GIGANT HIGH (with second level windows)

Exaco Edits 12.20.24
Janssens Version 2023

ASSEMBLY INSTRUCTIONS

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.

Or find the link to our YouTube page at www.exaco.com. Go to the Victorian Greenhouse Playlist for all videos.

www.exaco.com
877-760-8500

Table of Contents

Thank you for purchasing a Janssens' Gigant Greenhouse, imported and distributed in North America by Exaco in Austin, TX. Exaco will provide all the North American based customer support for your 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.

THE FOLLOWING SECTION CONTAINS IMPORTANT RESOURCE INFORMATION - PLEASE READ BEFORE BEGINNING ASSEMBLY

Introduction

In this manual, you will find the assembly instructions for all Gigant greenhouses. However, all Gigant greenhouses are custom made – so all options may not have been chosen for your build and the size of the greenhouse may vary from what is pictured in the manual. We have intended to include all optional accessory assembly instructions for your convenience. If you believe something is missing, please reach out to Exaco for help. 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 (see notes in "Anchoring" section) 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.

The Gigant 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 many 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.

Structural Documents

Please note that we only have structural certifications available for our regularly stocked greenhouses. We do not provide structural certifications on these large custom units as it needs to be site specific. If you are applying for a permit or need a structural certification or permit set, we do have an engineering firm that we work with on a regular basis. Your local engineer may reach out to them for documents that they have created from past projects for a fee. If your local engineer needs specific files/information, they may also reach out directly to Exaco.

If you are applying for permits, you should secure these BEFORE placing an order for the greenhouse. Your site/municipality may require extra bracing that will need to be ordered with the greenhouse itself.

Preparing the Construction Site

A properly prepared construction site is an absolute requirement for the smooth assembly of your greenhouse!

- The ground must be stable, firm, level and free of all obstacles.
- A space of about 30 inches is required around the greenhouse for the placement of ladders and installing the glazing.
- All materials for anchoring the greenhouse to a wall, on a wall,or to the foundation (such as plugs, wedge bolts, chemical anchors, etc.) are NOT provided in the kit because their use varies by region, construction site, and contractor.
- Leftover packaging, plastic, cardboard, and/or pallets are not taken back.
- The greenhouse should be built in a place sheltered from wind or heavy storms.
- Always observe the locally applicable building regulations.

Foundation

- It is required that the Gigant greenhouse be placed on a sufficient load-bearing (concrete) foundation that is deep enough to reach up to a solid frost-free ground. The structure includes heavy duty portal frames, corner anchors and vertical gable end supports that should be anchored INTO concrete – especially in any area that is open to wind or extreme weather.
- The dimensions of our aluminum structures are always the outer dimensions of the structure.
- We recommend a concrete foundation strip foundation on the outer dimensions of the greenhouse, although a slab will work as well. It must be 100% level and flat so that the lower profile can be mounted on it without the need of much additional levelling.
- For structural integrity and support strength, the portal frames, vertical gable end supports, and the PRO210 anchors at the corners must be embedded in concrete. Additional information on foundation and anchoring can be found further on in the section on “Foundation and Anchoring”. Please reach out to Exaco with any questions for preparing the site.
- Get detailed advice on the foundation from your local professional – climate/regional requirements may vary.
- The anchoring and routine checking of condition must be provided by the owner or operator.

Storage of the greenhouse until assembly

- The delivery must be stored in a dry place, protected from direct sunlight and any form of moisture. You may store the packaged items outdoors, but they must be securely covered and protected with a tarp from moisture and weather.
- Excessive water, moisture, humidity or condensation in the packaging can quickly lead to corrosion on profiles (from packaging) and/or glass in the form of white deposits, spots, etc.!
- The glass box is very heavy and fragile, handle it with care and always place it on a firm and level surface for safety.
- Look at the safety-instructions on the sticker on the glass box before opening the glass box.

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)
- Metal Saw to cut aluminum profiles when needed (i.e. low threshold kits)
- Caulk gun
- Scissors (to cut the rubber)
- Stable Ladder/s at least 6' tall depending on the height of your greenhouse.
- Clear silicone caulk is included with the kit, you may find it desirable to use color-matched caulk (i.e. black) in some places.
- There are pop rivets included in the kit – however, they are metric and will not work with a standard rivet gun. You may choose to purchase standard rivets to use with your own rivet gun or you may just use self-tapping screws.

Basic Assembly Order of Greenhouse

1. Preparing your site – must be level and accommodate anchoring of the structure (see section above and "Foundation and Anchoring" in section further on in this manual)
2. Unpacking, sorting, and checking components. Sorting of the profiles/extrusions according to size and shape will be helpful. The aluminum profiles (extrusions) are identified by their cross-section and length. Packages for specific accessories should be kept together – i.e. doors, windows, louvered windows, low thresholds. It is helpful to have a metric or combination tape measure for this.
3. Assembly of the complete aluminum framework, temporarily fixing it in place.
4. Checking the horizontal and vertical alignment of the structure again with a level.
5. Tightening and fastening all structural components.
6. Anchoring/securing of the greenhouse to the ground.
7. Glazing installation.

Safety Considerations

- Only assemble in dry and windless weather
- Keep children away from the construction site.

- Glass safety
    - Store the tall 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!**
- **The Gigants are <u>not</u> considered a DIY assembly. Due to the level of construction, site prep, and anchoring – as well as the challenges of long, heavy roof glass, we strongly recommend professional installers.**

To help guard against glass panels falling forward, Exaco recommends the following precautionary steps BEFORE unloading:

5. **Unscrew the upper wooden brace**
6. **Move it up <u>and</u> forward**
7. **Reattach it to the crate**
8. **Remove the lower wooden brace entirely**

Afterwards, carefully remove glass panels by pulling them down and out

(see picture →)

    - 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.

Additional Remarks:

This manual is prepared for all standard constructions and is also applicable as a guide for other customized models where we recommend assembly by a skilled team. We reserve the right to make construction changes.

IMPORTANT!

- Always read the entire manual before starting
- When unpacking the profiles, do not use sharp or pointed objects to avoid damaging the paintwork.
- Always comply with local building regulations, which are the responsibility of the buyer/owner.
- Insurance: it is advisable to inform your insurance company about the installation of your greenhouse.
- During heavy snowfall, the greenhouse roof must be cleared OR sufficiently supported OR the greenhouse must be heated to maintain a temperature of 12°C. (Please see section on “Maintenance of Greenhouse” for additional information for heavy snow/wind areas)
- During a storm, all open parts should be closed (roof windows, doors, side windows, etc.).

- The black rubber strips are treated with oil on the inside, which facilitates quick and easy assembly.
- It is recommended to clean your greenhouse twice a year, check the gutters, check moving parts and oil the pistons and openers, and clear the door's bottom rail of sand or gravel. See also “Maintenance of Greenhouse” section.

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, windows, etc.
- If you forget to add a bolt where one is needed, you may create an insertion point in the channel with a ½” 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 videos 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 Victorian 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.

Please reach out to Exaco for additional assembly resources and help.

Questions? Need Assembly Support?
Please call Exaco at 877-760-8500 or email customerservice@exaco.com.

Please refer to your customized configuration document for the dimensions of your greenhouse.

A few important notes:

- Use the metric measurements on the configuration document – if you need them in inches - convert to inches yourself. Any inch measurements on the configuration may be generously rounded, so it is best to start from the metric measurement. You may use Google or other apps for phones to convert as well.
- When preparing your site, please pay close attention to the locations of the portal frames, heavy duty gable end supports and the corner anchors. You will need to leave holes for these to be embedded into the concrete after the structure is built. This is important for the most stable and secure connection – especially in any high wind/extreme weather areas. Reach out to Exaco for help in determining the locations of these supports for your customized unit as it may vary significantly. There is some information in the "anchoring" section, but each unit is different.
- **The Gigants are <u>not</u> considered a DIY assembly. Due to the level of construction, site prep, and anchoring – as well as the challenges of long, heavy roof glass, we strongly recommend professional installers.**

Optional Accessories Available for Exaco/Janssens Greenhouses

Doors

Gigant doors may be placed on the long or short side of the greenhouse in any bay (except the corner). There are heavy duty support frames intermittently on the long side and two on the gable end that support the structure - you will want to be sure there is not one in the middle of a double doorway. 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 are included. Double doors will have no center support. If you are building on a stem wall you must upgrade to a hinged door.
- **Low Threshold Kits:** The standard sliding door will use the 4 ½" base frame for the threshold – a low threshold kit for the sliding doors will bring that down to a 1 ½" 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 1/2" high threshold to secure the sliding door guide and make walking in and out of the greenhouse easier. Available for single or double sliding doors. Kits for single doors may need to be cut to the shorter size.
- **Hinged Doors:** These are a very handsome option, 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 is recommended if the greenhouse is placed on a stem wall. It is preferable to order hinged

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

- **Drop Door Kits –**
    - You may choose to place your “ground mount” greenhouse on a knee/stem wall if you would like to add height to your greenhouse. If you do this, you will need to upgrade to hinged doors (sliding doors do not work) and purchase a “drop door” kit. This will give you framing pieces needed to frame a header above your existing door when it is brought down to ground level.
    - The standard drop door kit allows you to place the greenhouse on a knee wall height of your choice – we give enough material for up to a 30” high knee wall. If you are building a taller wall, let us know at the time of order and we can include additional material.
    - NOTE: The Drop Door kit is hardware ONLY and does not include the glazing for above the door. The reason for this is the knee wall height is custom to your site, so the glass for above the door will be a custom size. It is best to wait until the greenhouse is fully built and then order the header glass so you can be sure of the exact size needed (slight variations can happen during builds). The glass needs to be tempered safety glass with a width of 28 ¾” and thickness of 3/16” or ¼” – the height will be determined by your build. Please reach out to a local glass shop to order – we do not have custom sizes. You cannot cut any of the tempered glass pieces to fit, they will shatter into many pieces.
    - You must upgrade to hinged doors if you are placing your greenhouse on a knee wall. Hinged doors are better suited for this application than sliding doors for the following reasons:
        - Hinged doors are more forgiving of any texture/lip/capstone/veneer that may be on your knee wall. They allow about 1” of clearance beyond the exterior of your greenhouse for the above items.
        - Hinged doors are designed to open 180 degrees. If you happen to build your wall beyond the exterior dimensions of the greenhouse, it may restrict the width of the opening somewhere between 90 to 180 degrees – however they will still open at least 90 degrees.
        - Sliding doors slide along the outside of the greenhouse. If you place a sliding door on a knee wall – the final exterior dimensions of your knee wall (including any capstone/lip/veneer) MUST match the exterior dimensions of your greenhouse footprint so the door can slide along the outside of your wall.
        - MOST IMPORTANTLY, sliding doors need to have a rail mounted at the top in which the wheels roll. This holds the weight of the door. When placing a sliding door on a knee wall – there is not an ideal way to mount the top rail to the greenhouse, so we recommend using a metal strap to support this rail - attached to the horizontal structural piece above the door (gutter extrusion or gable horizontal profile). This will require customization on your side and possibly additional materials and may not be as desirable as the easily dropped hinged doors.

- Please reference the table of contents for the pages which address how a drop door kits and knee walls under “Foundation Measurement and Planning”: “Planning/Building a Stem Wall”, and “Hinged Door/s on a Stem Wall with Drop Door Kit”

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

You may choose manual or auto openers for your vents. The roof vents allow hot air up at the ridge to escape, while the louver or push out 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 optional 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.
  - Note that the louvered window cannot be placed next to the portal frames.
- **Push Out/Top Hang Side Wall Window** – This window hangs from the top and the bottom pushes out. A manual or auto opener may be used. These cannot be placed side by side.

Optional Accessories

There are a variety of optional accessories available, some of which are listed below.

- Shadecloth – We do have a few options that are being developed for interior shadecloth for the Gigant. If shade is needed, you may also consider looking into using an aftermarket window tint to block some UV rays to keep it cool.
- Shelves – the shelves manufactured by Janssens are problematic in the Gigant due to the large structural supports that block attachment points. If you are interested in shelving, you may reach out to see if one of the options would work for you.
    - Seed tray/Seedbed - The seed tray is 20” wide and has a 4” planting depth with a white polycarbonate bottom to allow for drainage. These do not work well in a Gigant due to the heavy duty wall supports that block the attachment points.
    - Top Shelf - is 4” wide and can mount either above the seed tray or on its own at your preferred height. These do not work well in a Gigant due to the heavy duty wall supports that block the attachment points.
    - Slat shelves - extremely flexible in terms of height, usage, and all around placement, but they can also be problematic – it depends a lot on your support frames. The slat shelves 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. Again, these shelves will only work on the 15’ long sides due to the heavy-duty portal frames on the long sides. Only available in black or green. 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:
    - Roof Window Fly Screen - easily installs into roof vent opening
    - Louver Window Fly Screen - clips onto outside of louvered window
    - Push out/Top Hang Window Fly Screen – easily installs in vent opening
- Ventilation - An exhaust fan may be installed to blow out the hottest air. Installation of an exhaust fan in a Gigant will be most effective on one gable end of the greenhouse. Due to the large size of a Gigant, there is a chance that you may need to look into a third party exhaust fans. Exaco only stocks smaller exhaust fans for the smaller hobby greenhouses. Replace a glass pane in the gable with a lexan panel into which you can mount the fan. If you are installing in a sidewall, you will need to purchase additional framing, lexan and a custom piece of glass from a local glass shop. Many exhaust fans will use an external thermostat to control at what temperature it turns on and off. Place an exhaust fan opposite your side windows 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. The Gigant has multiple types of anchors:

- The corner brackets will attach to the interior at the foundation/base frame (holding it together in the corners) and extend an additional 12" below ground level. If you are in a 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 all the vertical members. Please see the foundation measurement page for additional diagrams and information.
- The heavy-duty portal frames that support the roof also anchor the greenhouse. These large 2" x 6" supports are connected on the interior of the greenhouse and extend 15 ¾" (40cm) into the surface below. For the strongest connection, it is recommended to embed these in concrete after the structure is built. Please see the foundation measurement page for additional diagrams and information.
- In addition to the portal frames, the Gigant units also have heavy supports at the gable ends that must be embedded in concrete as well. They are designed to extend 15 ¾" (40cm) into the ground as well. This anchoring method provides a very sturdy structure.

The manufacturer recommends an 8"-10" wide concrete strip foundation (minimum) 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 corners for the anchors and larger holes for the portal frames and gable supports to be embedded in concrete after the greenhouse frame is assembled and it is confirmed to be level and square. You will need to adjust your 8" strip foundation out to at least 10" to accommodate the portal frames and gable end supports.

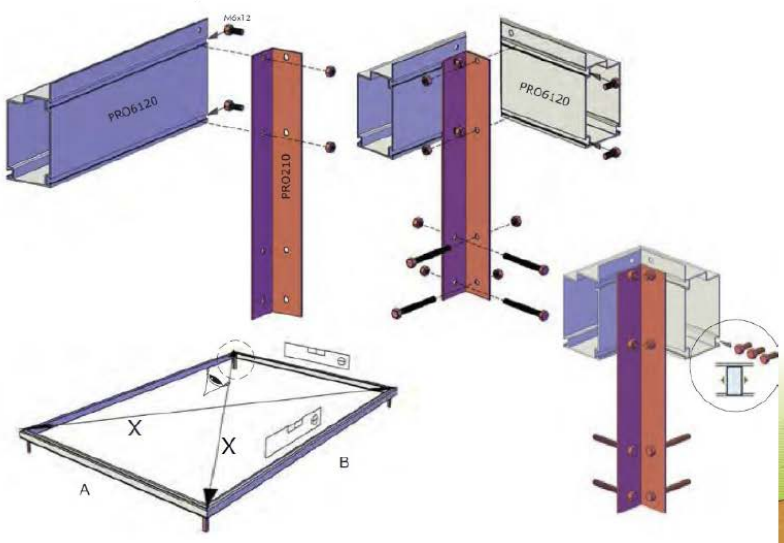
Some users have chosen a variety of alternative anchoring methods based on their climate, location, soil composition, and site considerations. These include full concrete slabs, concrete footers, pier and beam constructions. Please be careful if you are choosing an alternative methods to ensure it is strong and stable for such a large structure. When planning your anchoring method, you should keep in mind frost line/ground heaving, wind load, greenhouse location, size and weight of the structure, 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).

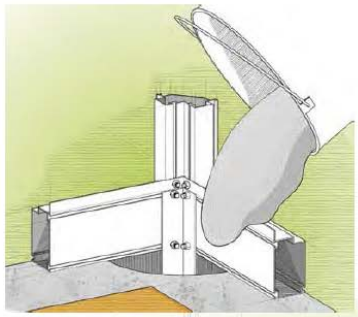
If you are applying for permits, you should secure these BEFORE placing an order for the greenhouse. Your site/municipality may require extra bracing that will need to be ordered with the greenhouse itself. Exaco does not provide structural certifications on these large custom units as it needs to be site specific. If you are applying for a permit or need a structural certification or permit set, we do have an engineering firm that we work with on a regular basis. Your local engineer may reach out to them for documents that they have created from past projects for a fee. If your local engineer needs specific files/information, they may also reach out directly to Exaco.

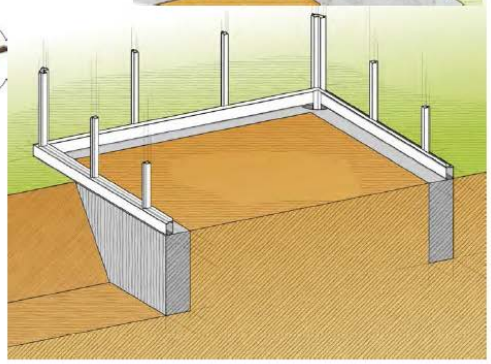
Anchoring Options (detail):

MANUFACTURER AND ENGINEER RECOMMENDED OPTION: Embedding the anchors into your concrete – most secure, manufacturer recommended.

It is recommended to leave a 6" diameter hole for the anchors to be embedded in concrete after the greenhouse frame is assembled and it is confirmed to be level and square. You can also have a PVC pipe or Sonotube embedded into your concrete. The PVC or Sonotube must be at least 6" wide in diameter, centered on the interior of the greenhouse (2.25" in from the edge). Note the Gigant also has portal frames and gable end supports to be embedded as well that are larger – see foundation diagram for specifics.







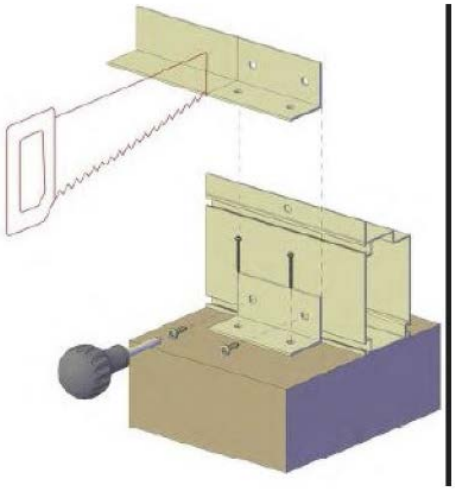
OPTION 2 (not recommended, but this variation can be used to supplement embedding the frames): Use L brackets with concrete screws/self-tapping screws

VIDEO: https://youtu.be/3W62iOgLVG4?t=59 (may be found at minute 0:59 in the Exaco animated assembly video.

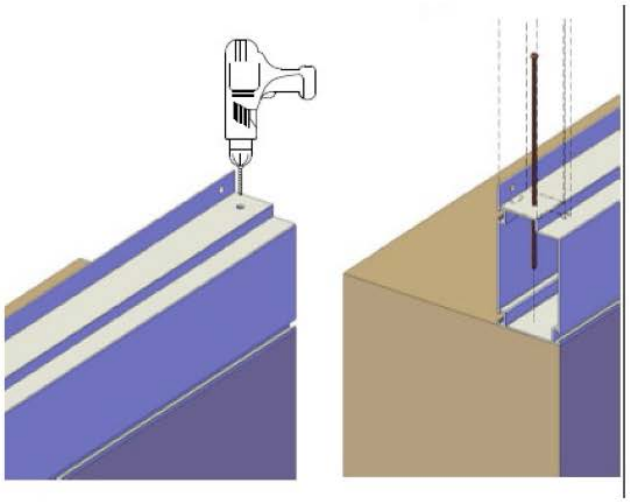
Steps:

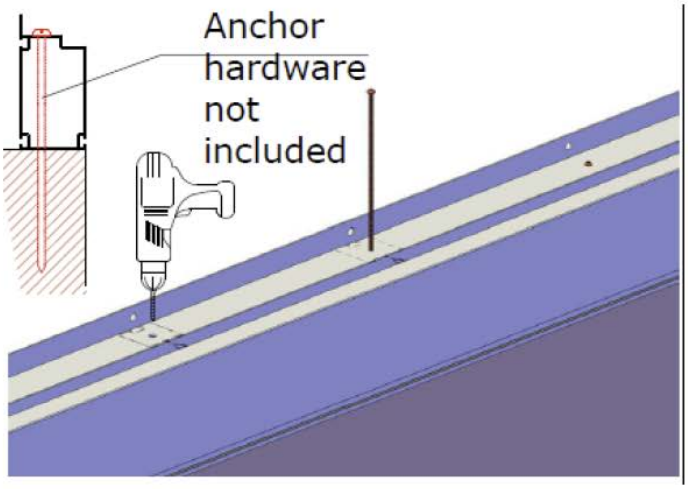
- You can cut angle irons into 4" long L brackets to mount the top half into the foundation frame and the bottom half into the concrete or other foundation.

- Use self-tapping screws or pre-drill and use normal screws to mount the top part into the foundation frame of the greenhouse.
- Use concrete anchor screws (link provided below) to attach the bottom part to your concrete. We HIGHLY recommend predrilling and using a hammer drill to drill the anchors in.
- Tapcon Concrete Anchor Screws: https://www.homedepot.com/p/Tapcon-1-4-in-x-1-3-4-in-410-Stainless-Steel-Hex-Head-Concrete-Anchors-8-Pack-26120/202097033



OPTION 3 (recommended to add additional anchoring points) : Long Anchor into foundation frame
Drill access holes as shown to the bottom right. Be sure to line these up with the holes in the vertical flange so they will be covered by a glazing bar (PRO1456). Use appropriate fasteners for your wall (not included). You may also leave holes at the corners to embed the long PRO210 anchors in concrete after the greenhouse is built. This is similar to what is shown for the ground mount version.





