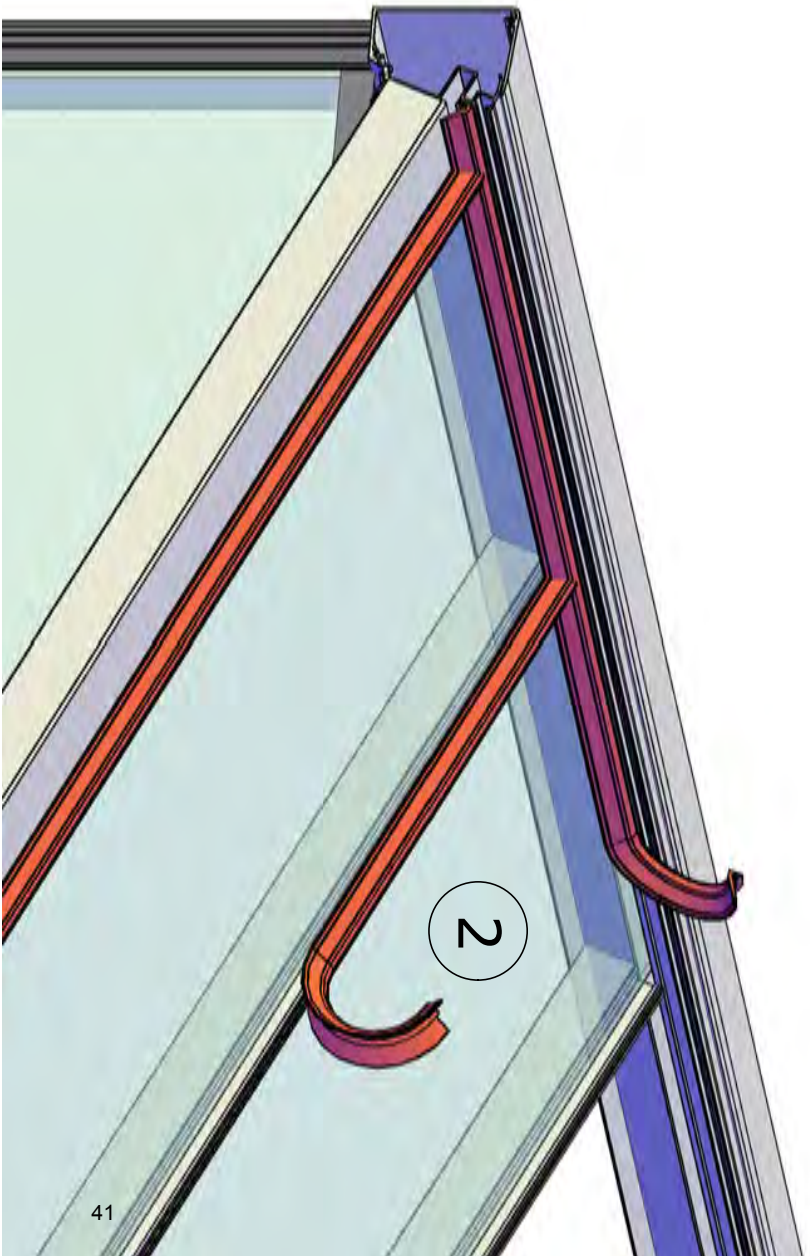
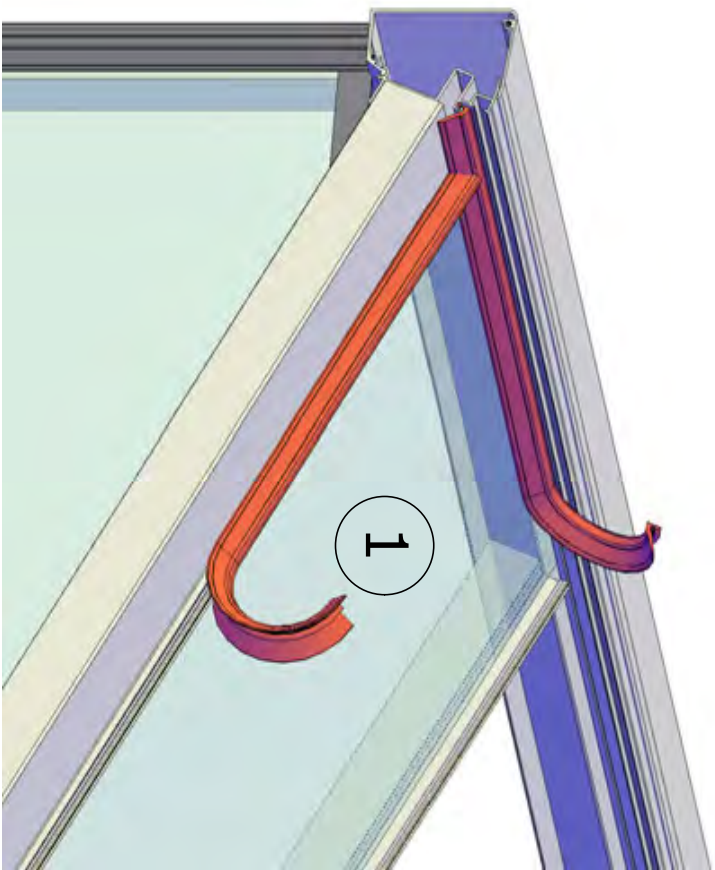




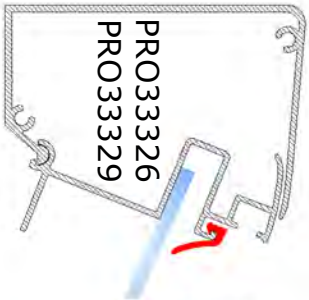
## ARCADIA PLUS



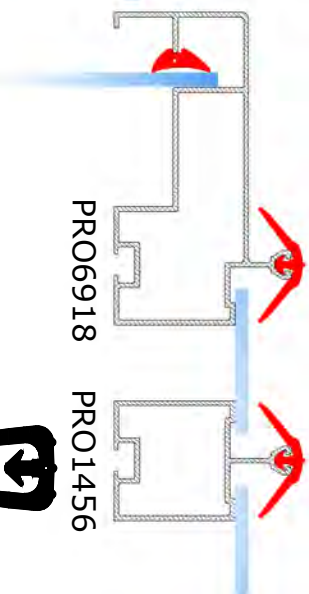




PRO5538

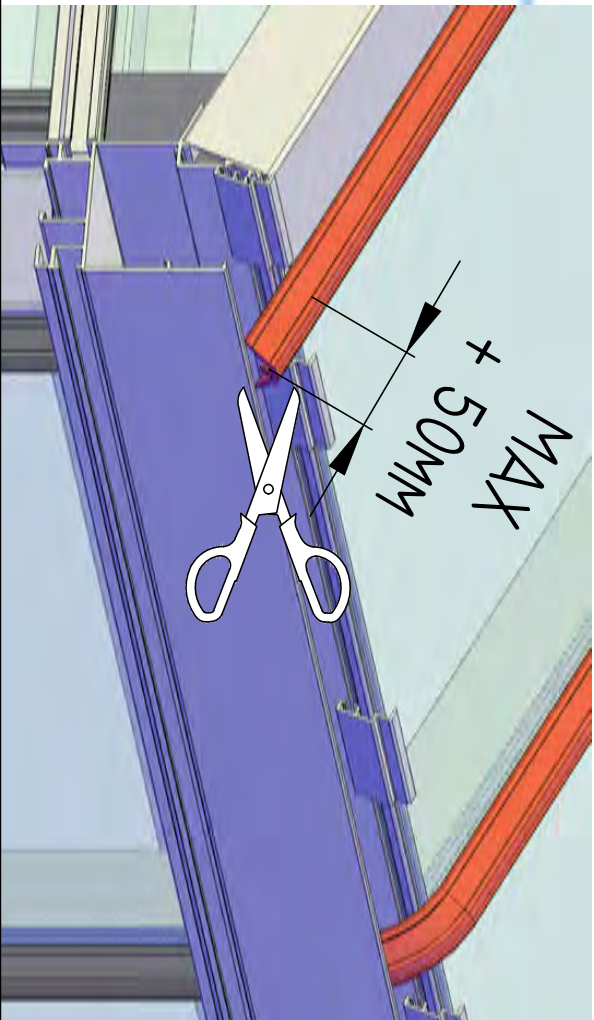
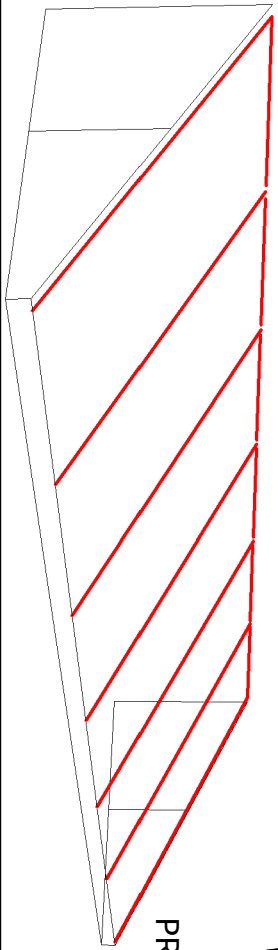
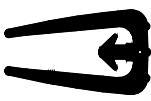


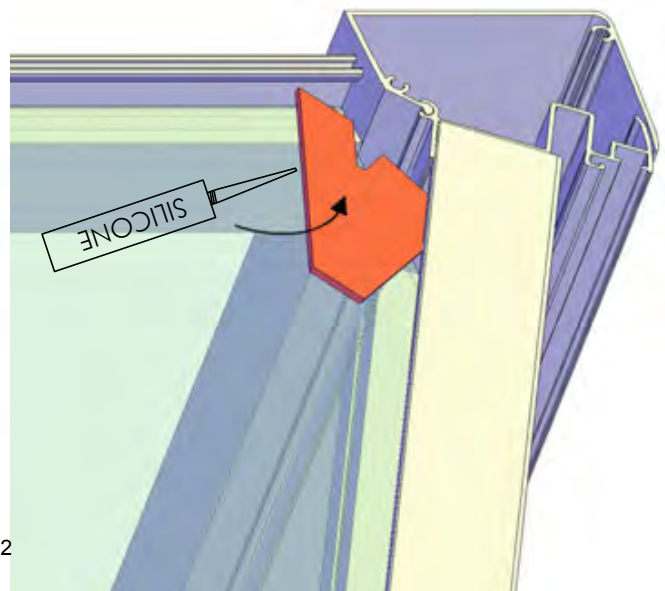
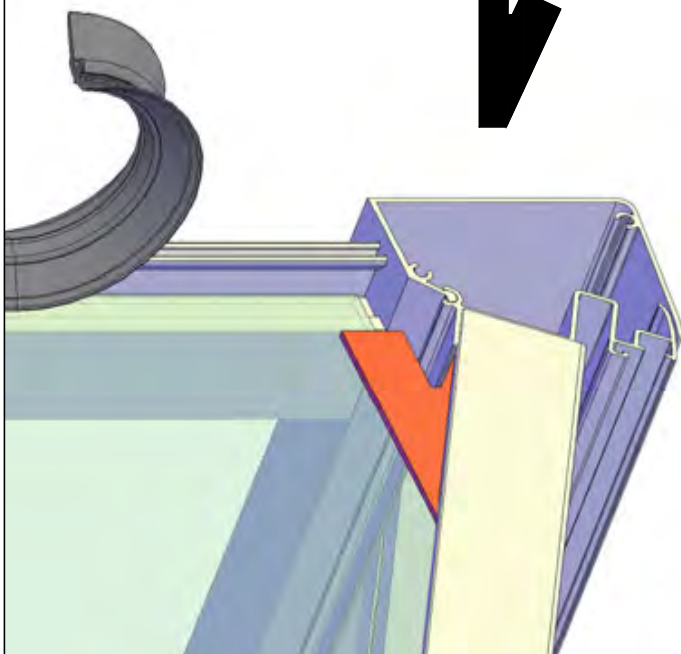
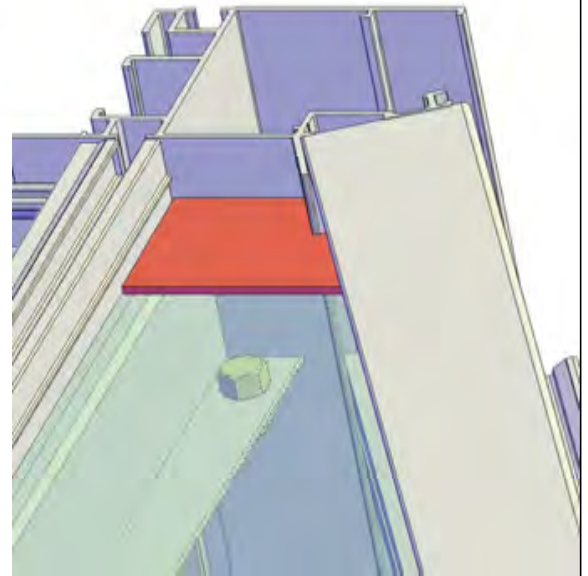
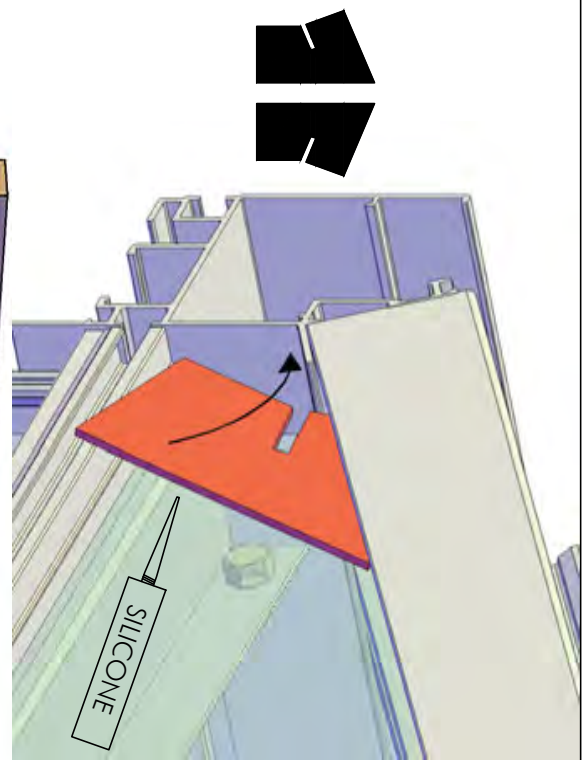
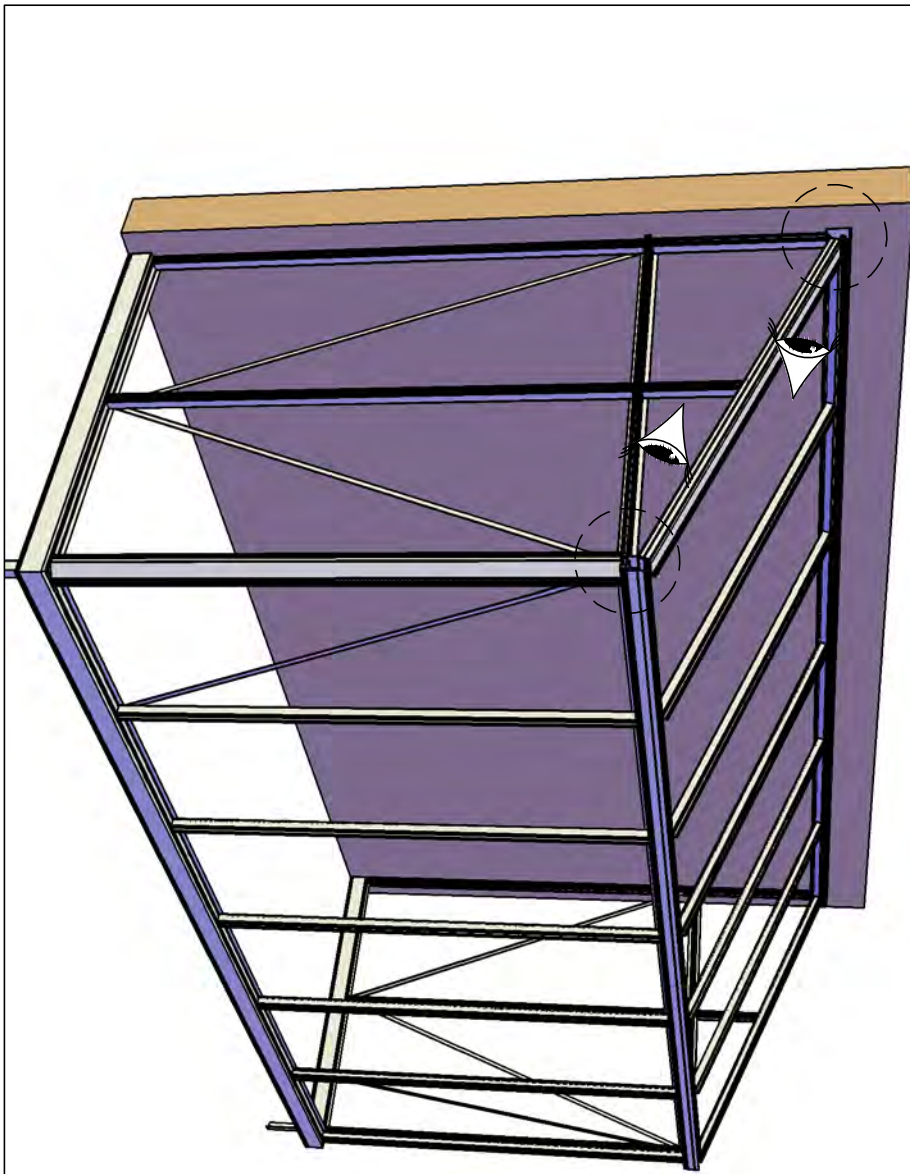
PRO6918



PRO1456

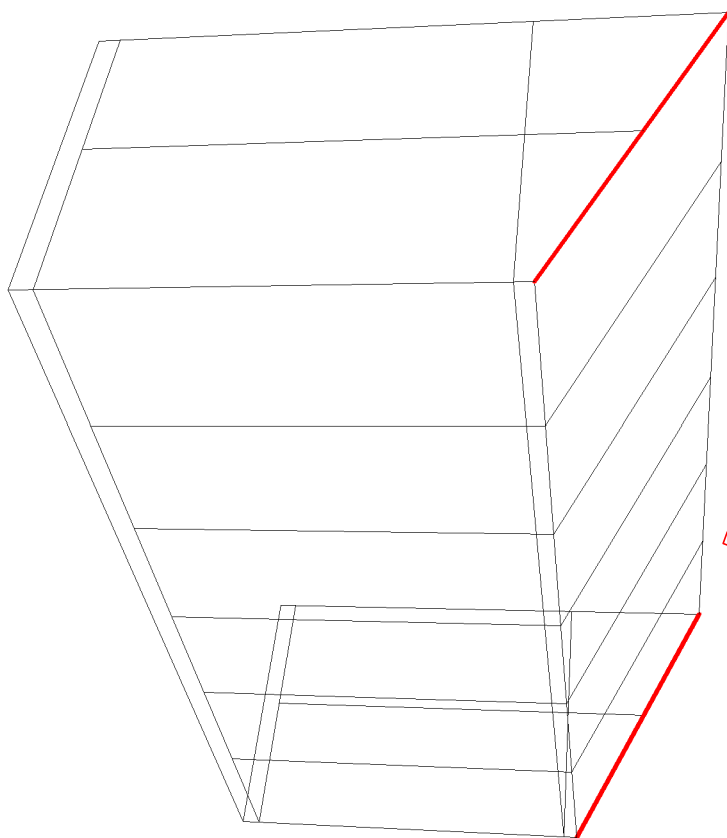
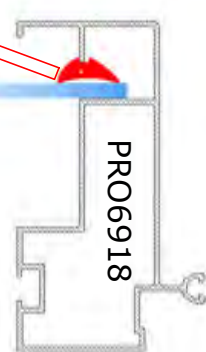
PRO1748



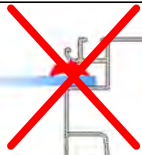




E400330



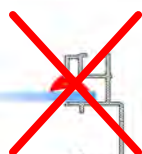
PRO1454



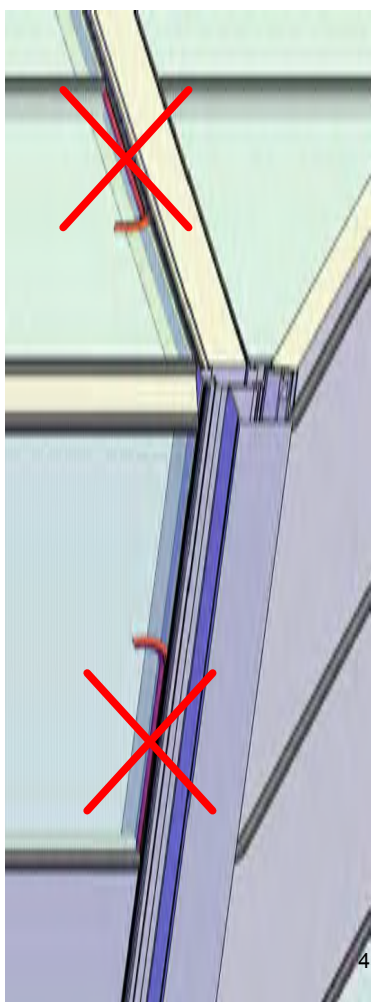
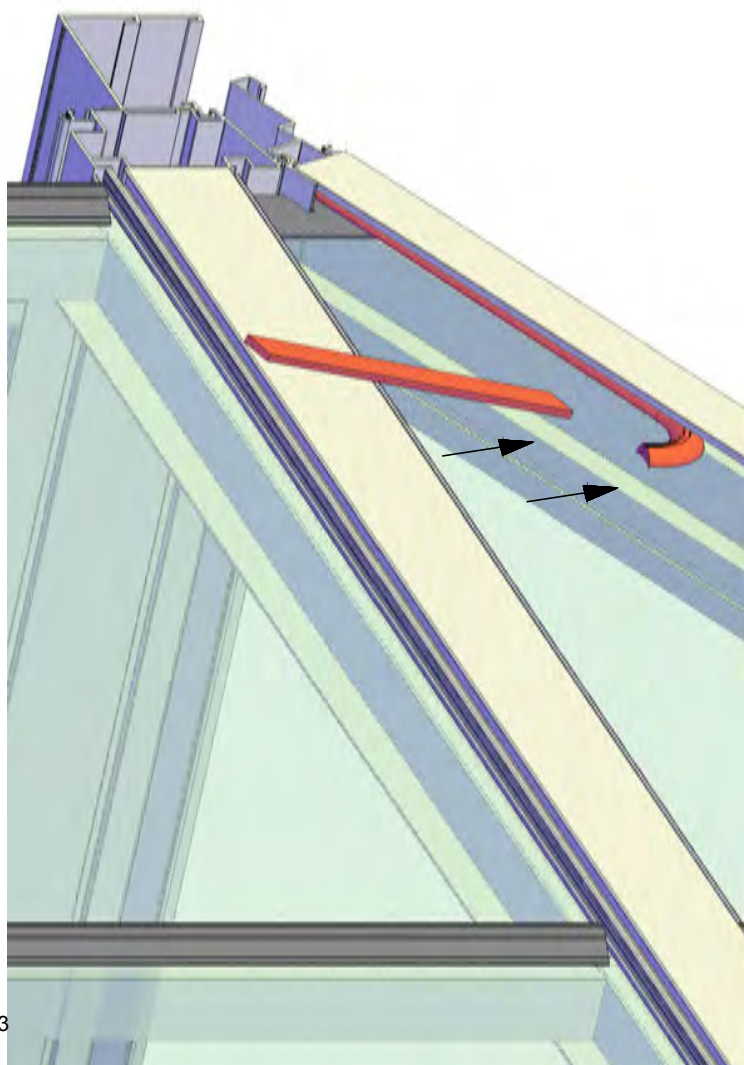
GDO

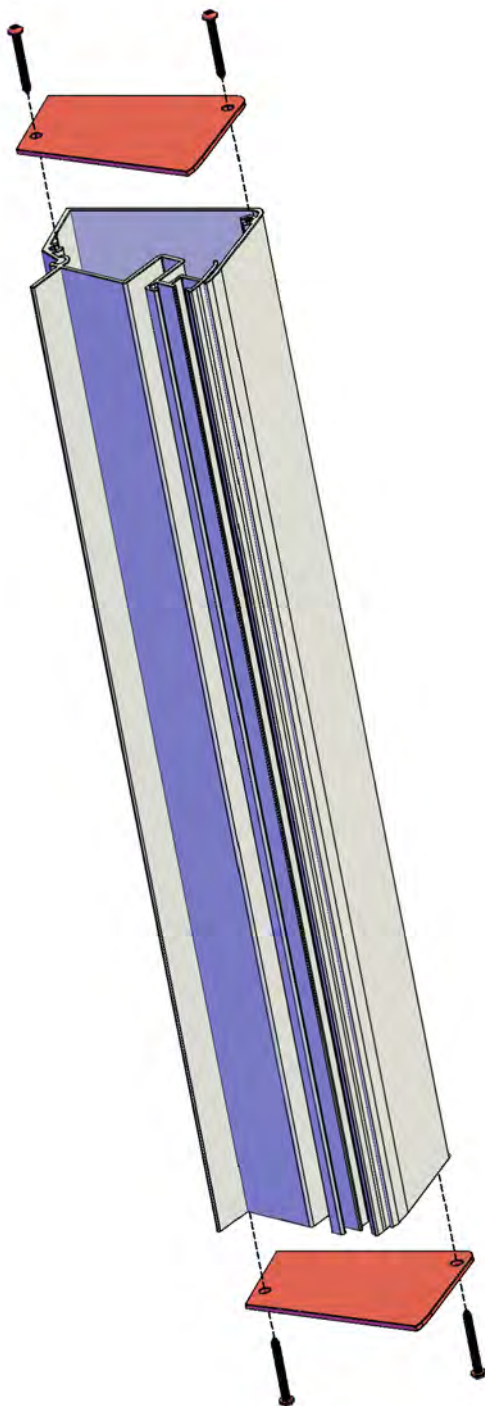
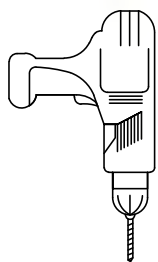
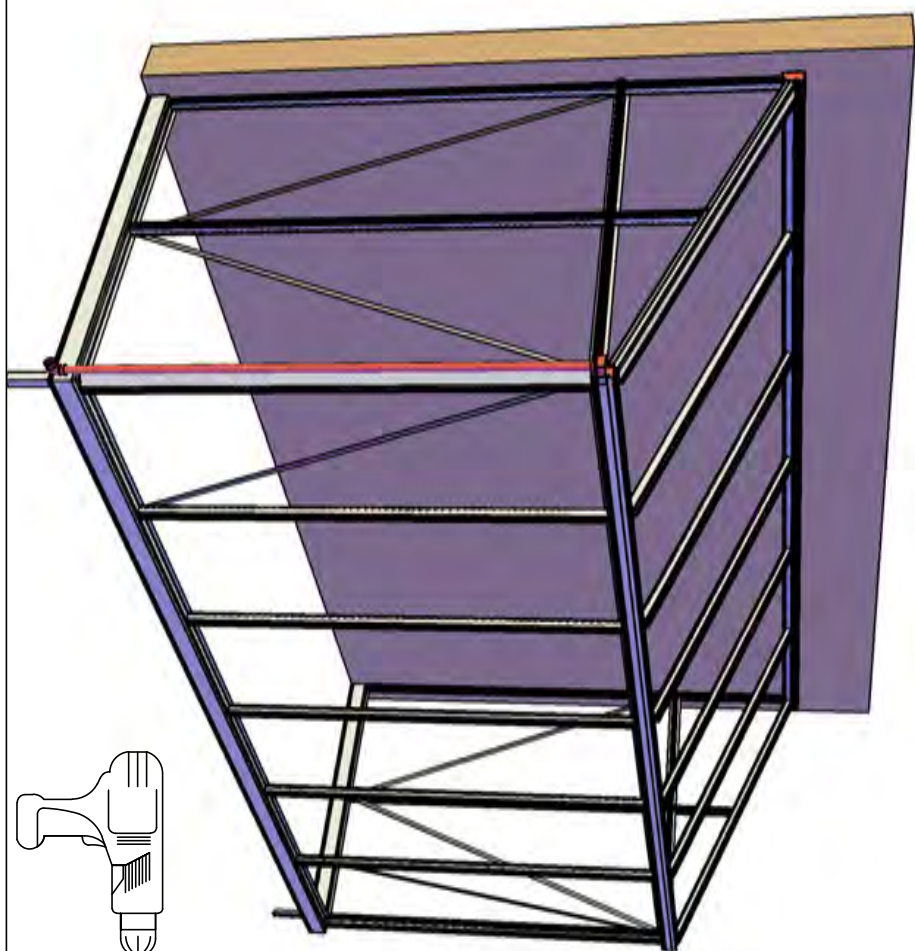


PRO20229

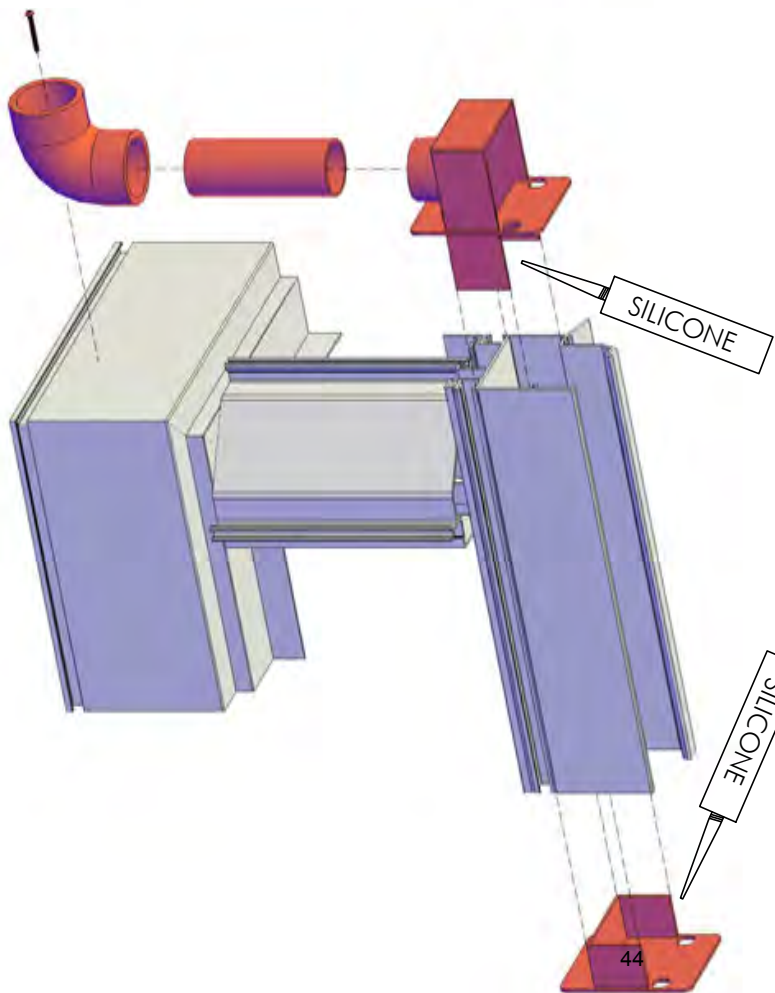


PRO20227



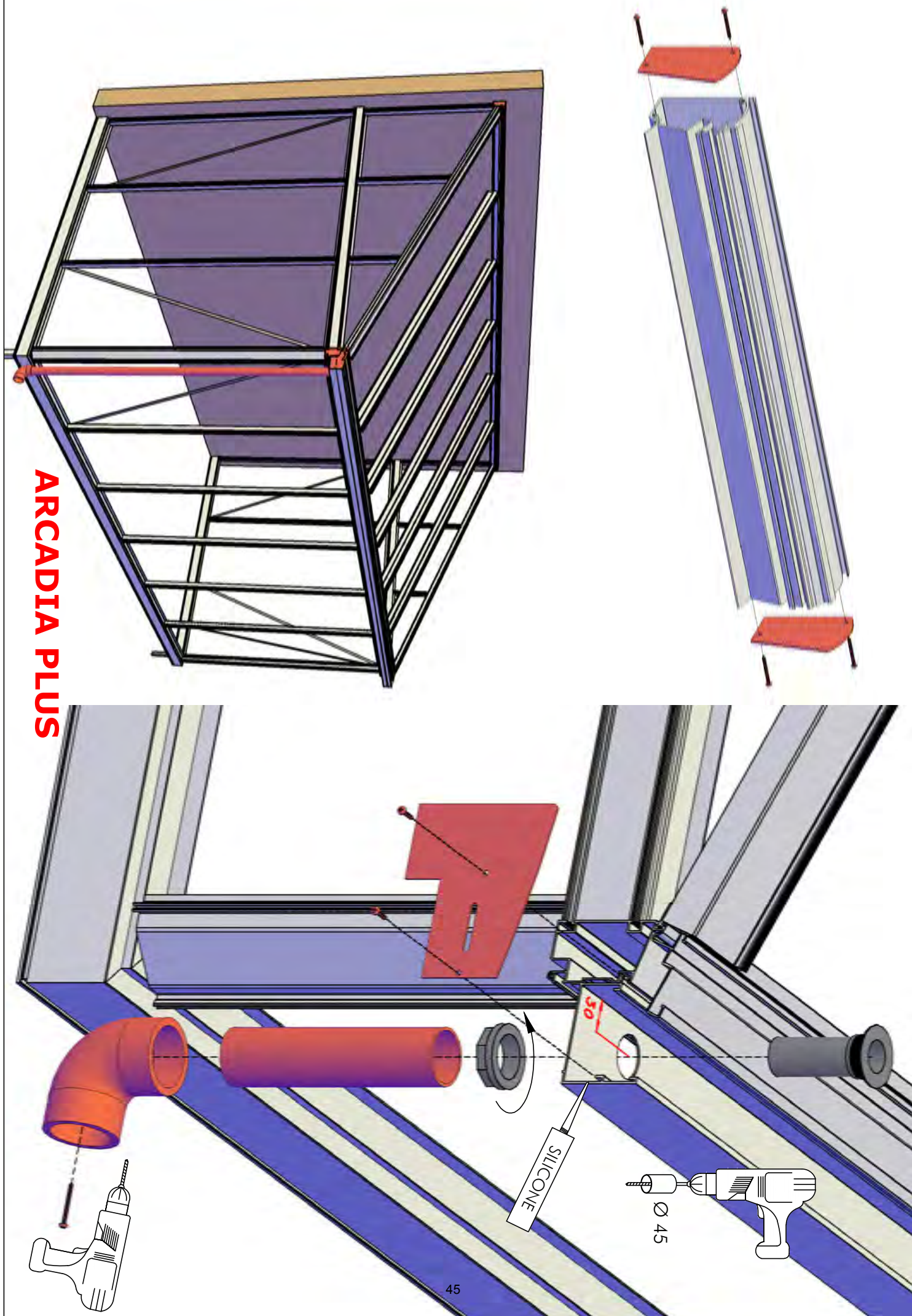


**ARCADIA**

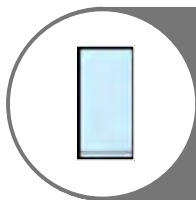




# ARCADIA PLUS

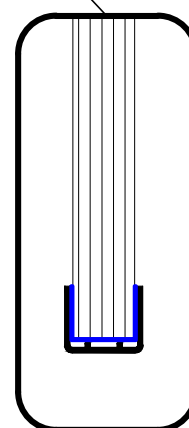
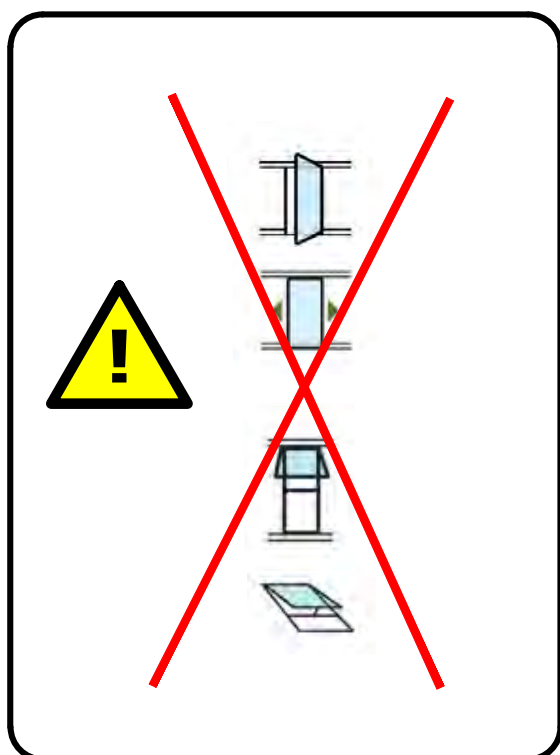
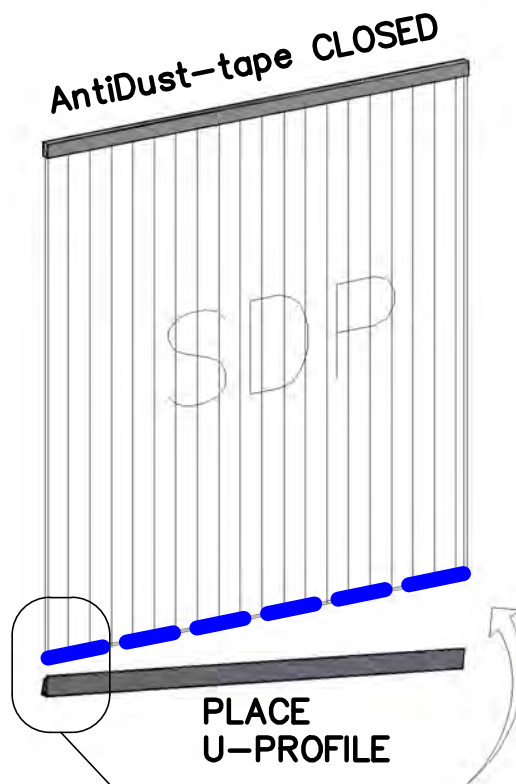
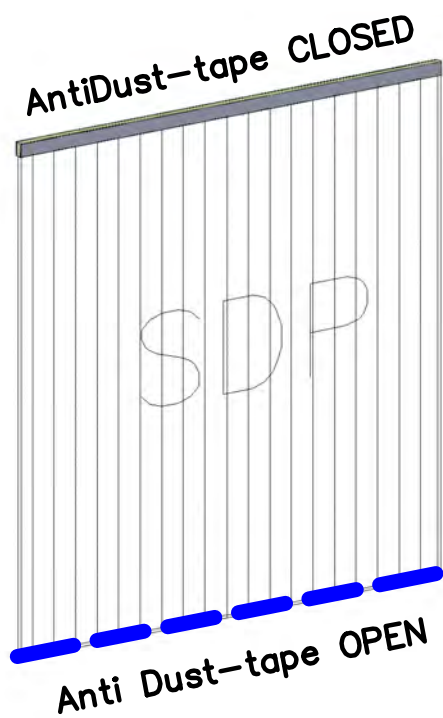






HELIOS polycarbonate 10mm

# SDP



## **ACCESSORIES**

This section contains many of the optional accessories.