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.

Ventilation and Cooling of Greenhouse

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

- Shadecloth – Please reach out to Exaco to see what options we currently have available.
- Exhaust Fan - An exhaust fan may be installed to blow out the hottest air. Installation of an exhaust fan in a Gigant will be most effective on one gable end of the greenhouse. Due to the large size of a Gigant, there is a chance that you may need to look into a third party exhaust fans. Exaco only stocks smaller exhaust fans for the smaller hobby greenhouses. Replace a glass pane in the gable with a lexan panel into which you can mount the fan. If you are installing in a sidewall, you will need to purchase additional framing, lexan and a custom piece of glass from a local glass shop. Many exhaust fans will use an external thermostat to control at what temperature it turns on and off. Place an exhaust fan opposite your side windows 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.

Additional Weather Considerations and Maintenance of Greenhouse

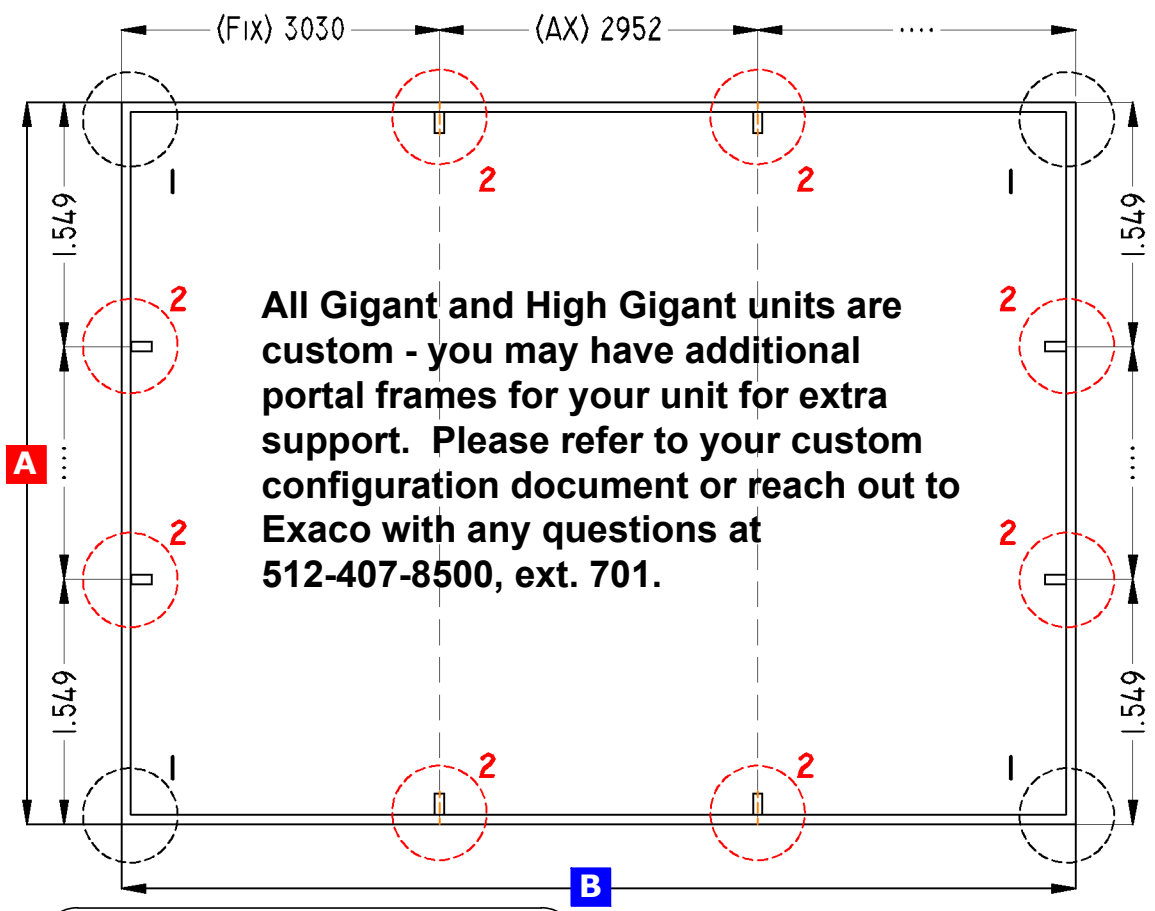
The following will help keep your greenhouse in tip top shape:

- **WINTER/SNOW/ICE CONSIDERATIONS:** Please take the proper precautions to protect your investment from heavy snow.
    - 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/deco supports 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.
        - NEW for 2024! We now have special bracing available for the VI46 (12'7" wide) models for high snow areas. Please call Exaco for details.
- **HIGH WIND AREA CONSIDERATIONS:** It is recommended to install your greenhouse in an area protected from high winds. If high winds are an issue in your area, we recommend the following:
    - Purchasing additional portal frames at the time of order will help increase the wind and snow loads. Embedding the anchors into concrete will provide the strongest anchor. Alternatively, you may further strengthen the anchoring the greenhouse by:
        - Cutting PRO210 anchors into 4" sections to use as L brackets into the base of the greenhouse and down into the concrete foundation
        - Use long anchor bolts through the frame (underneath the glazing bars)
    - Use included red shims on ALL glass panes when installing your glazing (see section on "Glazing Installation"). This is good practice regardless of wind load for your area.
- 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.
- It is recommended to clean your greenhouse twice a year, check the gutters, check moving parts and oil if necessary, and clear the door's bottom rail of sand or gravel.
- 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.

Questions? Need Assembly Support?
Please call Exaco at 877-760-8500 or email customerservice@exaco.com.

" GIGANT "



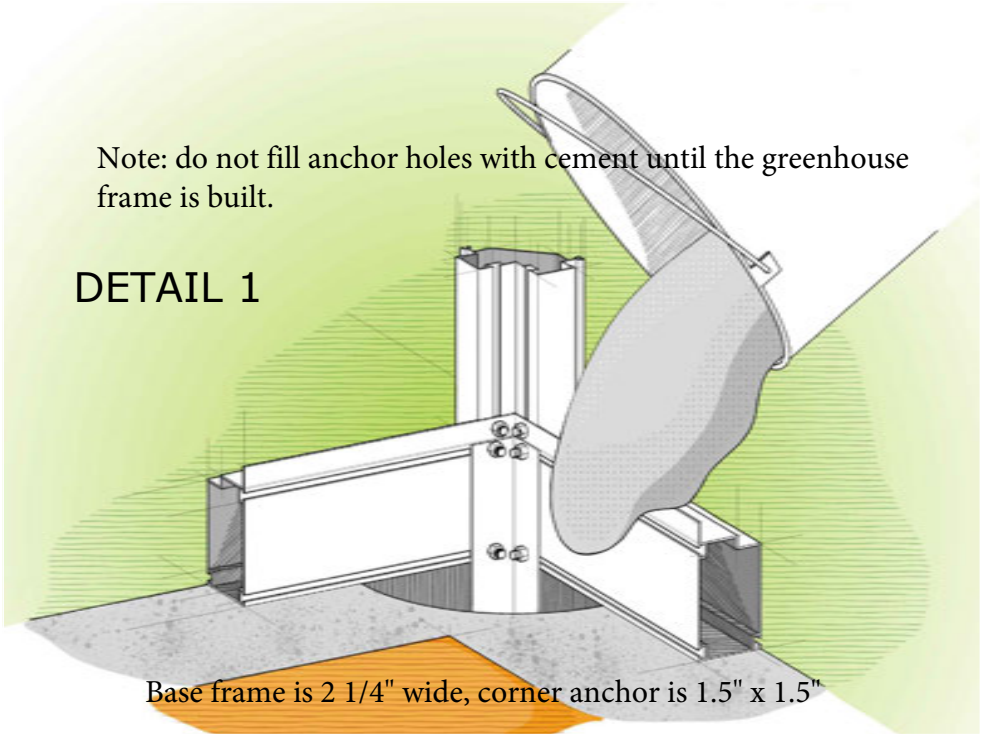
All Gigant and High Gigant units are custom - you may have additional portal frames for your unit for extra support. Please refer to your custom configuration document or reach out to Exaco with any questions at 512-407-8500, ext. 701.

A	X	B
4574		4574
5312		5312
6050		6050
		6788
		7526
		8264
		9002

The are corner anchors that hold the corners together and extend 12" down into the ground. There are also heavy duty reinforcements that support the roof structure. These are shown at detail 2 above and to the right. The placement and quantity of the heavy portal frames will vary due to the length of your greenhouse. It is recommended that they are placed where there are vertical studs/ rafters. There are additional vertical heavy duty supports at the gable end. Please refer to your configuration for placement on your model.

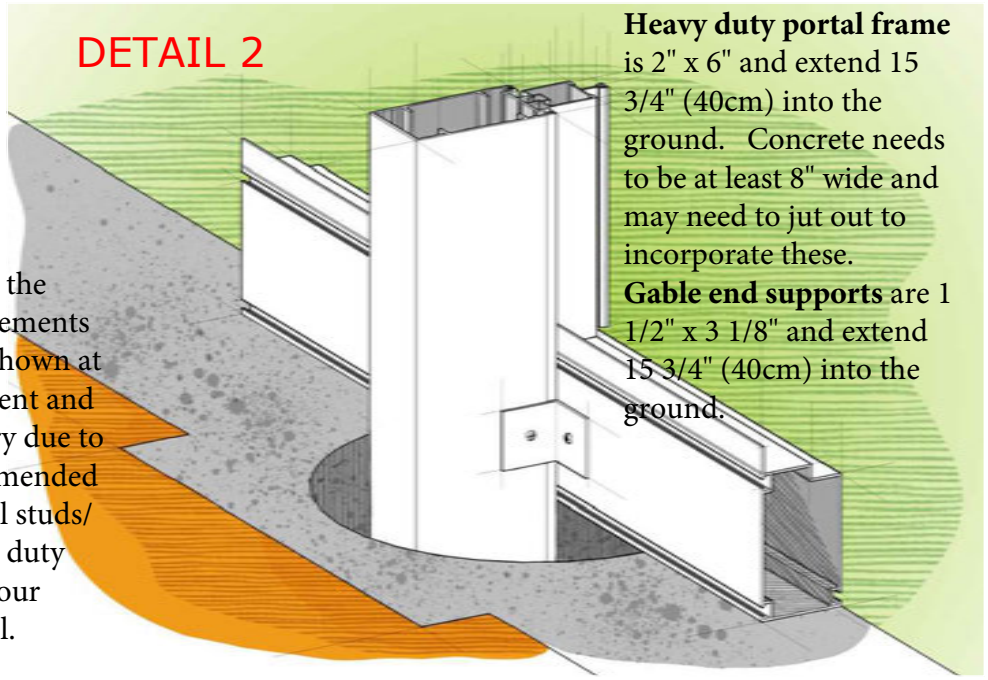
Note: do not fill anchor holes with cement until the greenhouse frame is built.

DETAIL 1

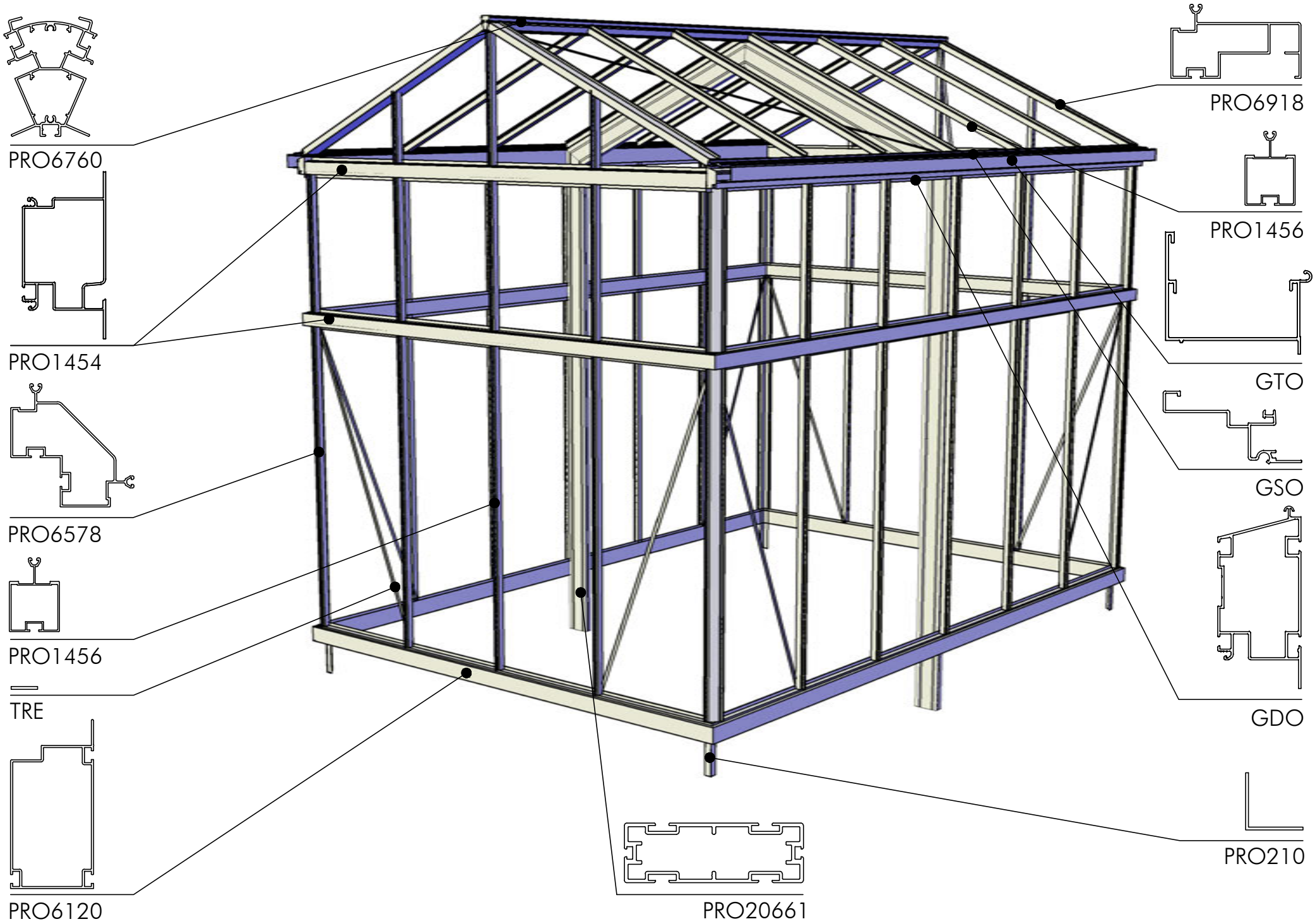


Base frame is 2 1/4" wide, corner anchor is 1.5" x 1.5"

DETAIL 2



Heavy duty portal frame is 2" x 6" and extend 15 3/4" (40cm) into the ground. Concrete needs to be at least 8" wide and may need to jut out to incorporate these.
Gable end supports are 1 1/2" x 3 1/8" and extend 15 3/4" (40cm) into the ground.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GTO
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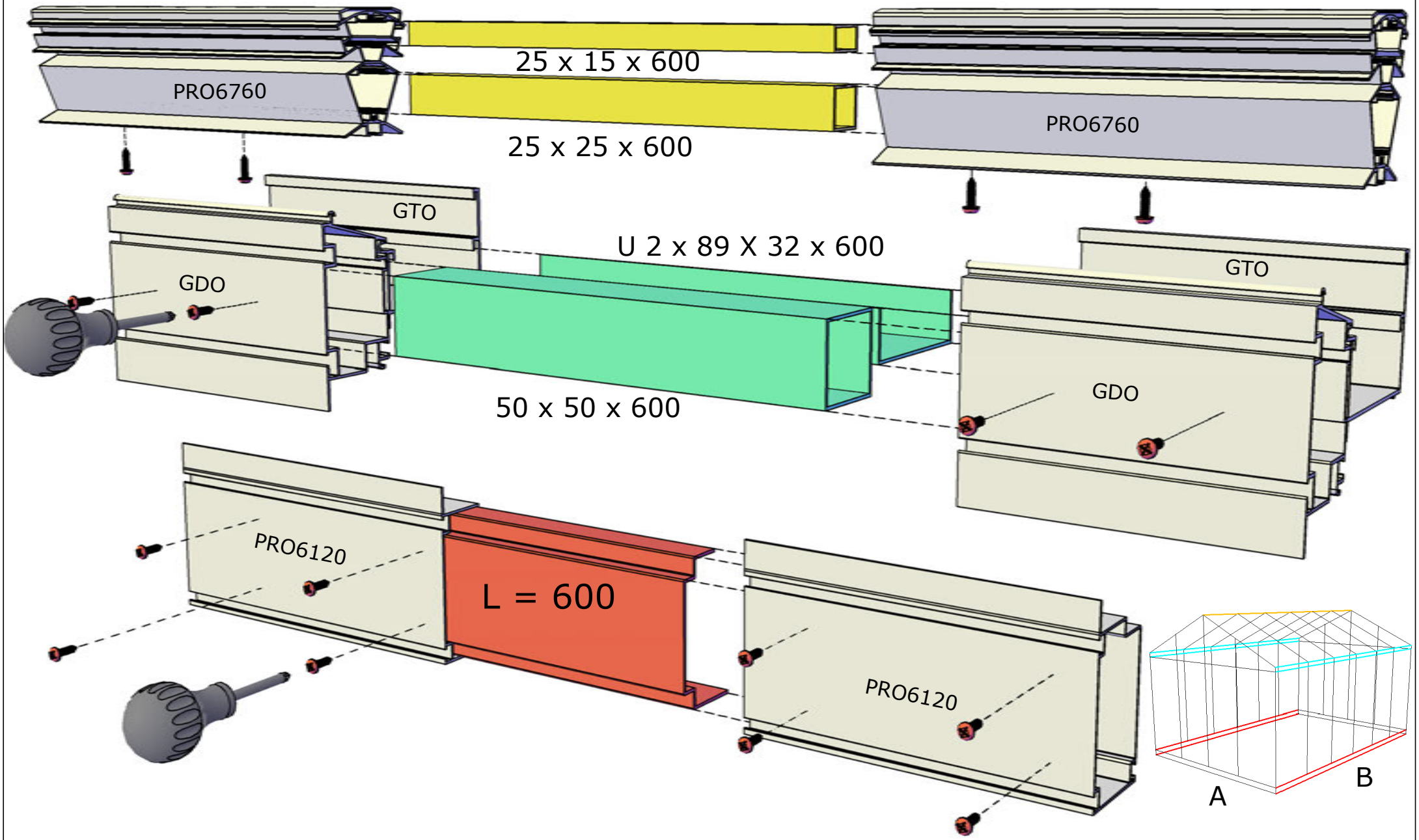
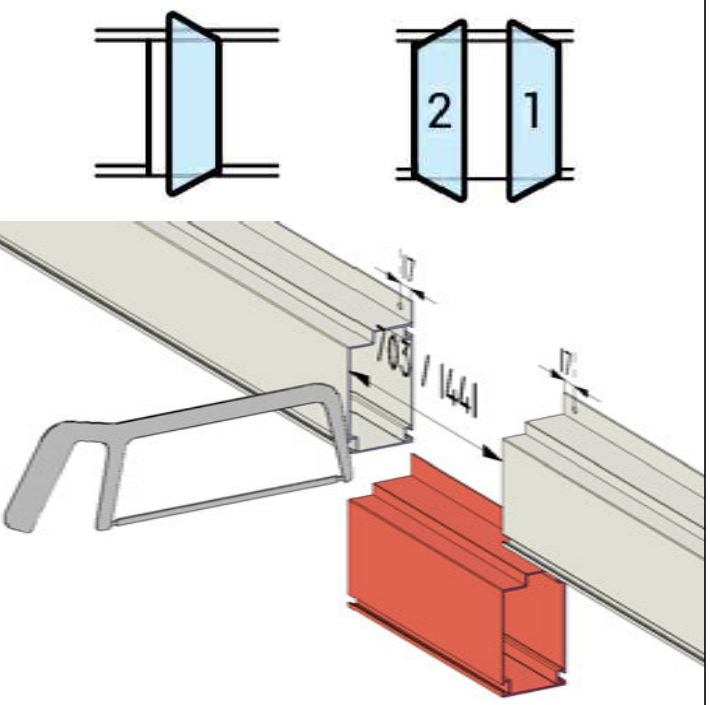
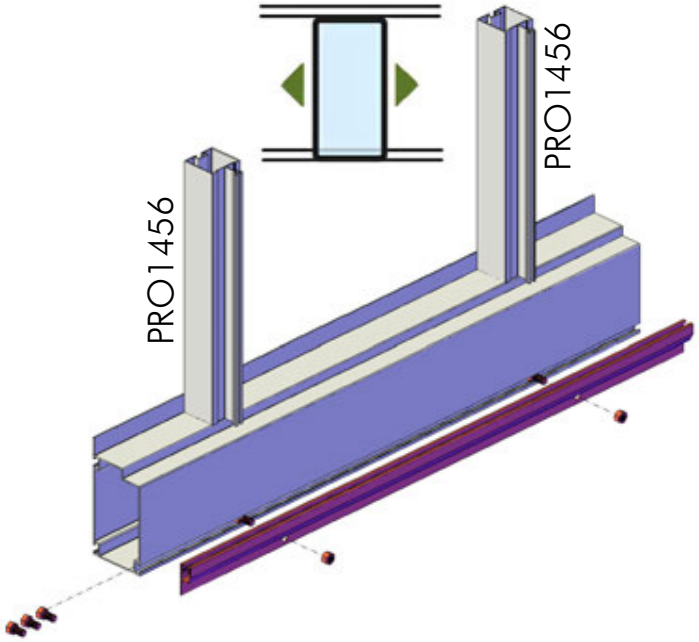
PRO210