You will have some, but likely not all, items seen in this section.

IMPORTANT: Find Janssens Accessory installation video on our site here:

<https://www.exaco.com/greenhouse-victorian.php>

It will be immensely helpful!

# Doors for Your Greenhouse - Please read carefully

The standard Victorian greenhouses include sliding doors - you may have chosen to upgrade to a hinged door option.

**Sliding Door Low Threshold Kit** - the manufacturer is transitioning from a low threshold kit with a four sided frame (KSD) to one with only the threshold piece (SDL). You should see one of these letter combinations on your packages to indicate which version you have.

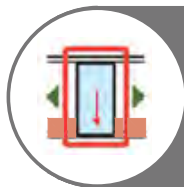
**Sliding Doors** - the manufacturer is transitioning to a similar style sliding door with a few new features such as an additional insert for the top of the doorway, different bottom door guides, and a special latch plate for the door lock. You will be able to identify which kit you have by whether or not you have an extrusion PRO39796 for the bottom door guide.

If you have PRO39796 in your kit, please follow the assembly instructions on pages marked "Version 1".

If you do not have the PRO39796, look for the assembly pages labeled "Version 2". In the past, double doors were created by placing two single doors together. Beginning sometime in 2024, double doors will be packaged as such and have additional connector parts (Version 2). Under the new system, you may choose to place the double door as two single doors - but you will need to cut some pieces to do this. It is approachable and not difficult, but it will be important to have a way to cut through the metal.

**Hinged Doors** - please make use of our playlist of Victorian YouTube videos - they are EXTREMELY helpful for sections of the hinged door assembly.

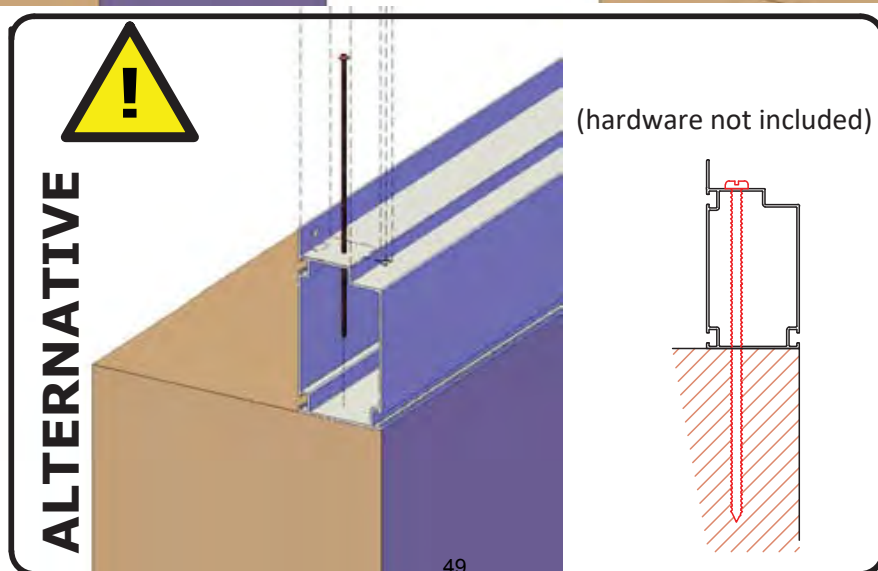
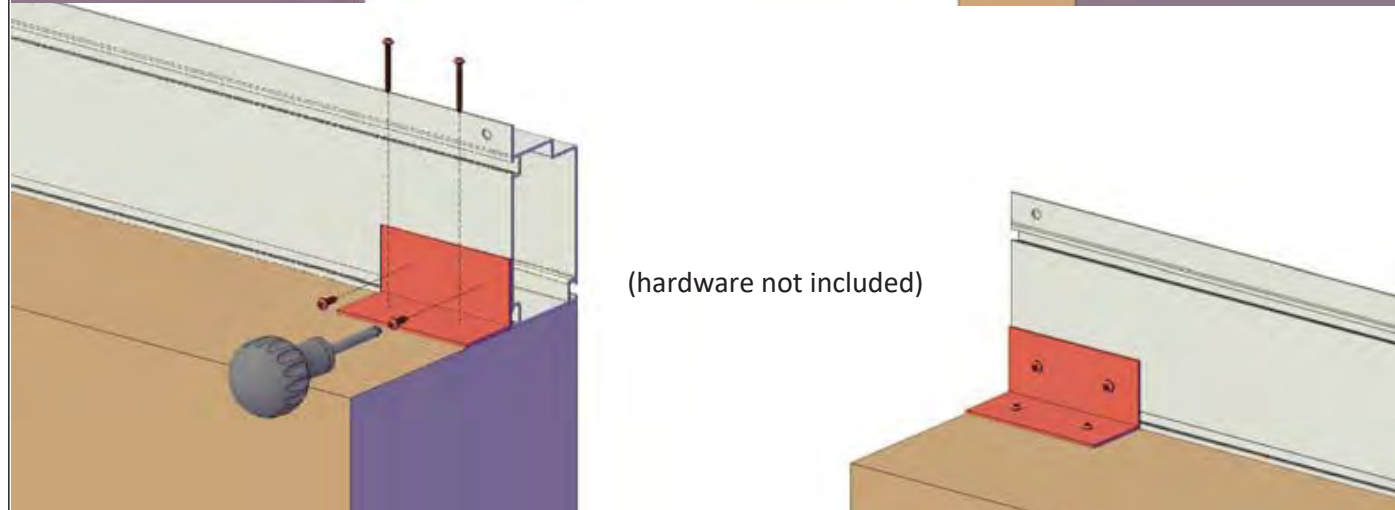
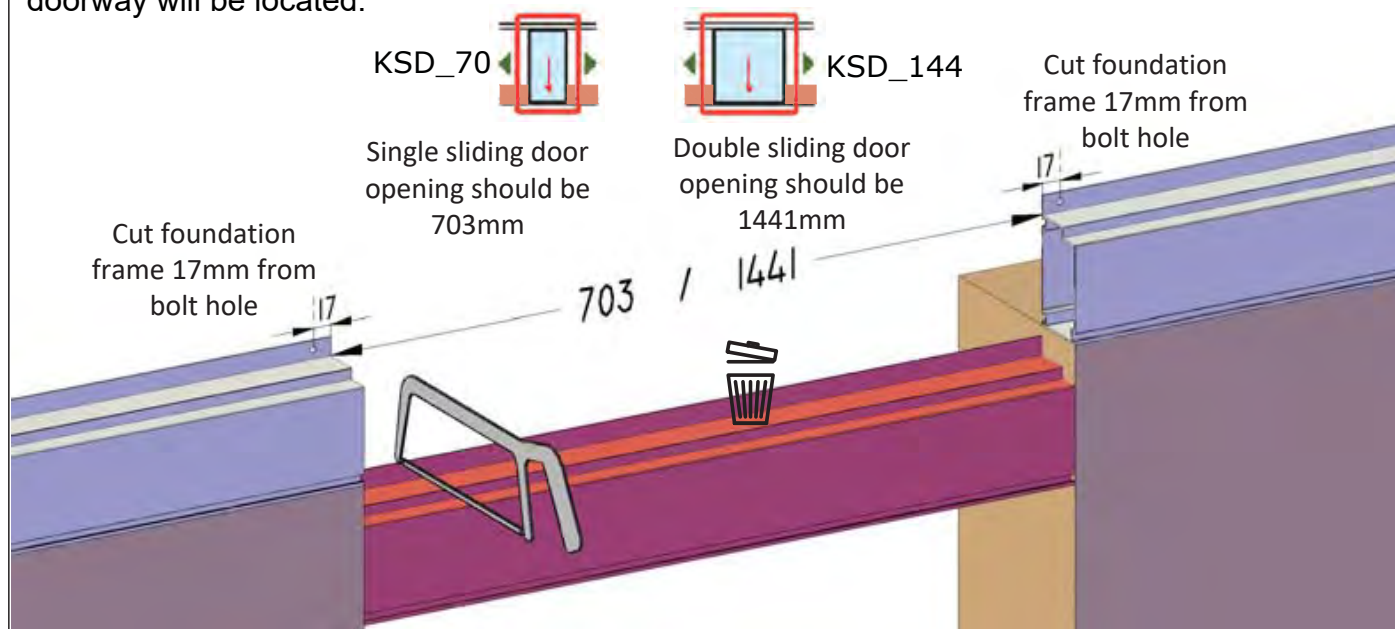


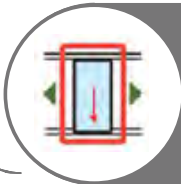


OPTION: Greenhouse  
on a stem/knee wall

# SD\_MUR

If your greenhouse is on a knee wall, you will need to cut the base frame (PRO6120) where the doorway will be located.

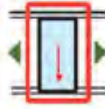




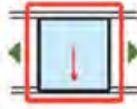
## OPTIONAL UPGRADE: Low Threshold for Sliding Door/s

# KSD

KSD\_70



Single sliding door opening  
should be 703mm



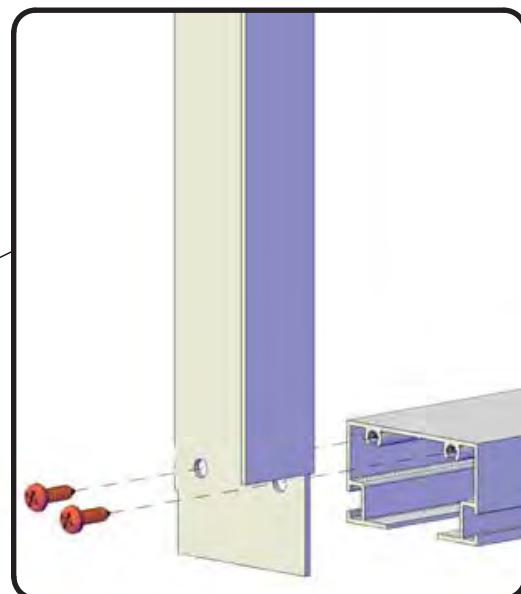
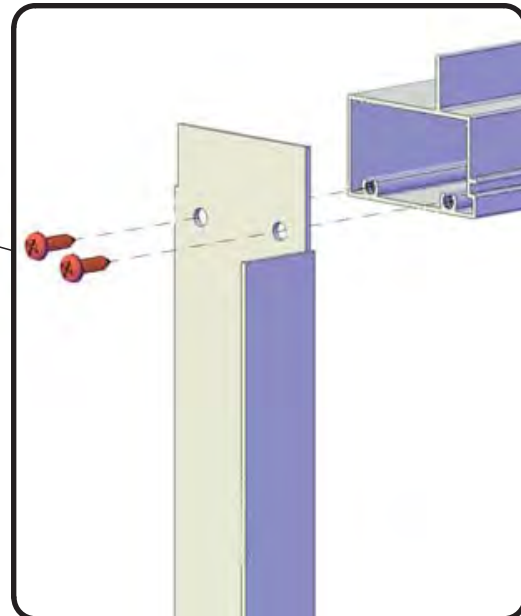
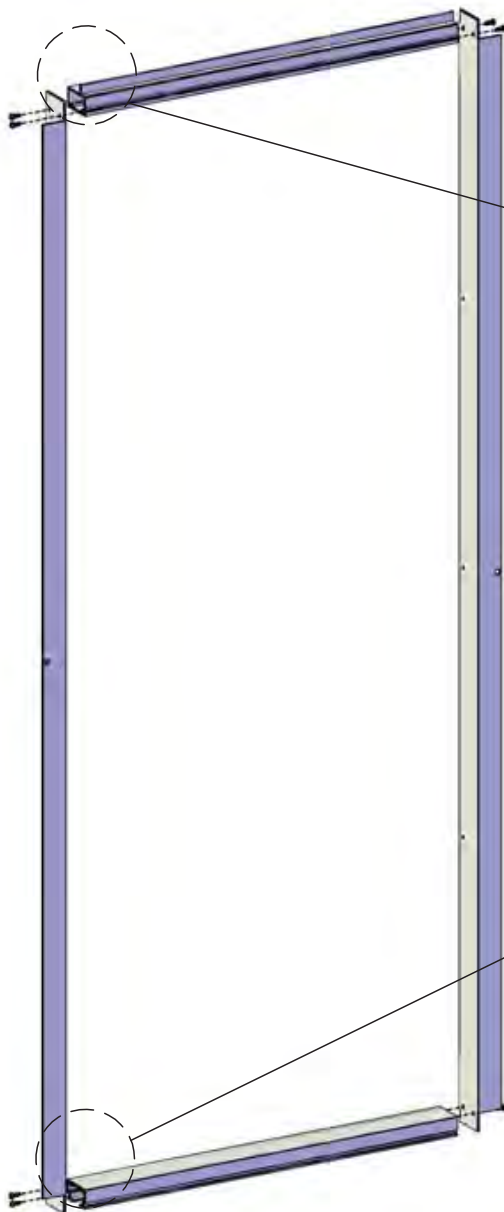
KSD\_144

Double sliding door opening  
should be 1441mm

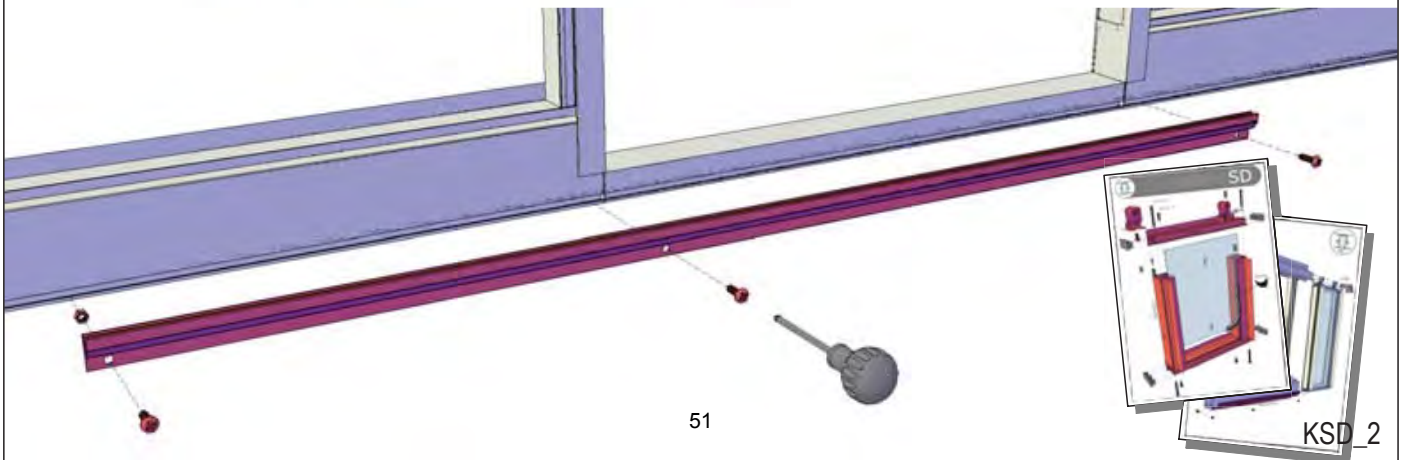
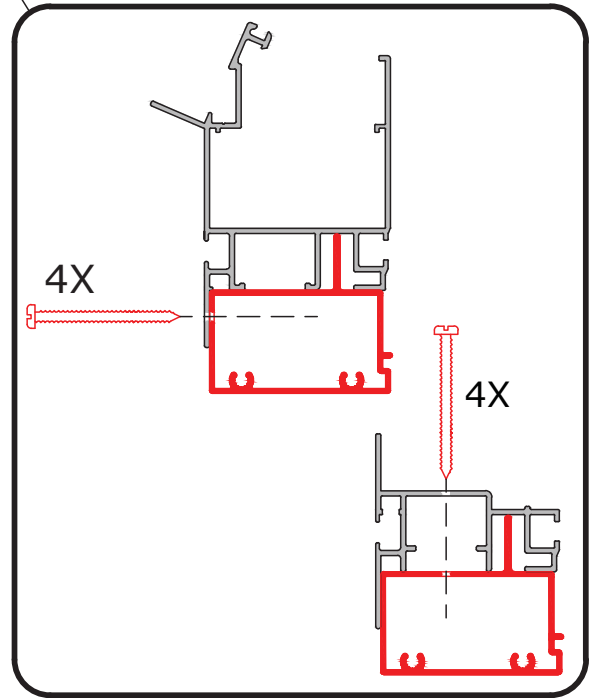
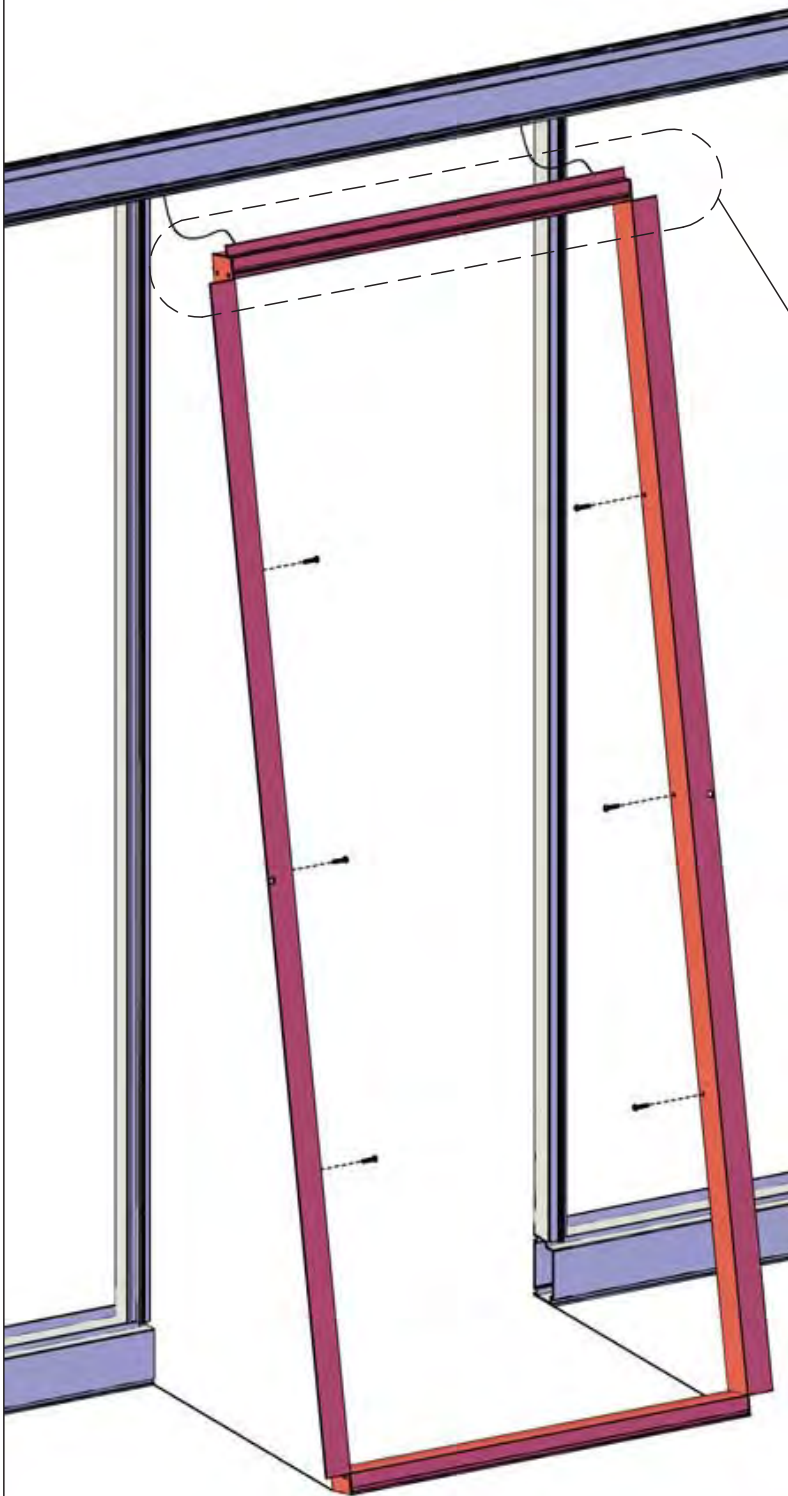
Cut foundation  
frame 17mm from  
bolt hole

Cut foundation  
frame 17mm from  
bolt hole

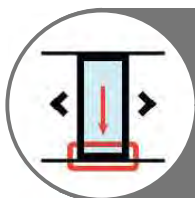
703 / 1441



## OPTIONAL UPGRADE: Low Threshold for Sliding Door/s







## OPTIONAL UPGRADE: late 2024 low threshold kit

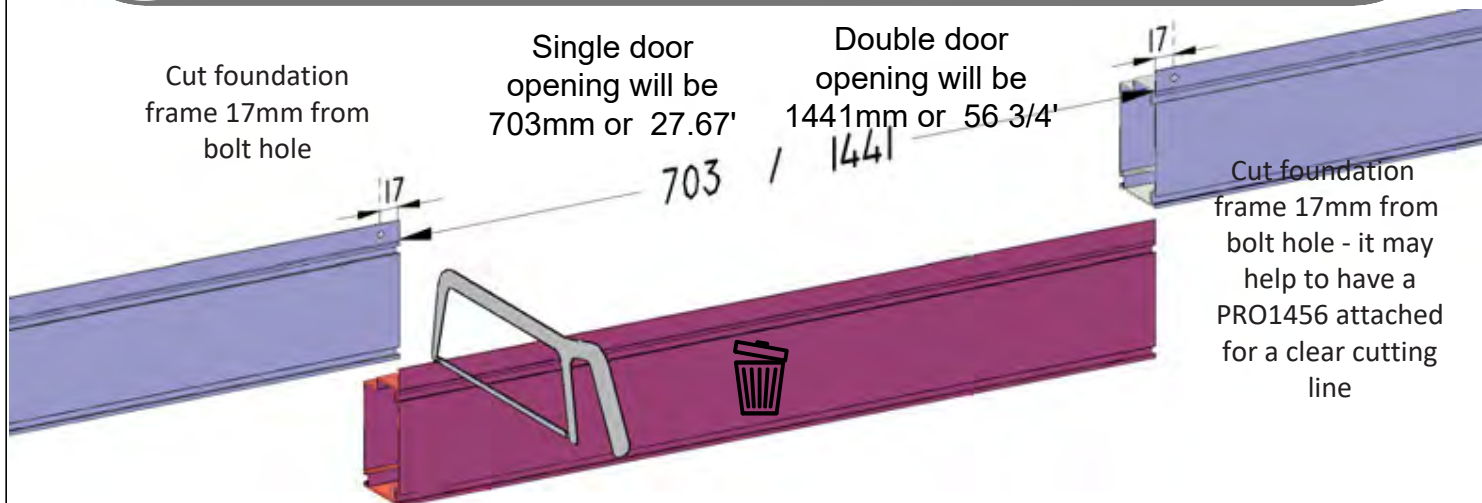
# SDL

Cut foundation  
frame 17mm from  
bolt hole

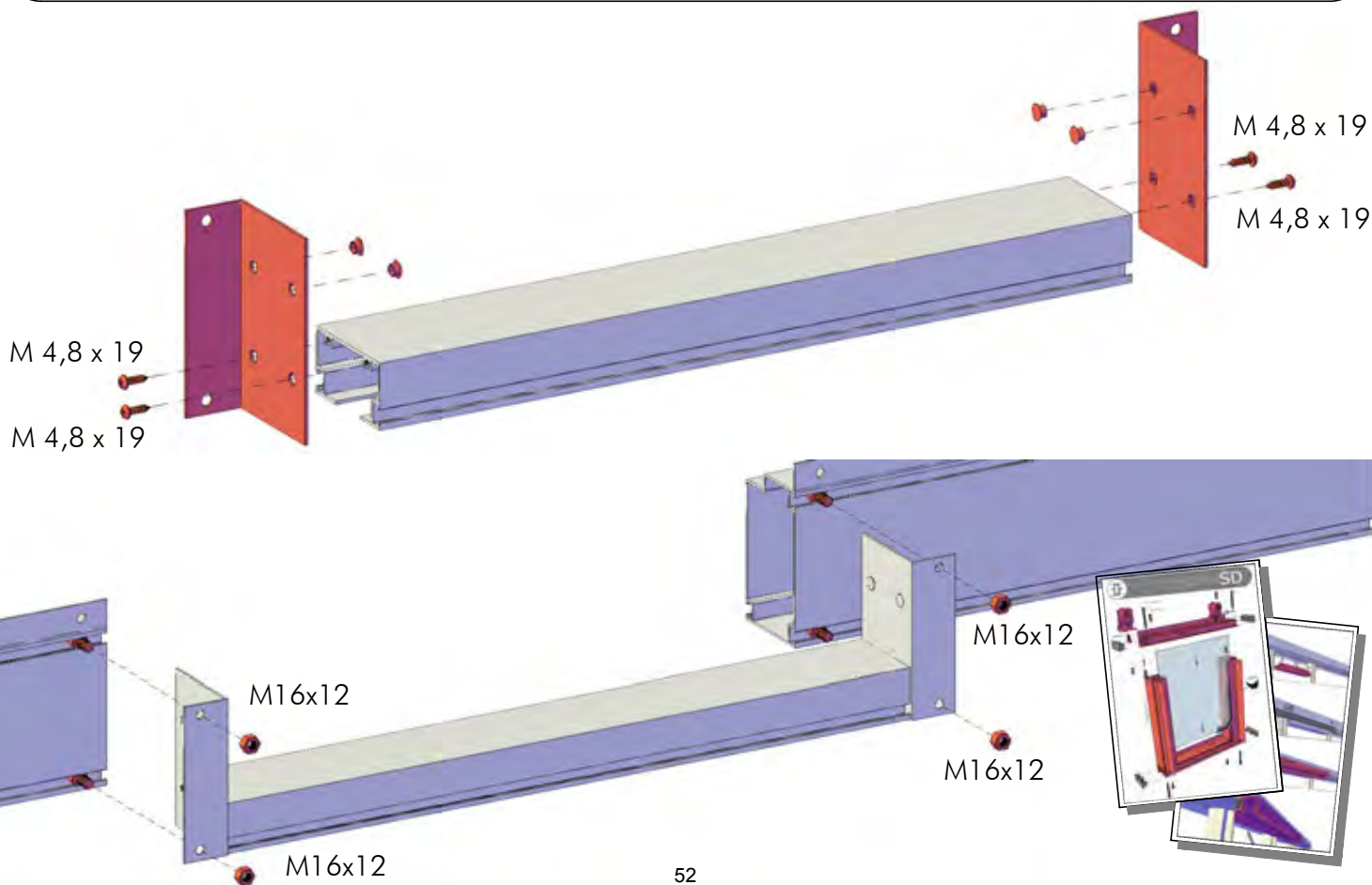
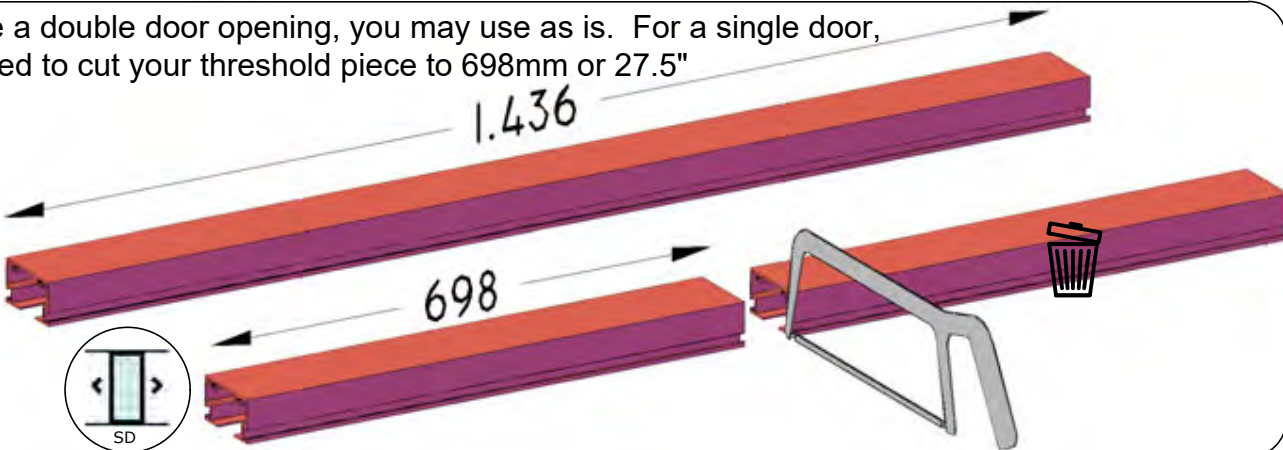
Single door  
opening will be  
703mm or 27.67'

Double door  
opening will be  
1441mm or 56 3/4'

Cut foundation  
frame 17mm from  
bolt hole - it may  
help to have a  
PRO1456 attached  
for a clear cutting  
line



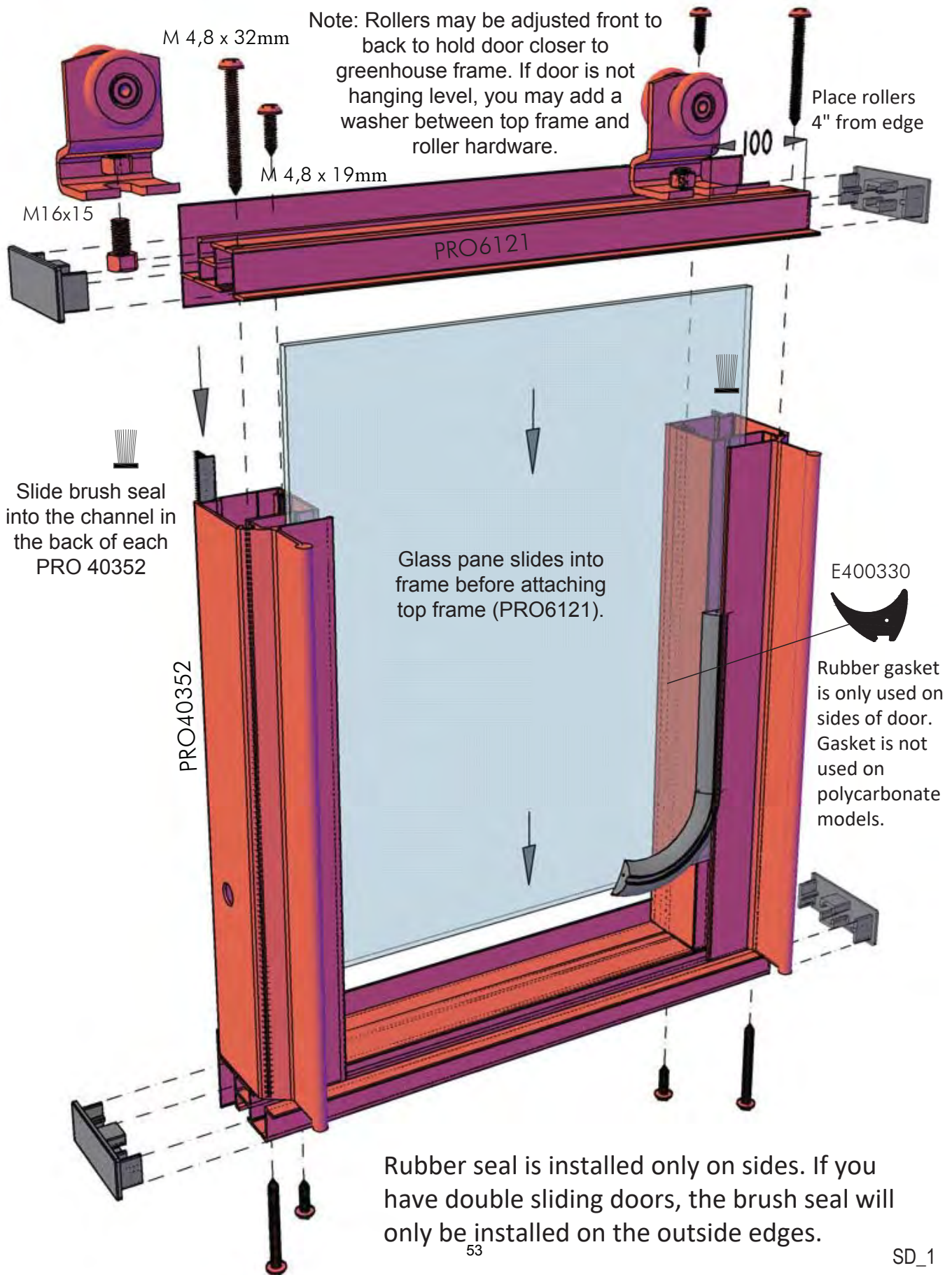
If you have a double door opening, you may use as is. For a single door, you will need to cut your threshold piece to 698mm or 27.5"





Sliding Door - Basic assembly of any sliding door.  
VI36 and VI46 have double doors, some VI34 models  
may include double doors. More doors may be added.

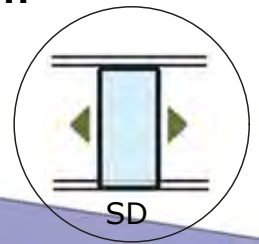
# SD





## Version 1: Single and/or Double Door Hanger installation

Sliding door/s may be attached in any bay (with exceptions to corners)



**! IMPORTANT for Double Sliding Door Opening!!** Cut one PRO7545 in half. Place long PRO7545 in center (to support double opening) and the half PRO7545 on either side. Do not cut PRO7545 if you have a stem wall (See p. 19).

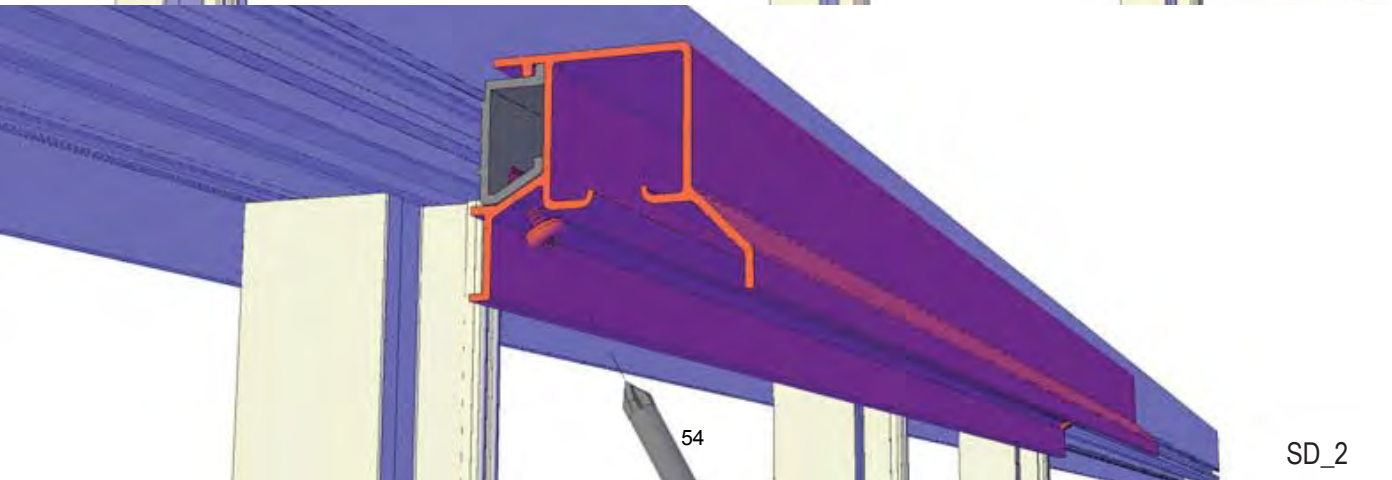
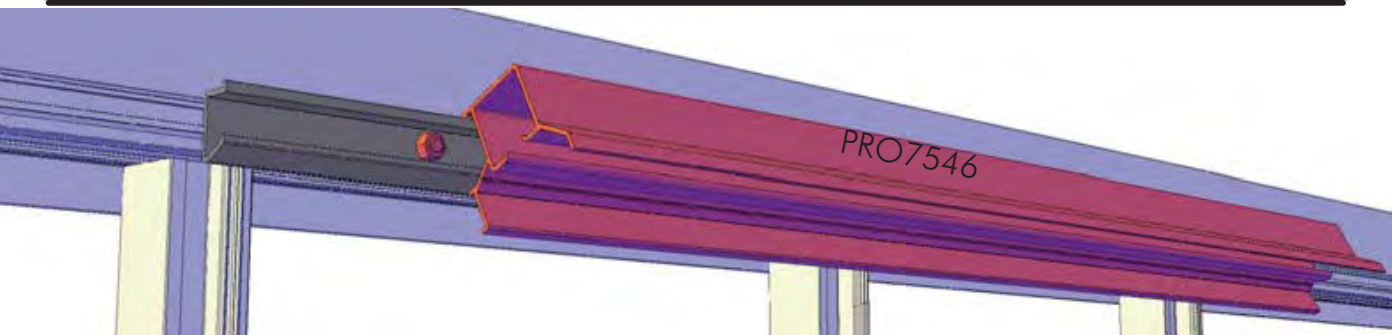
A detailed diagram illustrating the installation of PRO7545 for a double sliding door opening. It shows a long red PRO7545 beam being cut in half with a hand saw. The two halves are then placed on either side of a central gap. A dimension line indicates a 1/2" gap between the ends of the two halves. A circular inset shows a top-down view of the double door opening with the red beam in the center. The text "(Double door opening with no center post)" is written below the main diagram. The vertical supports are labeled PRO1456.