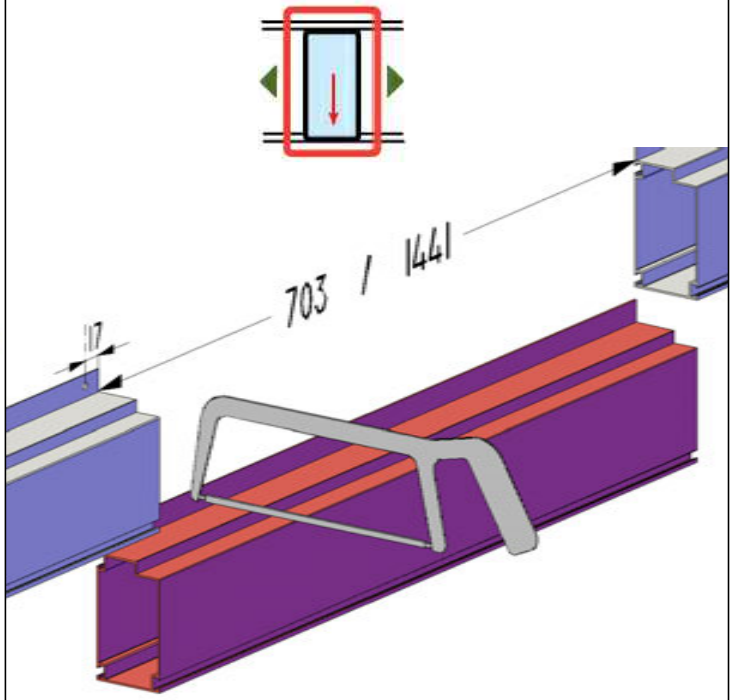
B = LENGTH > 6m10

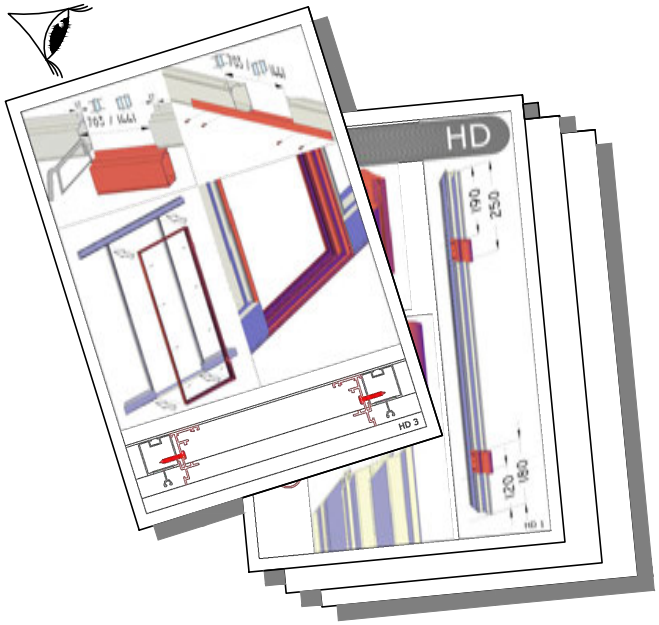


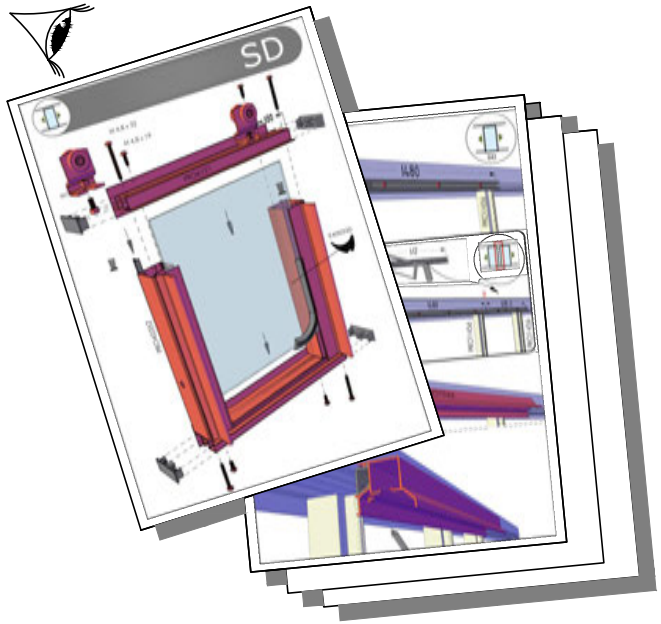
OPTION: **HD** (hinged door)	OPTION: **SD** (sliding door)	OPTION: **KSD** (low threshold)