1/2 1/2

leave 1/2" space between ends of PRO7545

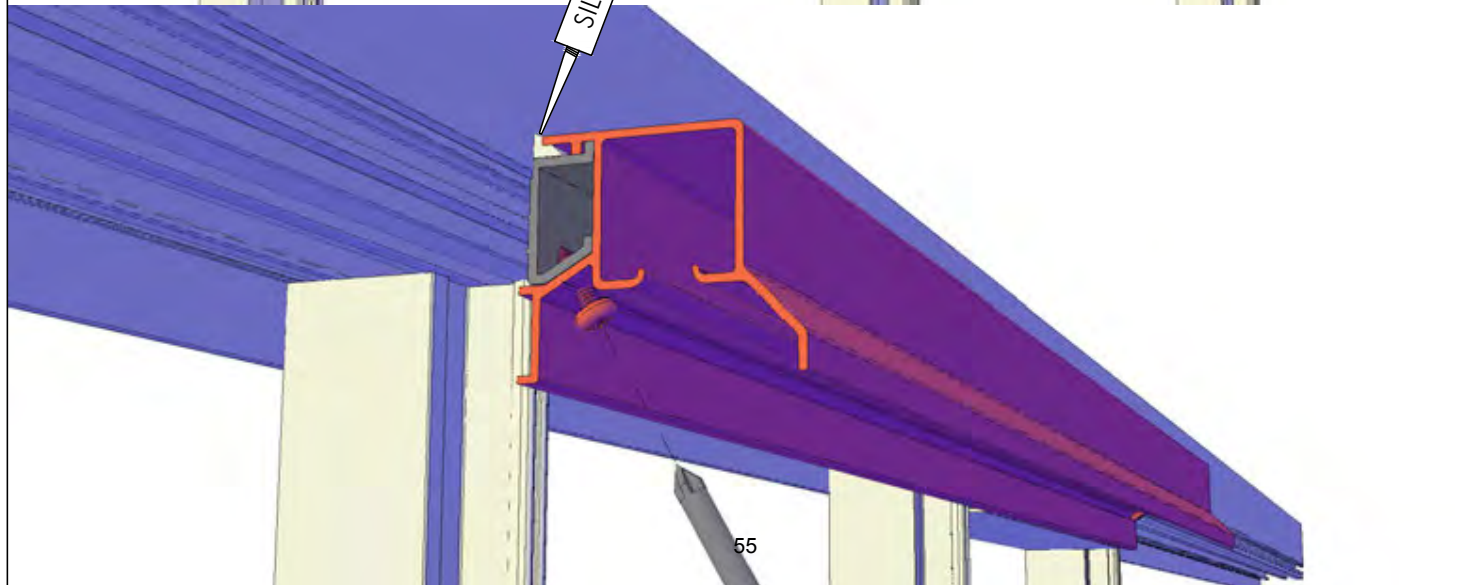
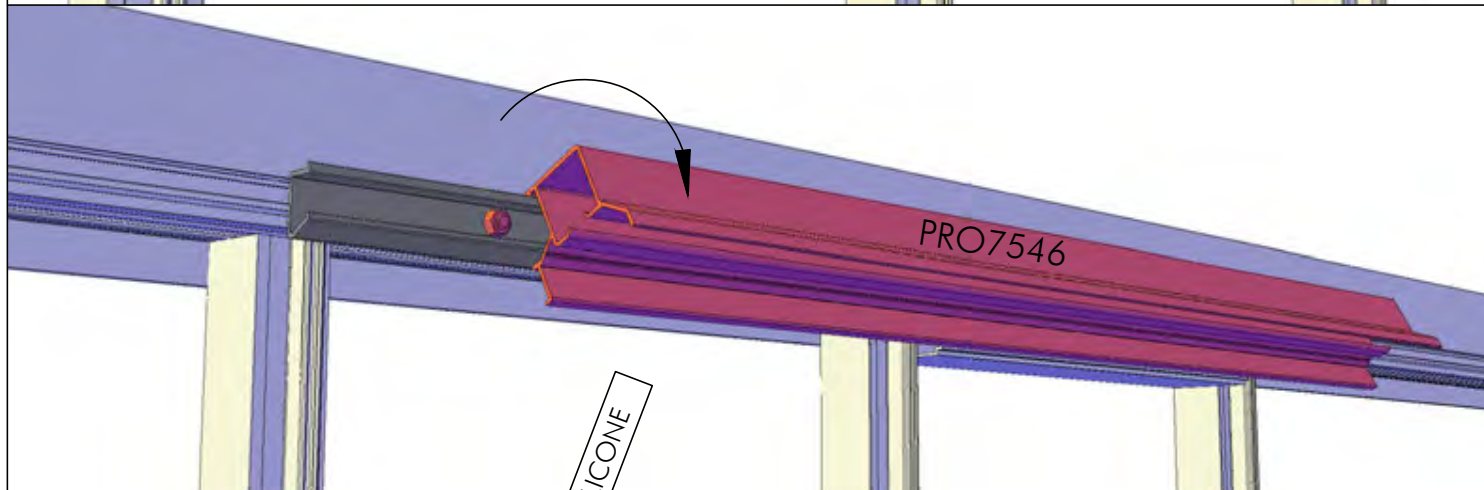
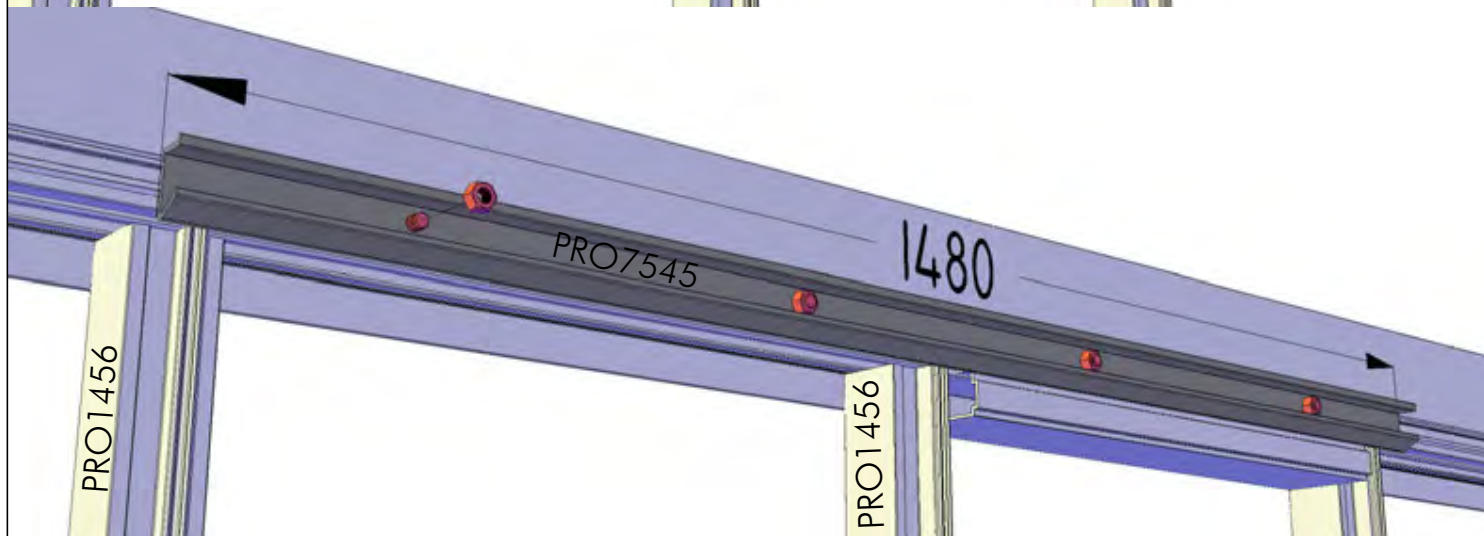
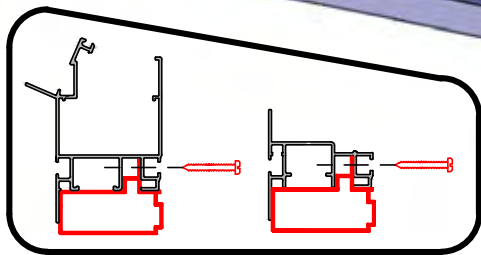
(Double door opening with no center post)

PRO1456 PRO1456 PRO1456 PRO1456

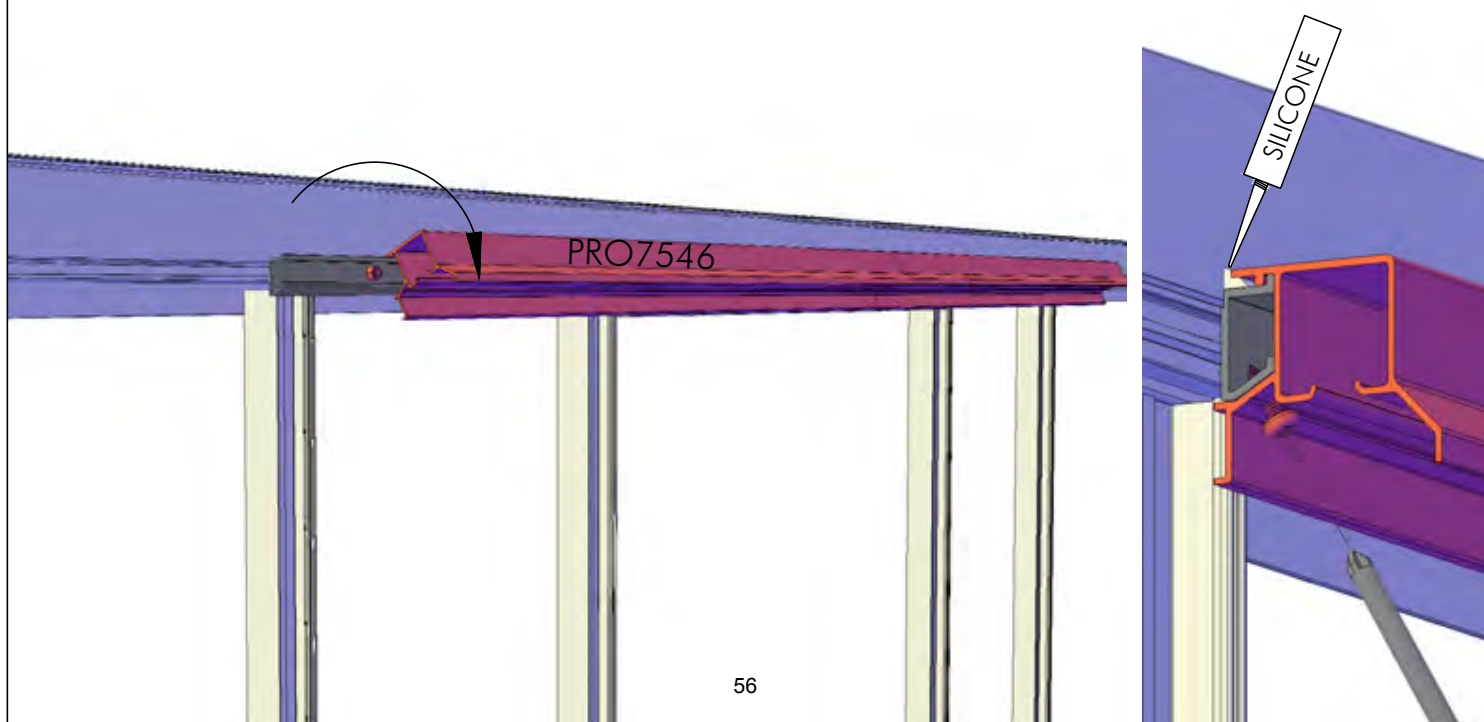
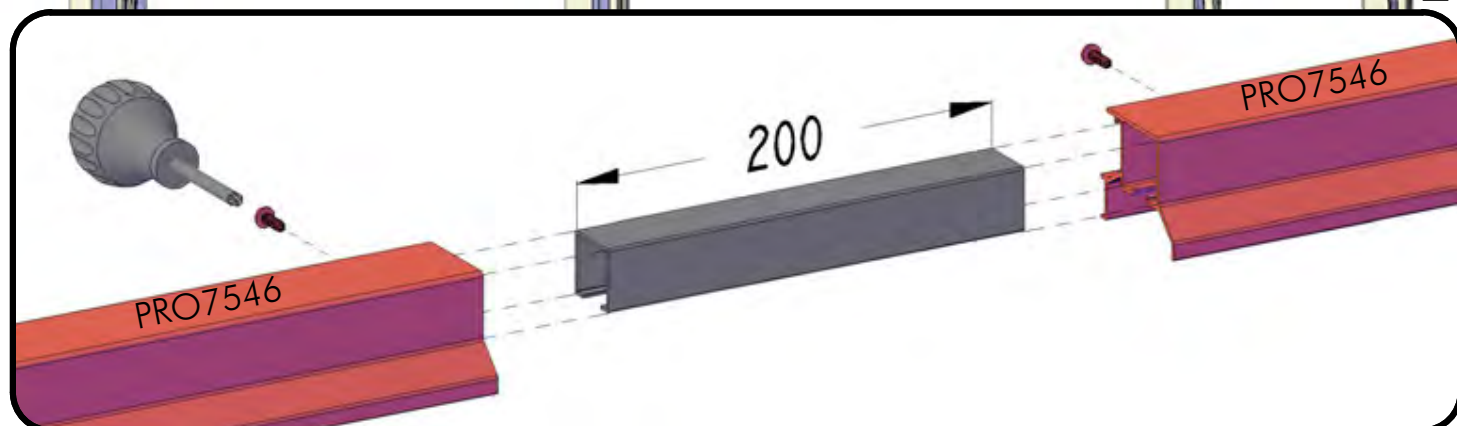
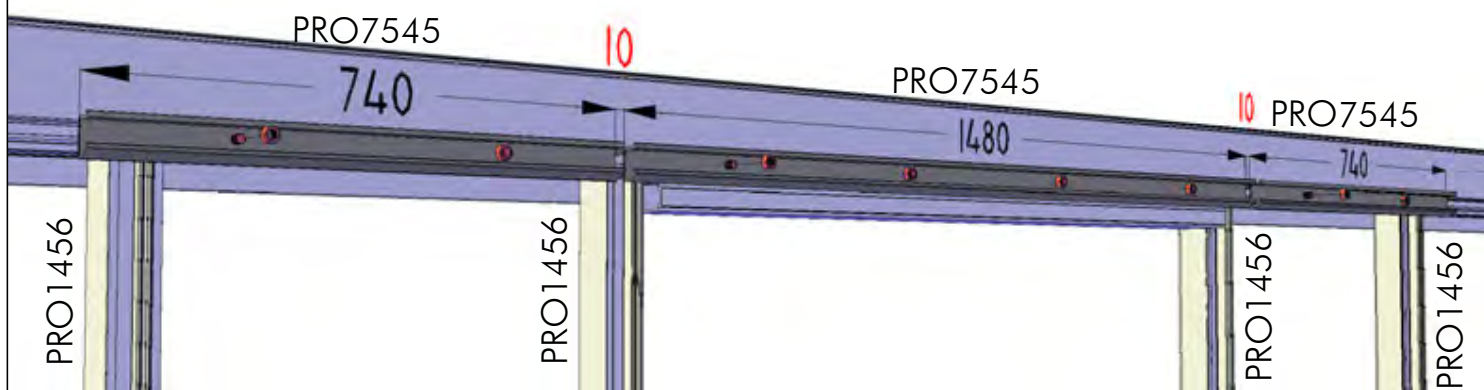
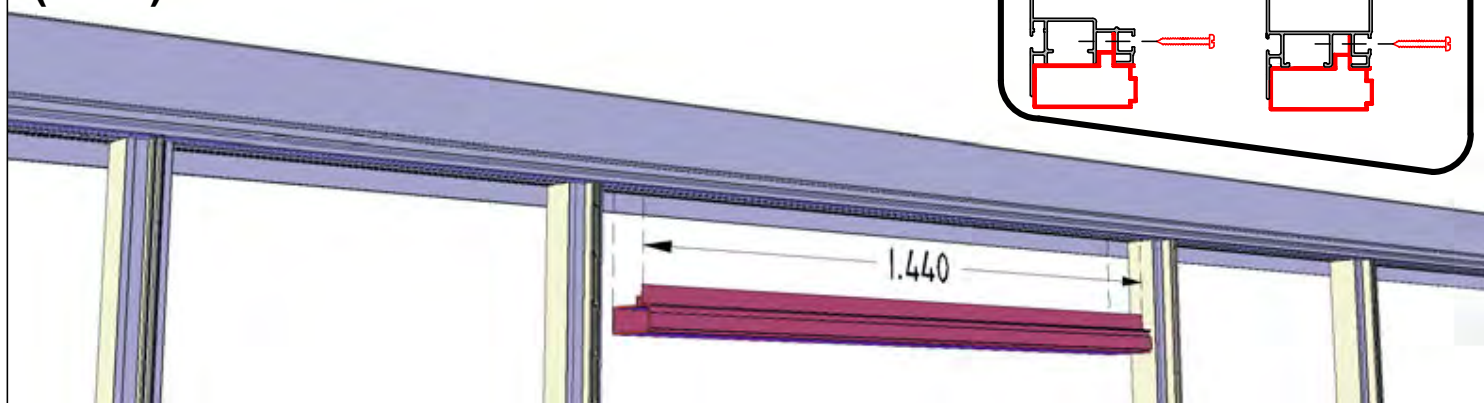
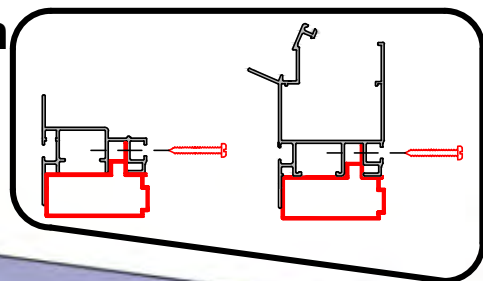




## Version 2: Single Door Hanger installation (SD)

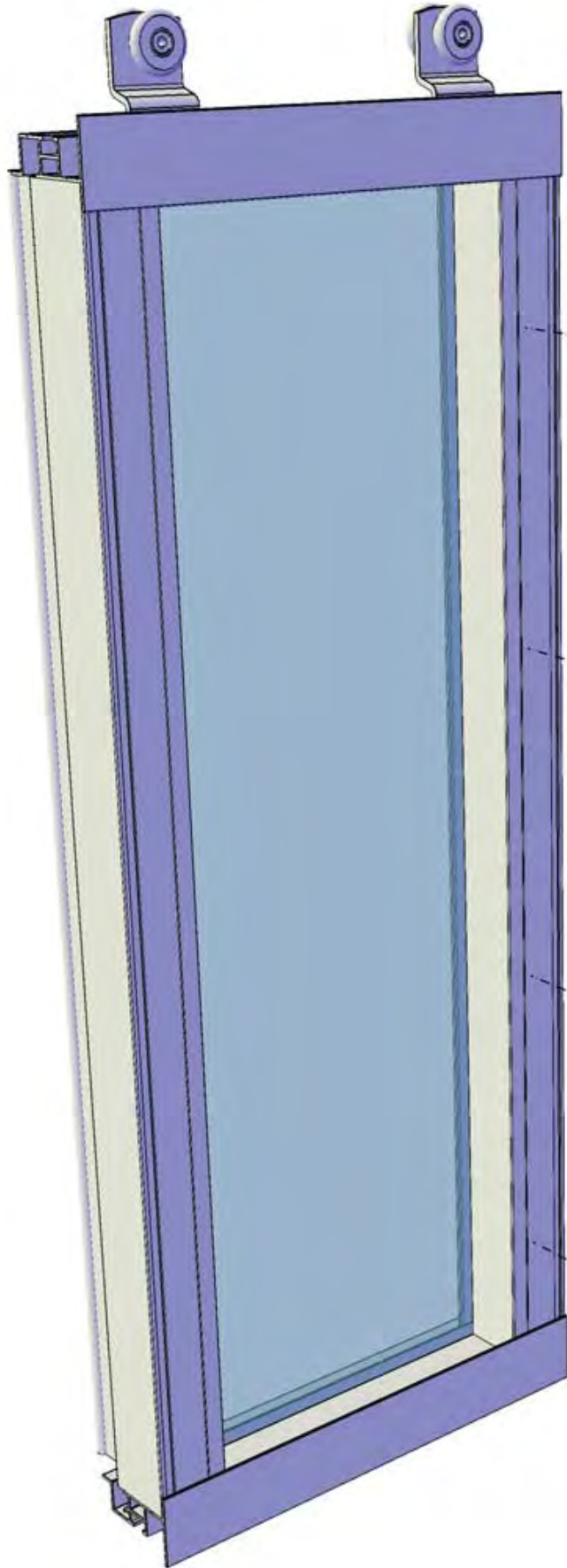
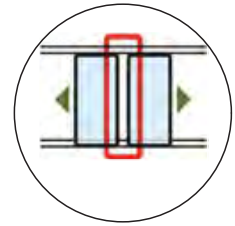


## Version 2: Double Door Hanger installation (SDD)



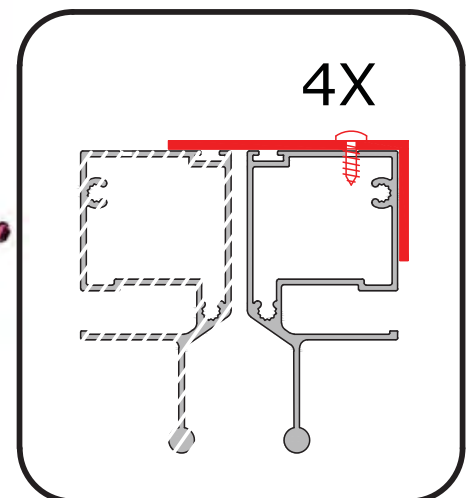


# OPTION: Double Sliding Door (Applies to Version 1 and 2)



As needed, use washer underneath door hanger to level the door/s .

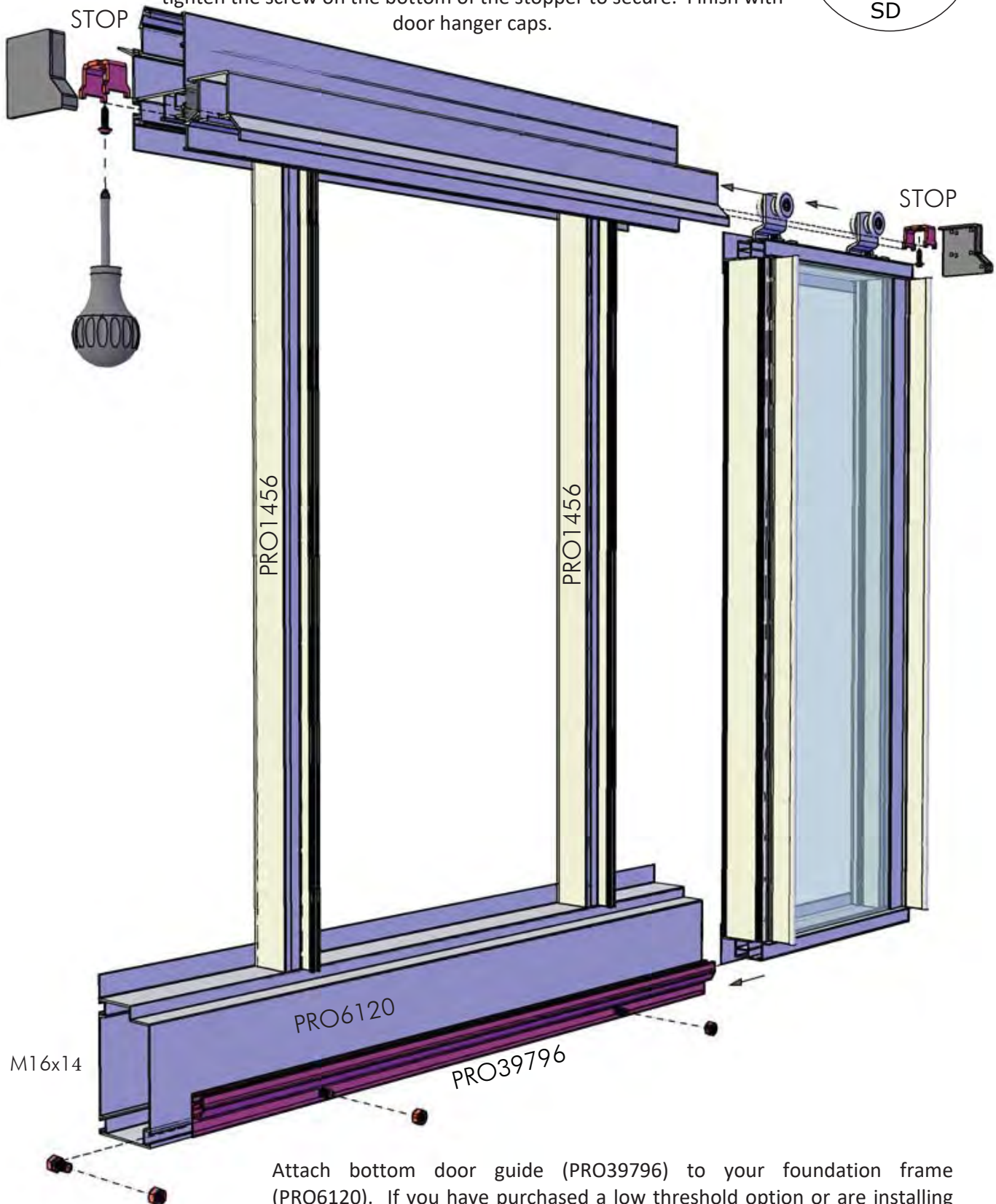
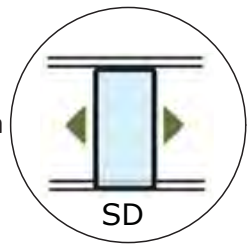
If you have a double sliding door, you will have a long L bracket that will attach to close any gap between the two doors.





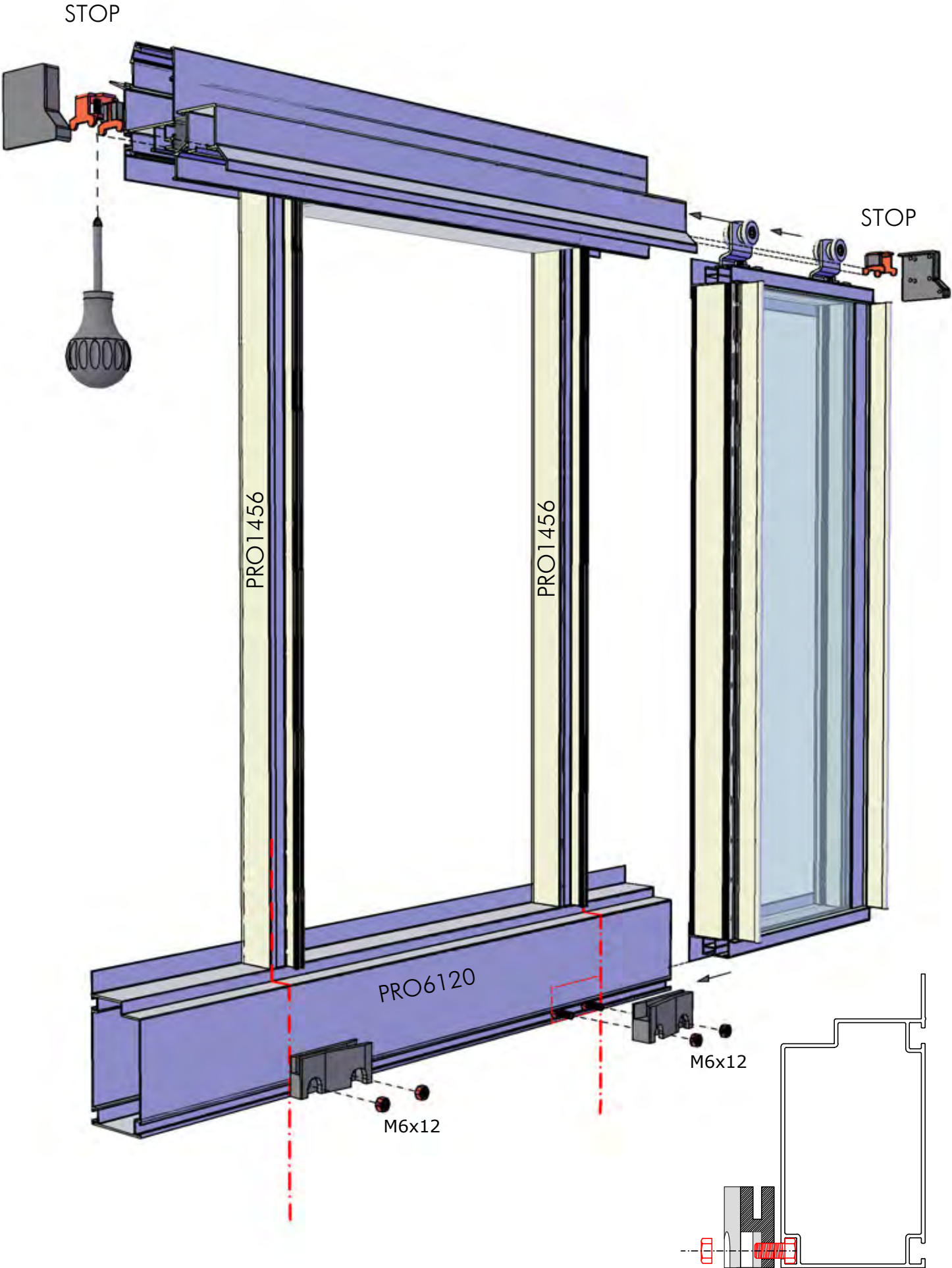
## Version 1: Door installation

Slide door rollers into top door hanger (PRO7546 or PRO7876) and slide a stopper on either side. Determine how far the door should slide, then tighten the screw on the bottom of the stopper to secure. Finish with door hanger caps.

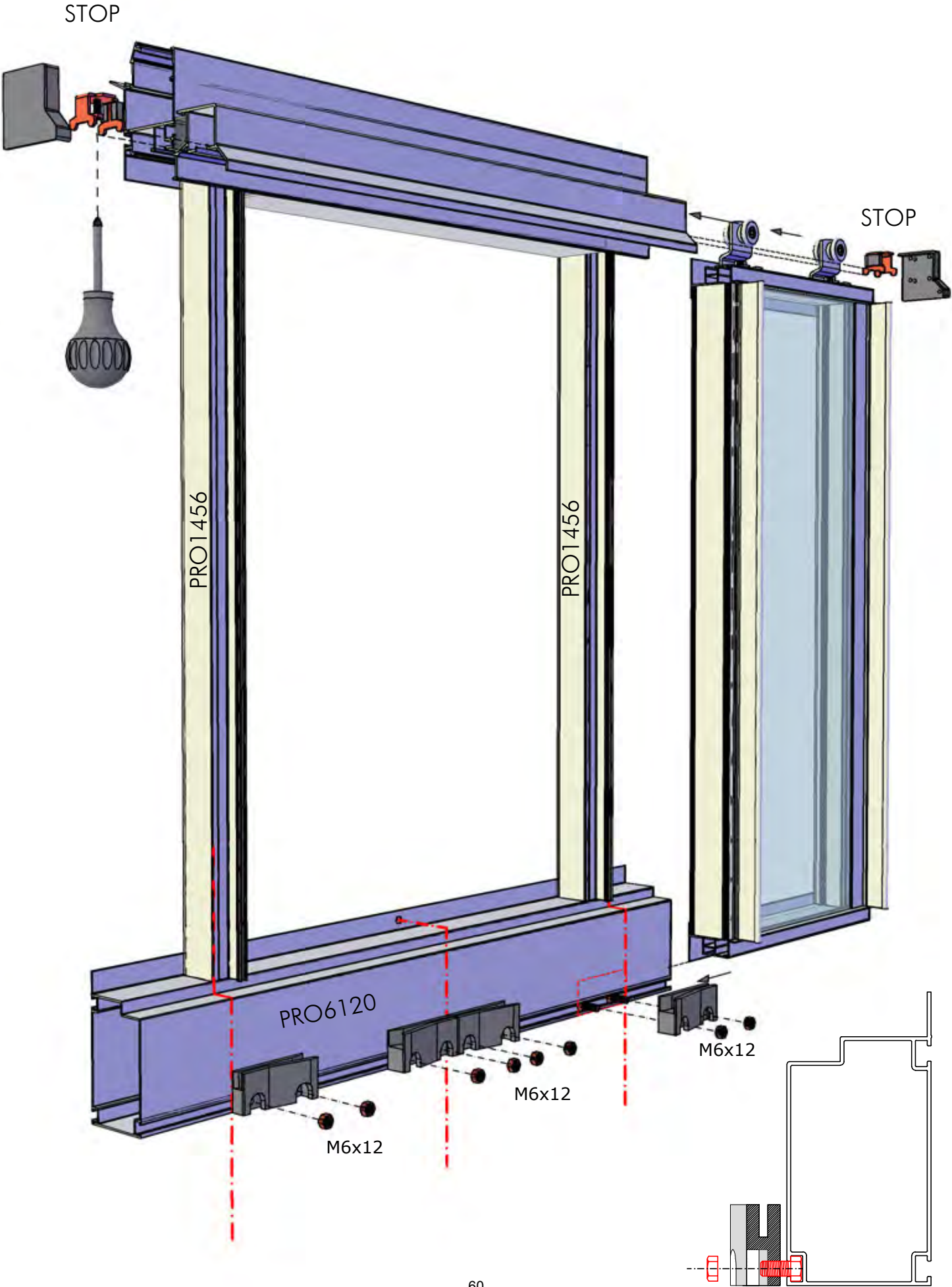


Attach bottom door guide (PRO39796) to your foundation frame (PRO6120). If you have purchased a low threshold option or are installing your greenhouse on a wall, please refer to the following pages marked SD\_MUR for stem wall and KSD for low threshold kit before installing door, bottom door guide, and locks.