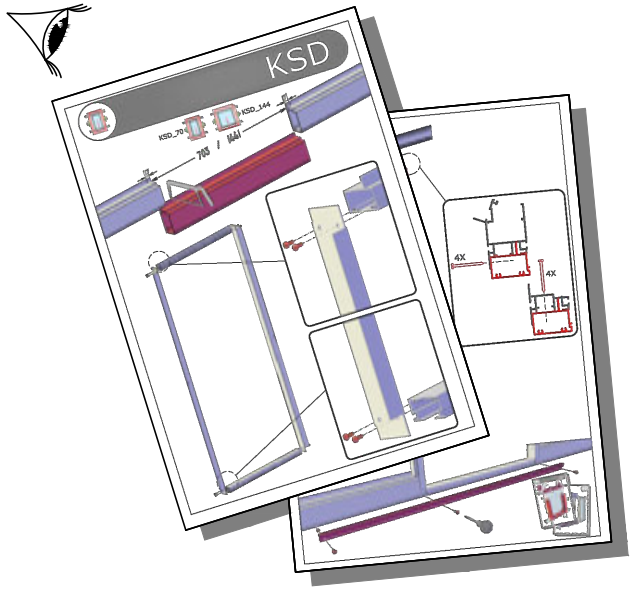












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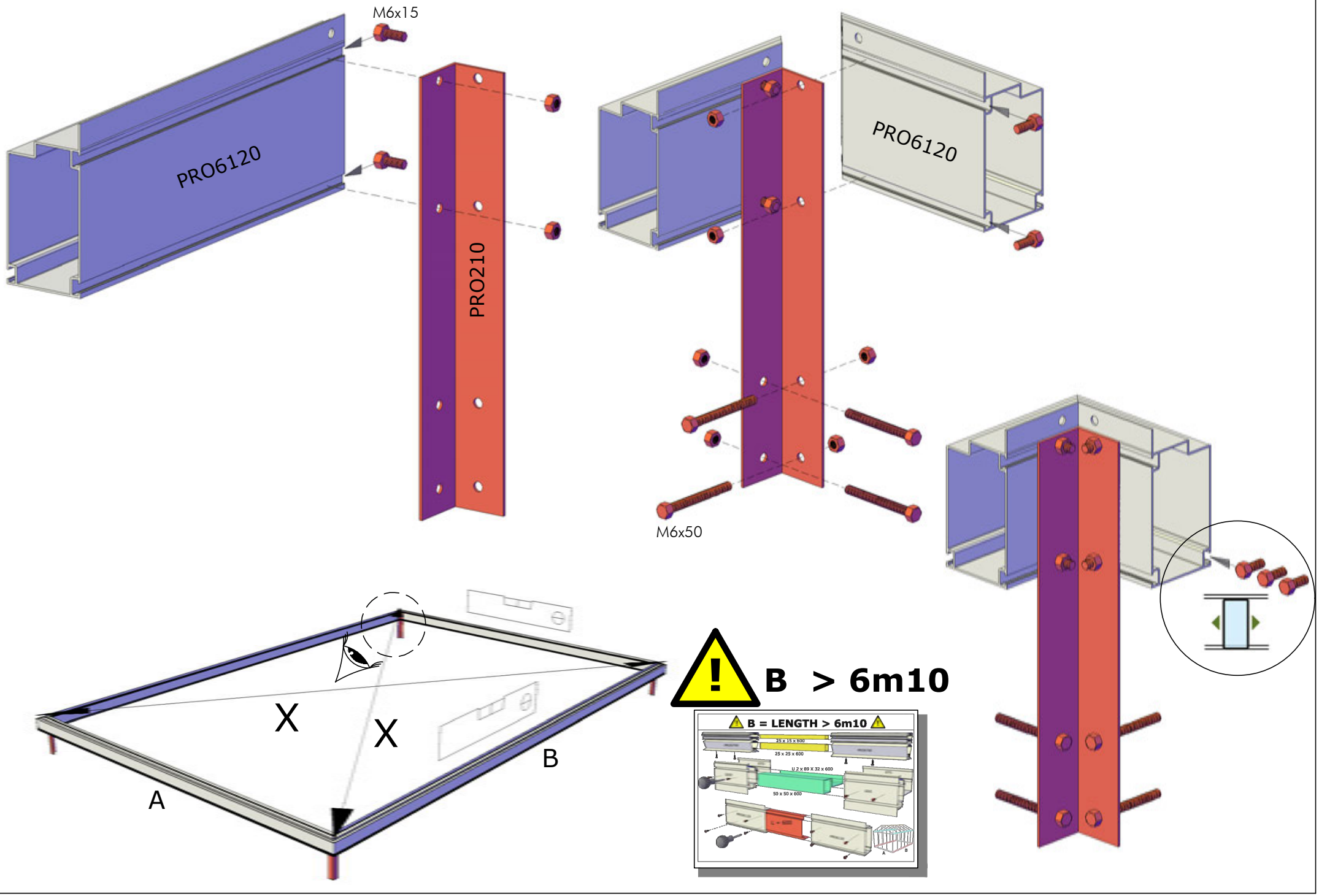
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X
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B
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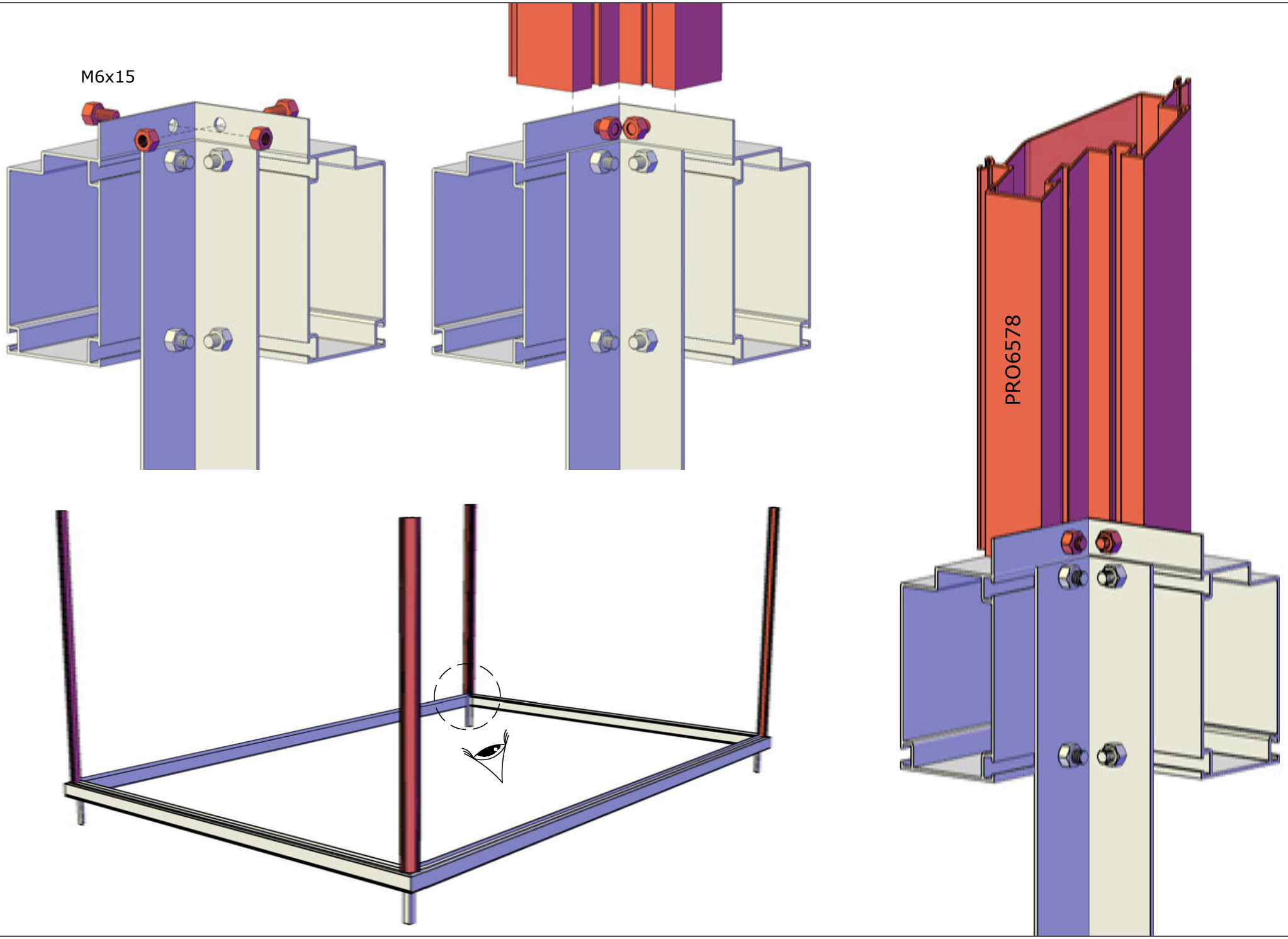
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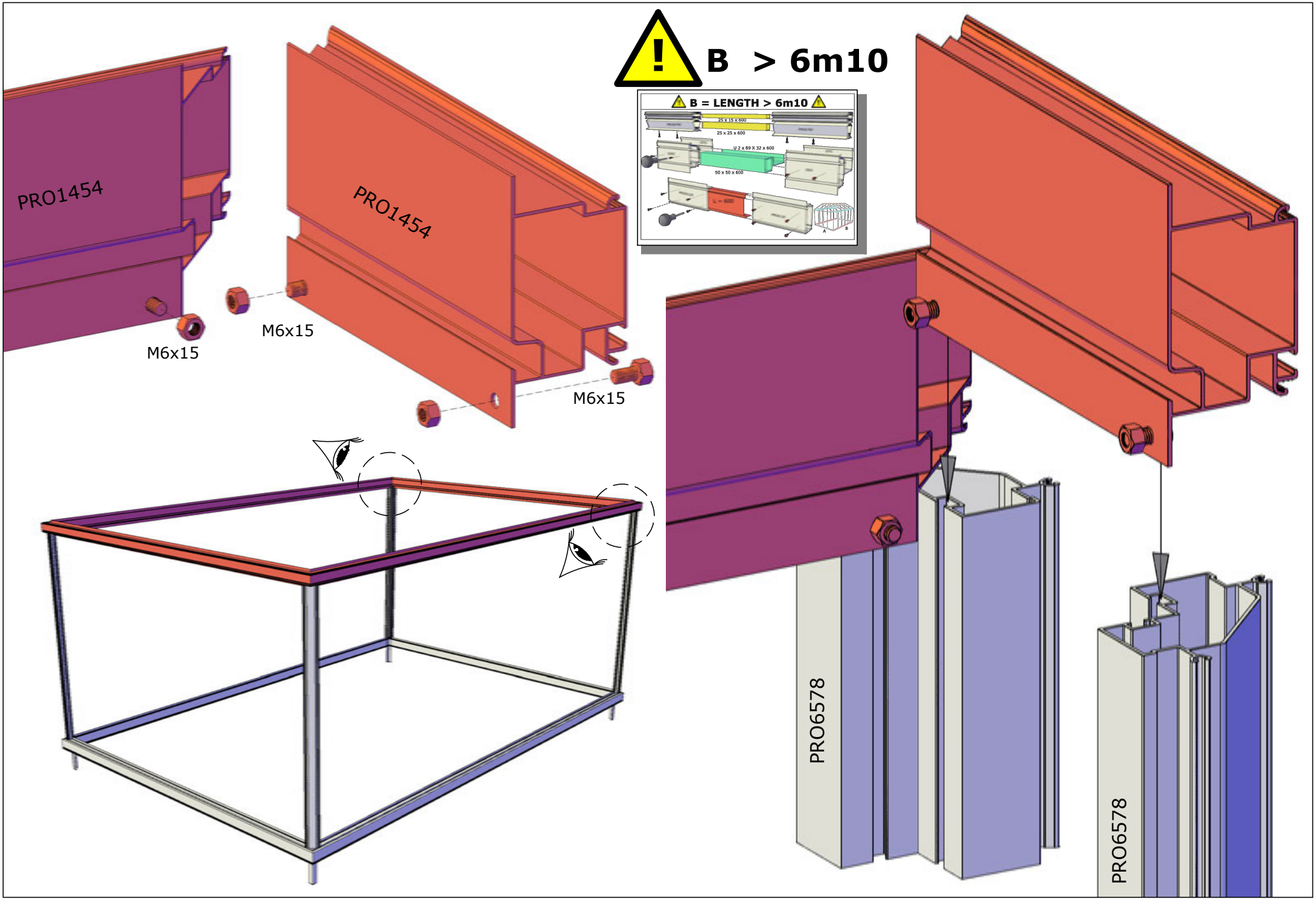
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M6x15
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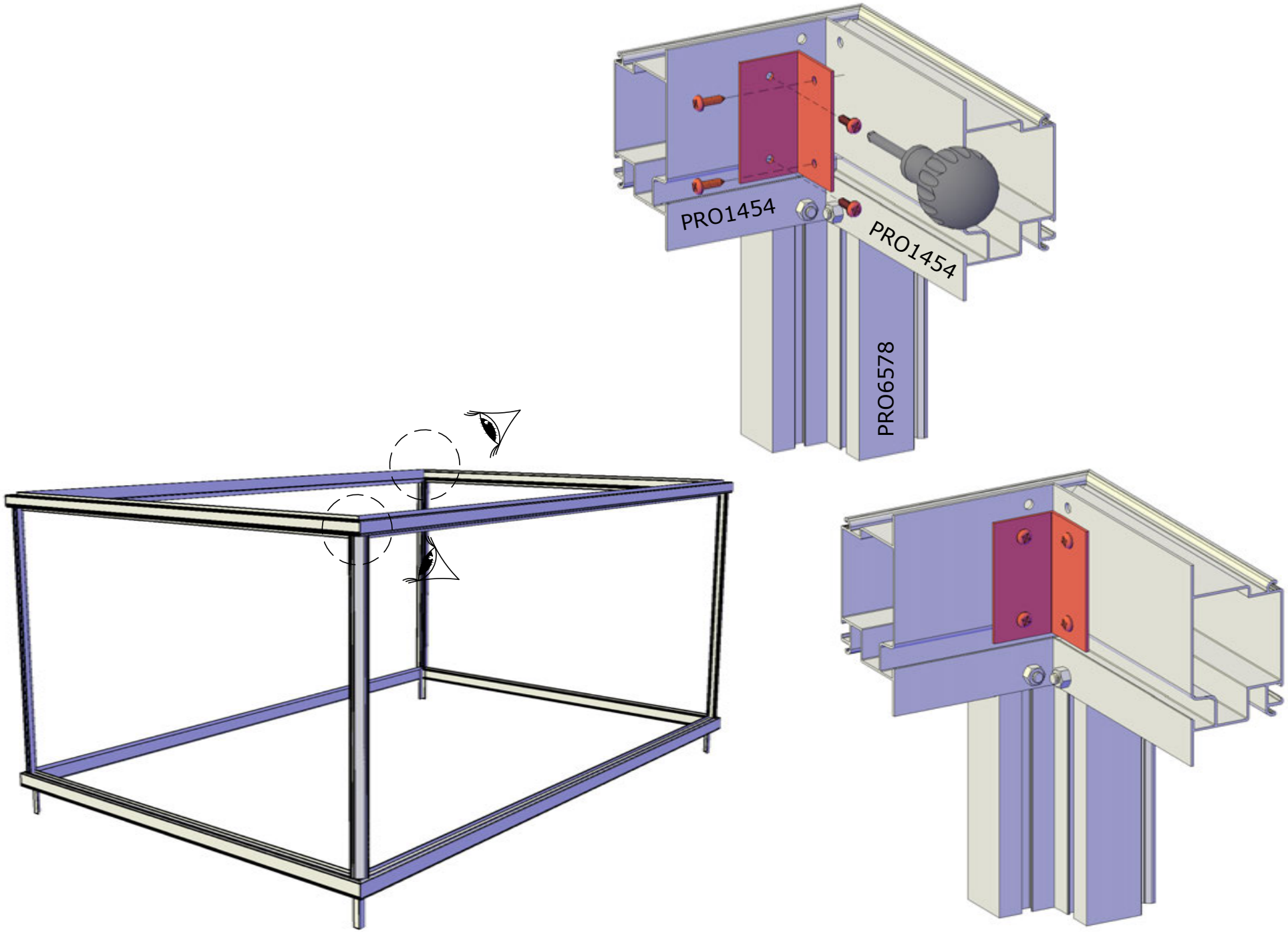
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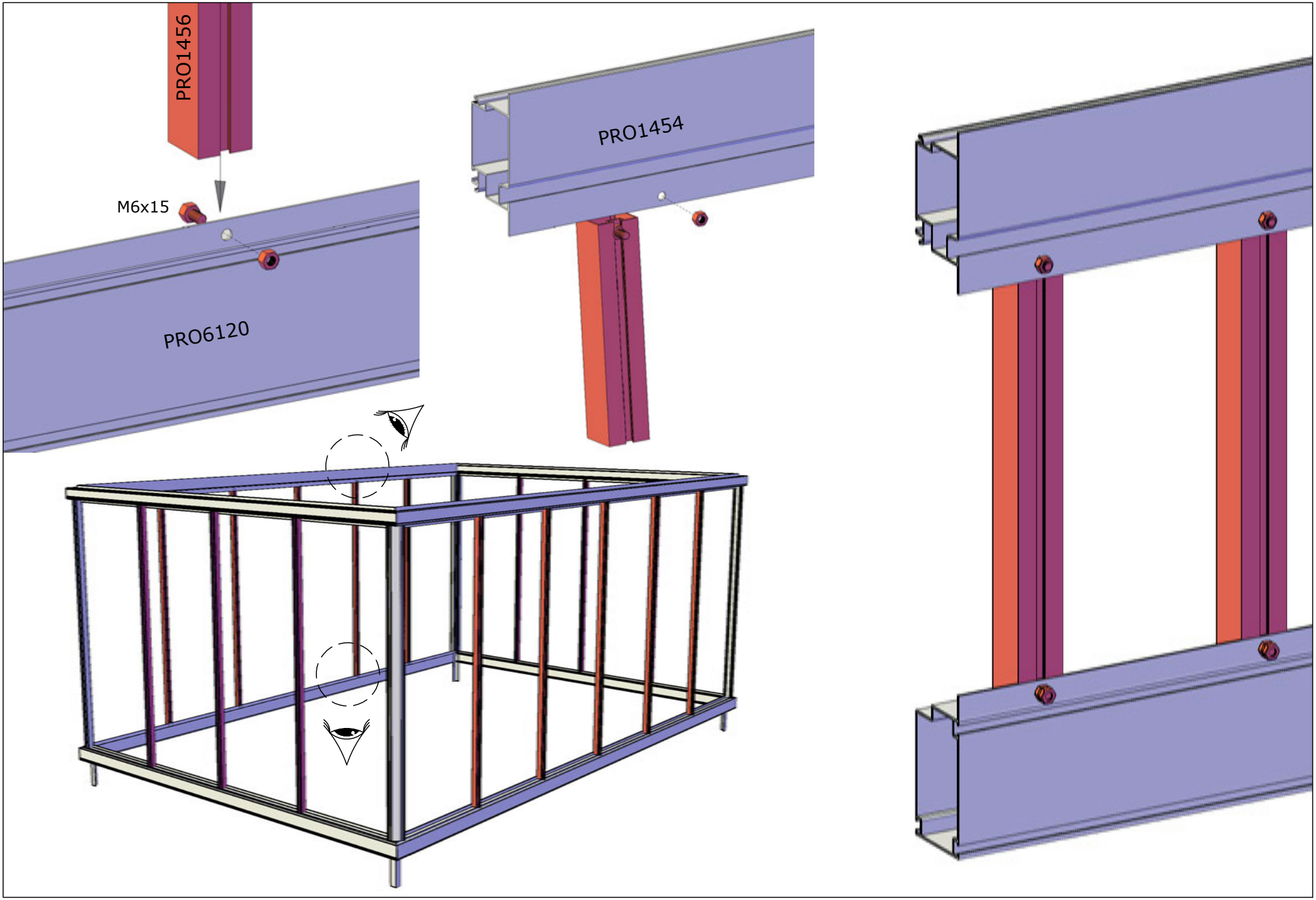
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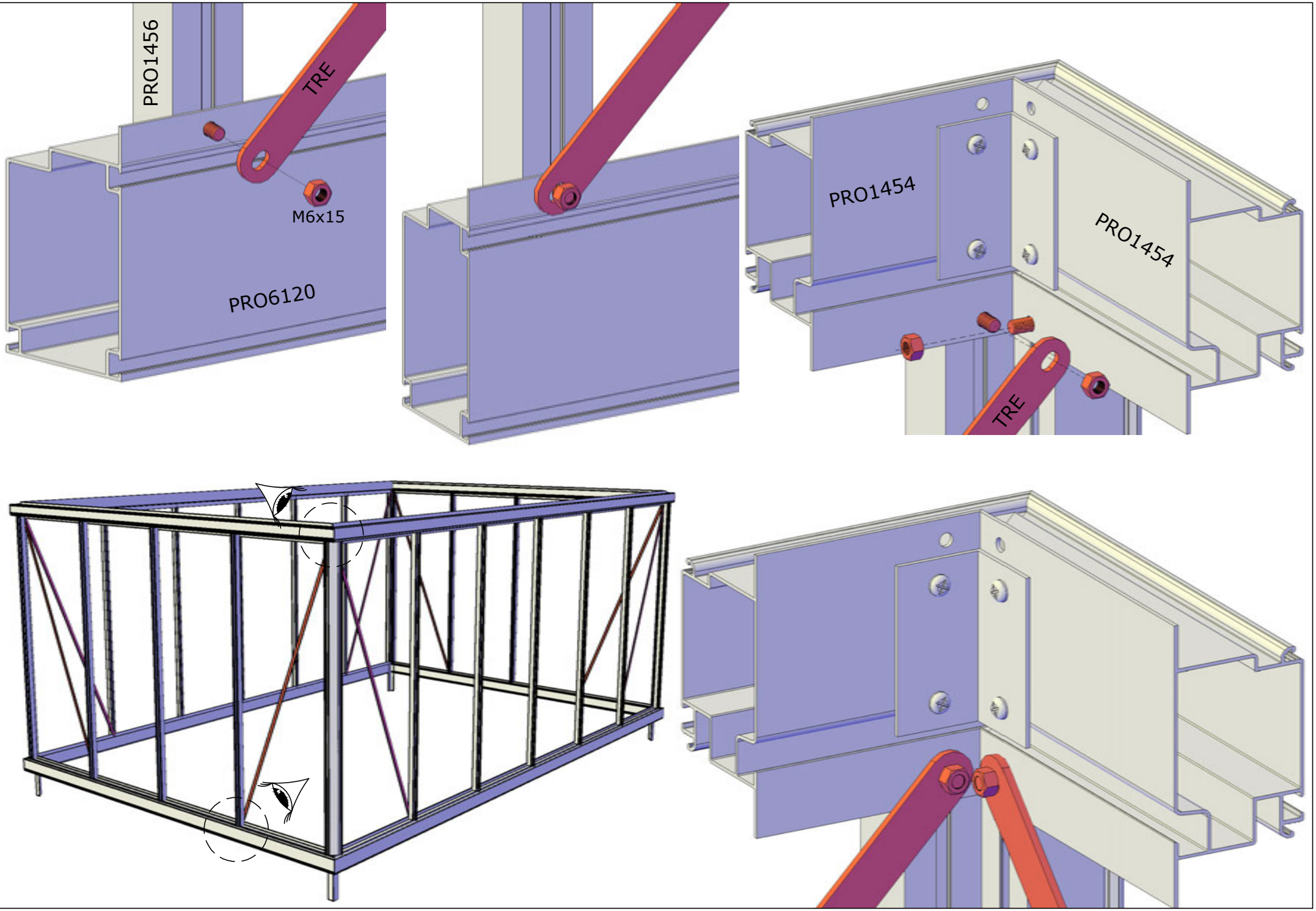
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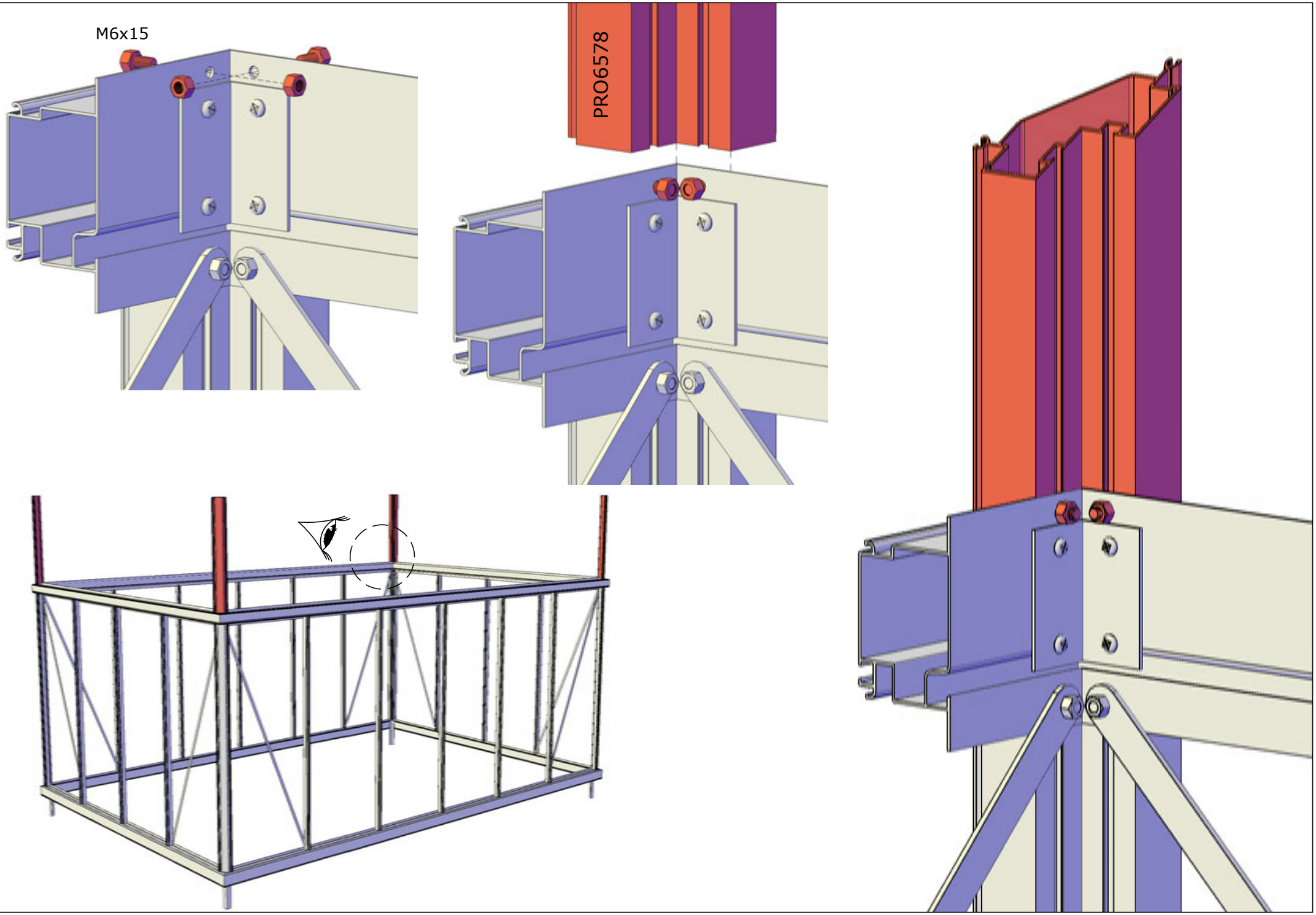
TRE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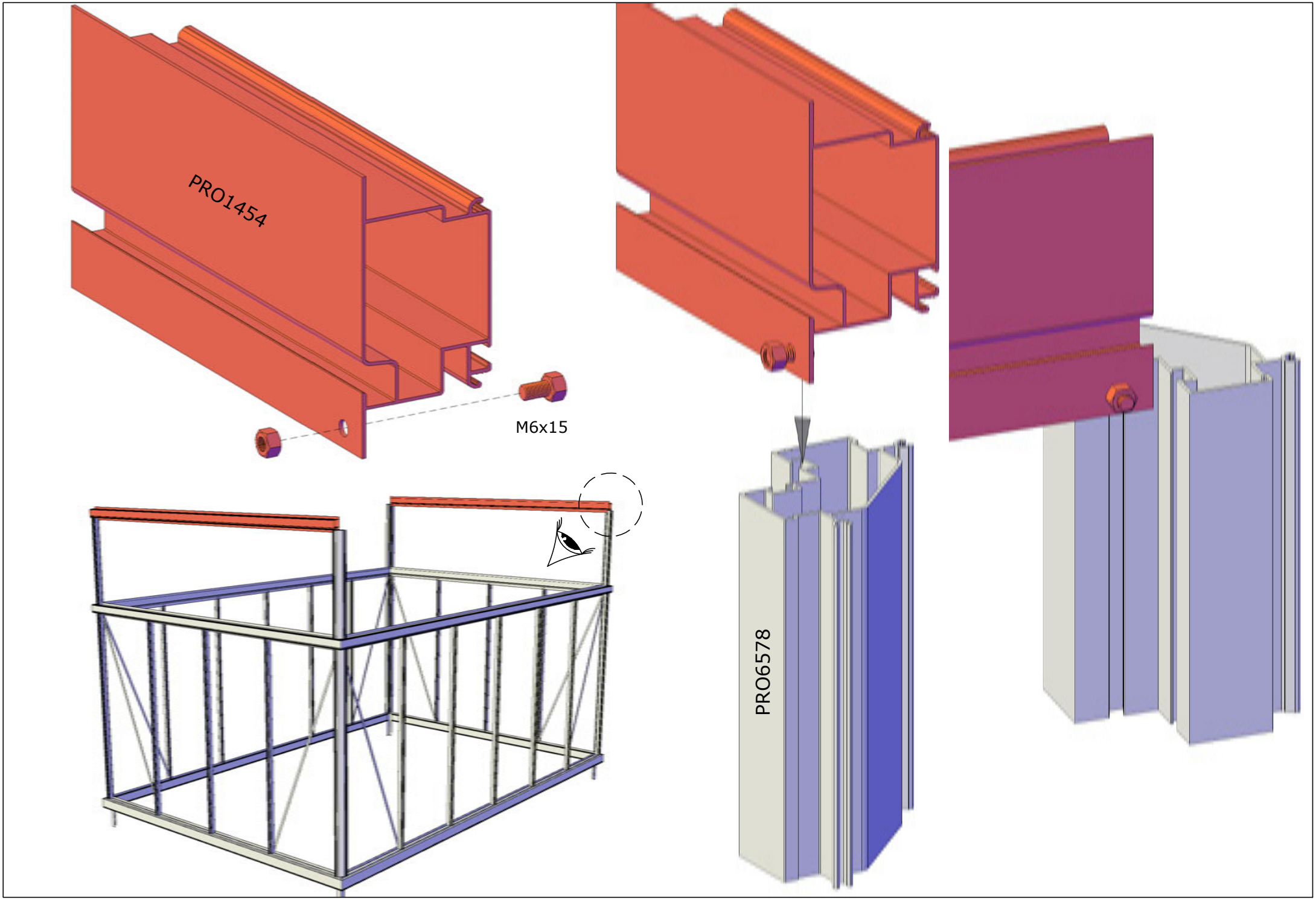
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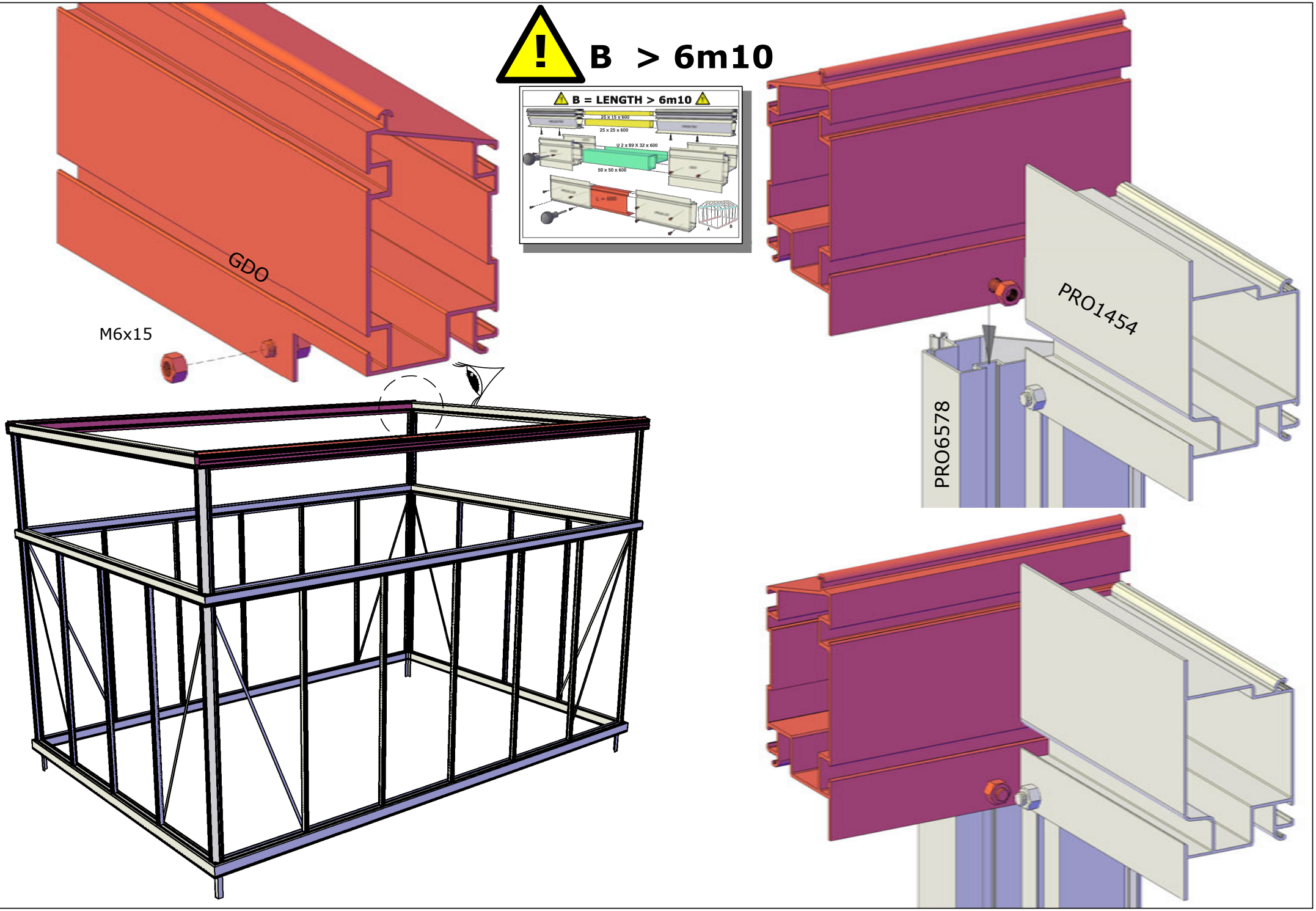
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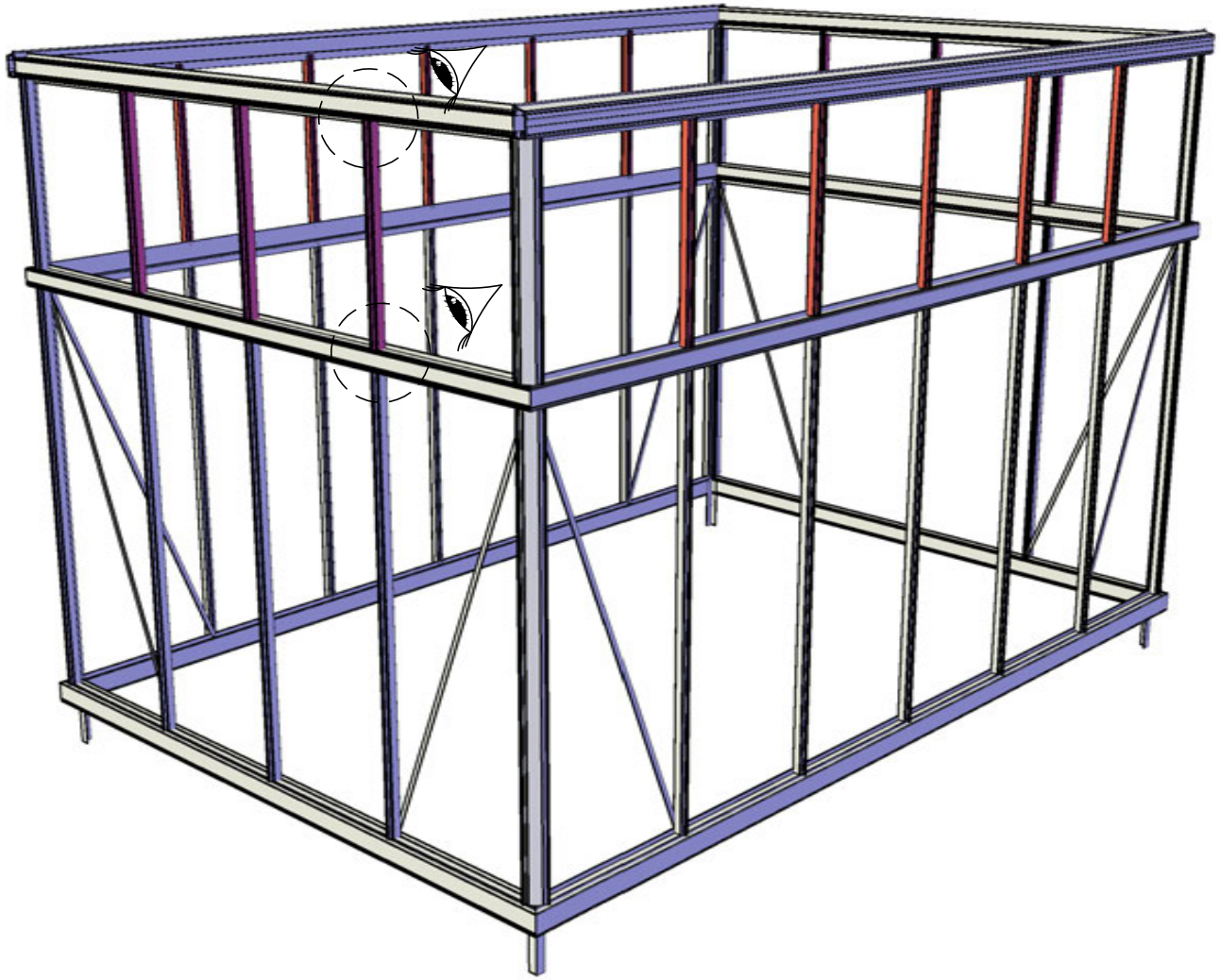