Version 2: Single Door installation



# Version 2: Double Door installation (SDD)





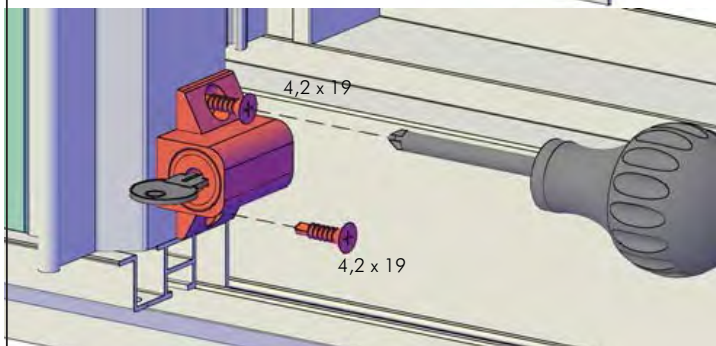
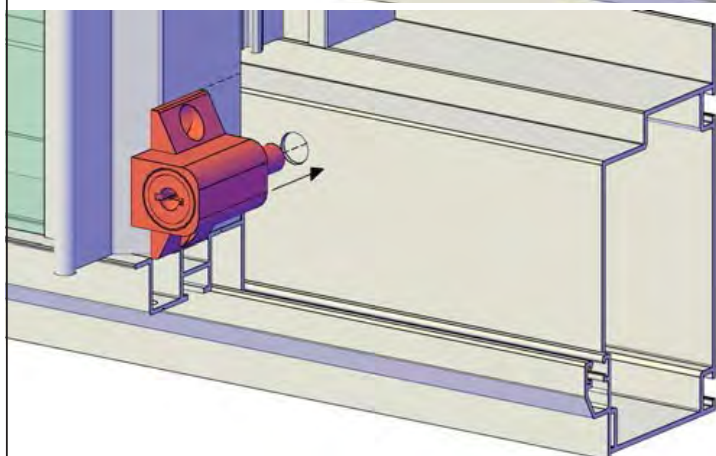
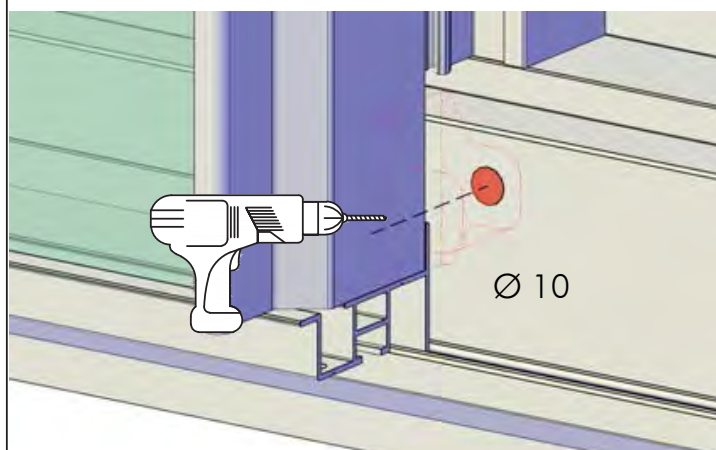
# Version 1: Sliding Door Lock Installation w/o Low Threshold



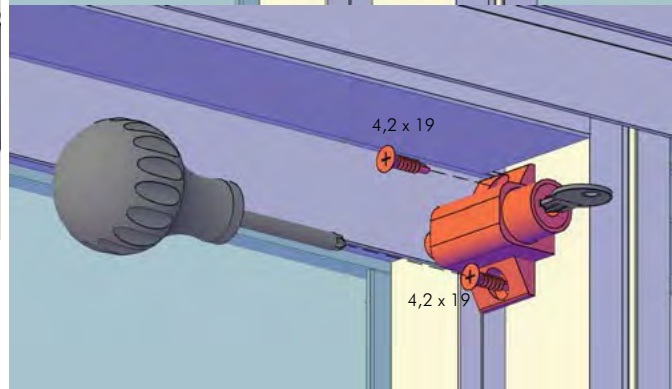
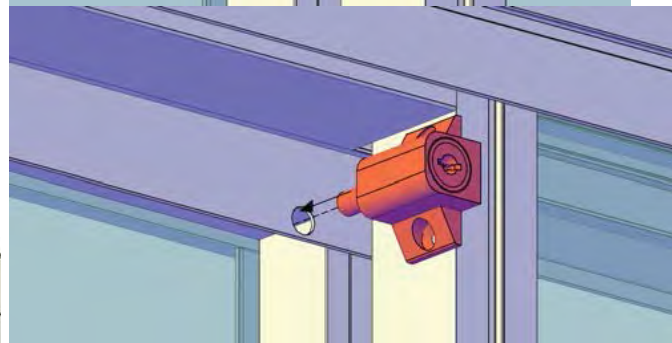
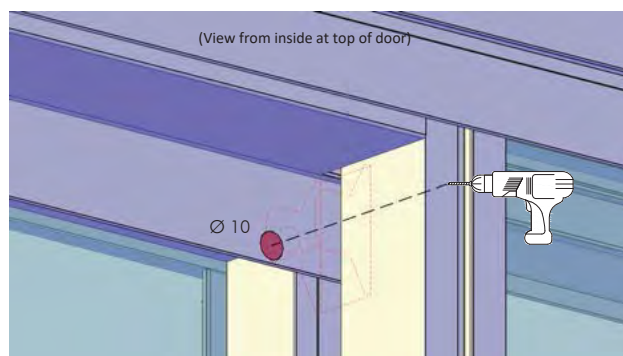
Install lock at bottom of a:

- single sliding door
- first door of double sliding doors
- both of your double sliding doors

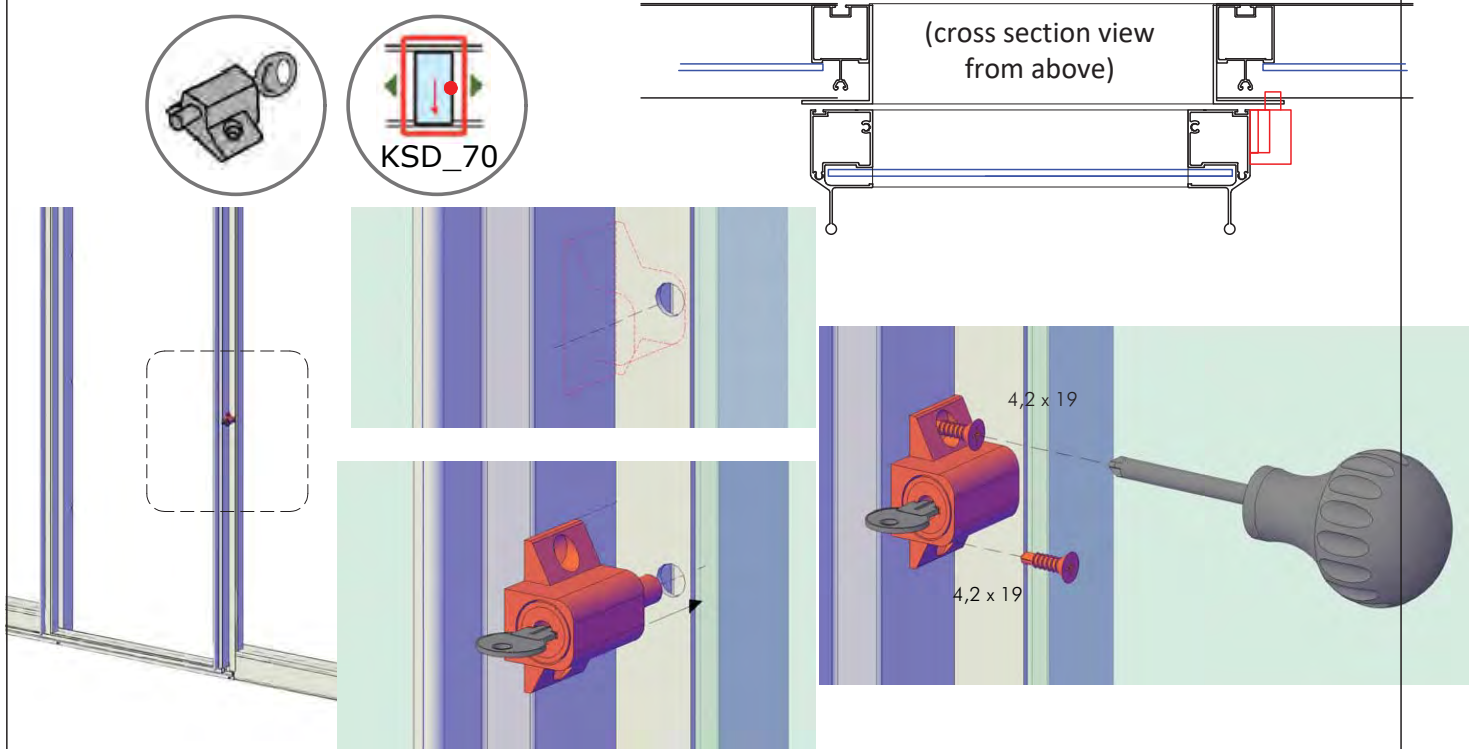
(View from outside at bottom of door)



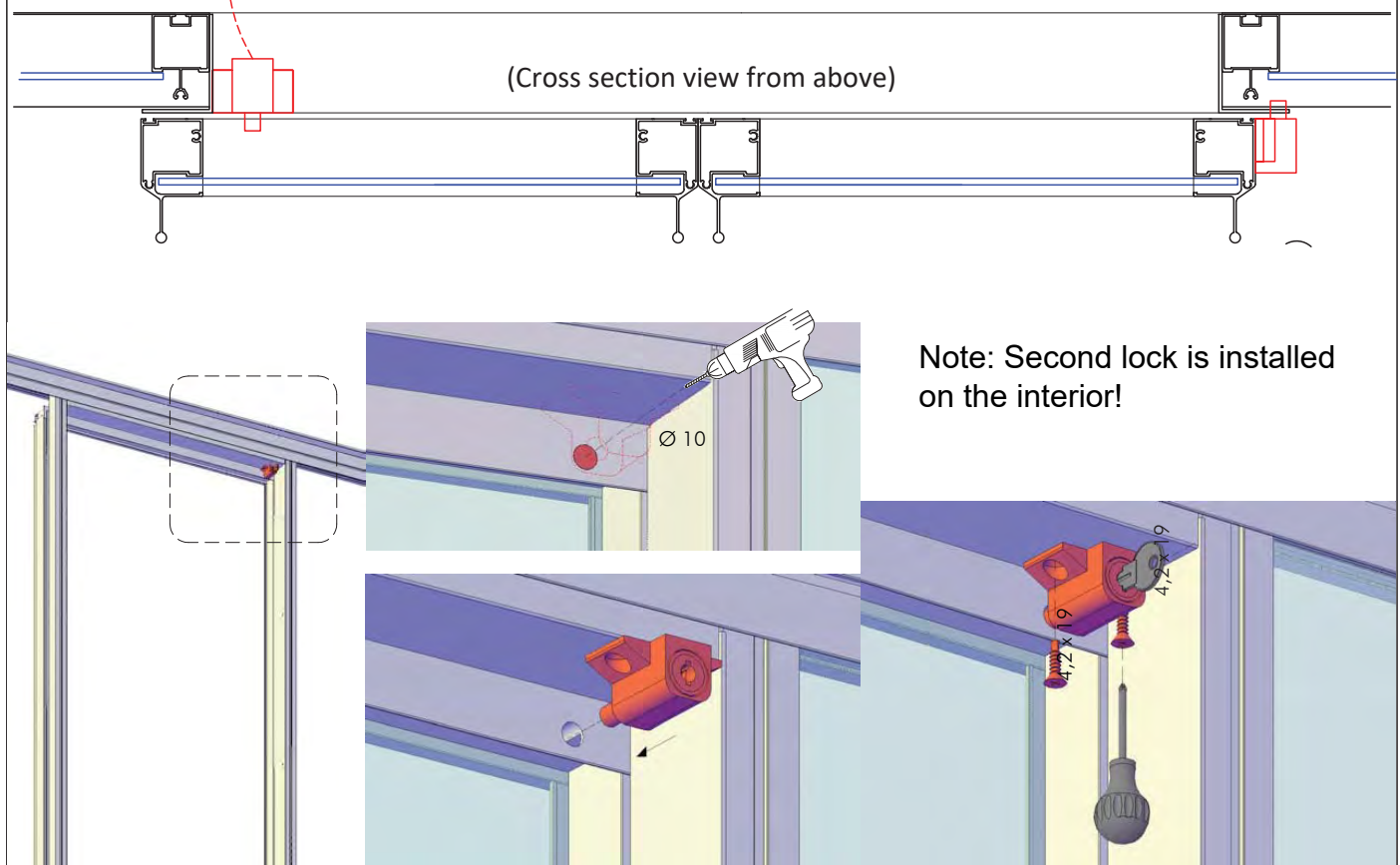
If you have a double sliding door, you may install one lock on the inside of your greenhouse as shown



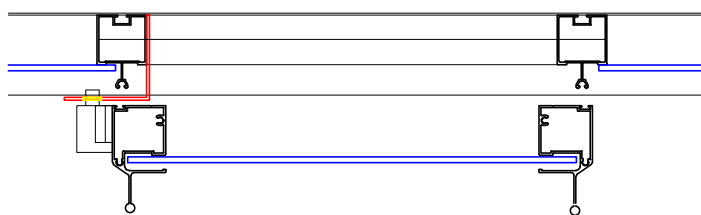
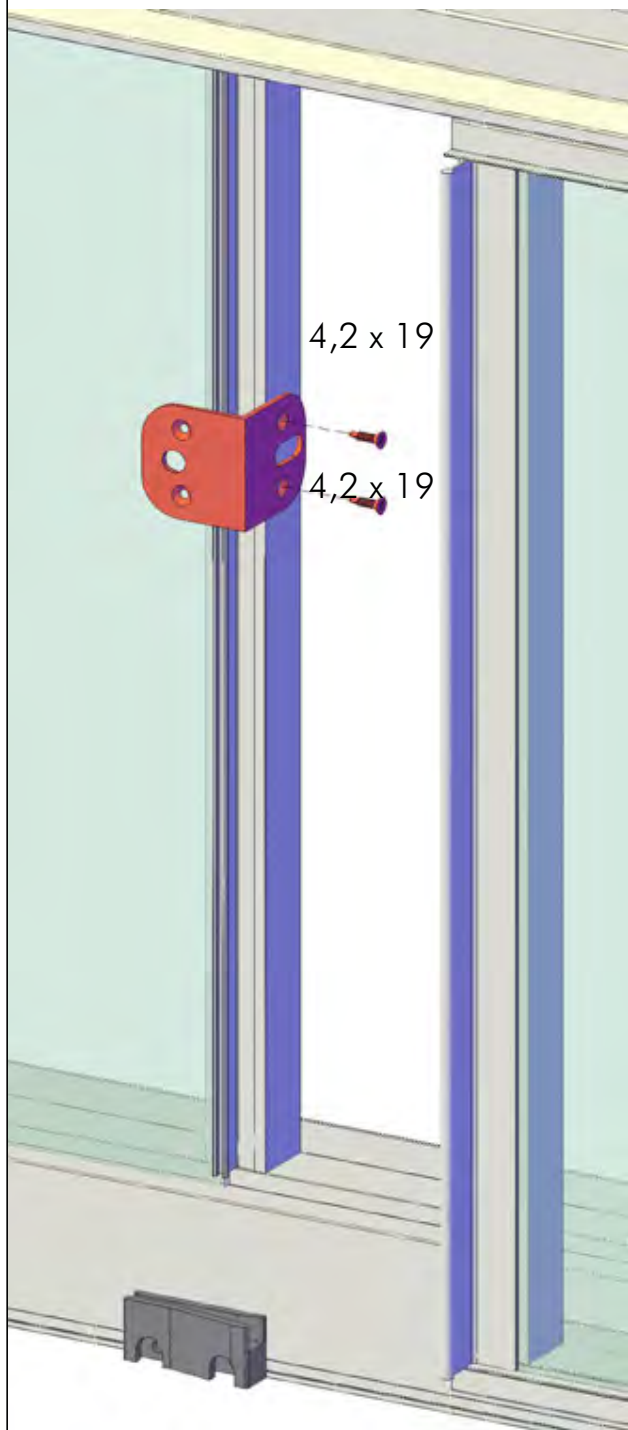
## Optional Upgrade: Lock install with KSD - 4 Frame Low Threshold Kit (Single/First door)



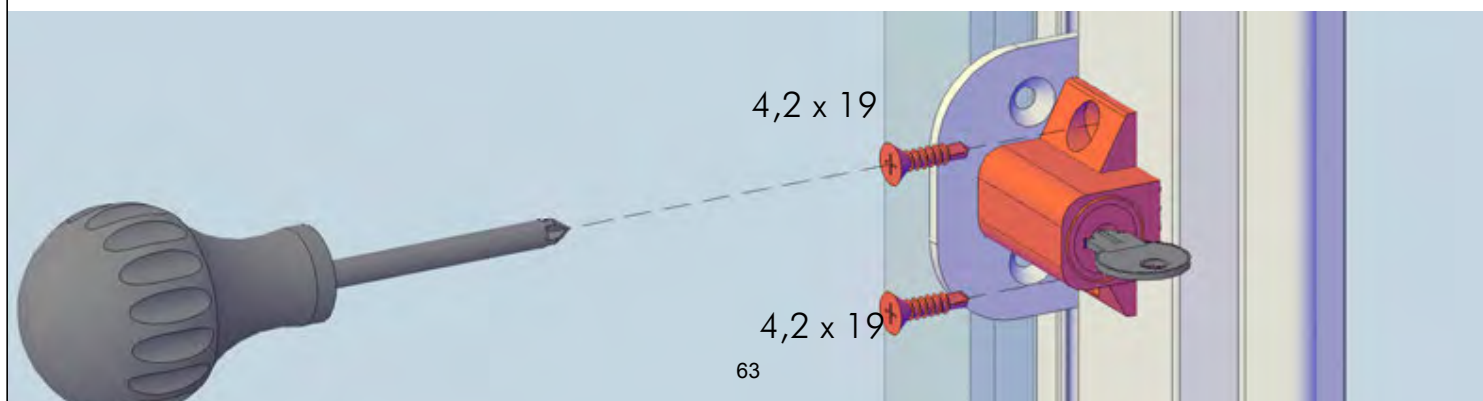
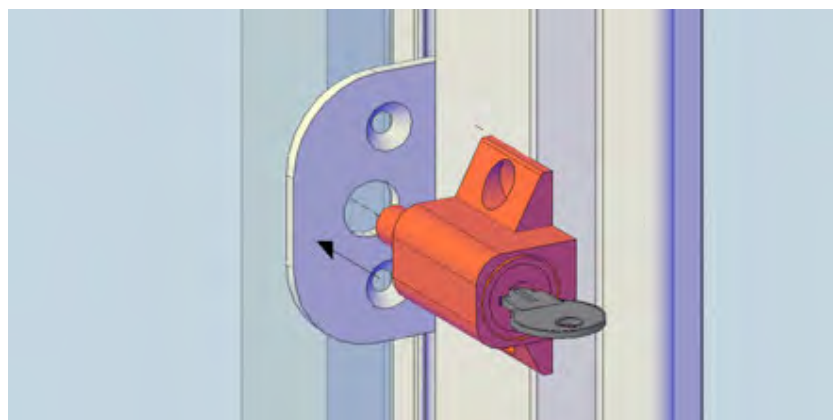
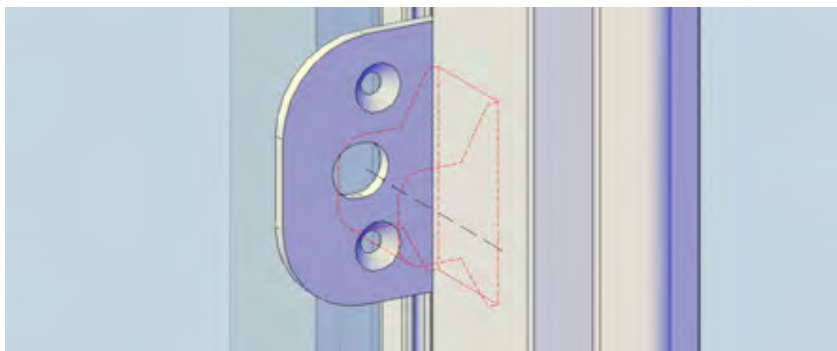
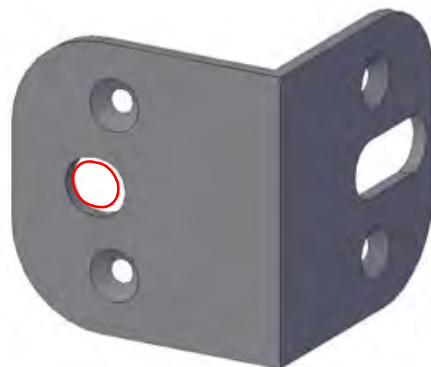
## Lock installation on Double/Second Door Using Low Threshold Kit



## Version 2: Door Lock Installation - Single door

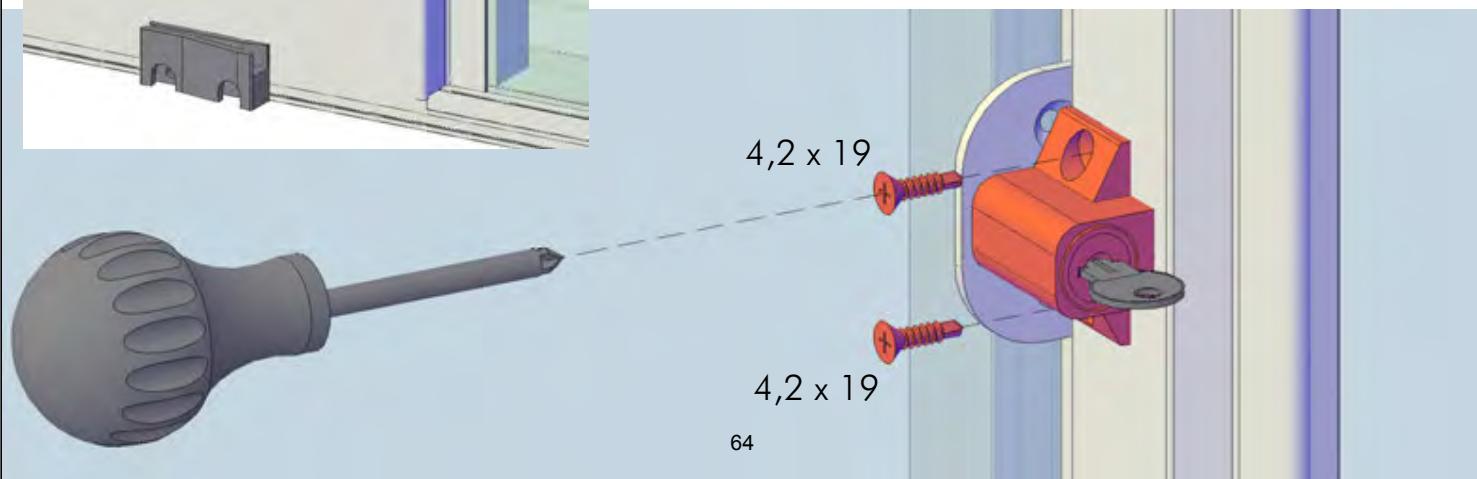
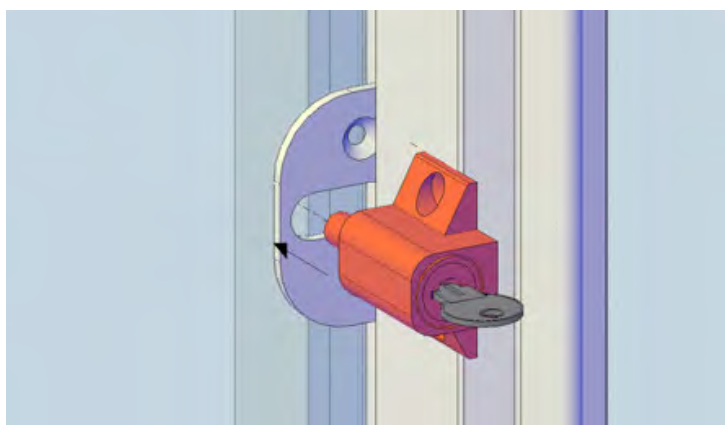
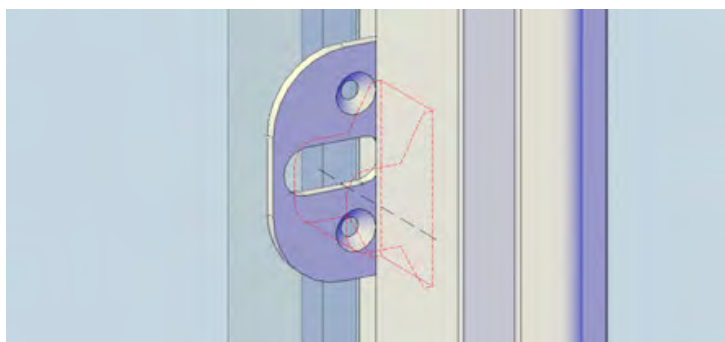
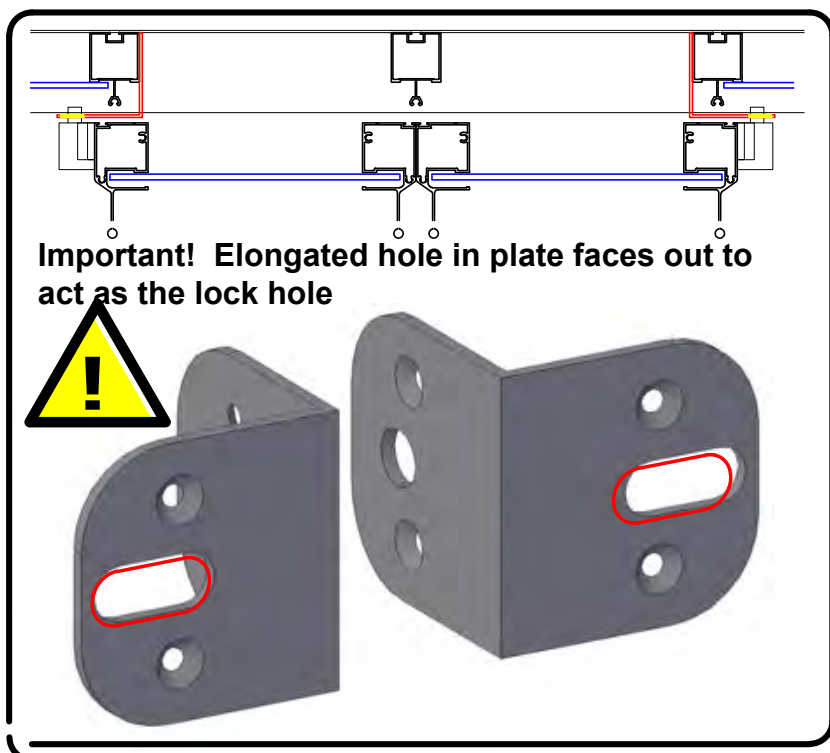
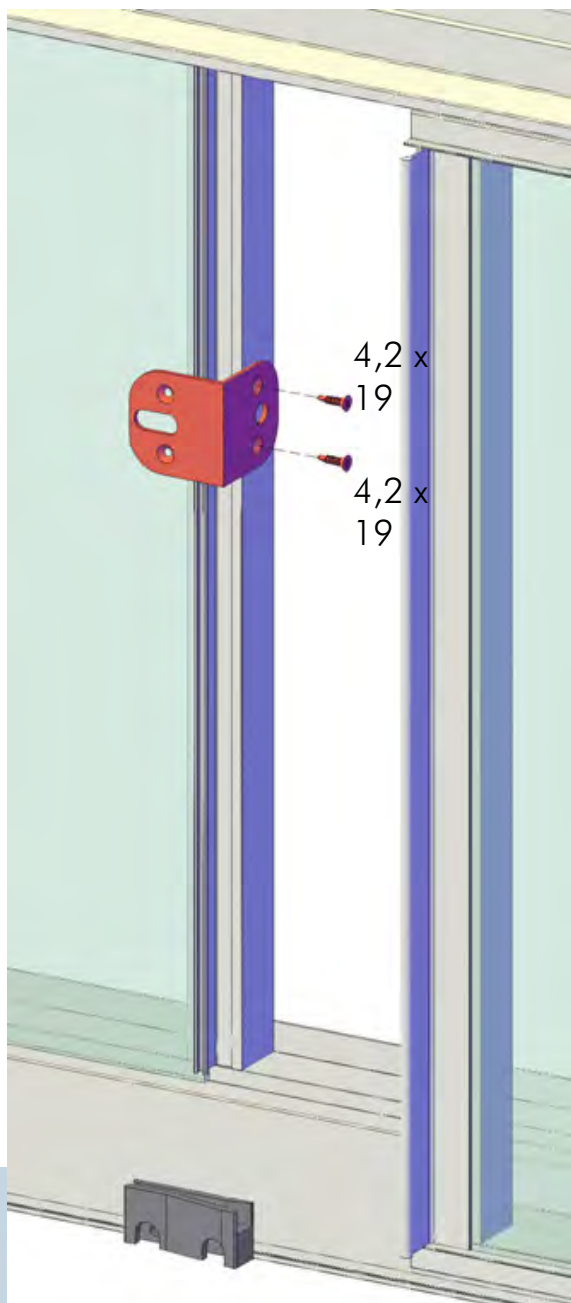


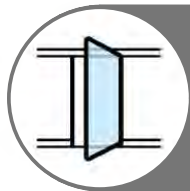
**Important! Circular hole in plate faces out to act as the lock hole**





## Version 2: Door Lock Installation - Double door





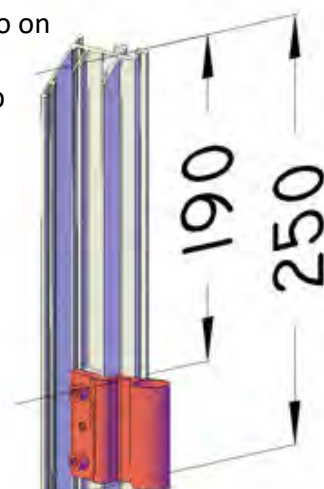
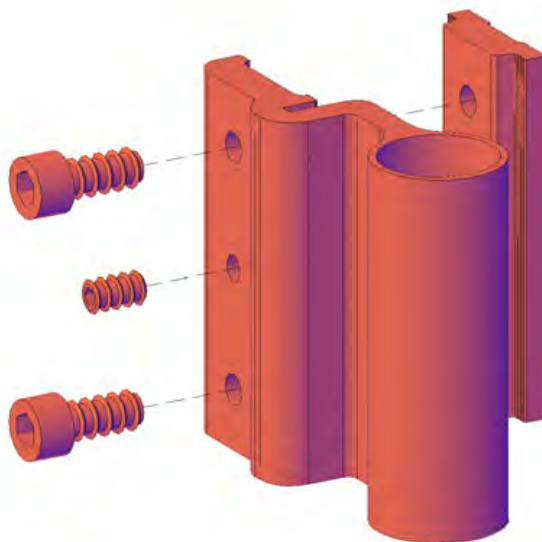
## OPTIONAL UPGRADE: Hinged Door

# HD

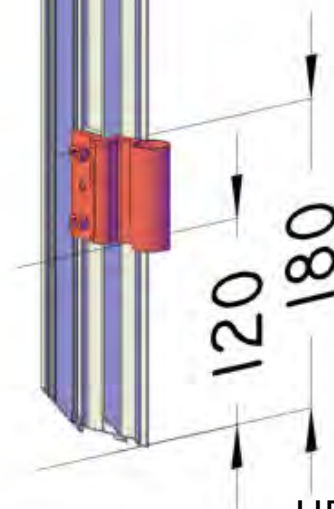
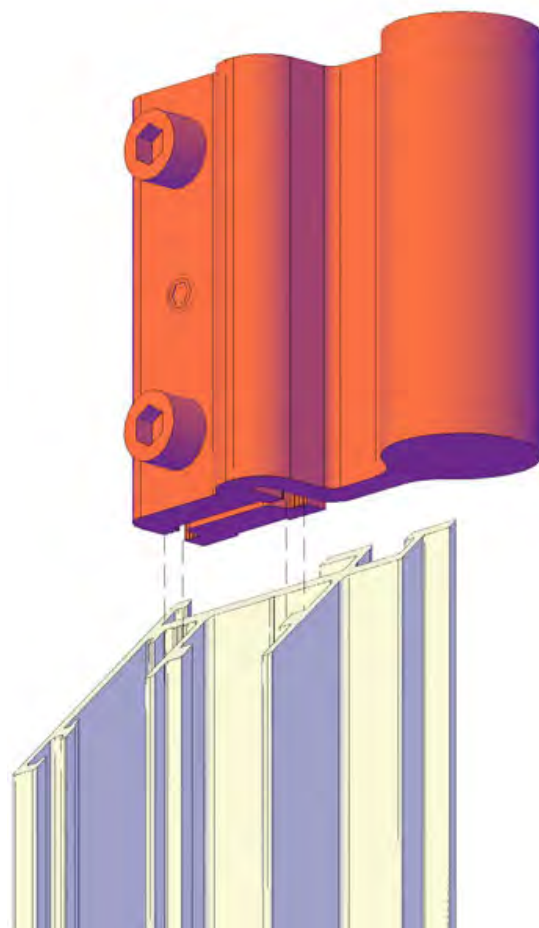
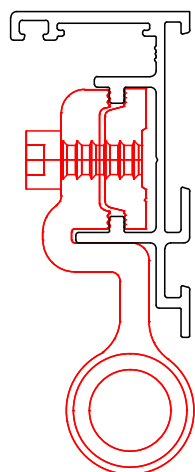


IMPORTANT: Find Janssens Accessory installation video on our site here:

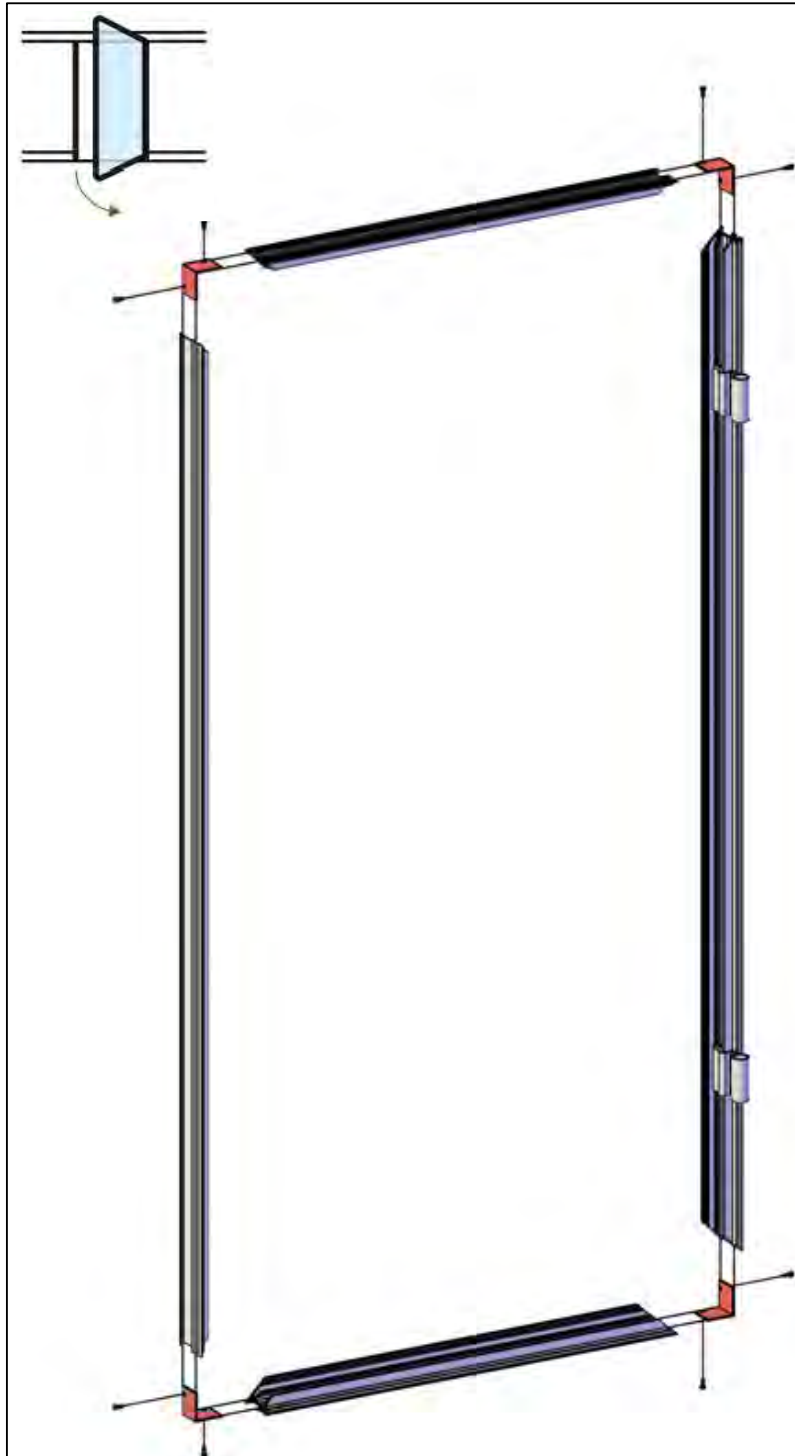
<https://www.exaco.com/greenhouse-victorian.php>



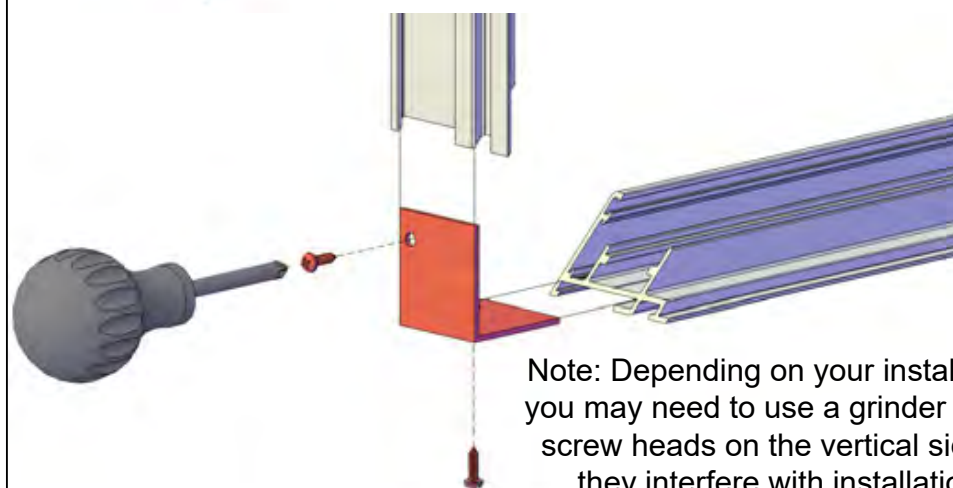
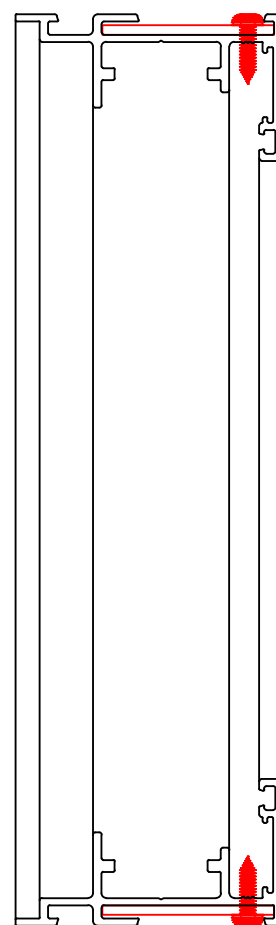
Hinges in door jamb will need to be adjusted.  
Distances are in millimeters.



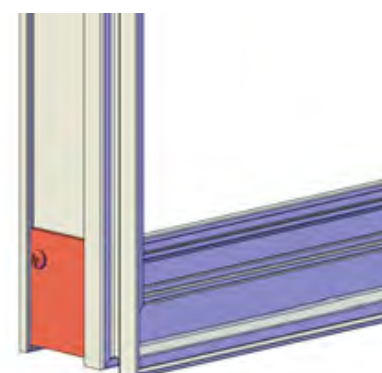
HD 1



	ITEM	PC.	L
L	L 40X40	4 PC	36 MM
	PRO6280	2 PC	703 MM
	PRO6280	2 PC	1.441 MM
	PRO6280	2 PC	1.930 MM
	4,2 x 13	8 PC	

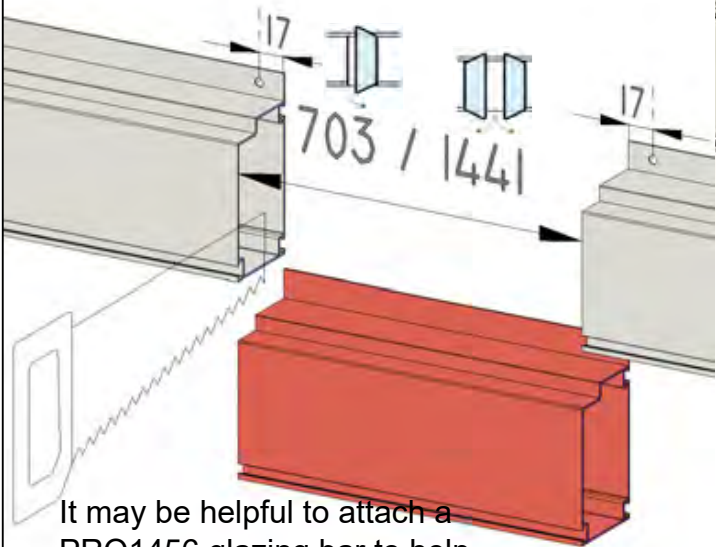


Note: Depending on your installation, you may need to use a grinder on the screw heads on the vertical sides if they interfere with installation.

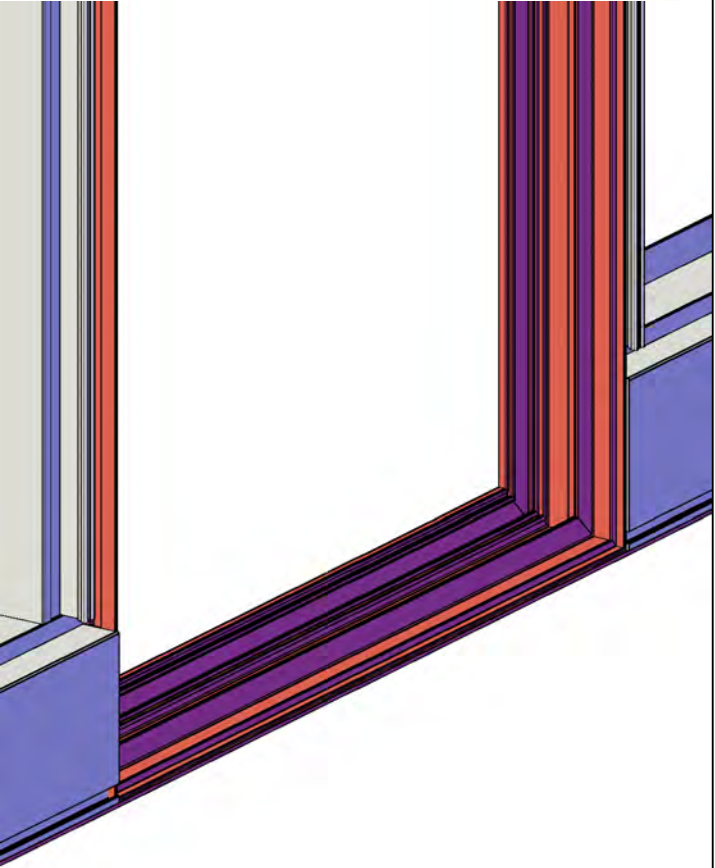
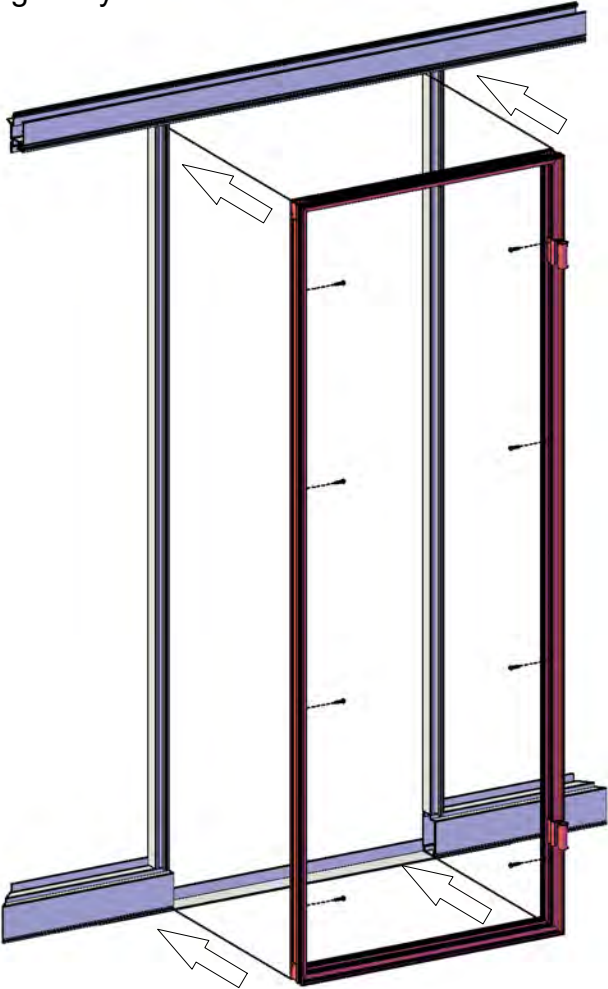
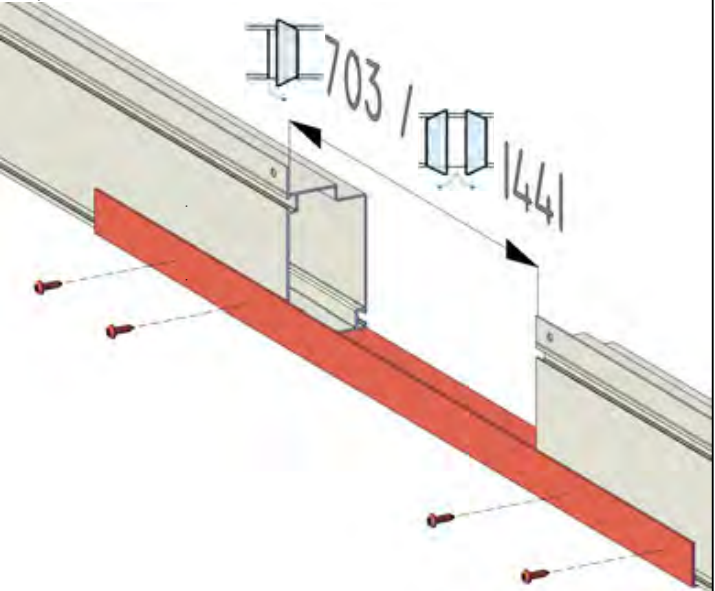




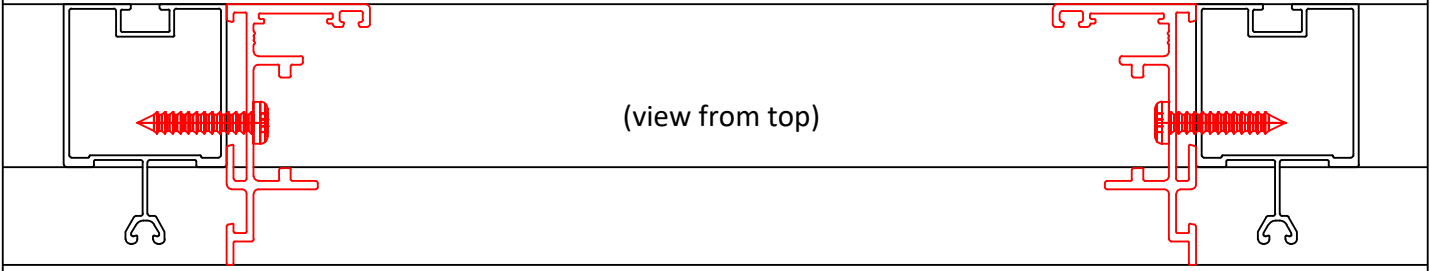
Double Hinged door will need opening of 1441mm, 17mm from bolt holes on foundation frame.



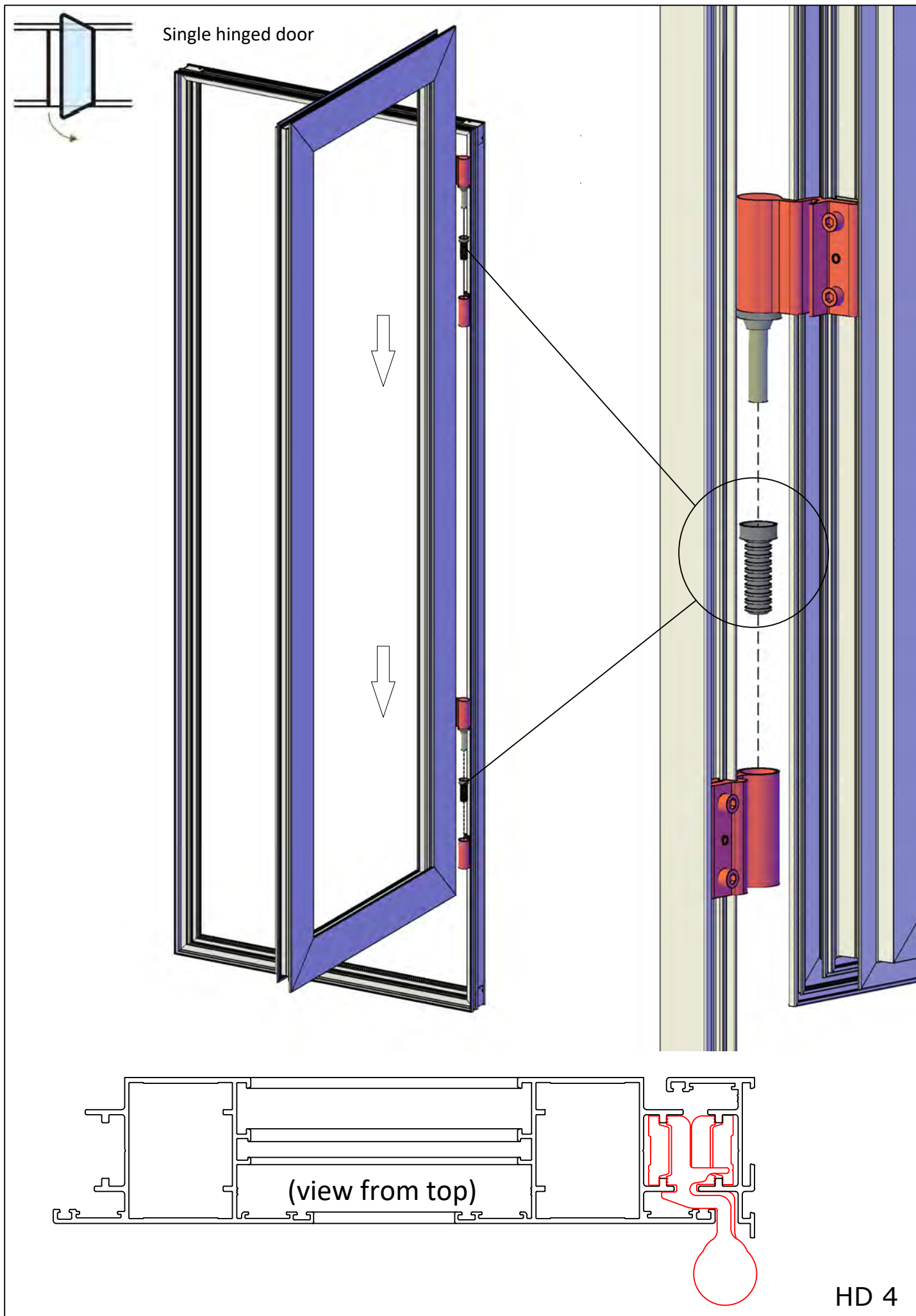
It may be helpful to attach a PRO1456 glazing bar to help guide you where to cut.

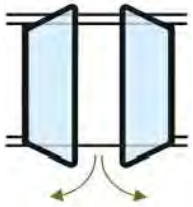


(Single door shown, double door jamb installation will be identical)

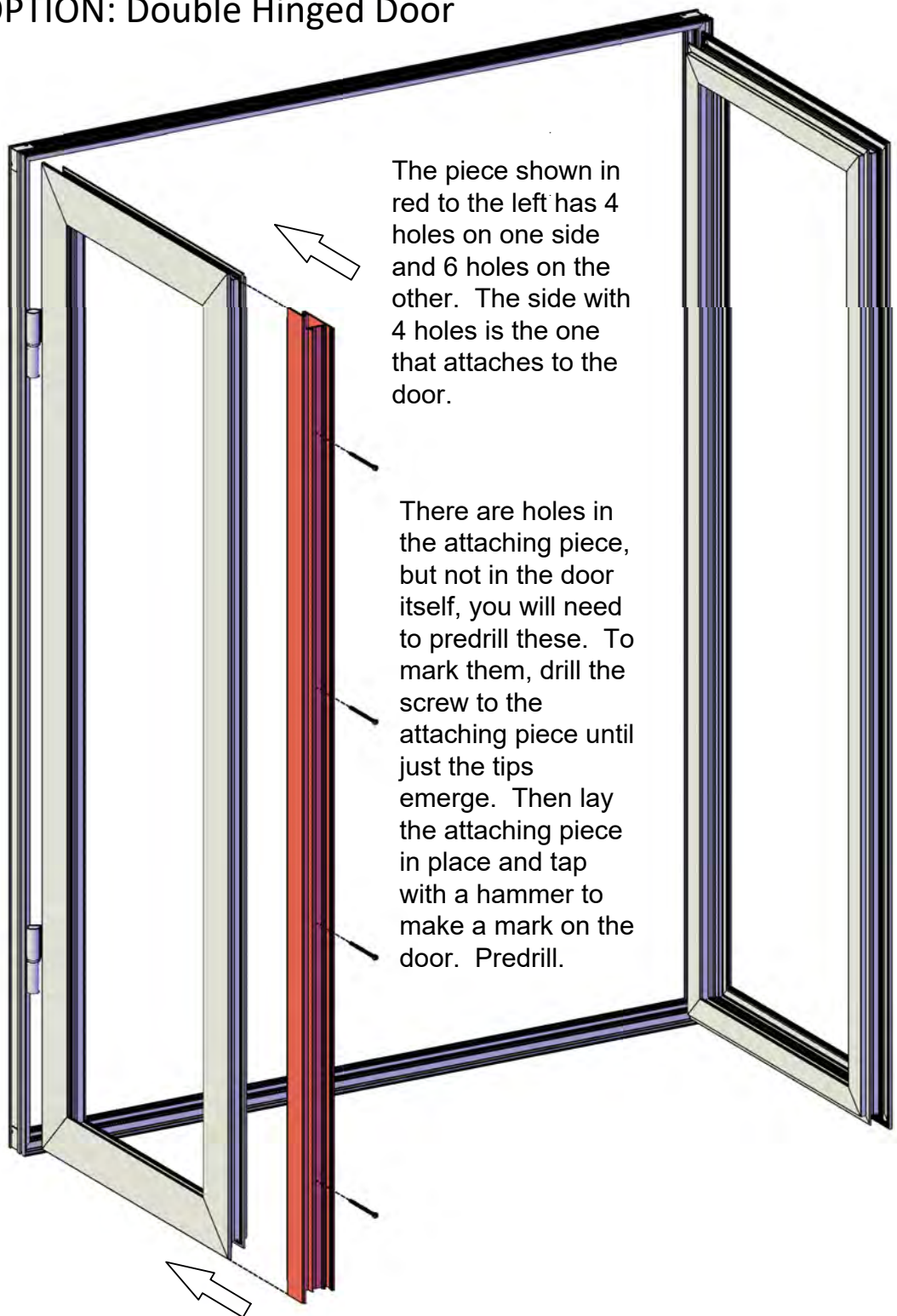


(view from top)



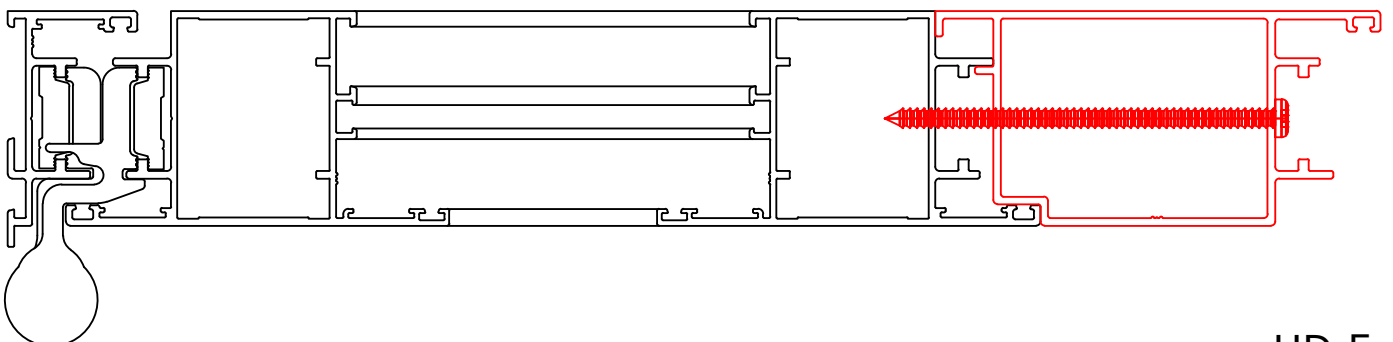


## OPTION: Double Hinged Door



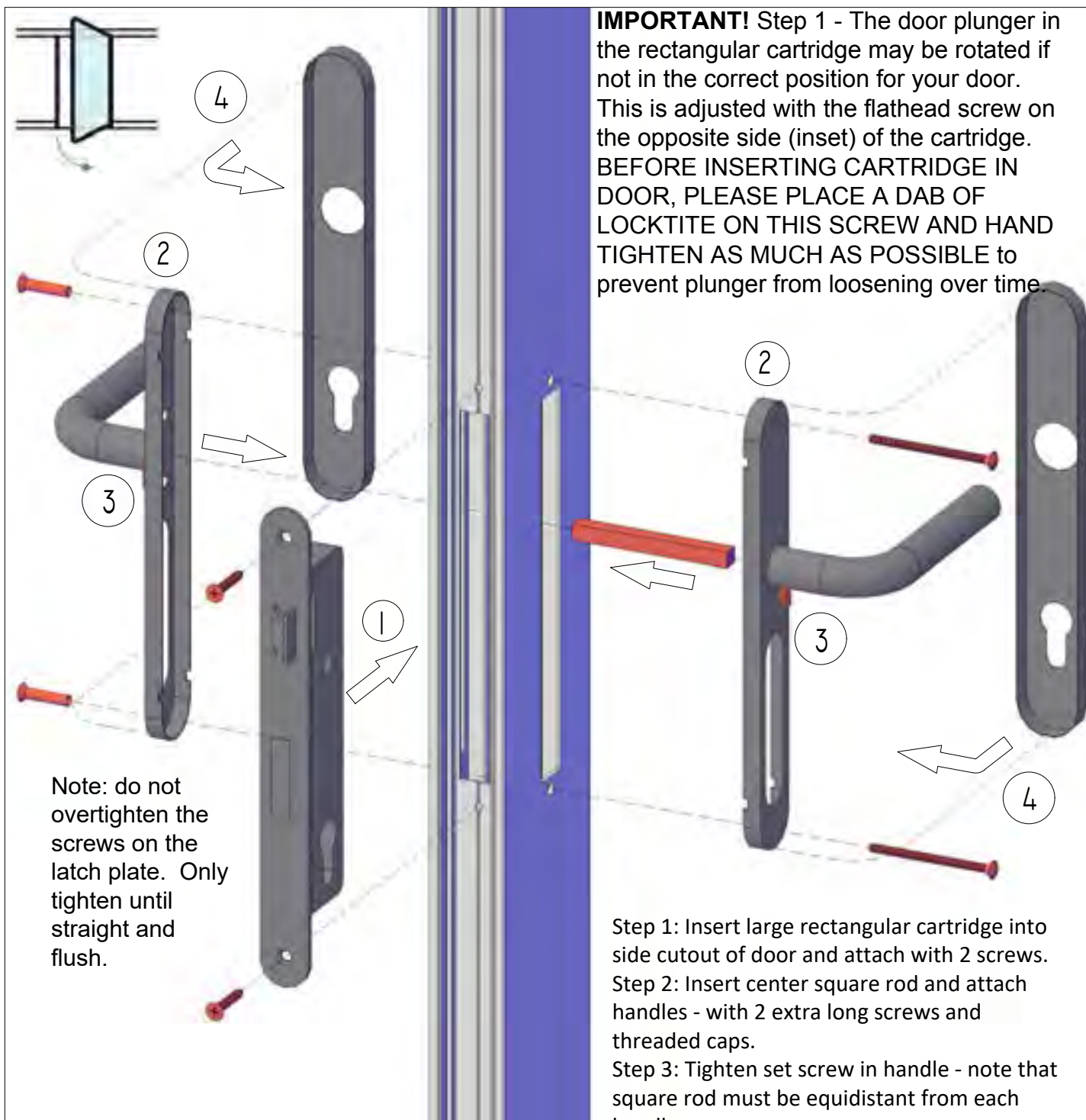
The piece shown in red to the left has 4 holes on one side and 6 holes on the other. The side with 4 holes is the one that attaches to the door.

There are holes in the attaching piece, but not in the door itself, you will need to predrill these. To mark them, drill the screw to the attaching piece until just the tips emerge. Then lay the attaching piece in place and tap with a hammer to make a mark on the door. Predrill.



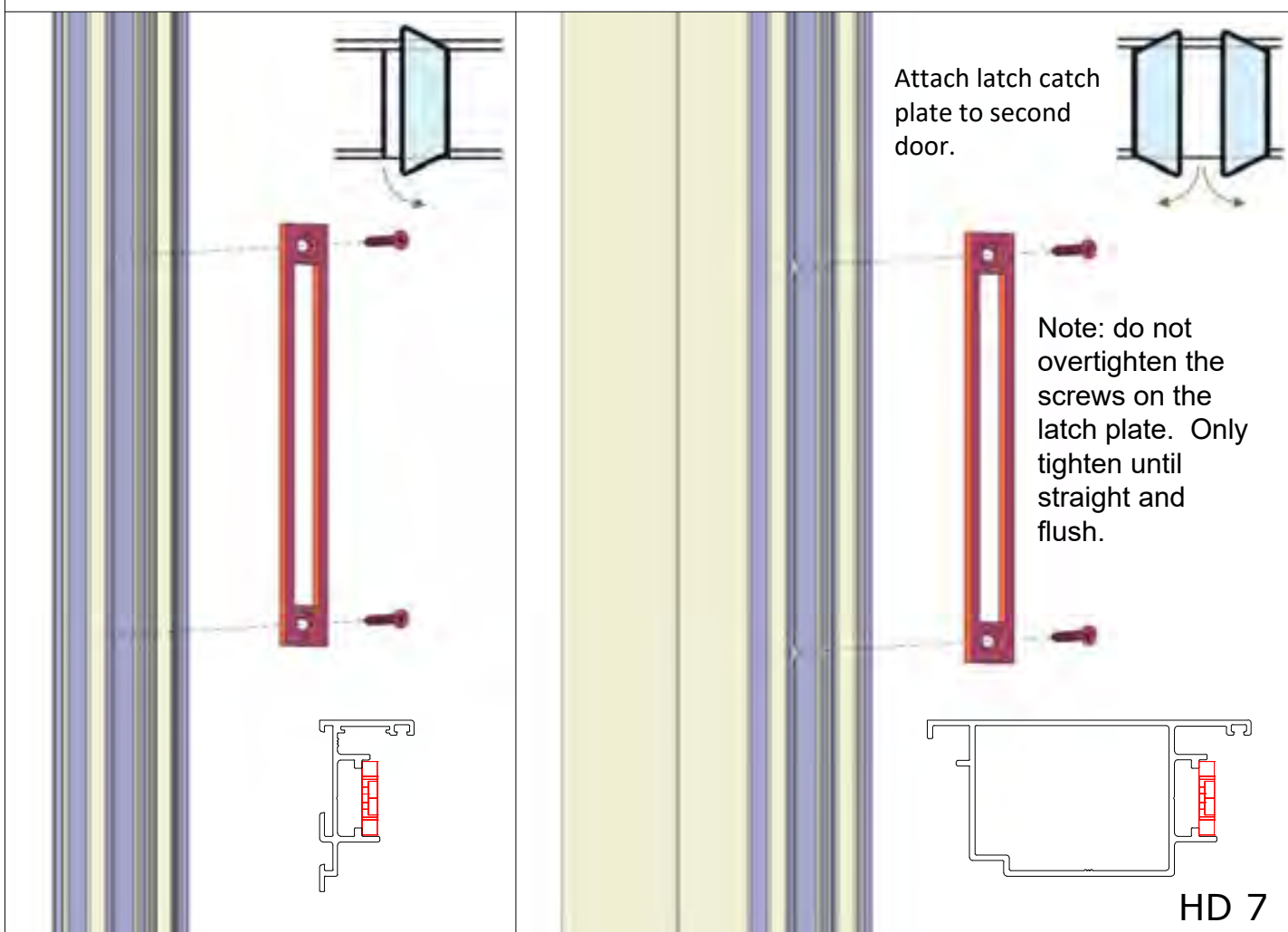
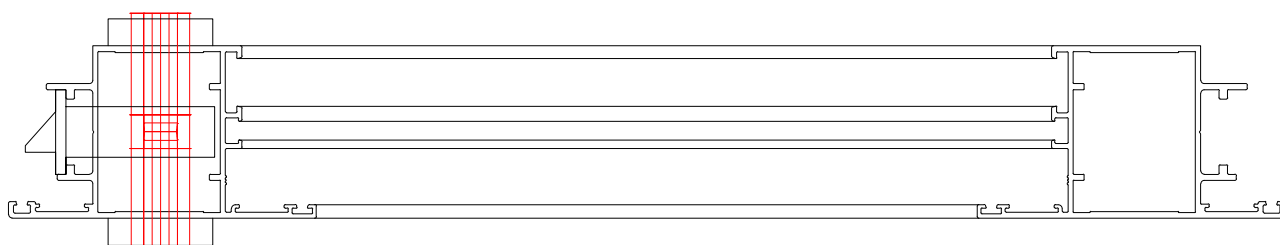
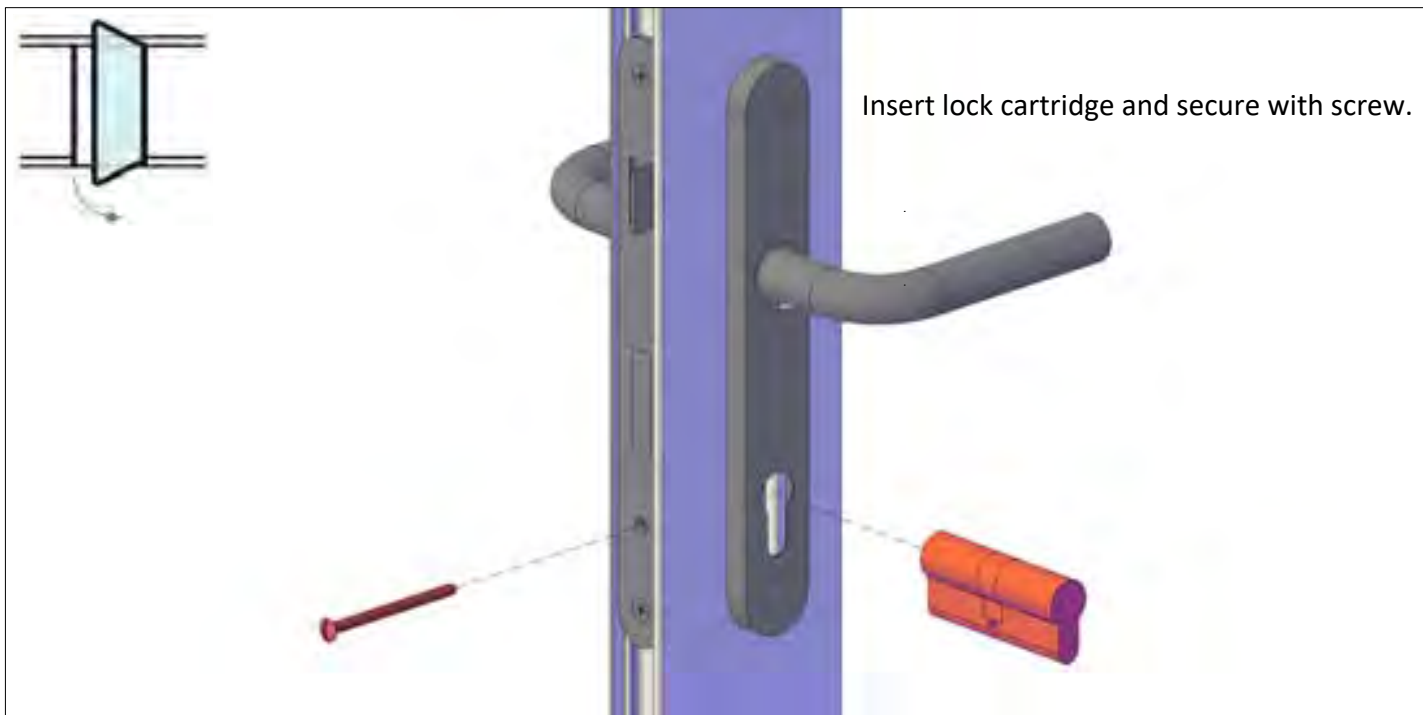
HD 5





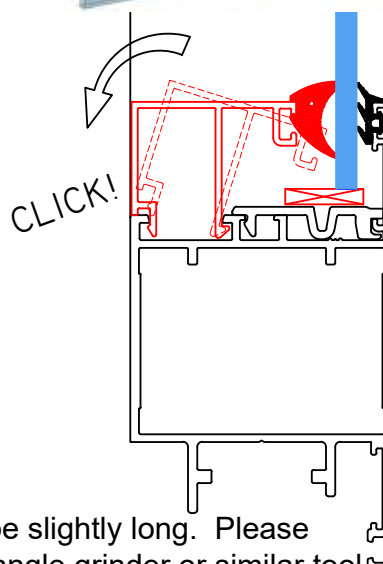
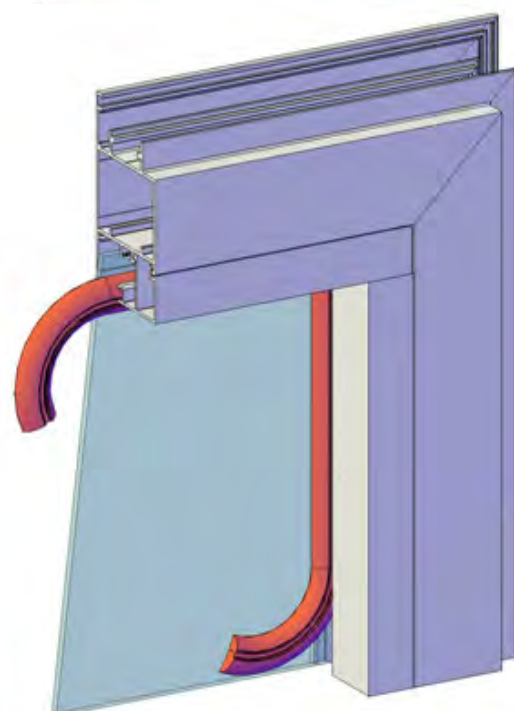
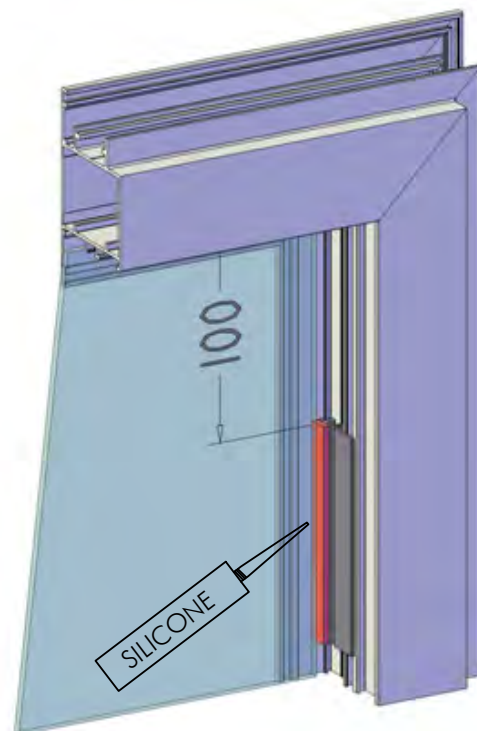
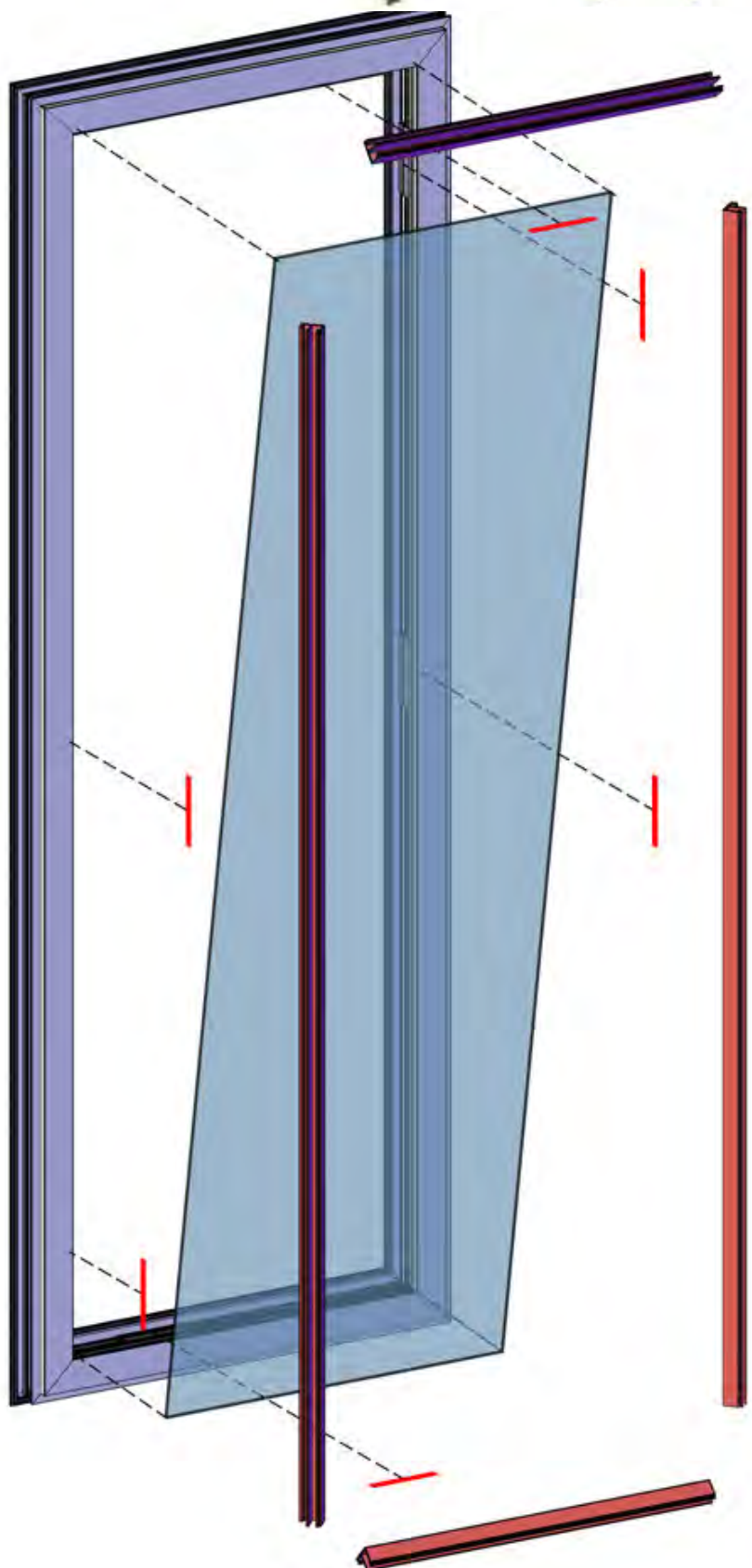
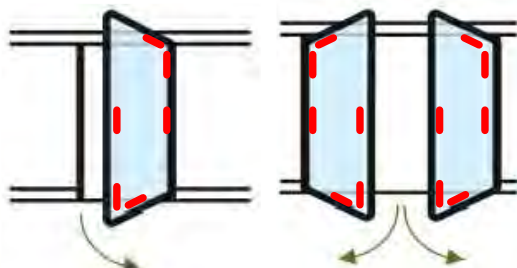
**IMPORTANT:** Find Janssens Accessory installation video on our site here: <https://www.exaco.com/greenhouse-victorian.php>

**HD 6**



HD 7

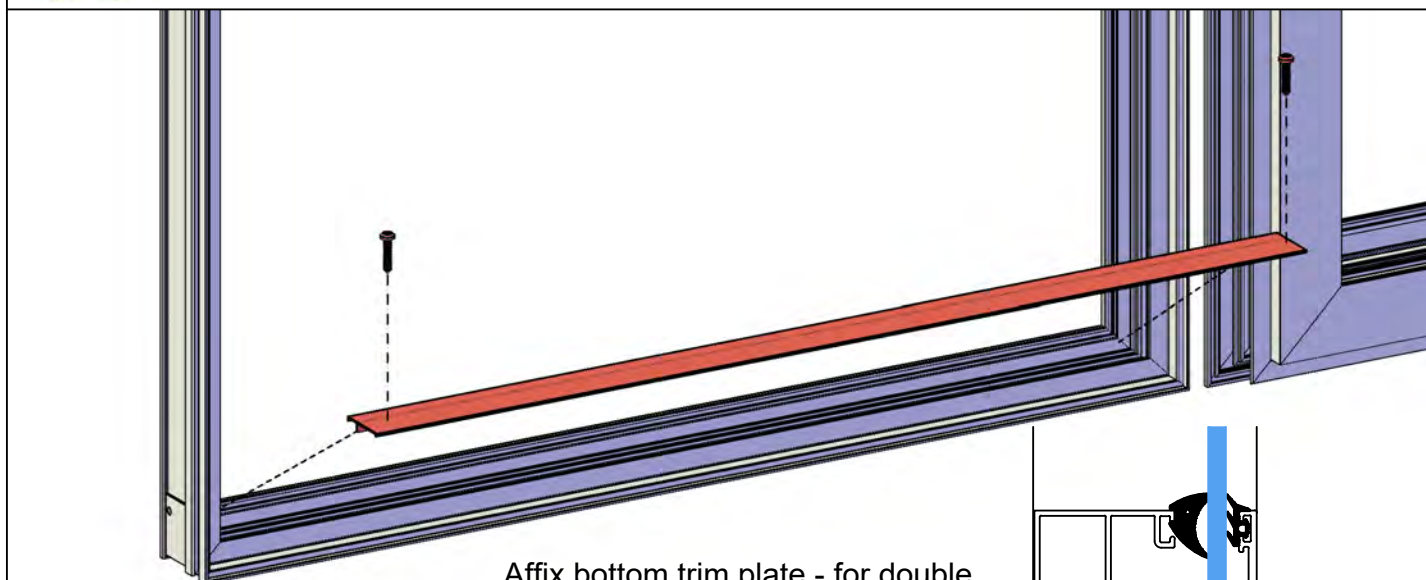
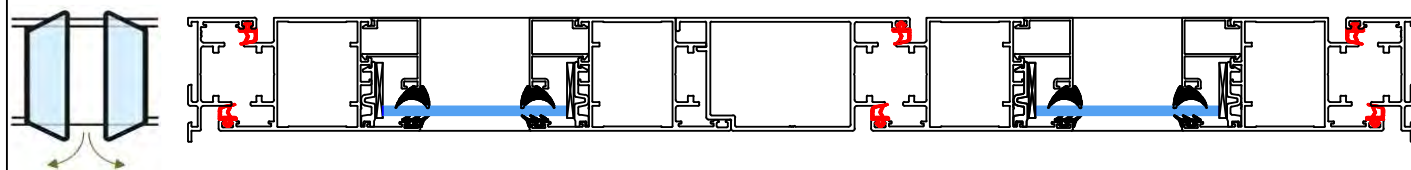
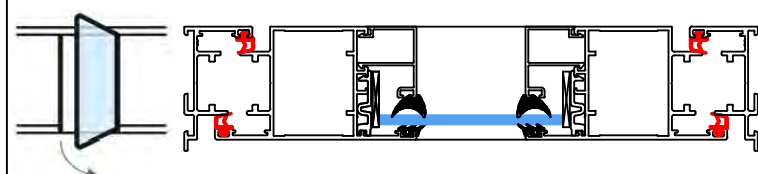
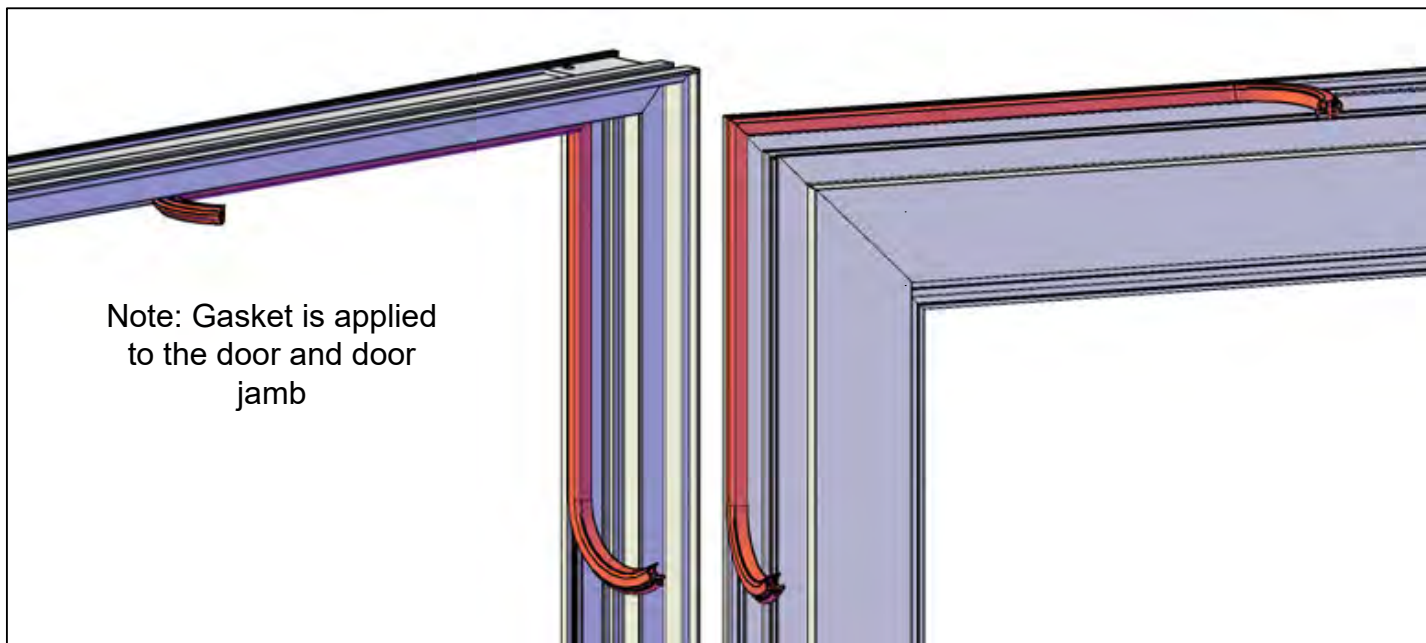
For the next step, we recommend placing the door flat until glass is installed.