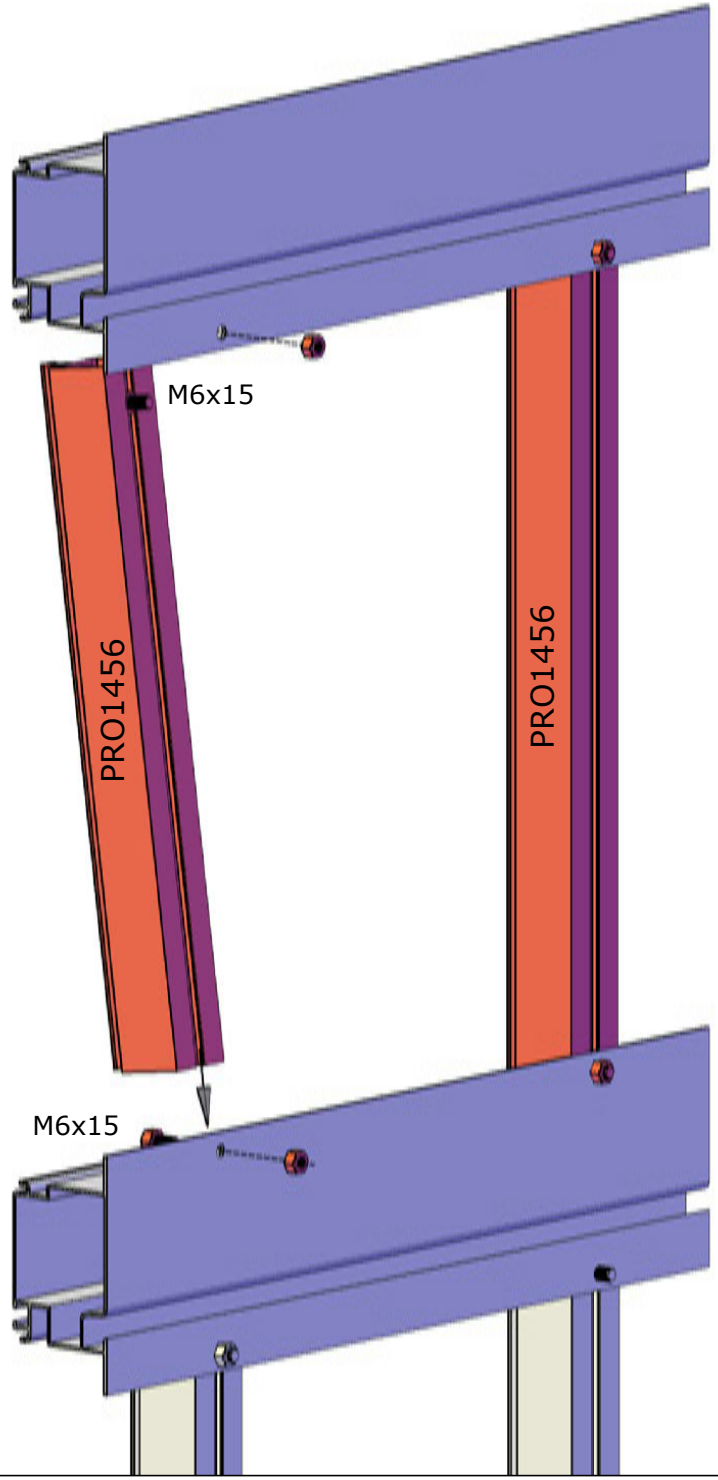
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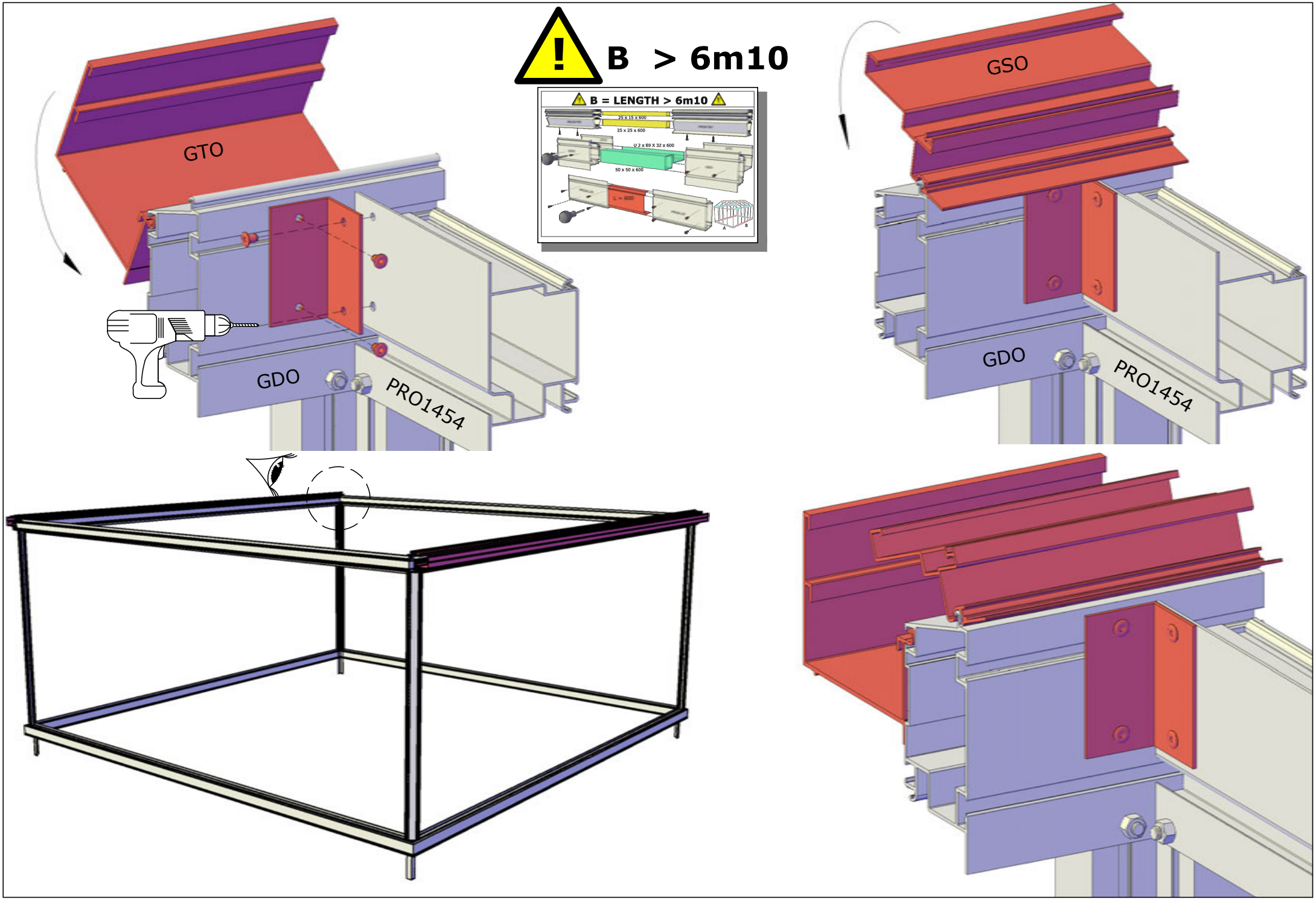
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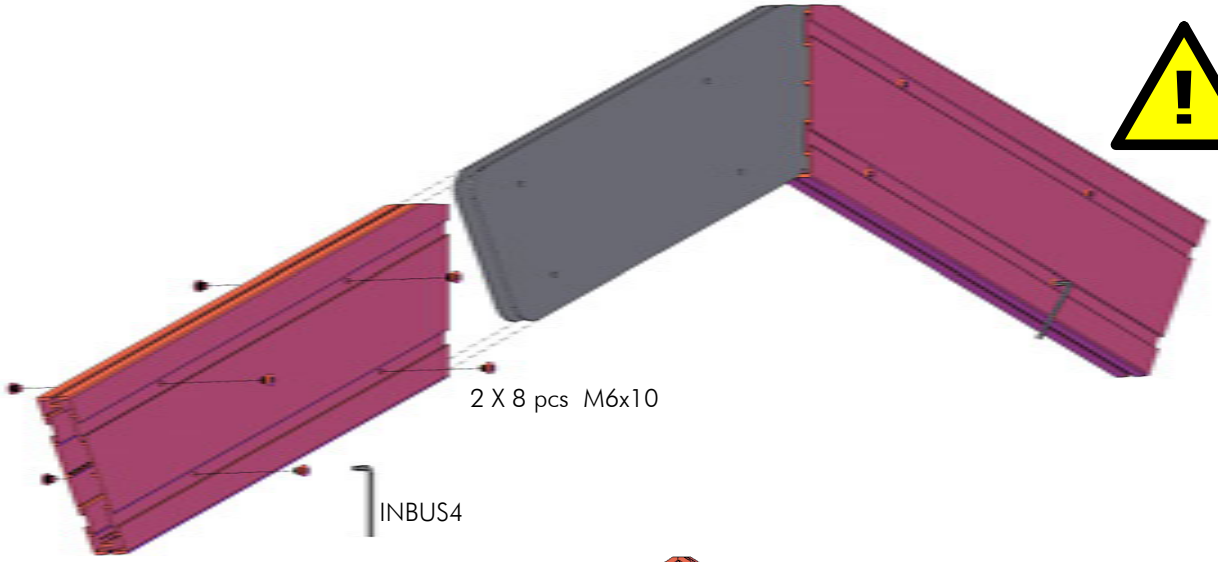

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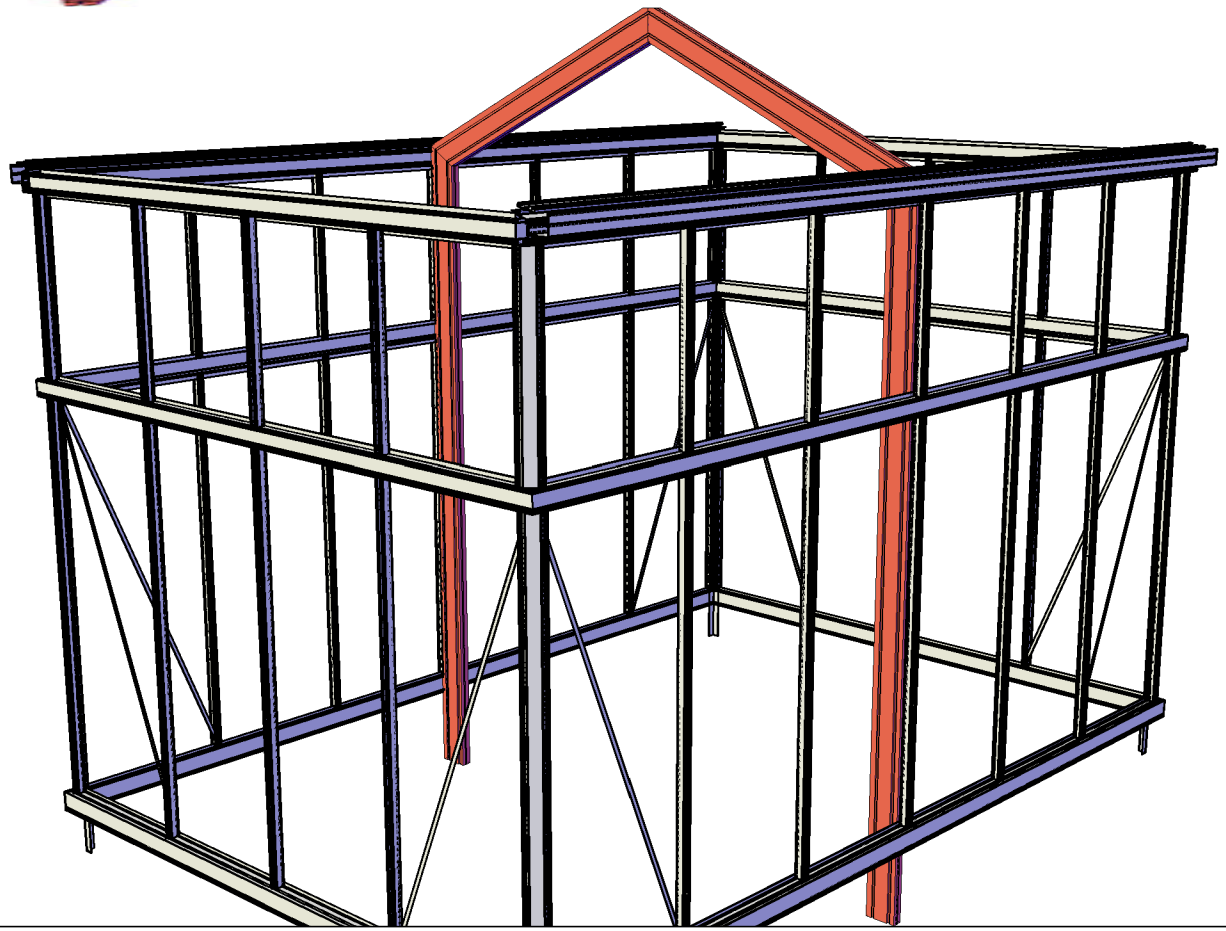

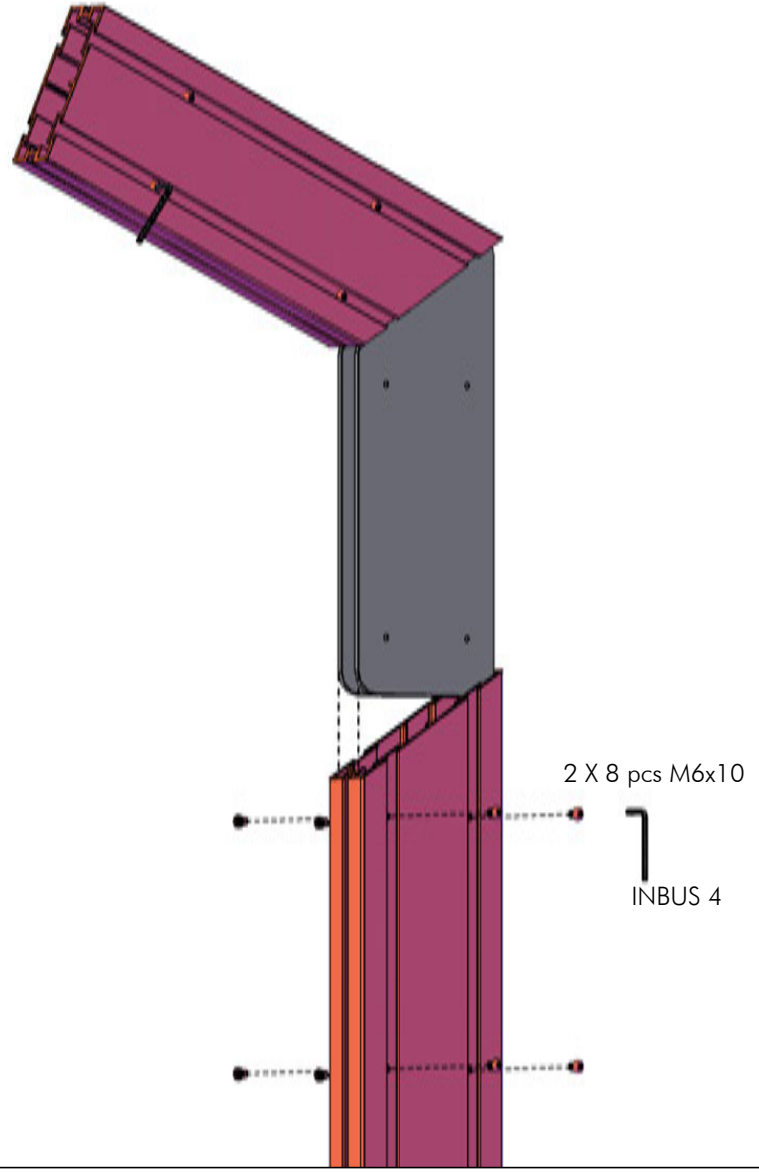

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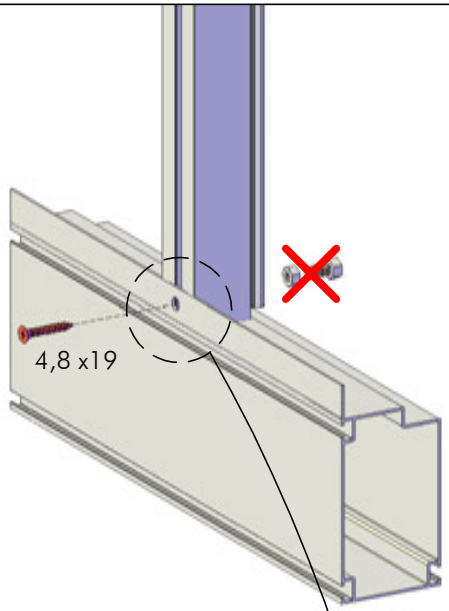