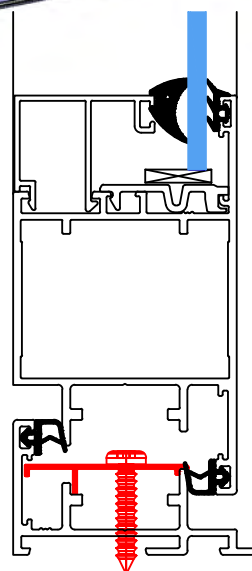
NOTE: the horizontal glazing strips shown in red above may be slightly long. Please measure and trim to fit your door using a hacksaw, hand file, angle grinder or similar tool.

HD 8

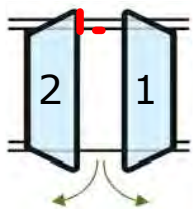




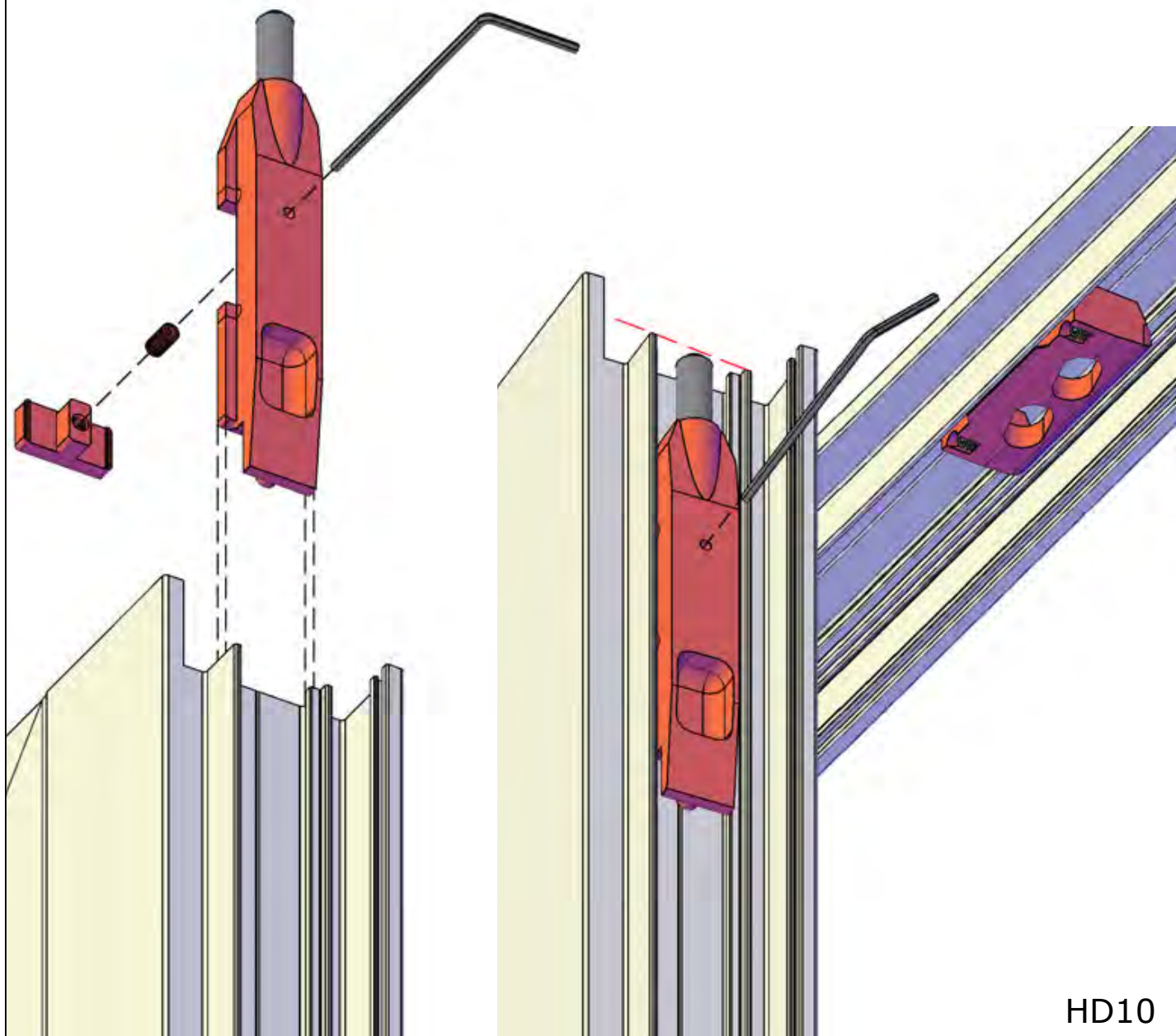
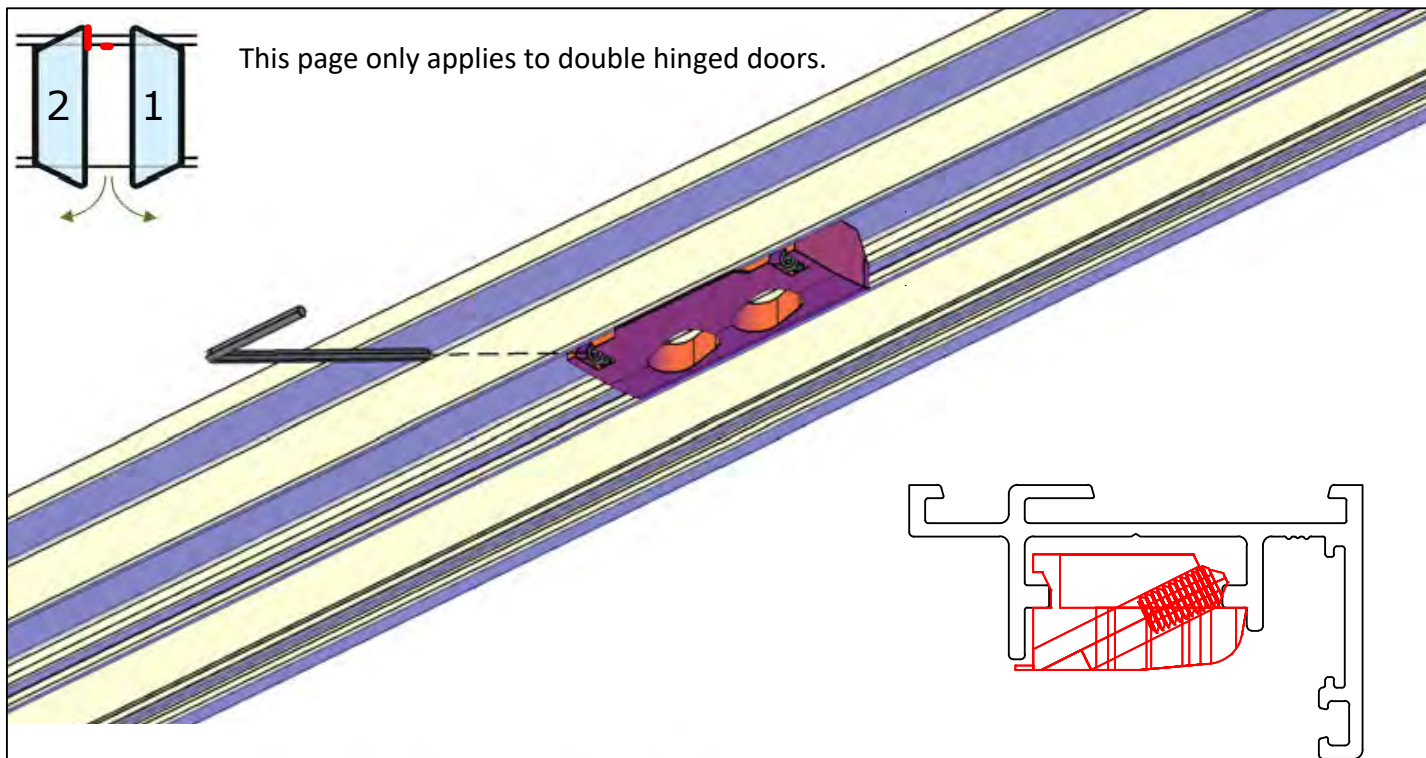
Affix bottom trim plate - for double doors see next page.



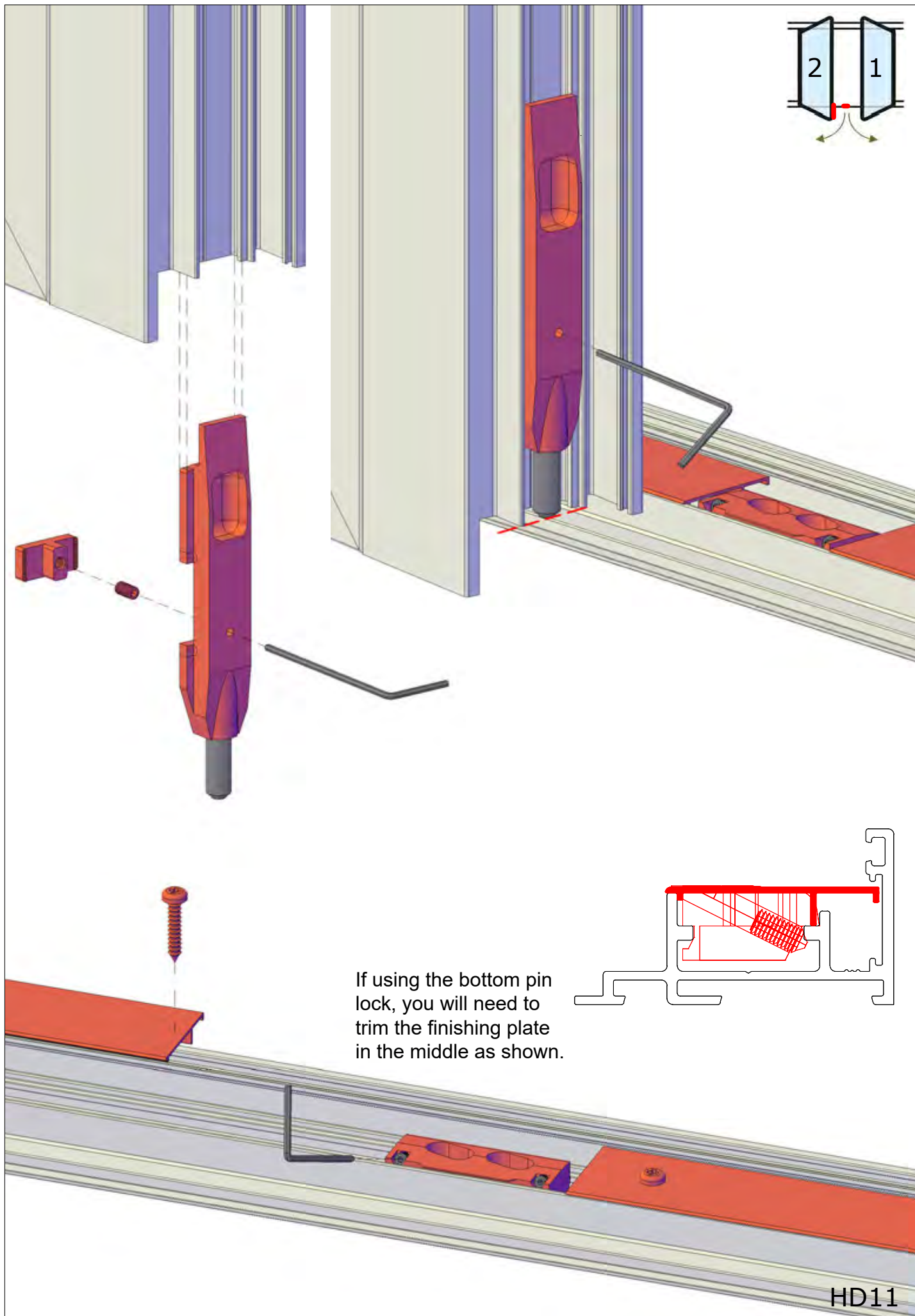
HD 9



This page only applies to double hinged doors.



HD10

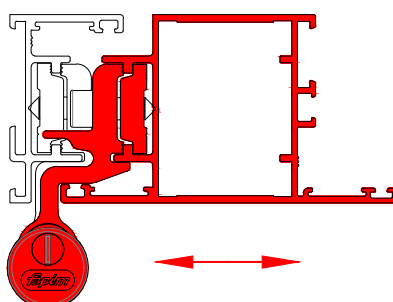
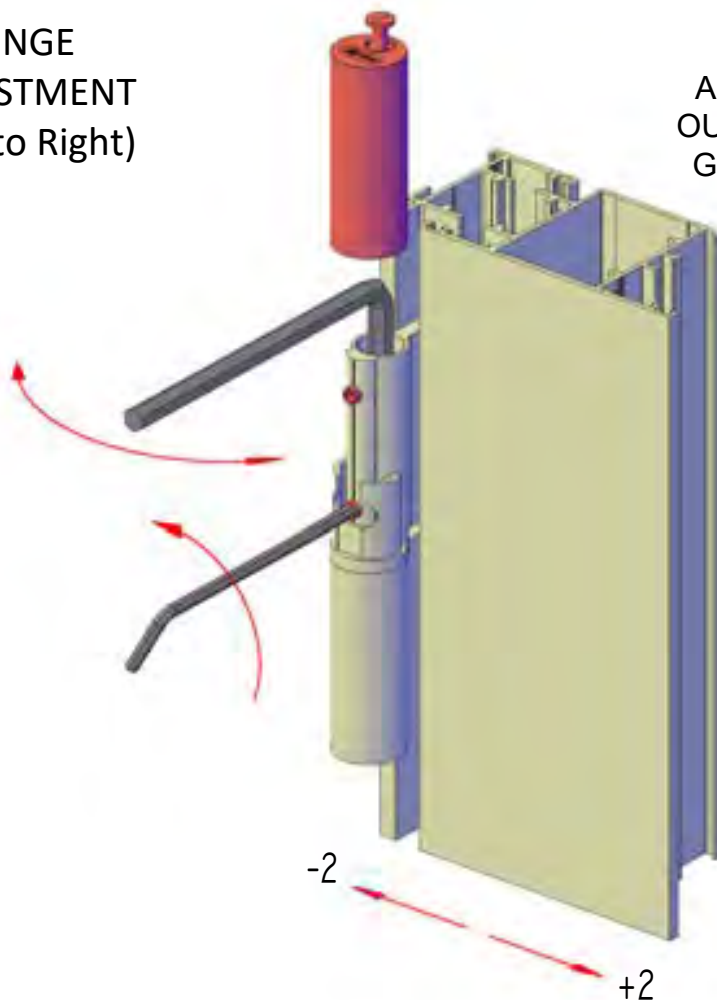






HINGE  
ADJUSTMENT  
(Left to Right)

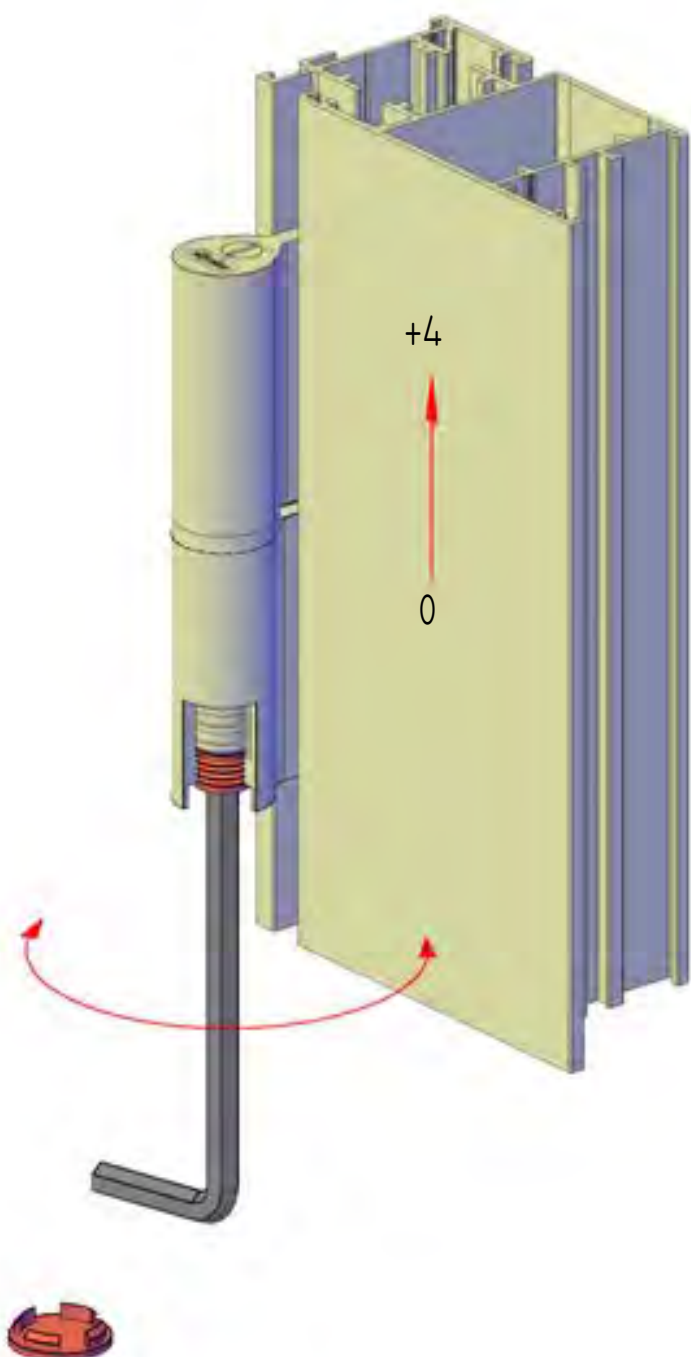
LOOK FOR HINGE  
ADJUSTMENT VIDEO ON  
OUR YOUTUBE VICTORIAN  
GREENHOUSE PLAYLIST



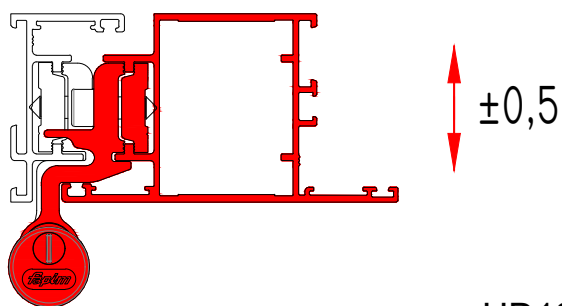
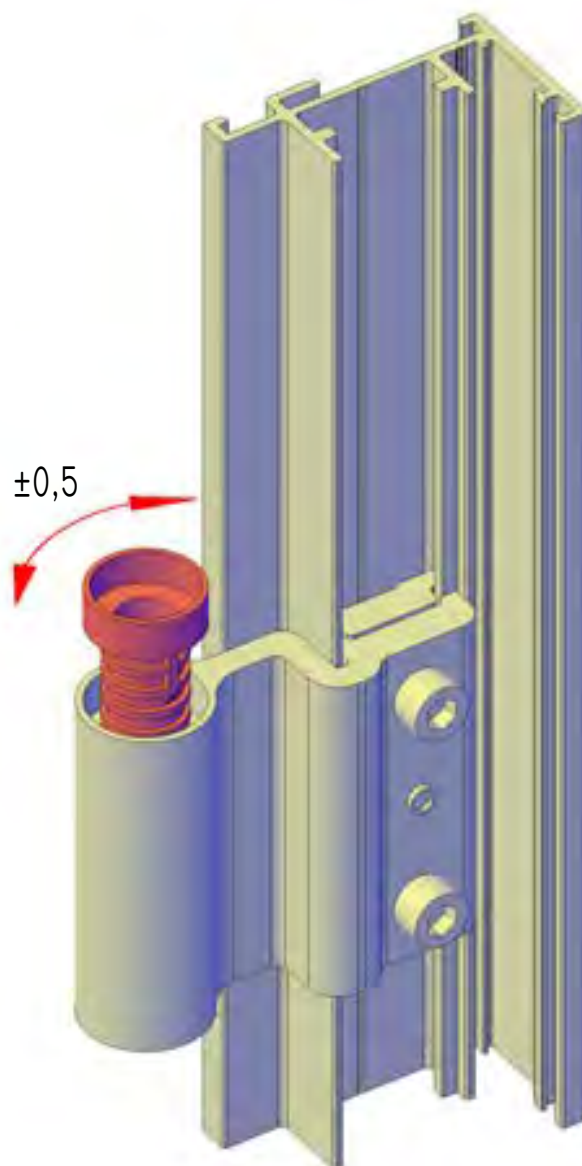
HD12



## HINGE ADJUSTMENT (Up)



## HINGE ADJUSTMENT (Front/Back)



HD13

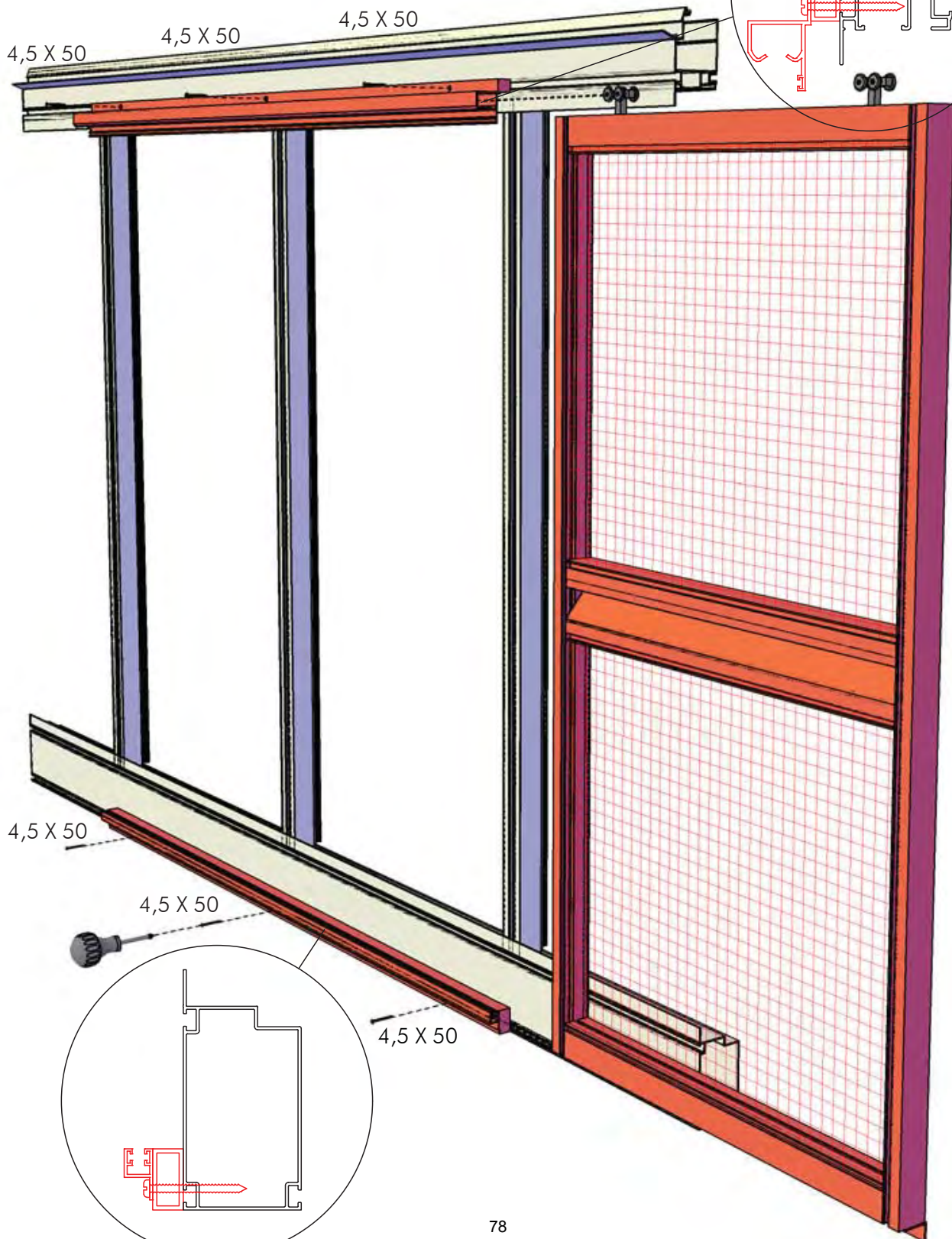


## Optional Upgrade: Door Fly Screen

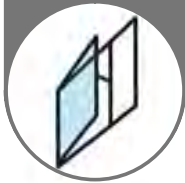
(while supplies last - limited availability)

# FD

Notes about Fly Screen Door: This slides along the interior of the greenhouse, and will not be compatible with greenhouses on a stem wall. May be used with sliding or hinged doors.



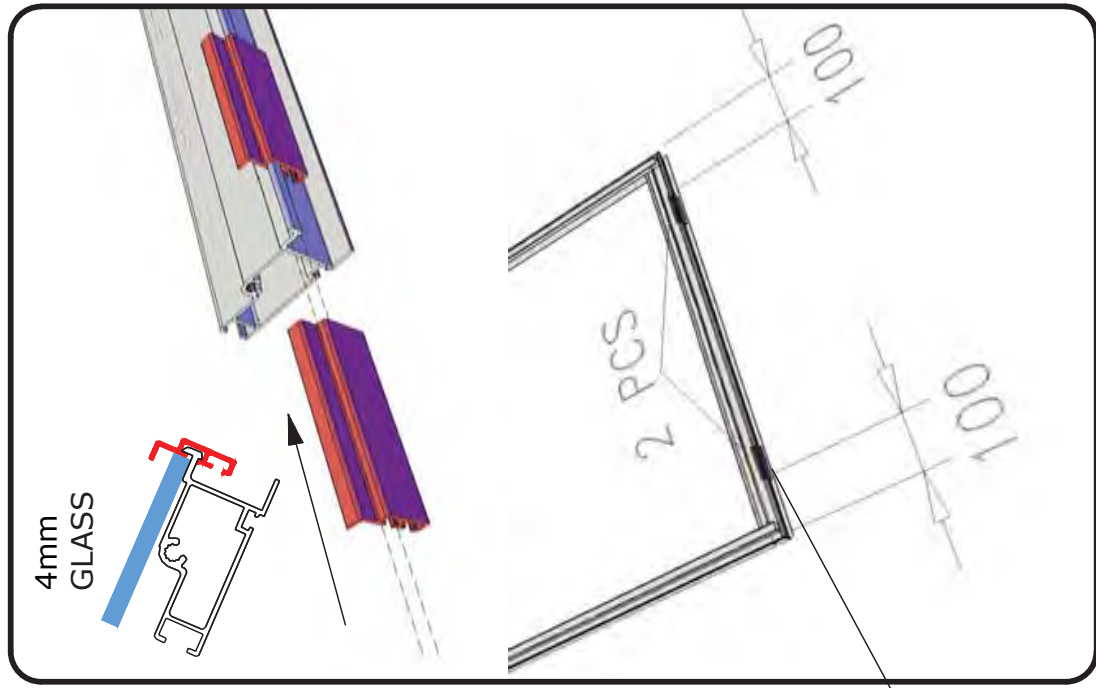
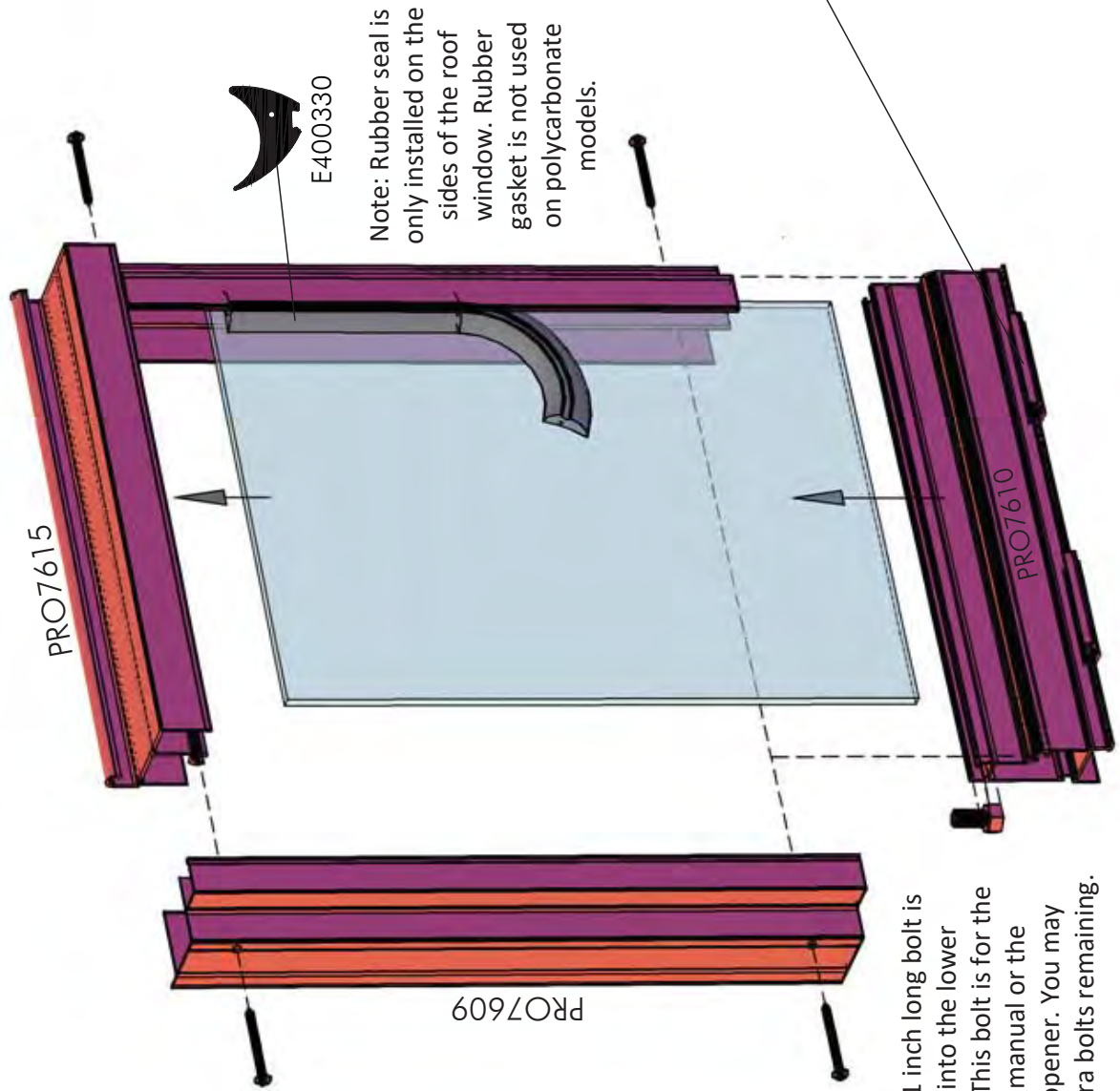




## Roof Window /Vent -

all hardware will be included in roof vent package - including crossbar to frame opening

# RW



# Roof Window Installation

**Note:** Inserting a bolt/nut on both sides of the roof window will prevent it from moving side to side once it is in place.

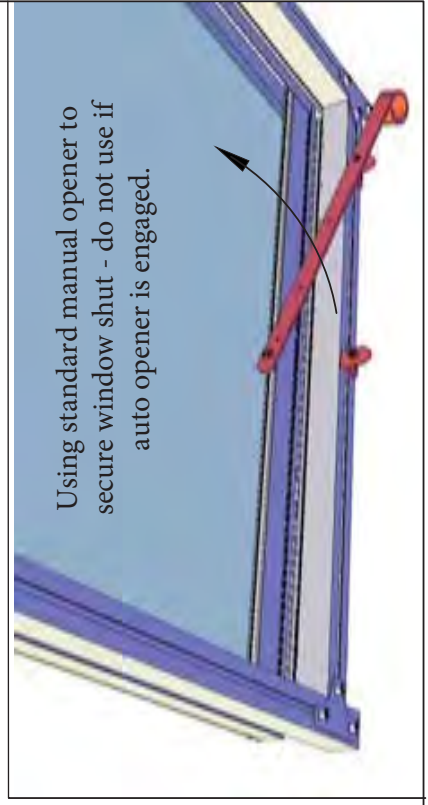
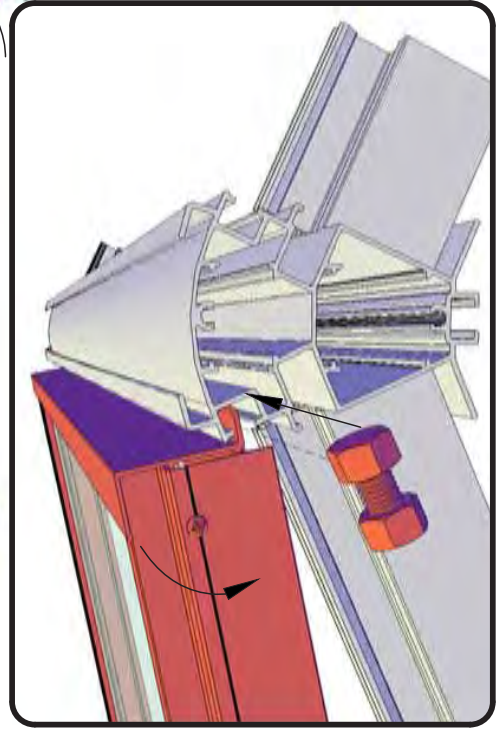
Standard manual opener shown (generally not installed). However, it may be used to secure the window in the closed position - auto opener **MUST** be detached.

80

**IMPORTANT!** You may offset your auto openers slightly if the wind braces are interfering. **HOWEVER**, if you have purchased flyscreens, your opener must be centered. Either move your roof window to a different location or shorten your wind strap slightly to install it at a tighter angle on the gutter flange.

**TO INSTALL:** Slide window into the ridge beam from either end of the greenhouse. The "hook" on the top of the roof window profile will slide into the channel of the ridge beam (shown to the left).

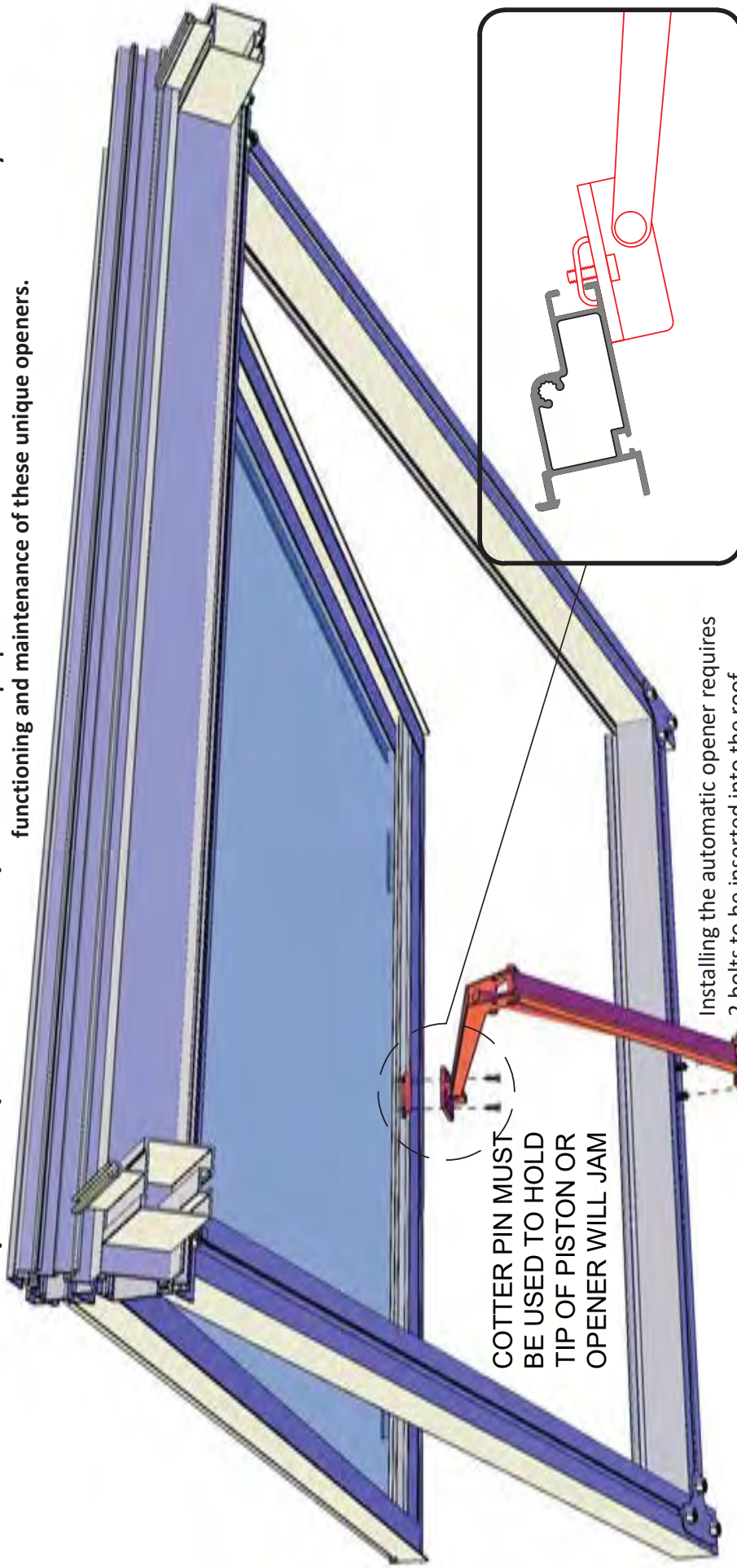
Using standard manual opener to secure window shut - do not use if auto opener is engaged.





## OPTION: Auto Opener (Ventomax)

**IMPORTANT!** Read installation instructions included in your Ventomax auto opener box to ensure proper installation. There is also information to fully understand the functioning and maintenance of these unique openers.



81

The Ventomax openers work with an oil filled piston (black cylinder). The oil begins to expand around 72 degrees and will push out and open your window when the temperature in the greenhouse is above 75 degrees (outdoor temp will likely be cooler).

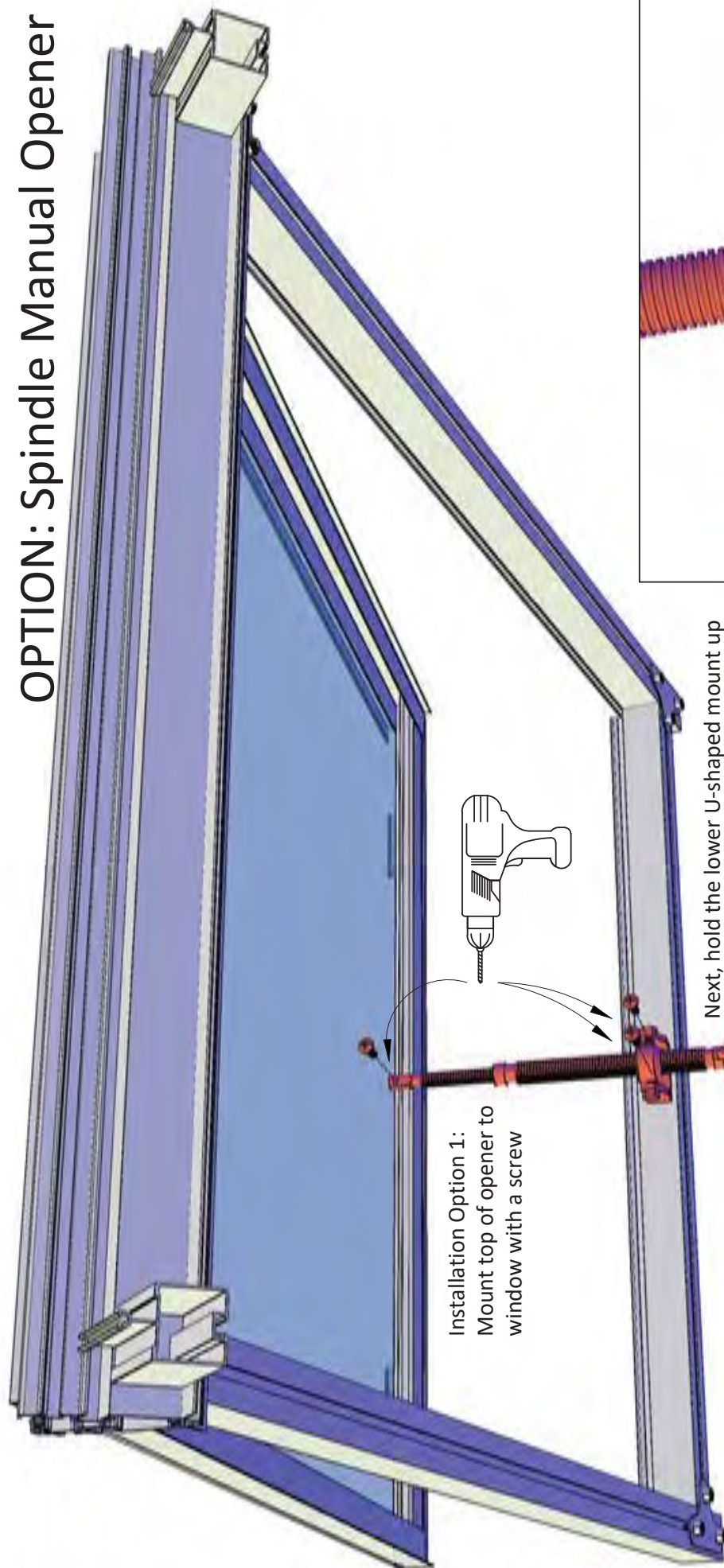
If you are struggling to install your piston and it is above 70 degrees, place the piston in cold water/fridge for 10 minutes so the rod can retract.

Oil piston rod 2-3 times/year with a light oil such as WD40 or even olive oil.





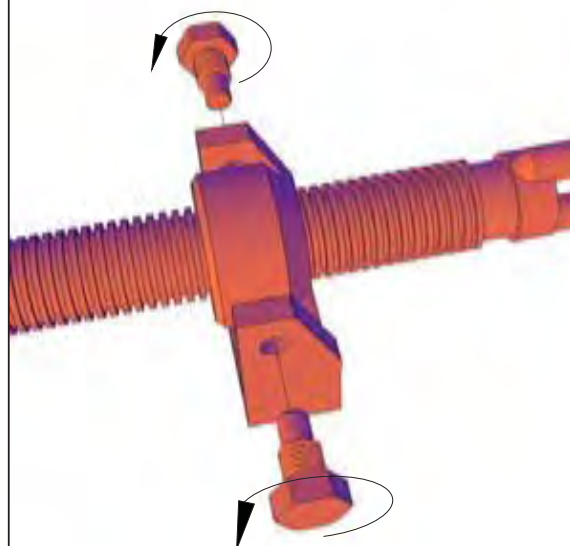
# OPTION: Spindle Manual Opener



Installation Option 1:  
Mount top of opener to  
window with a screw

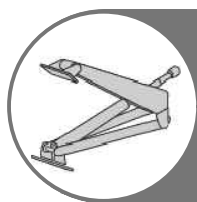
Next, hold the lower U-shaped mount up to the crossbar and mark the center of one hole. Using a 1/8" drill bit, drill the first hole, then screw the bracket on, check for level - then mark and drill the second hole. Slide the brass part of the opener over the bolt in the window channel. Use the supplied nylock nut to secure the opener on the top mounting bolt. Finally thread the large side bolts into the U-shaped mount and the opener is installed.

Installation Option 2: Insert a 1 inch long bolt into lower roof window channel. Slide to the center and lock it in place with a nut as shown below.

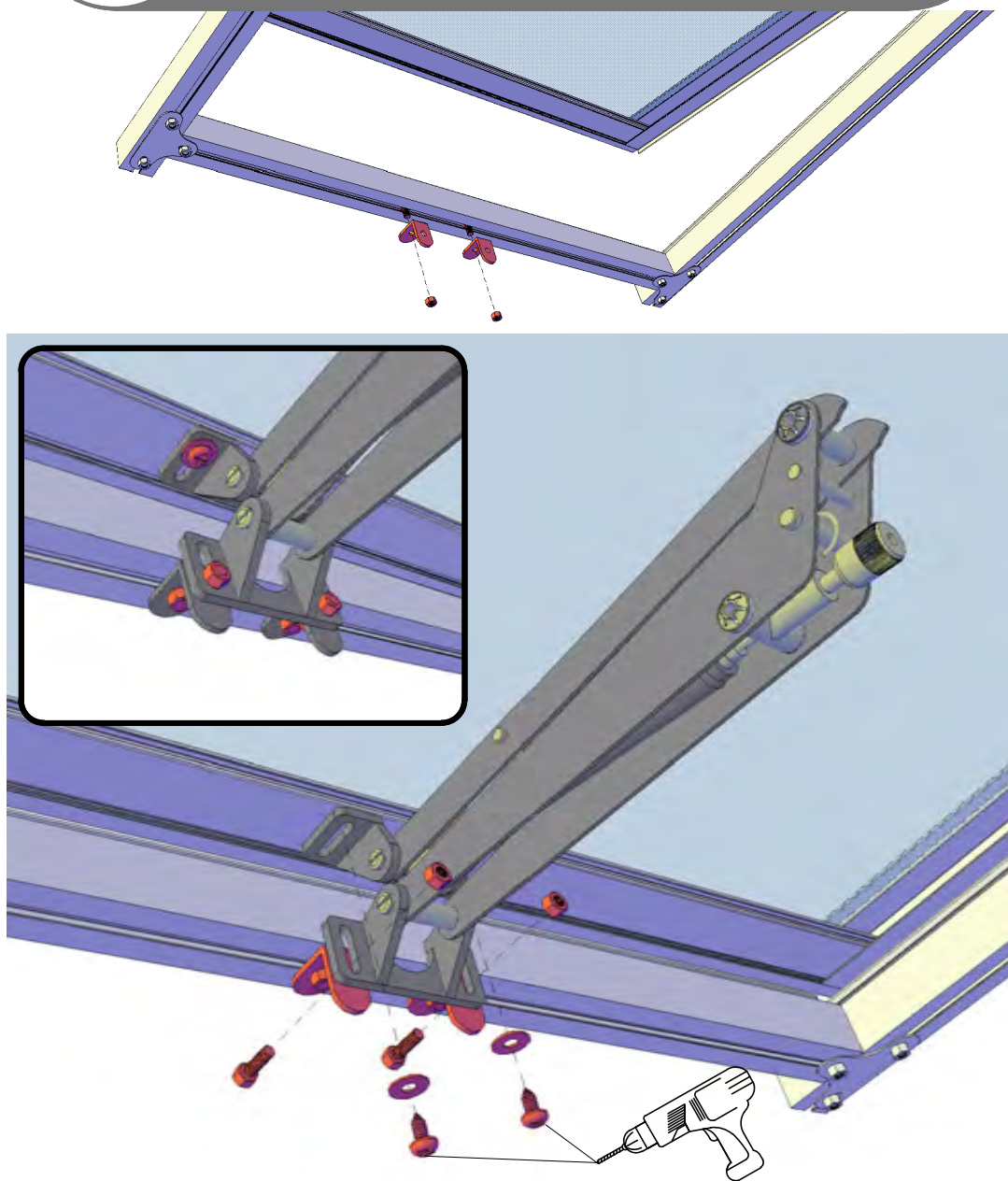


## Optional Upgrade: High Wind Auto Opener

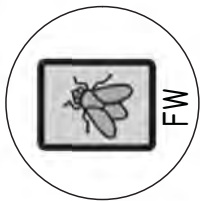
These are not included with our standard kit - please reach out to Exaco if you need additional information on ordering.



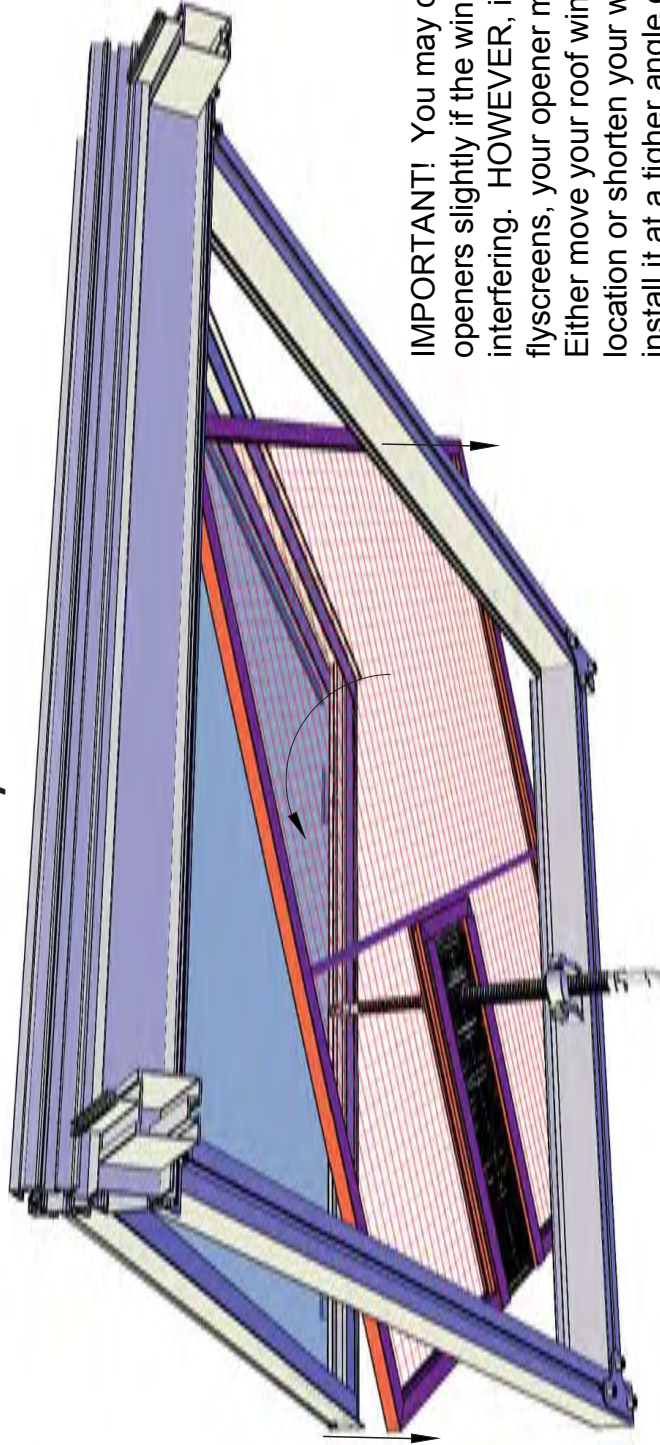
# AO



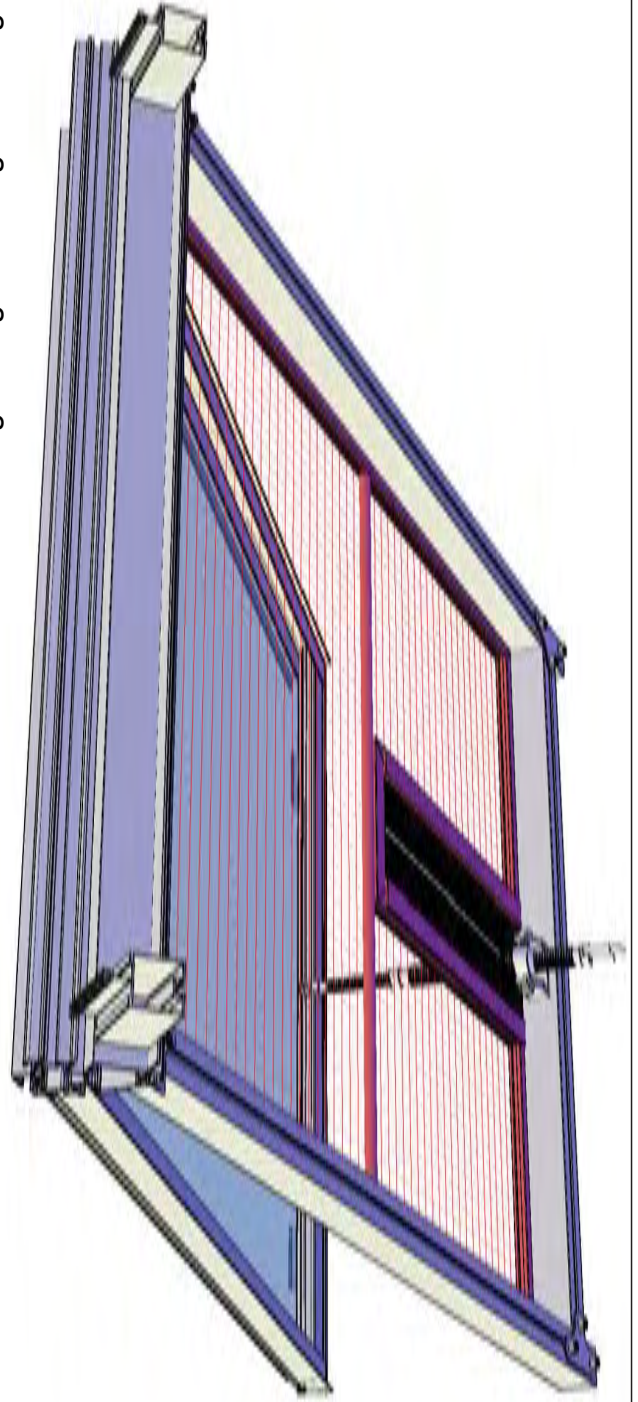




## OPTIONAL UPGRADE: Fly screen for roof vent



**IMPORTANT!** You may offset your auto openers slightly if the wind braces are interfering. **HOWEVER**, if you have purchased flyscreens, your opener must be centered. Either move your roof window to a different location or shorten your wind strap slightly to install it at a tighter angle on the gutter flange.







## Louvre Window - All Standard Royal models include one louvred window

# LV

Note: All louvered window are black (even with green models)

Numbers below refer to steps in the following pages

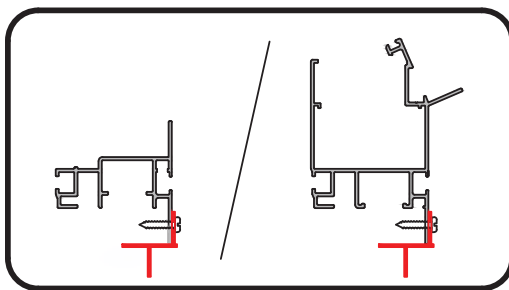


It is likely that your kit include an automatic opener (SESAM LIBERTY) for the louvre vent. Please refer to the Installation and Care manual packaged with the Sesam Liberty opener. You will need to remove the manual opener following the directions.

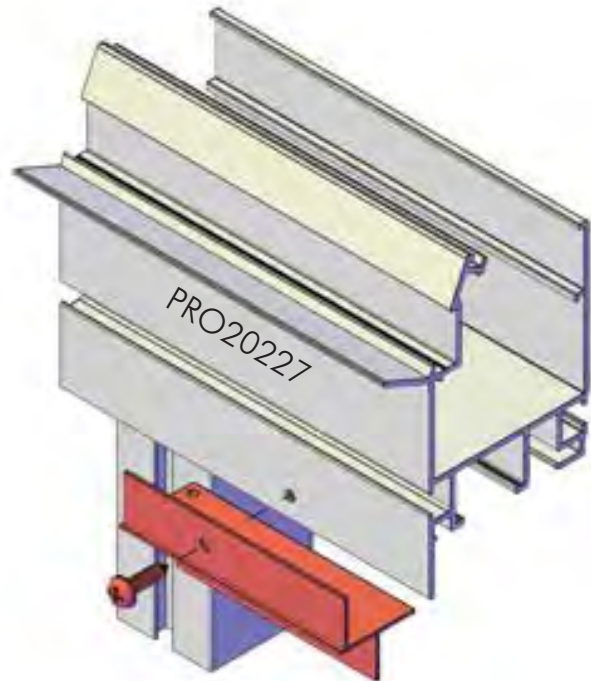
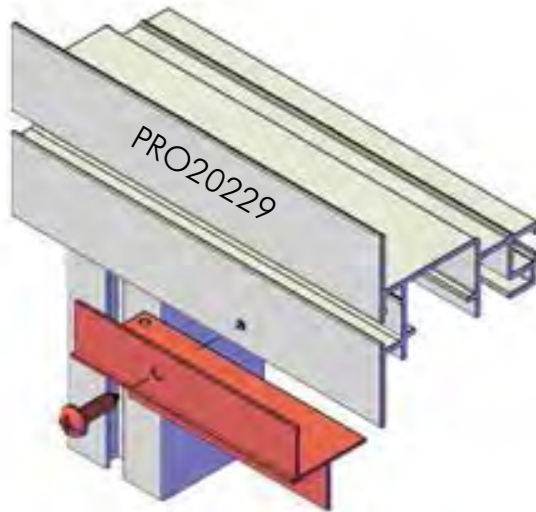
**NOTE: Once the manual opener is removed, it can only be reattached with a bolt/nut - KEEP ALL PARTS.**

**Piston maintenance:** apply a light oil (WD40 or olive oil work) to the piston rod and threading to keep it moving smoothly 2-3 times/year.

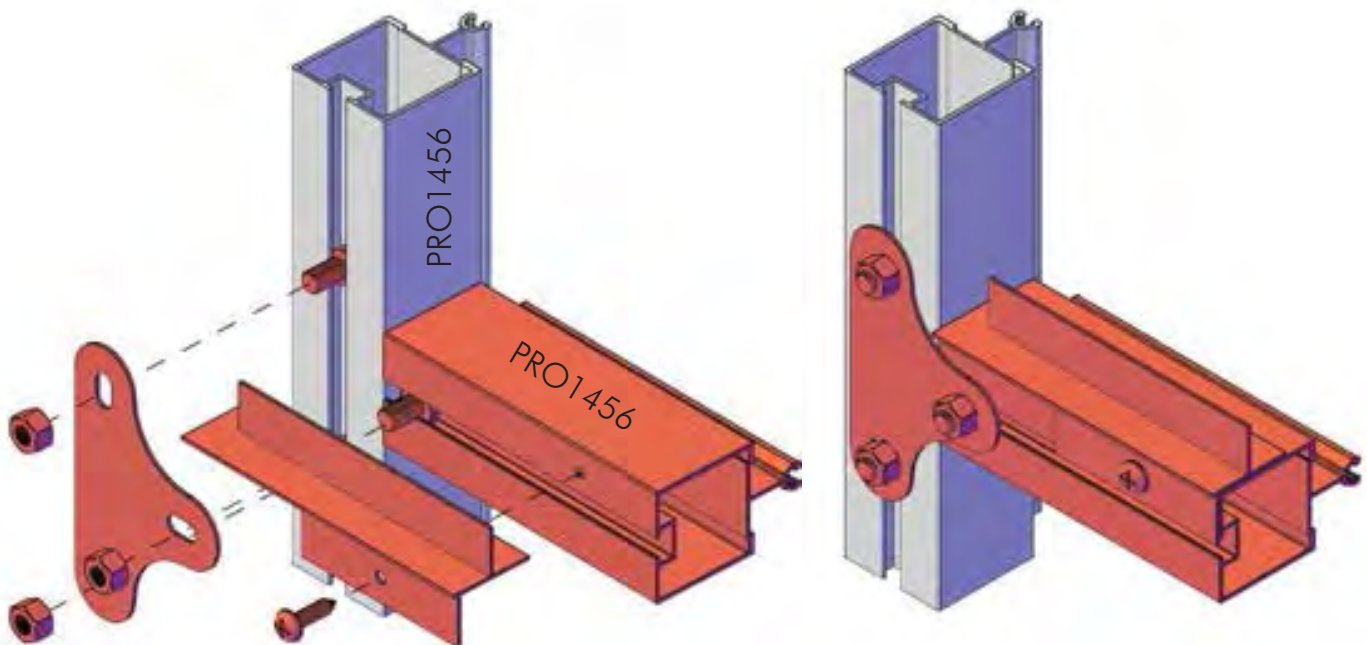
1



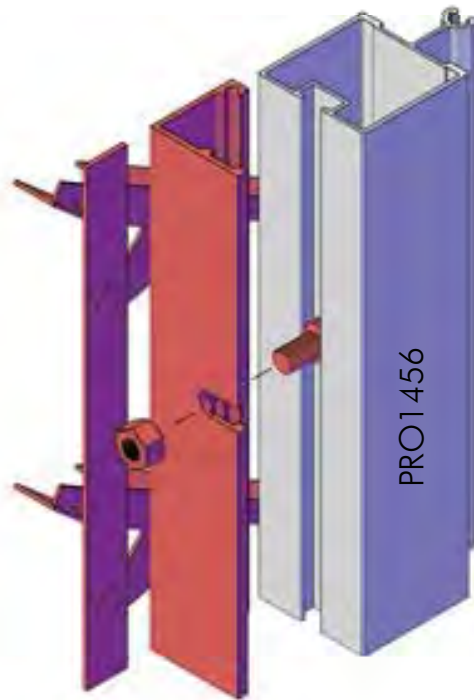
Louvred window may be installed on sidewall (under gutter profile (PRO20227)) or on gable end (under horizontal gable profile (PRO20229)). Both are shown to the left and below. Two may be placed side by side but they must keep manual openers.



2



3

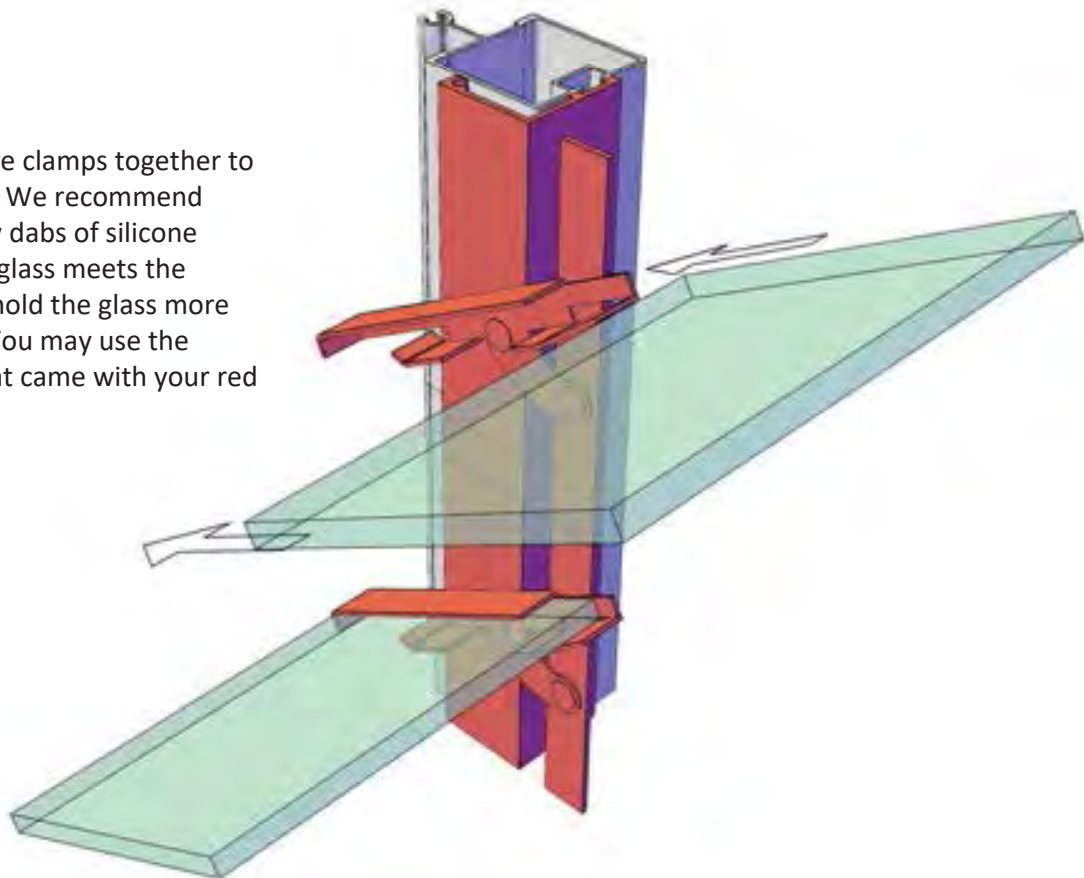


Insert a washer (not included) between black louvre frame and the greenhouse profile at all four bolt locations.

4X

4

Pinch louvre clamps together to hold glass. We recommend using a few dabs of silicone where the glass meets the clamps to hold the glass more securely. You may use the silicone that came with your red shims.





# Louver Window Cover

During cold weather, the louvered window may get drafty. Your kit includes a lexan cover to seal the louvers during this time.

To install the Lexan panel:

- Unscrew the piston from your auto opener
- Go outside the greenhouse and pull back the heavy duty rubber gaskets that hold in the panes of glass to the left, right, and bottom of the louvered window (see picture to the right)
- Place the lexan panel over the louvers as though it were a pane of glass and replace all the heavy duty gaskets (see photos below)



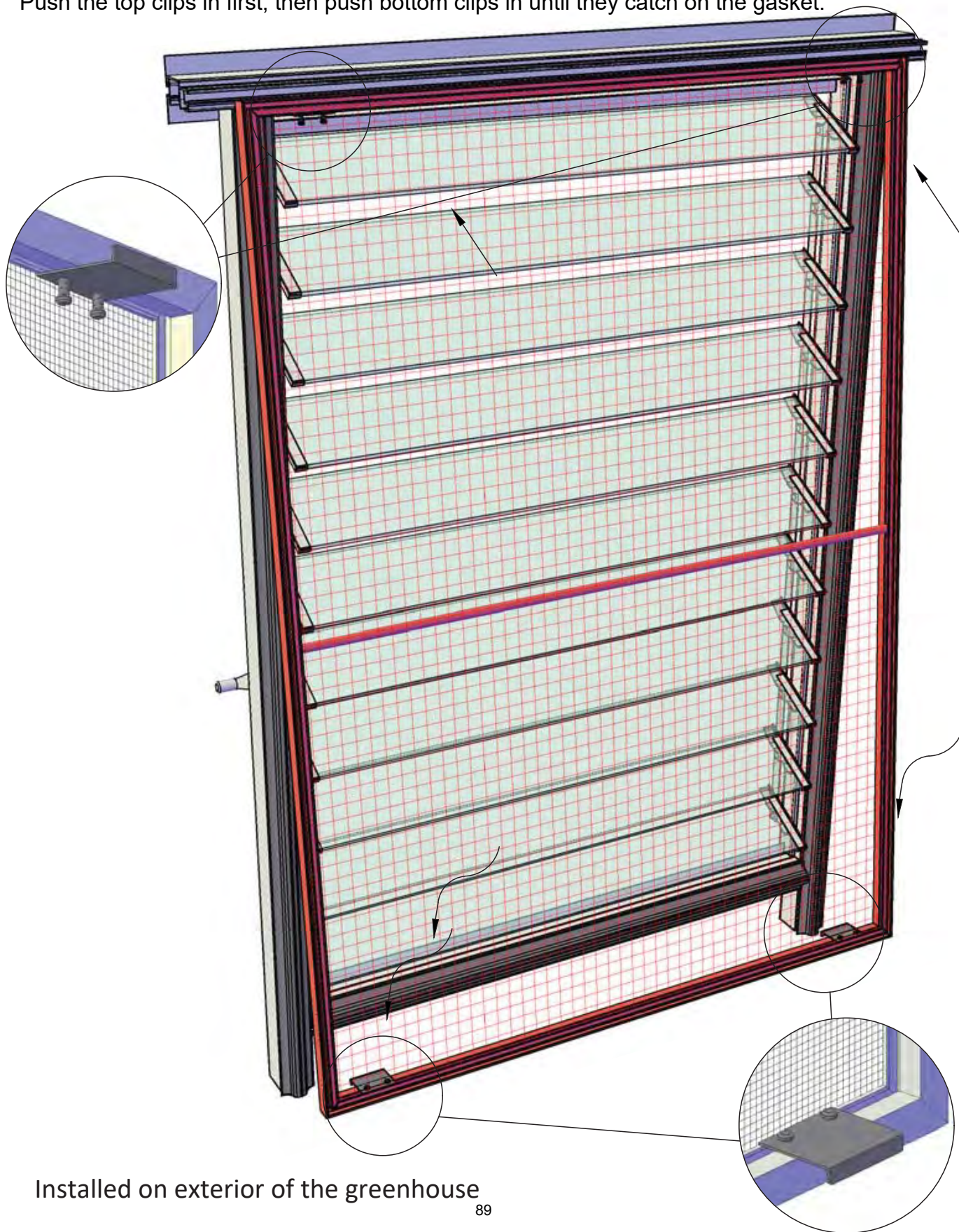




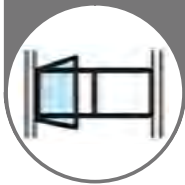
## OPTIONAL UPGRADE: Louvered Window Fly Screen

# FLV

One set of clips on the screen are spring-loaded. These spring loaded clips go at the top. Push the top clips in first, then push bottom clips in until they catch on the gasket.