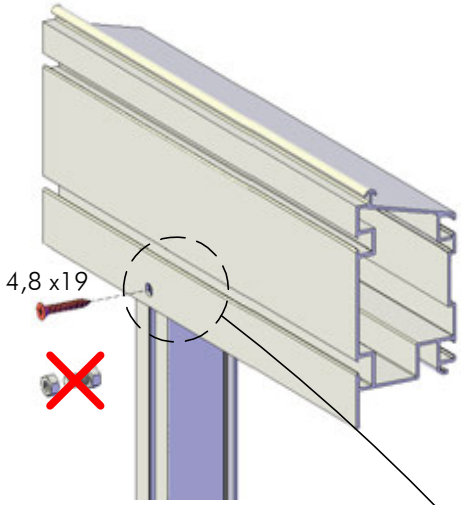

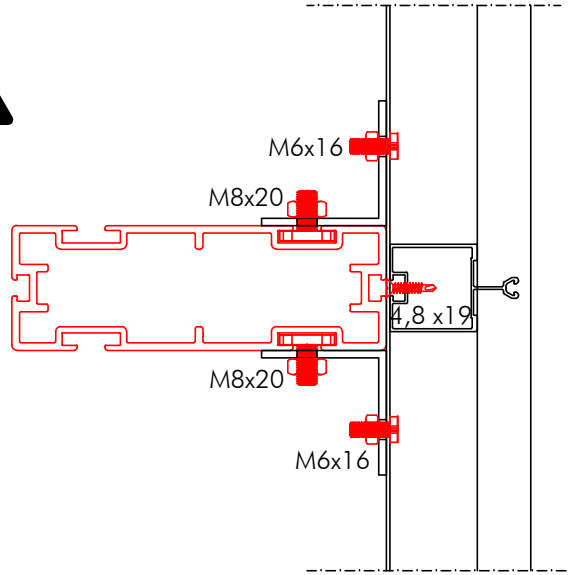

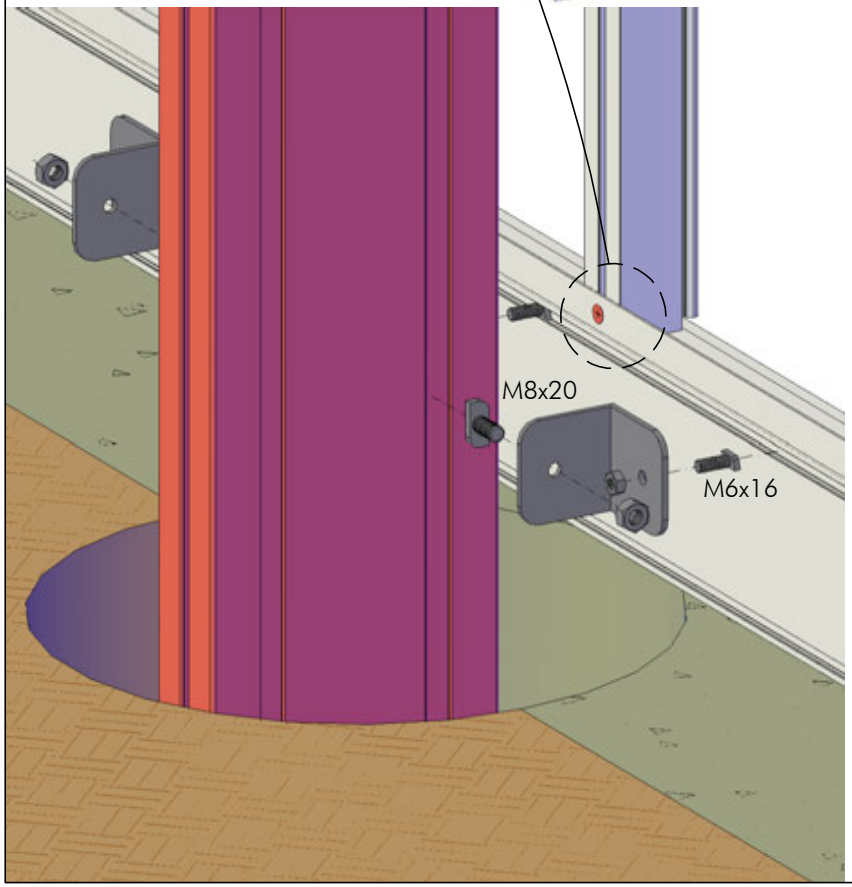

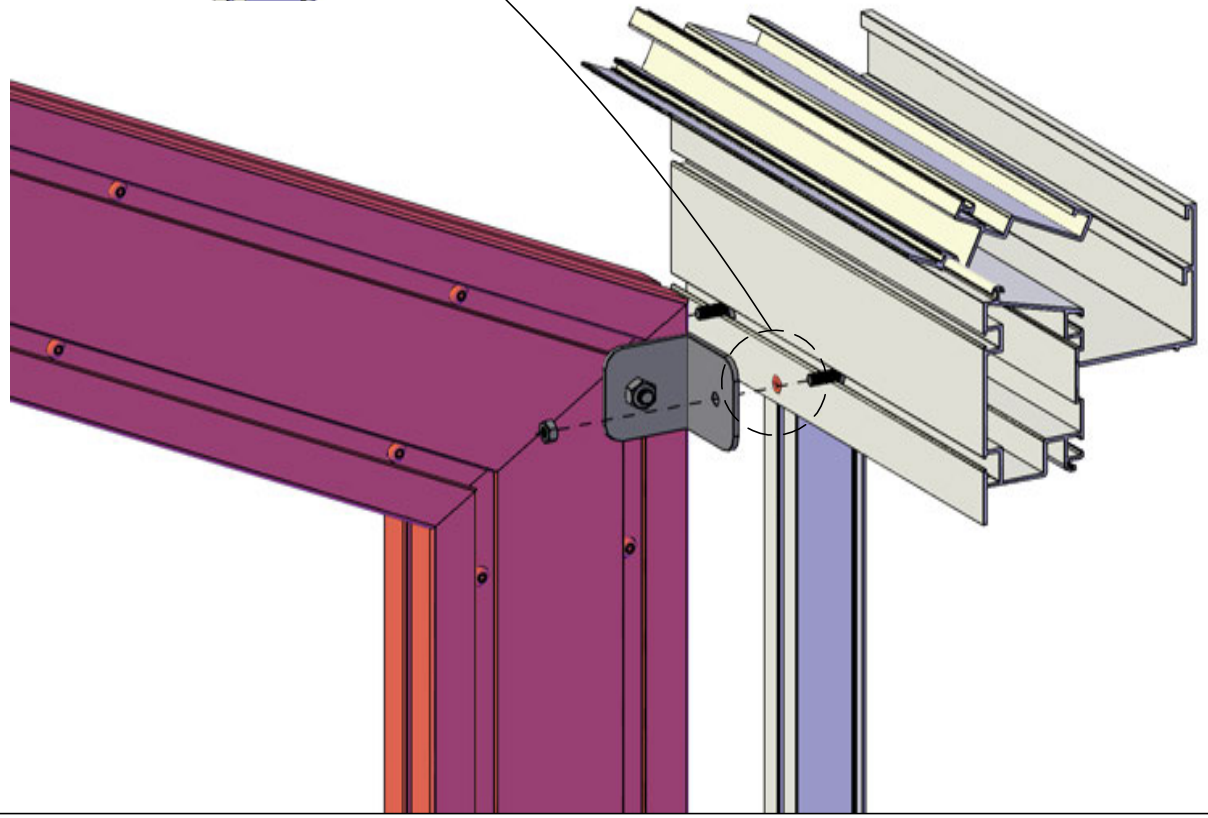

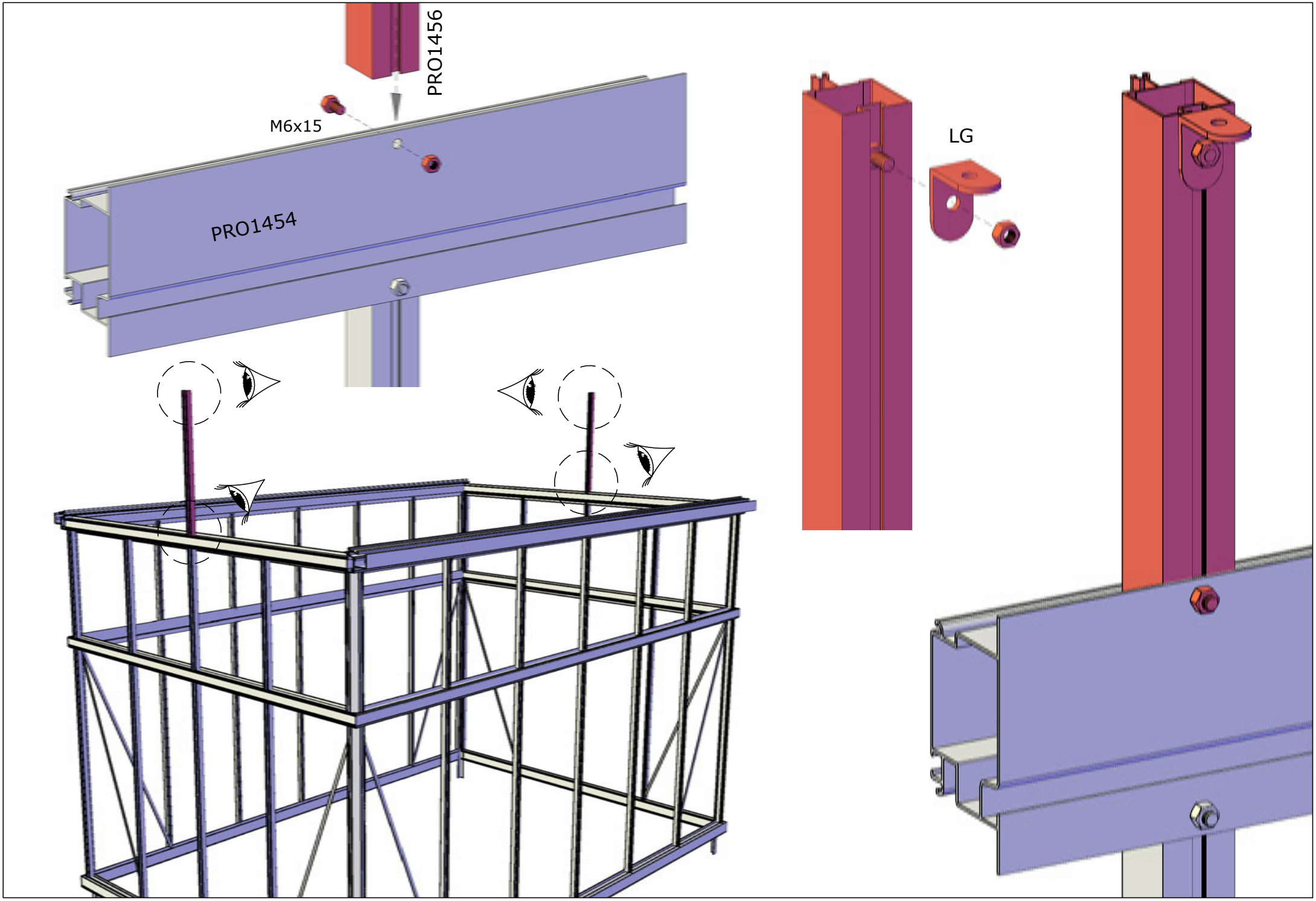
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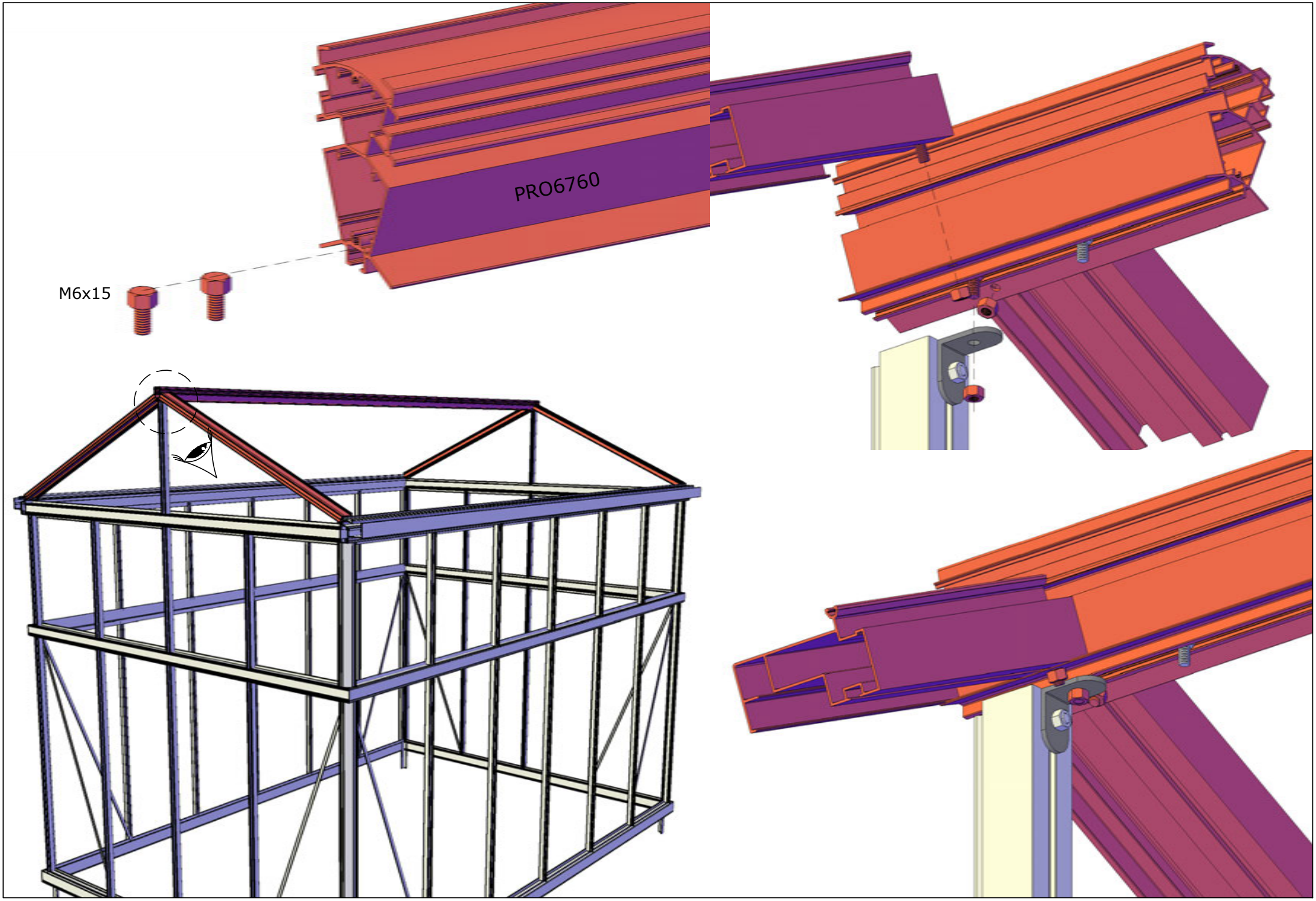
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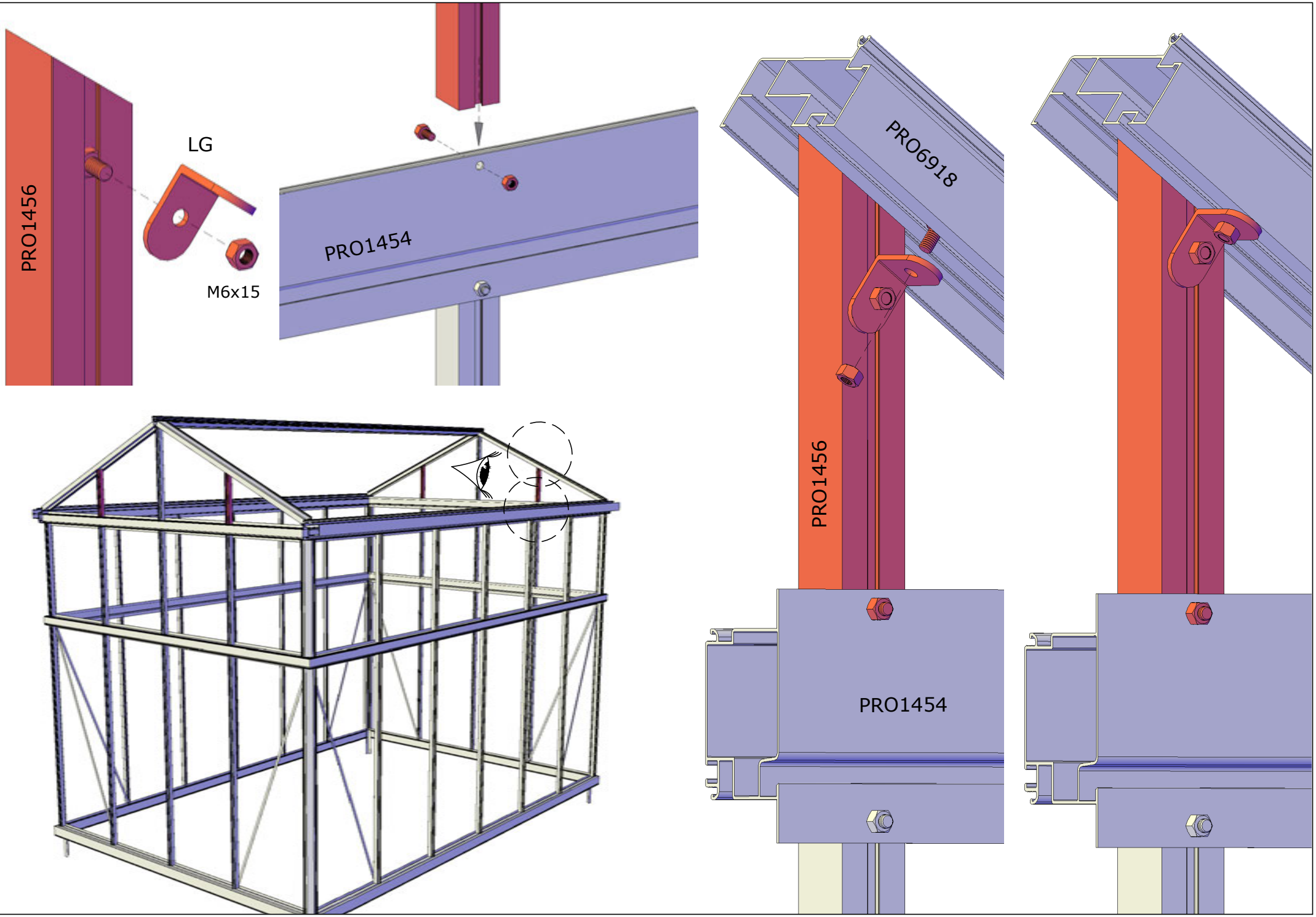
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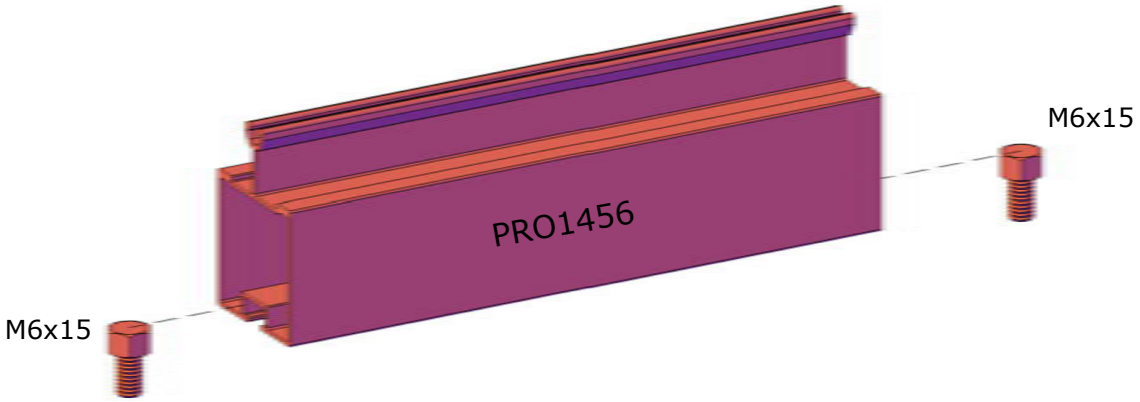
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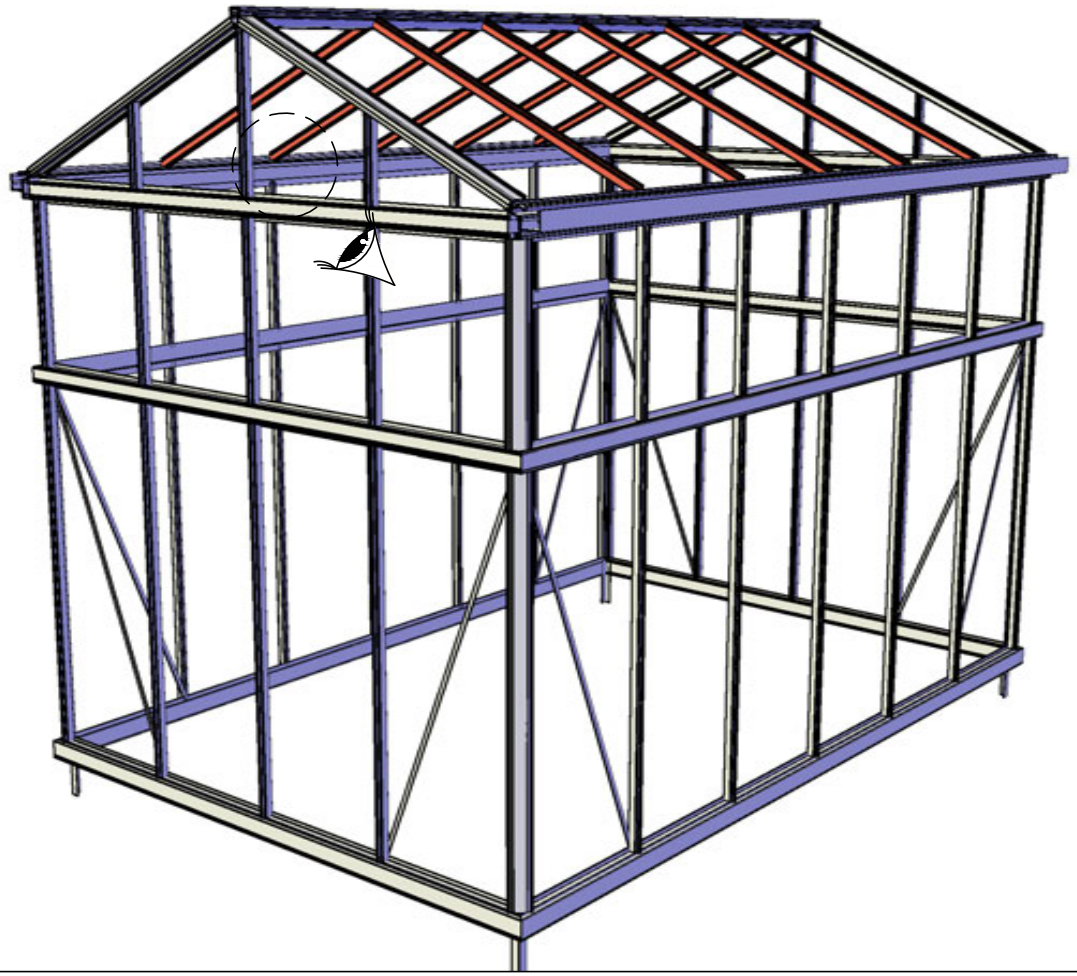

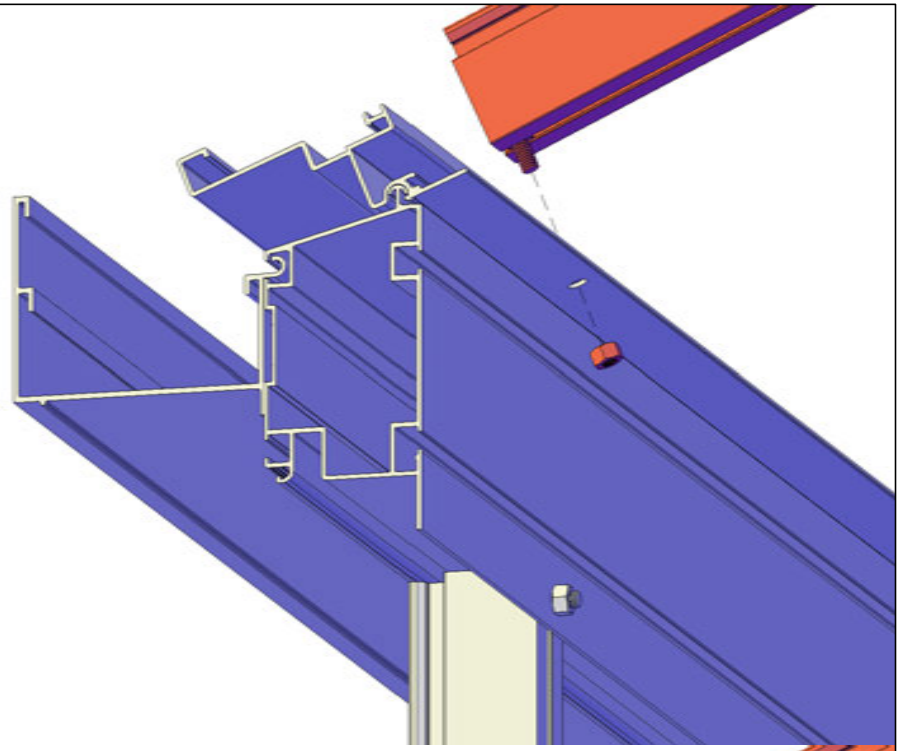

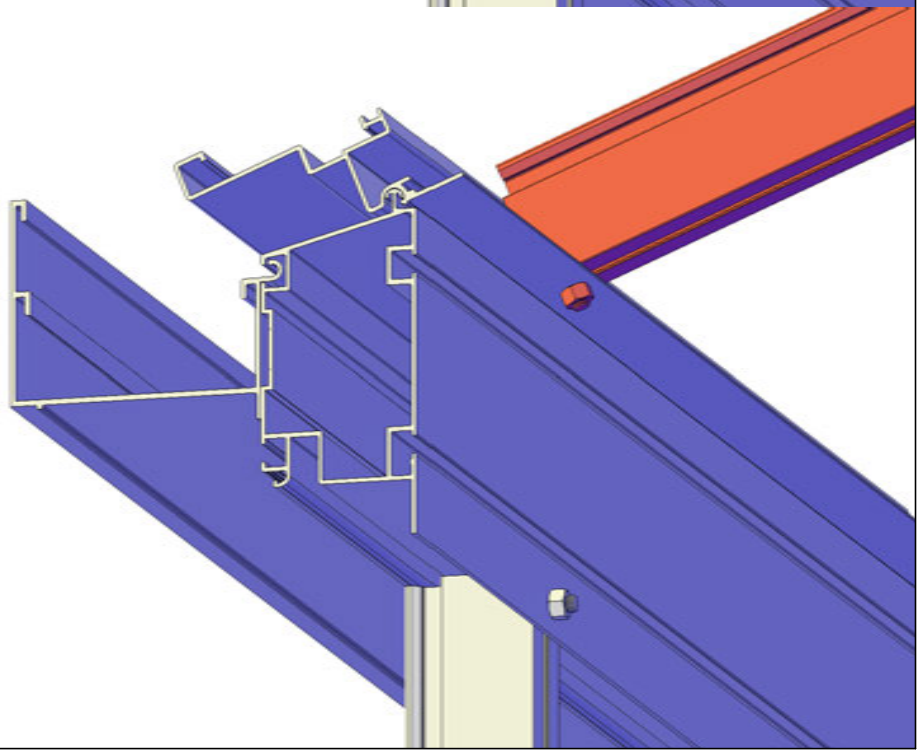

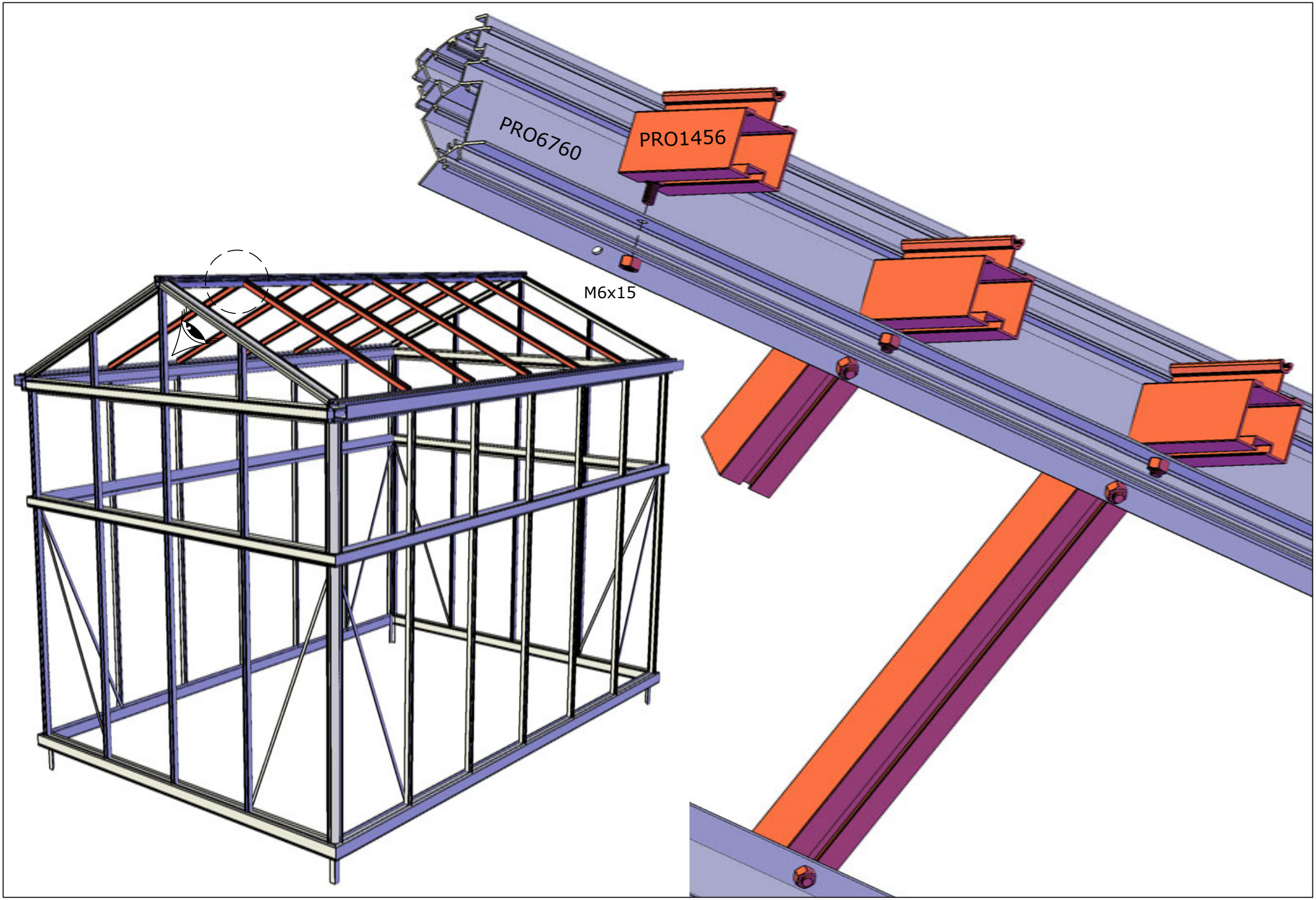
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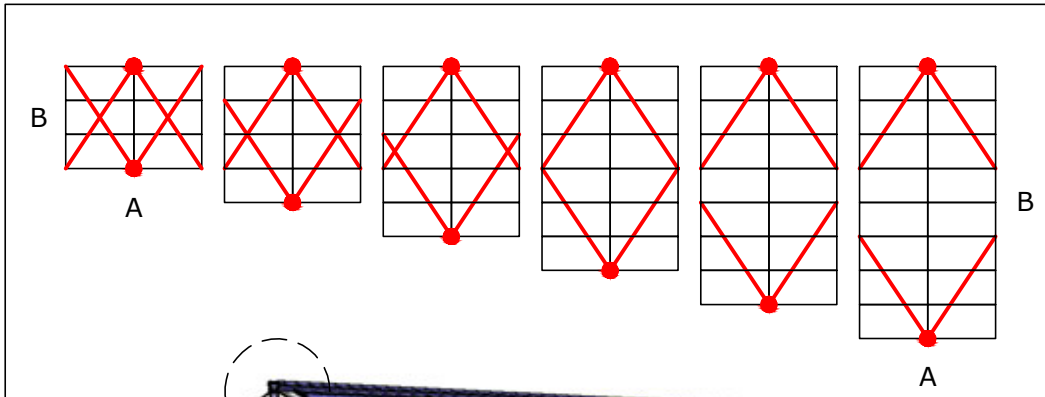
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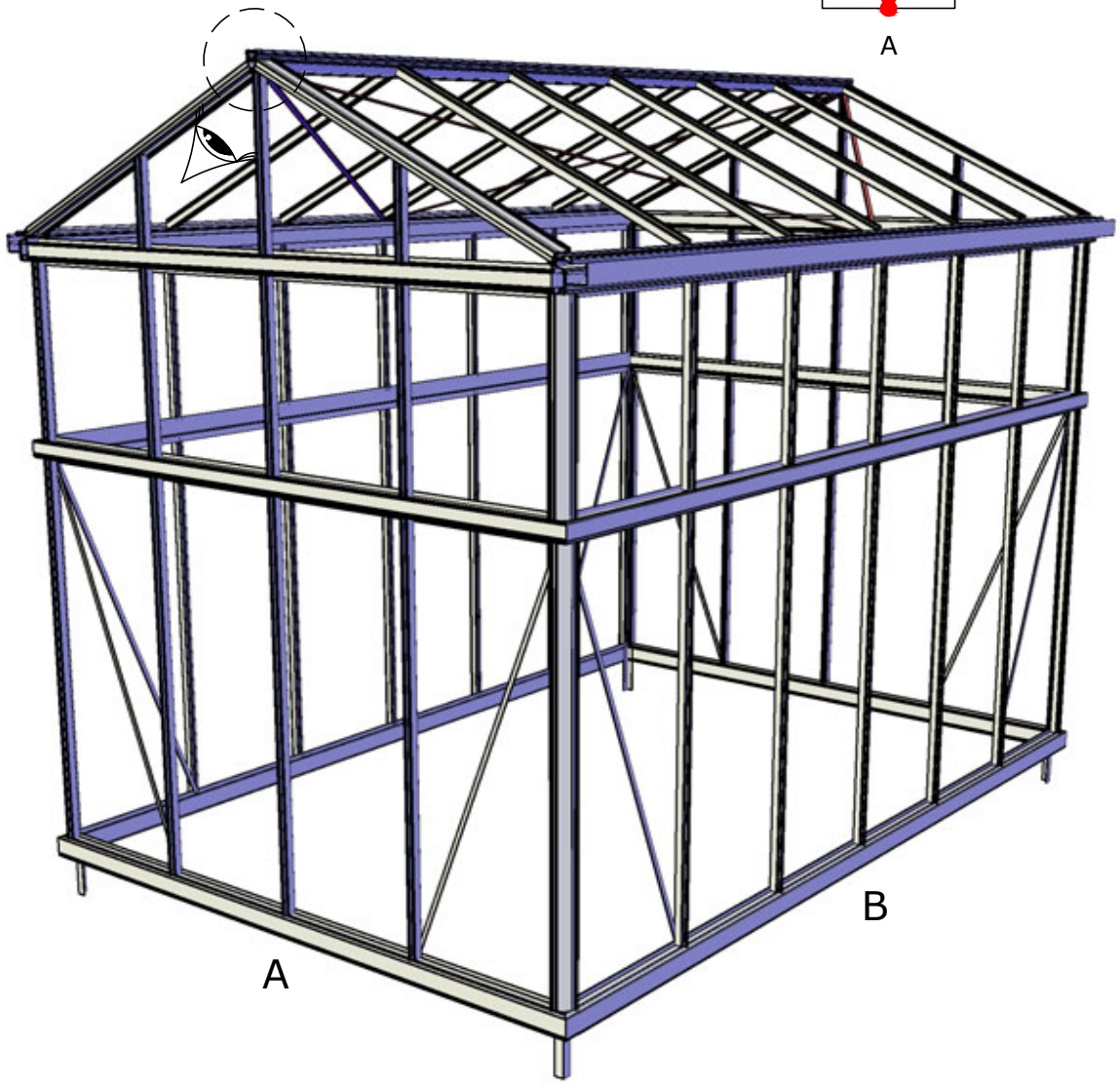
A
B
A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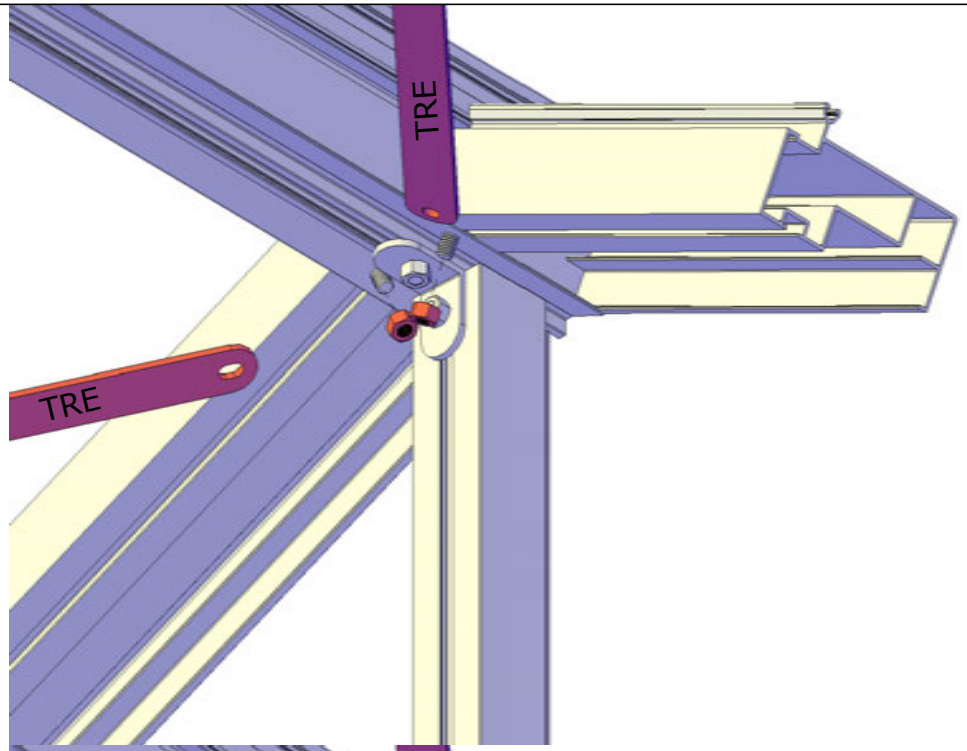
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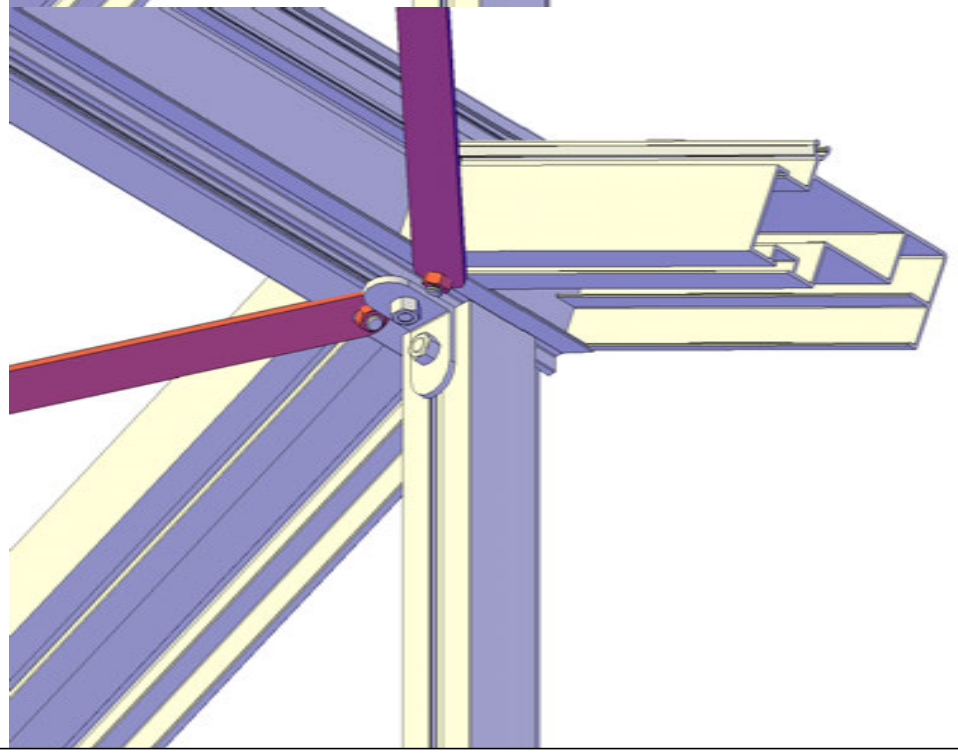

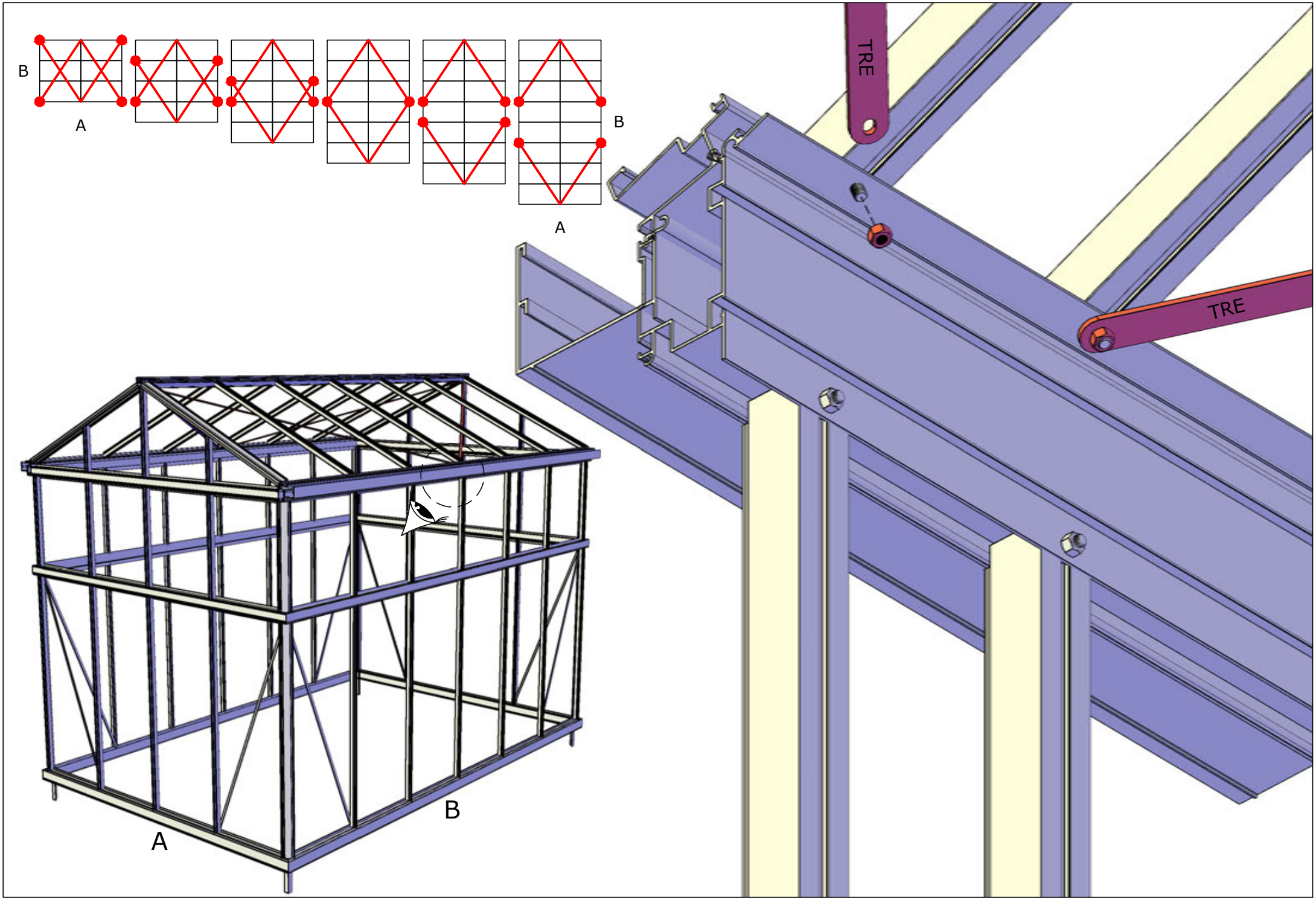
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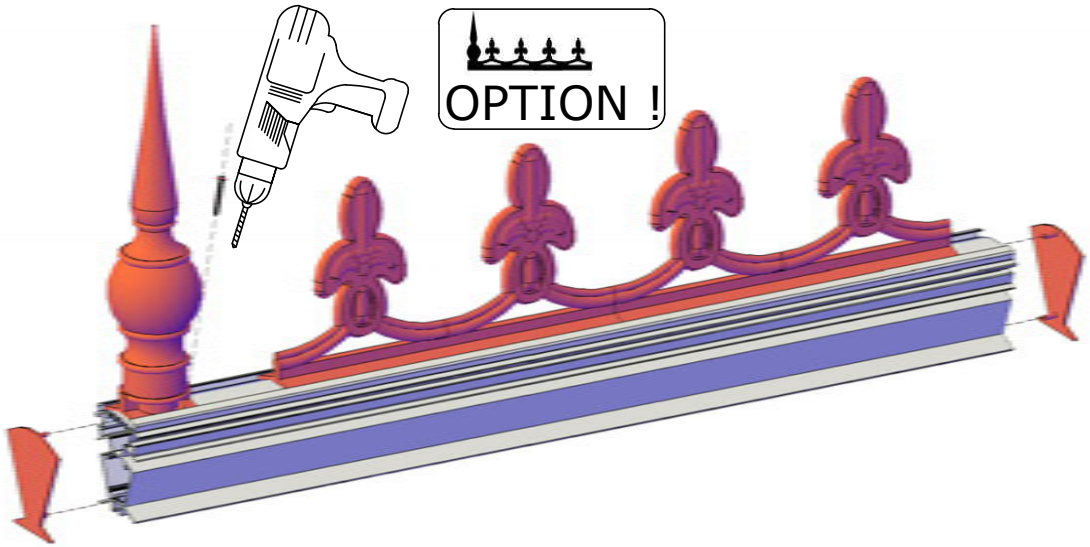
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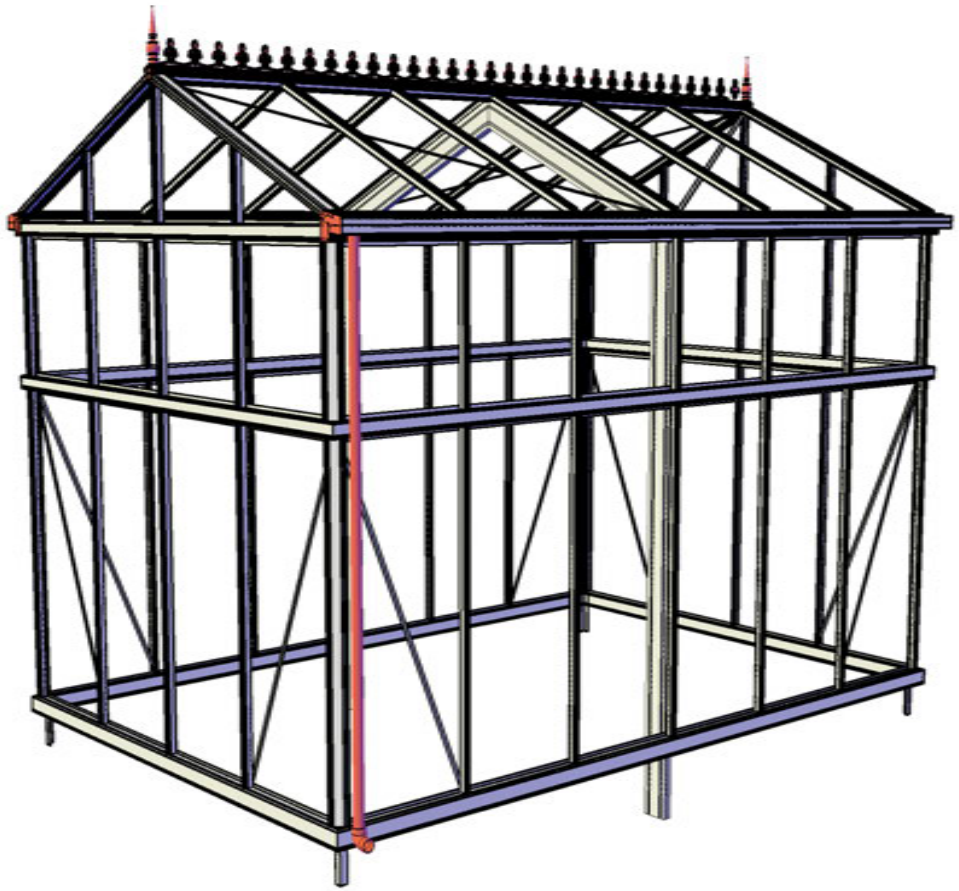