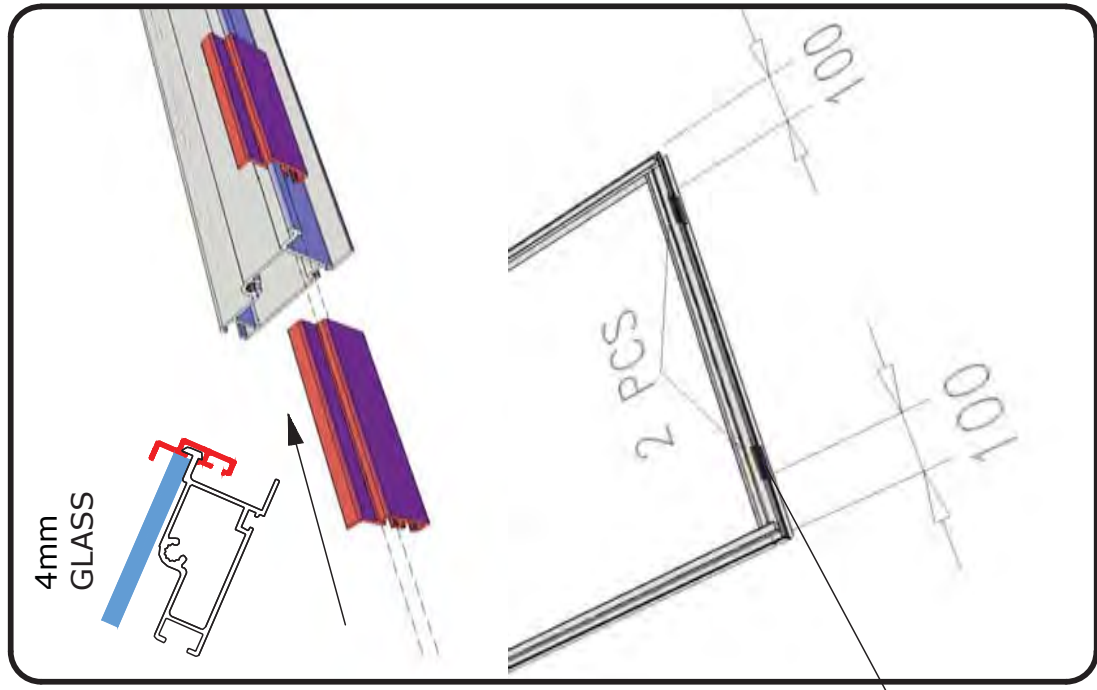
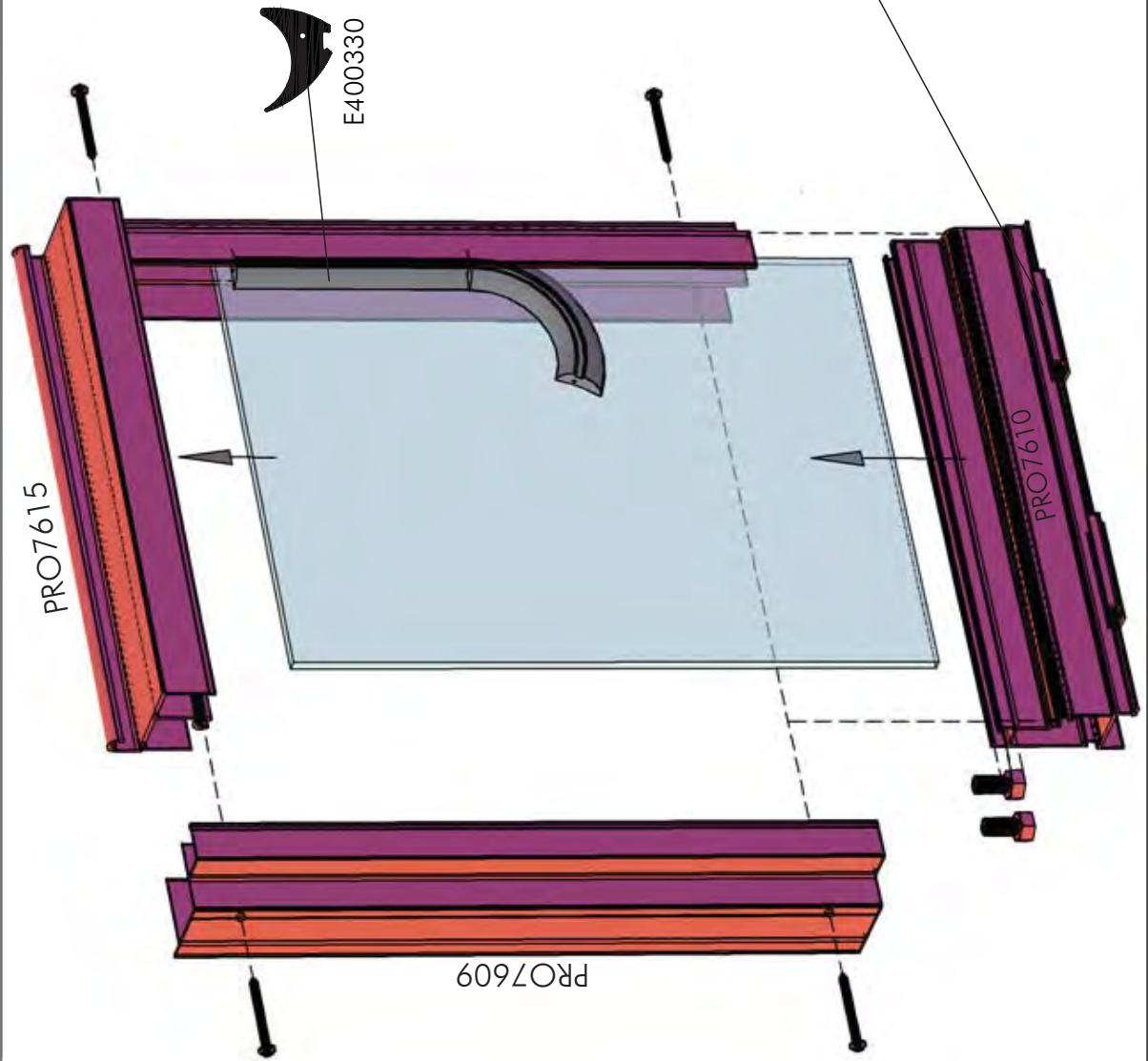


Installed on exterior of the greenhouse

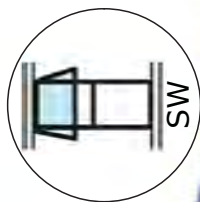


OPTIONAL UPGRADE: Push out window -  
only Retro Victorians include this option

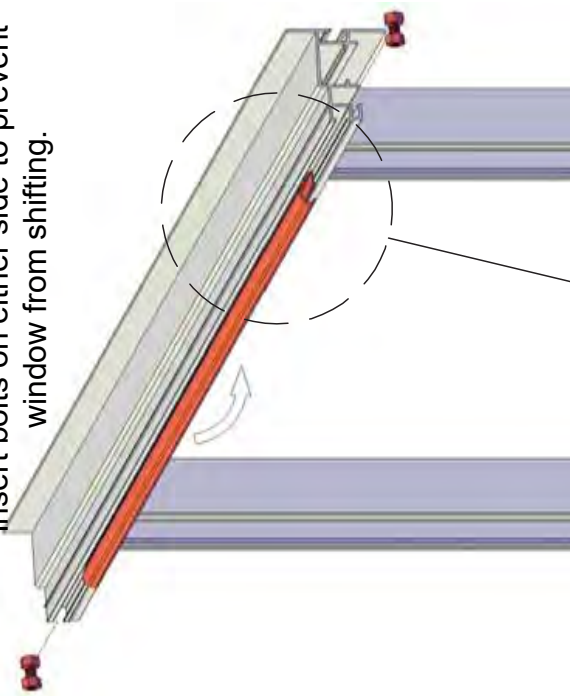
SW





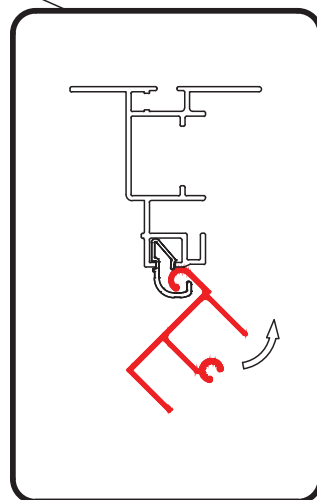
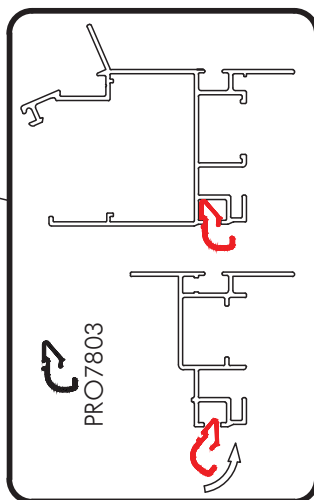


Insert bolts on either side to prevent window from shifting.

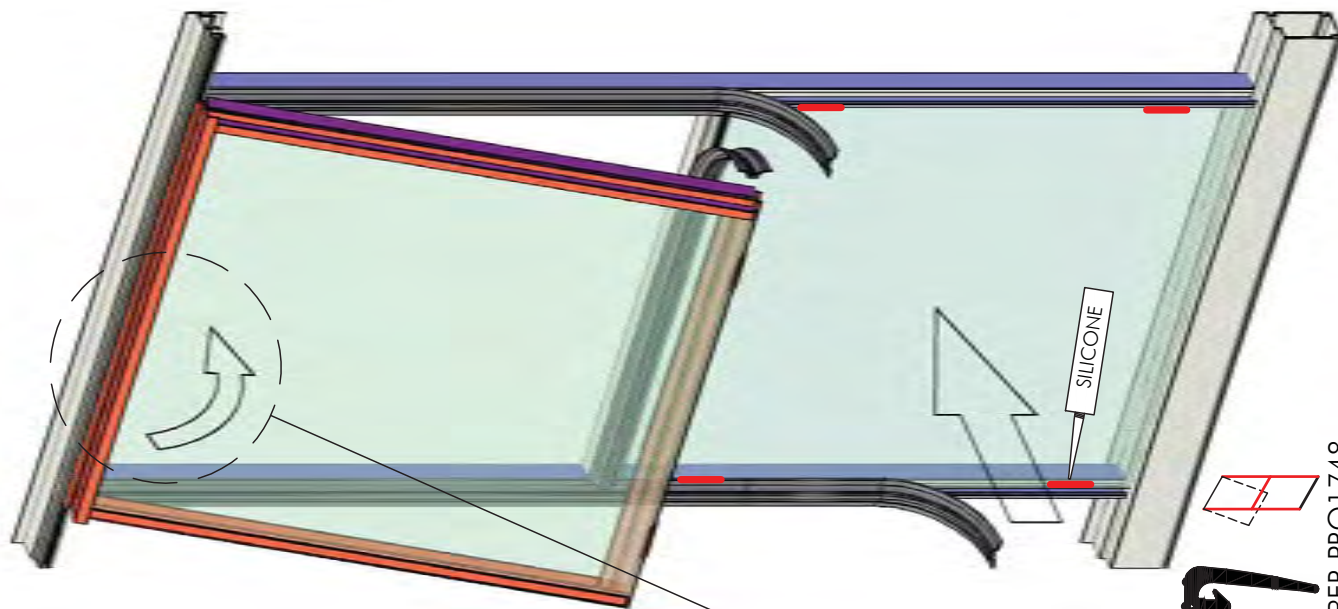
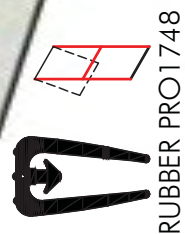


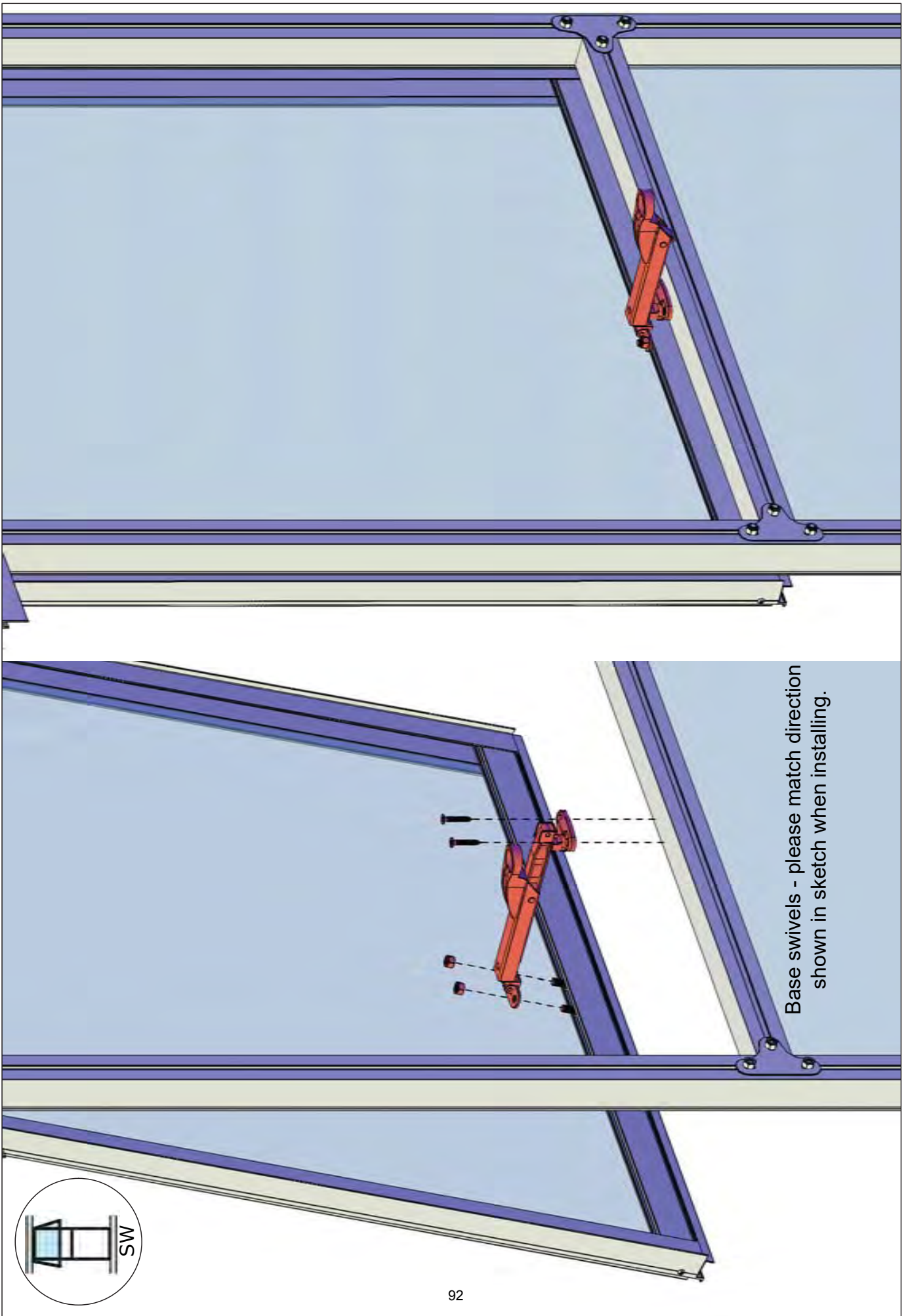
066

PRO1456

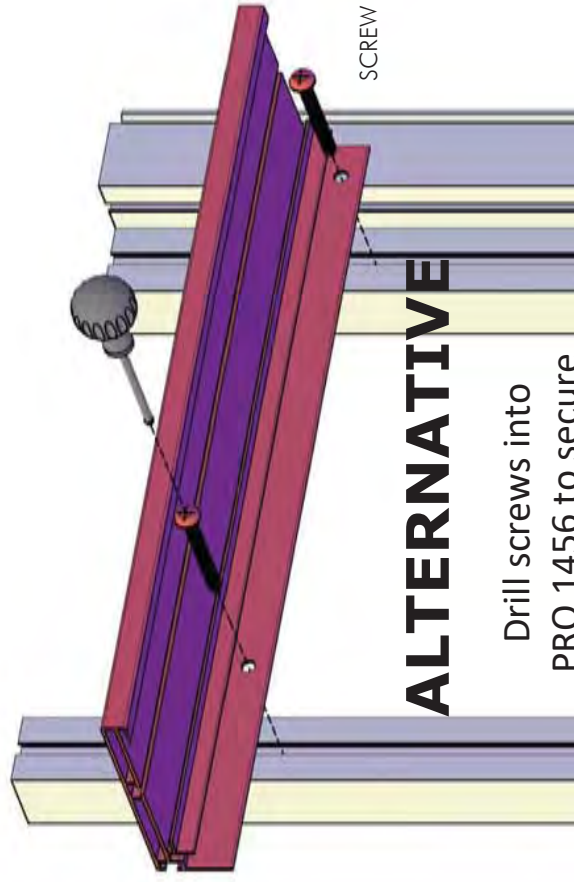
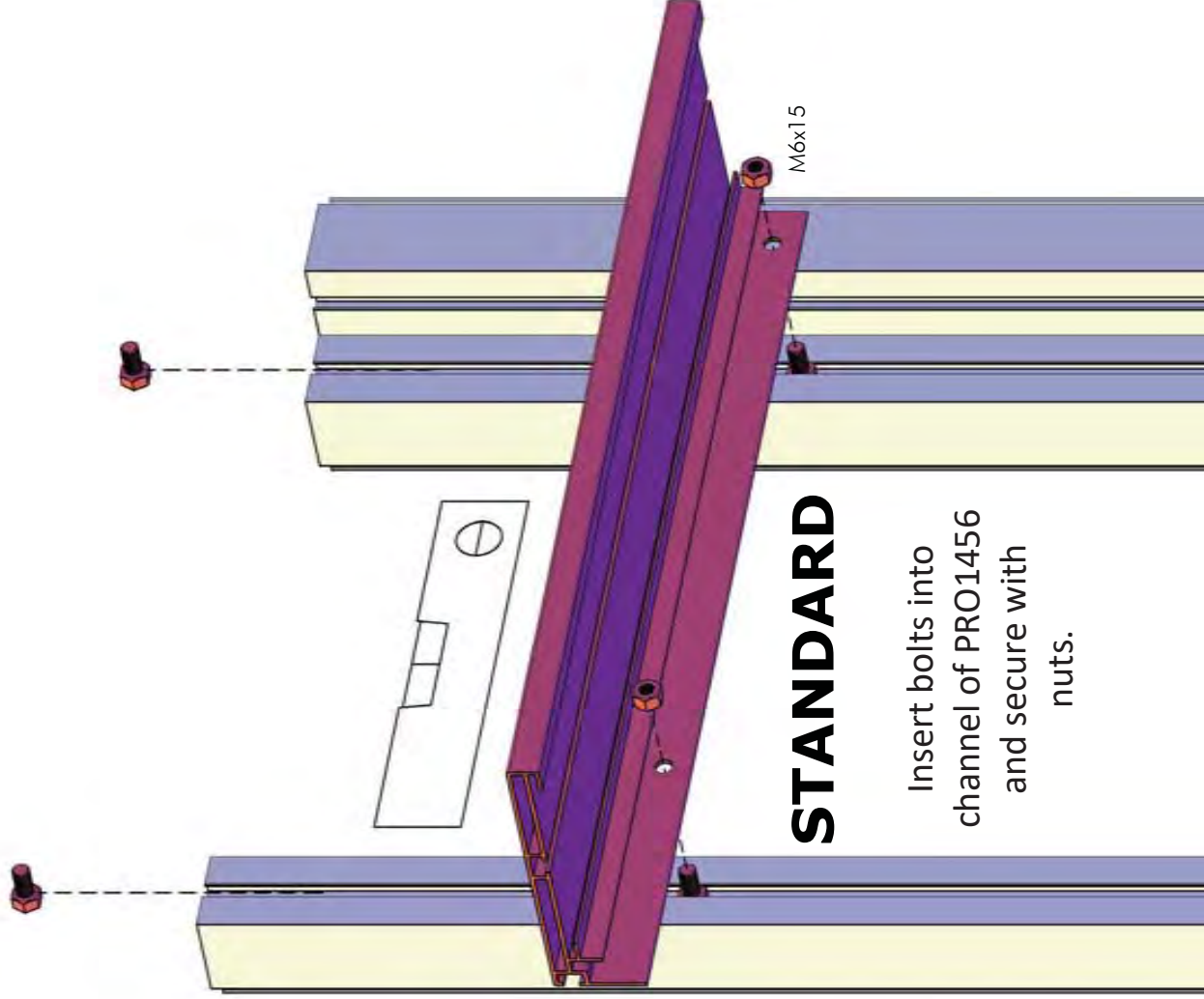
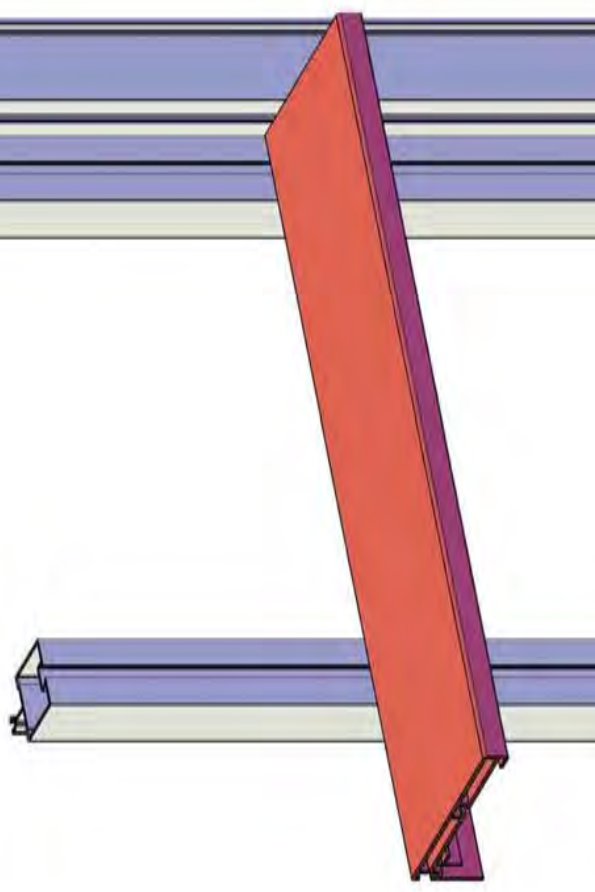


Slide window from end of PRO7803 to install





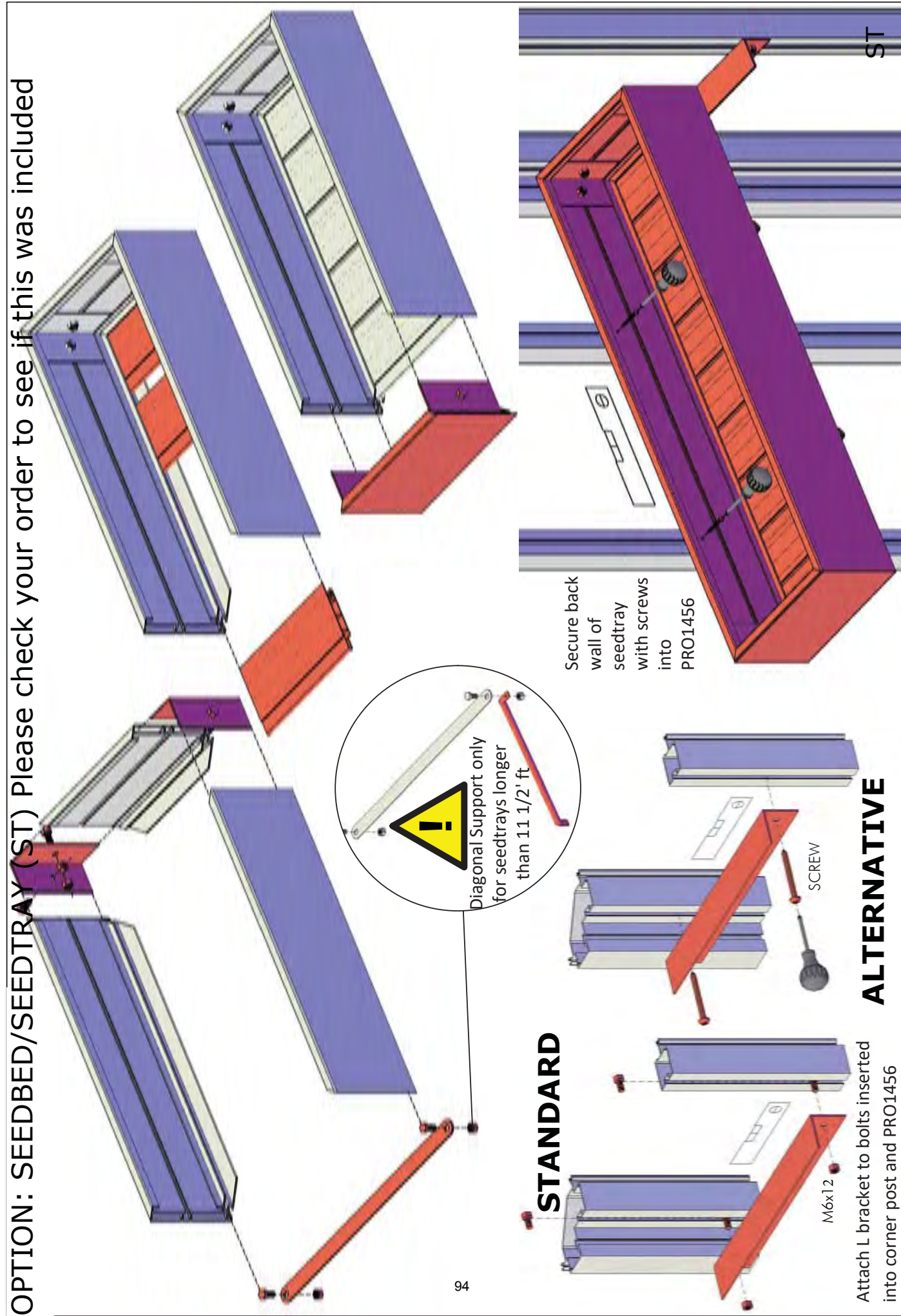
OPTION: Narrow Top Shelf - please check your order to see if this is included



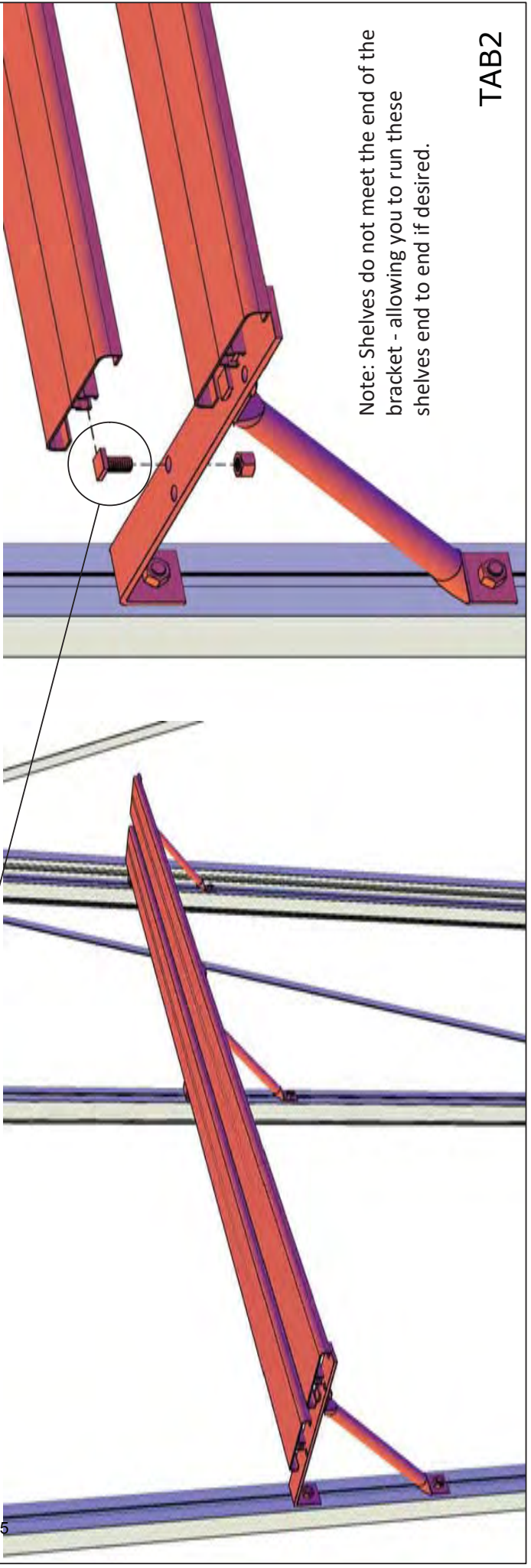
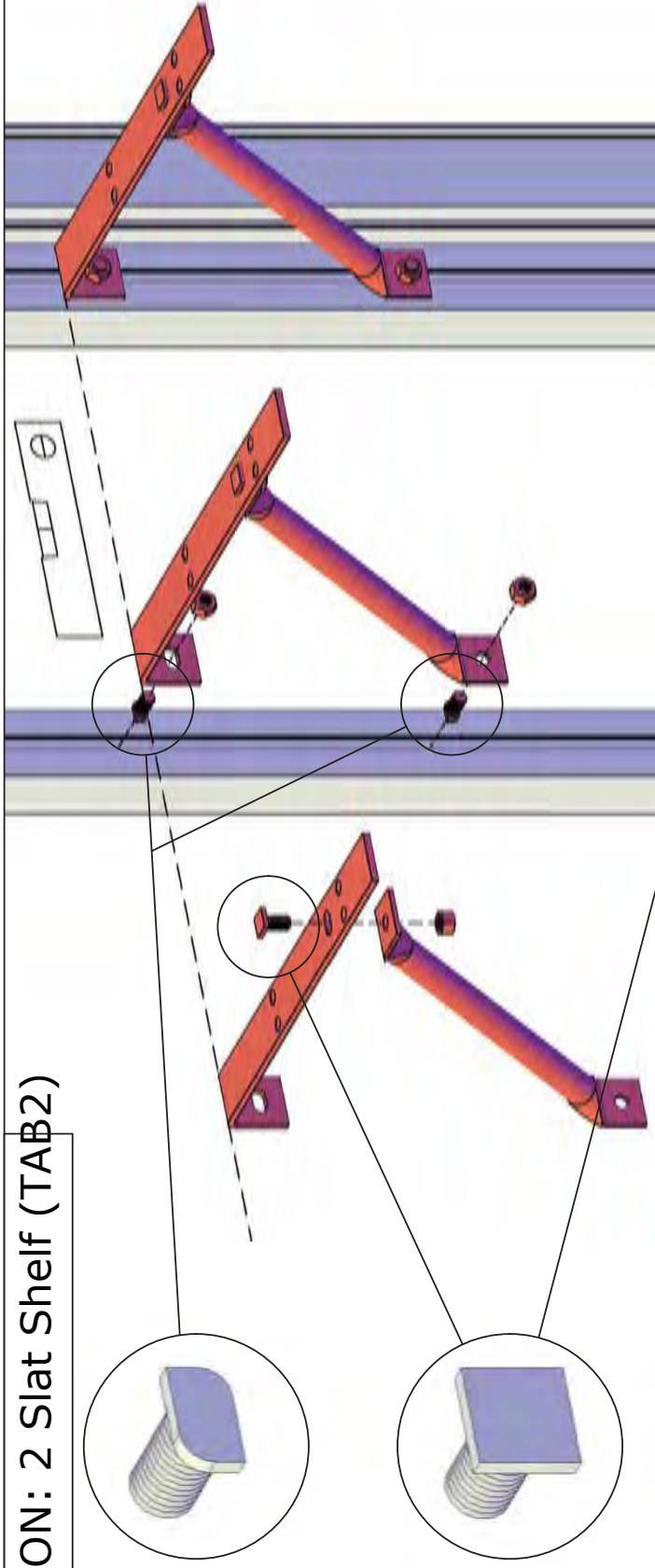
SH



OPTION: SEEDBED/SEEDTRAY (ST) Please check your order to see if this was included

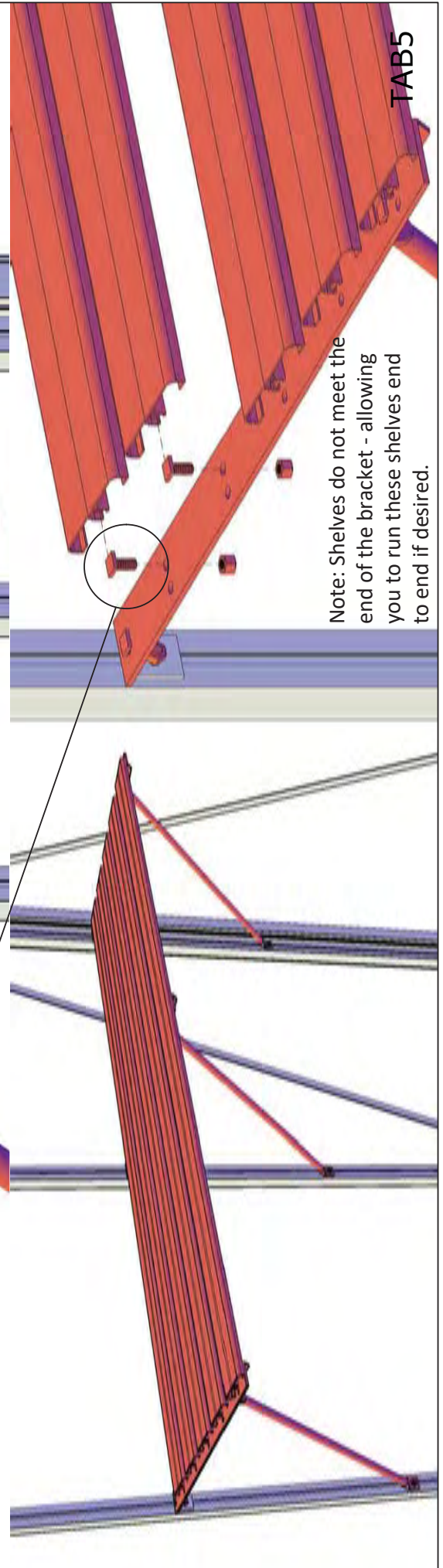
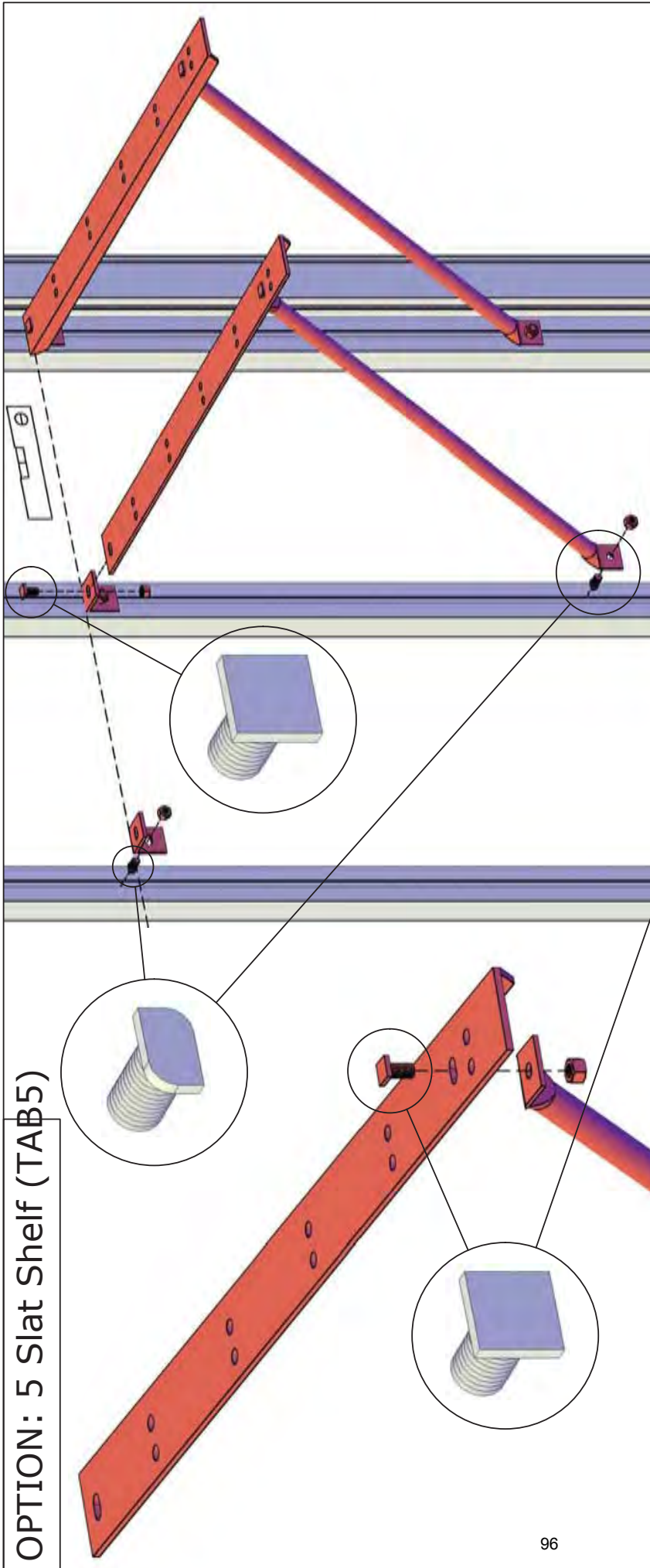


## OPTION: 2 Slat Shelf (TAB2)





# OPTION: 5 Slat Shelf (TAB5)









Note: Shelves do not meet the end of the bracket - allowing you to run these shelves end to end if desired.

TAB5



# Misting System (If Equipped)

Vi23 Vi34/36  
TYPE **310** **458**

	3X	4X
	1X	1X
	1X	1X
	2300	3300
	2X	3X
	1X	1X



Note: If curtains are going to be installed, the misting system should be hung with bolts as shown to the left. The hangers will need top be bent into position.

If there are no curtains it can be hung by drilling holes and hooking the hangers through them. (Shown below)



Most users find it easiest to attach a garden hose with a garden hose timer to the end of the misting. You will need a kit like the one pictured below (available at home improvement/garden stores). You will then trim the threading off you hose and attach the hose to the nozzle, slide the clamp on and tighten.



## INSTALLING AN EXHAUST FAN IN A VICTORIAN GREENHOUSE

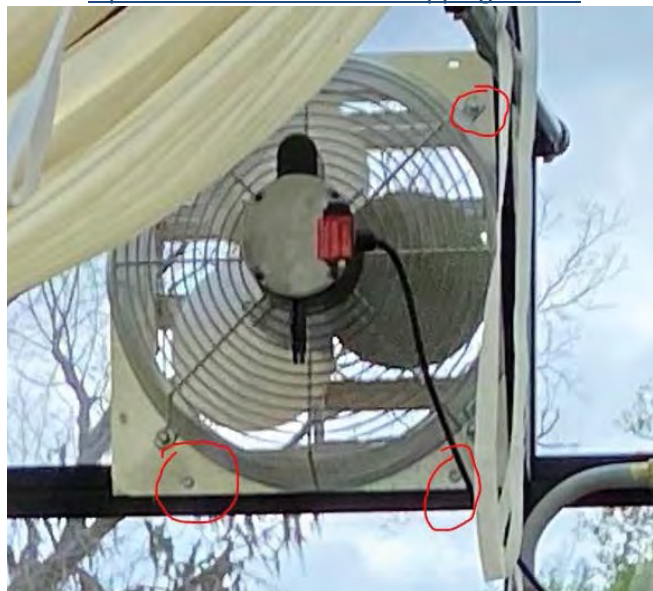
The exhaust fan in a Victorian Greenhouse should be installed up high in one of the gable ends of the greenhouse. If you happen to have polycarbonate walls on your Victorian, you may cut an opening in the polycarbonate to accommodate the fan. If you have glass glazing, we recommend replacing one of your upper angled gable panes with a piece of Lexan. We do offer a pre-cut panel for purchase that is cut with this unusual shape (with a square cut out) that will replace one of the gable panes of glass.

OPTION 1: Attach fan with bolts inserted into channel of PRO1456



Once your panel with the cutout for the fan is in place, mount the fan on the interior of the greenhouse using bolts in the channels of the aluminum extrusions. These bolts will fit through the holes on the exhaust fan. You may need to cut the corner off due to the diagonal support beam being in the way. Once the fan is mounted on two sides to the aluminum extrusions caulk around the area where the box of the shutters meets the glazing.

Option 2: Attach with self-tapping screws



Conversely, you can use self-tapping screws to hold the Exhaust Fan in place. Pre-drill holes in the exhaust fan metal to match up with the Pro1456 Gable piece. You may need to cut the corner off due to the diagonal support beam being in the way. Once the fan is mounted on two sides to the aluminum extrusions caulk around the area where the box of the shutters meets the glazing.



## Additional Useful Accessories for Victorian Greenhouses:



**Hinged Door Stop/Catch** - you should receive these with your hinged door unless you have the auto closer. They are also available for purchase.



**Magnetic Hinged Door Stop** - These work great for greenhouses on knee walls that extend beyond the base of the greenhouse and hold the door in a nearly 90 degree opening.



**Turnbuckle Reinforcement connector**  
- Attaches to the rafters to add support to areas with heavy snow loads. Available in black or green.

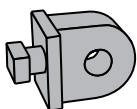


**Metal Plant Hooks** - Stainless Steel with a 2 3/4" J hook. They install in the channels with a T bolt. Come in a pack of 5.



**T bolts** - These are perfect if you've forgotten to add a bolt or if you want to add something later. Not recommended to attach structural items.

### TWIST\_EYE



x50

**Twist Eyes** - inserts easily into the channel. Good for growing wire, supports, or attaching insulating "bubble wrap". Black plastic. Sold in bags of 50.



**Notes:**



Customer Service or  
Assembly Questions?

Give us a call  
Toll free: 1-877-760-8500  
customerservice@exaco.com  
Exaco Trading  
www.EXACO.com

*Please watch our animated assembly  
video on our Exaco Trading Co  
YouTube Channel.  
Find the link at [www.exaco.com](http://www.exaco.com)*

**Janssens NV** Mechelsesteenweg 388, B-2500 Lier Belgium  
(T) +32 15 30 67 80 (W) [www.janssens-alusystems.be](http://www.janssens-alusystems.be) (E) [info@janssens-alusystems.be](mailto:info@janssens-alusystems.be)