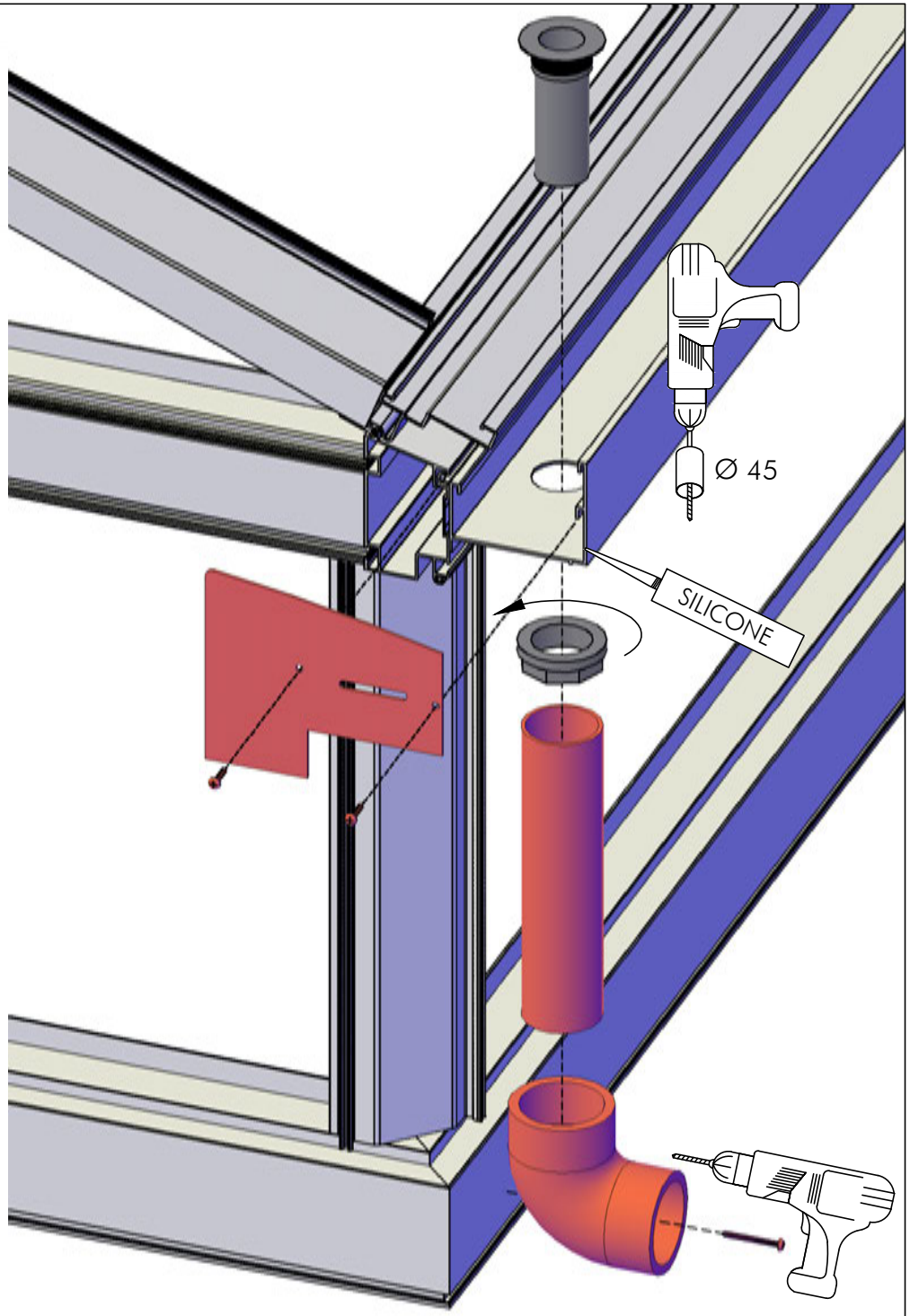
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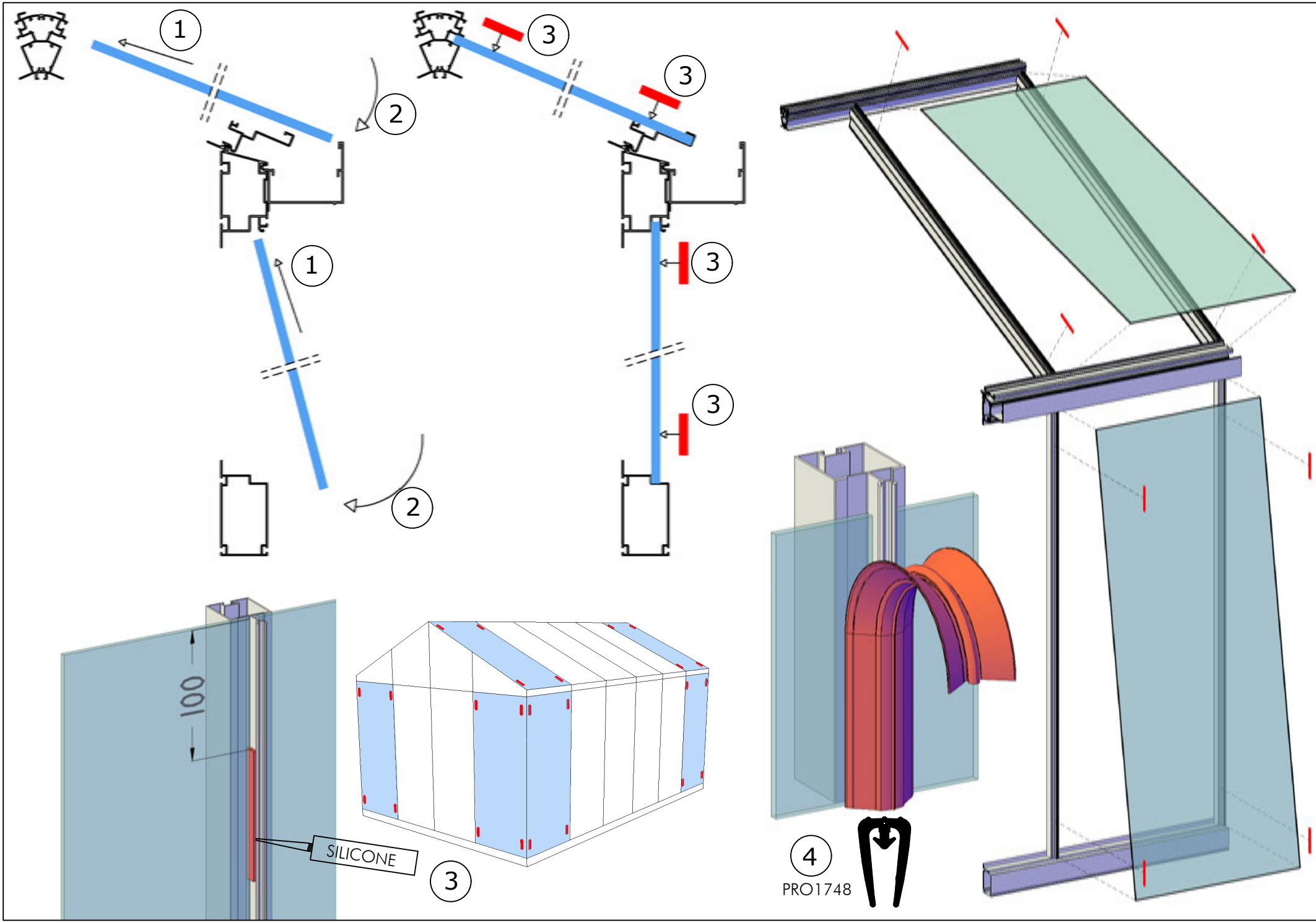
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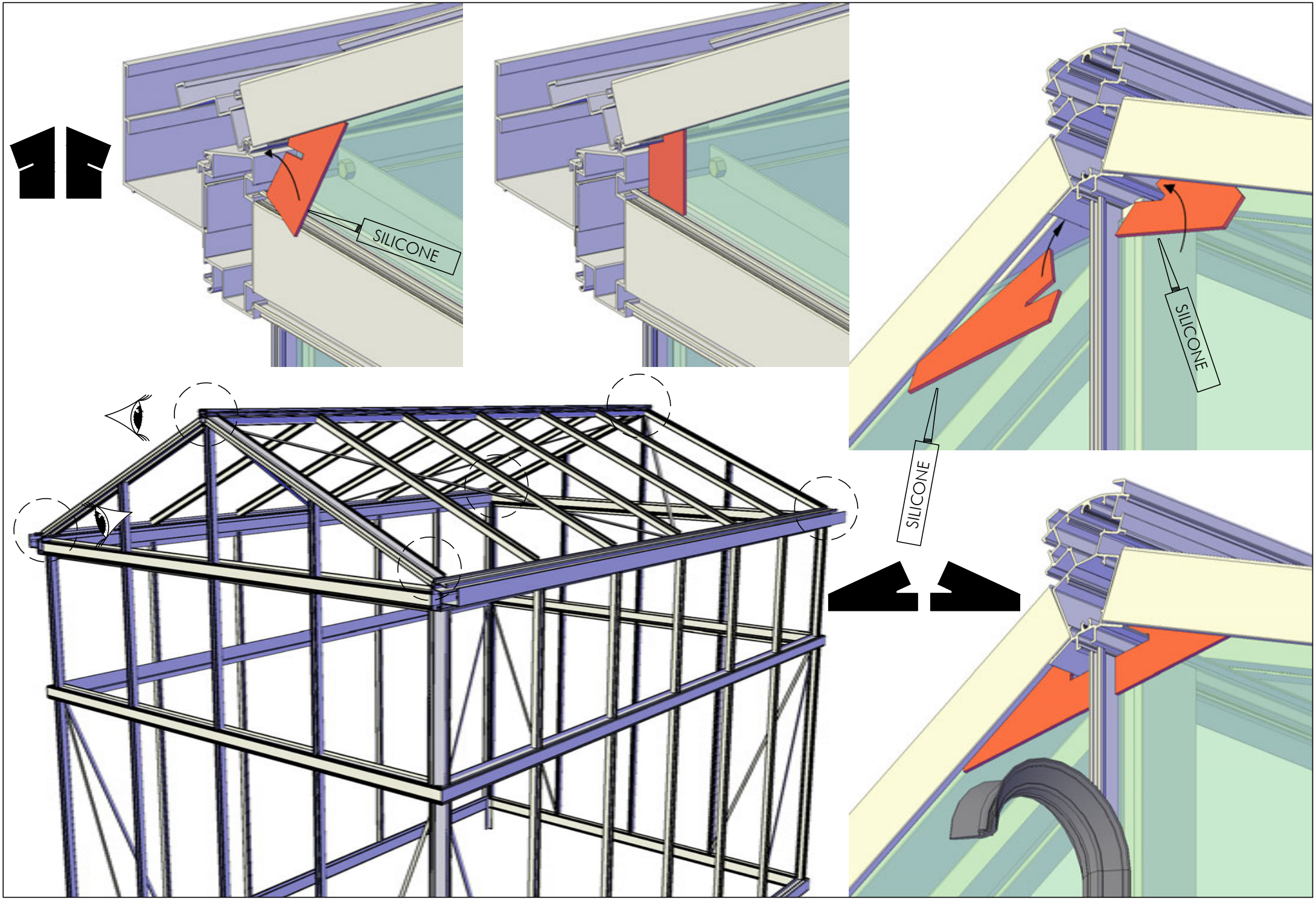
PRO1748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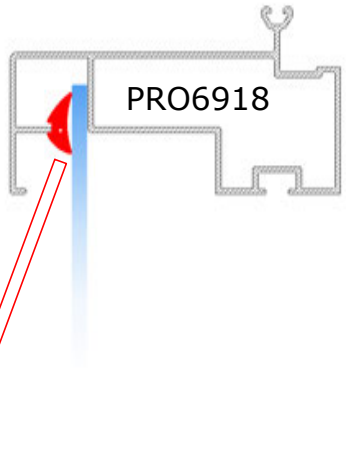

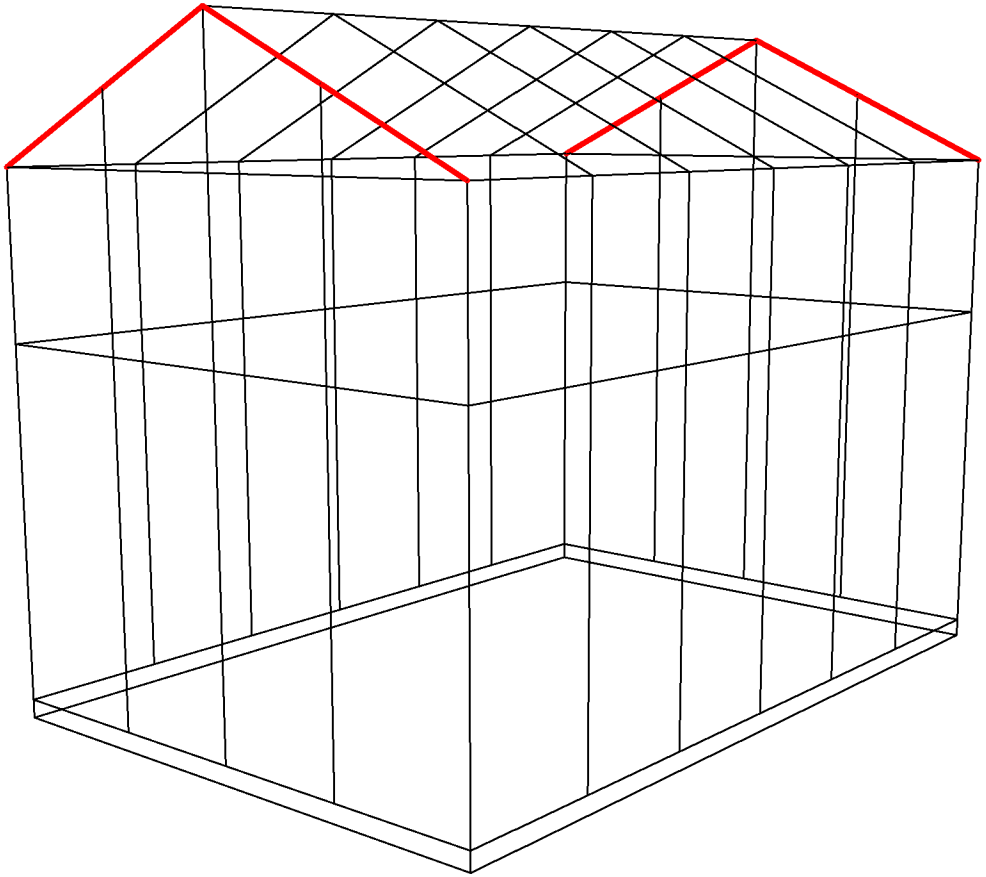

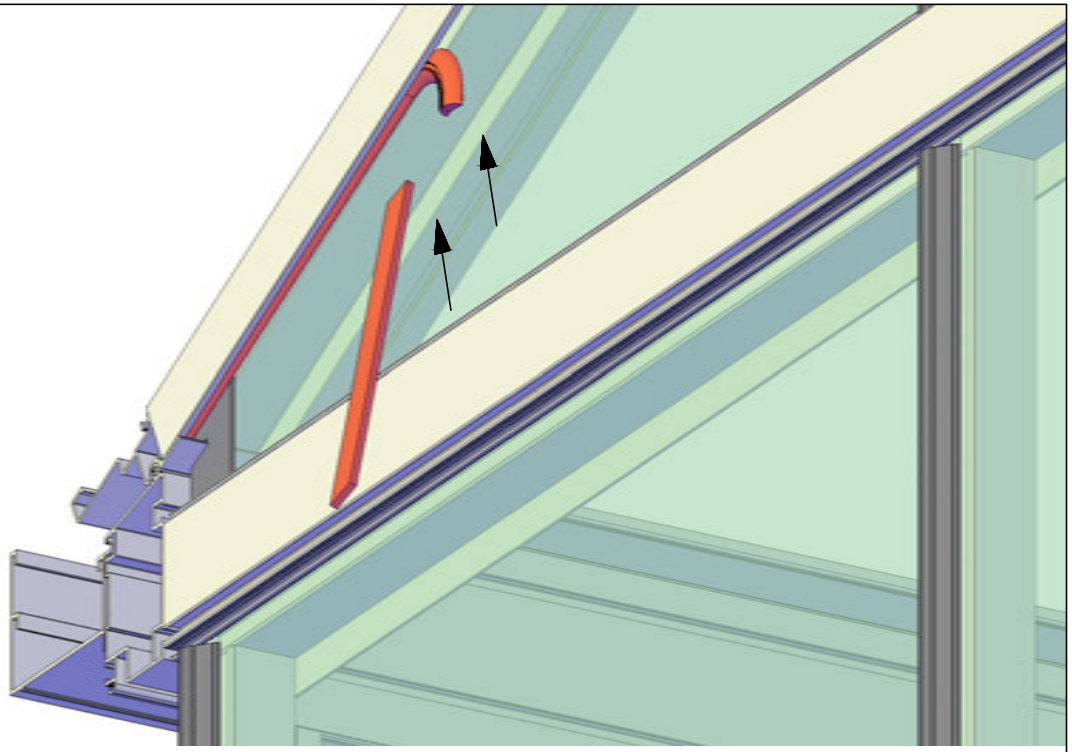

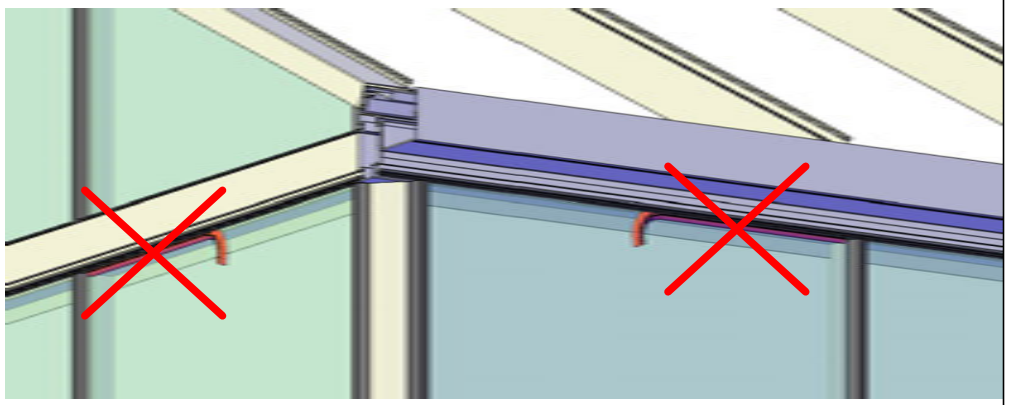

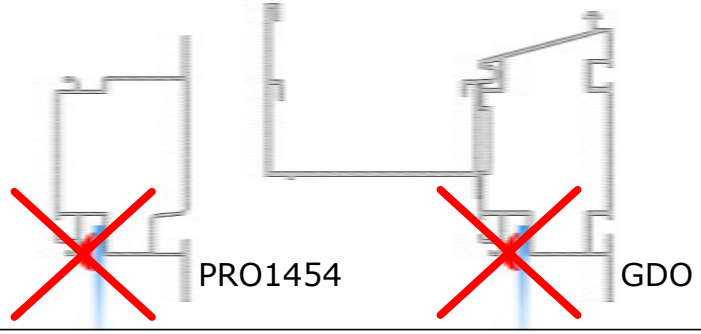

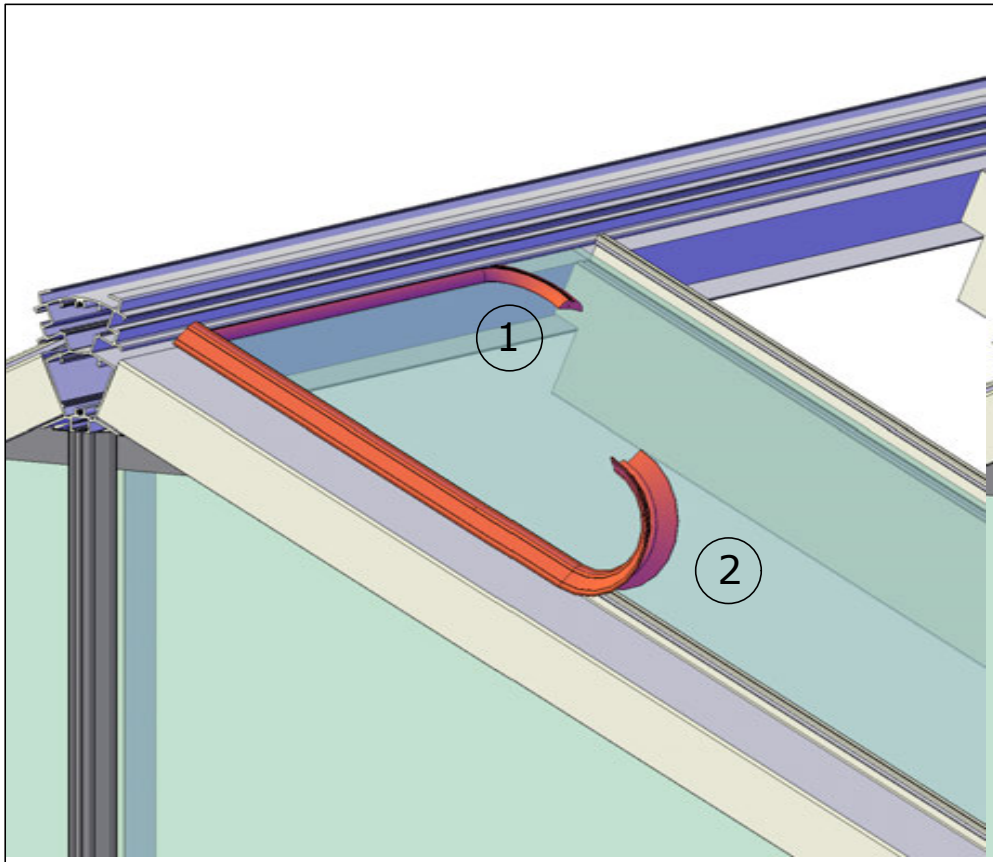
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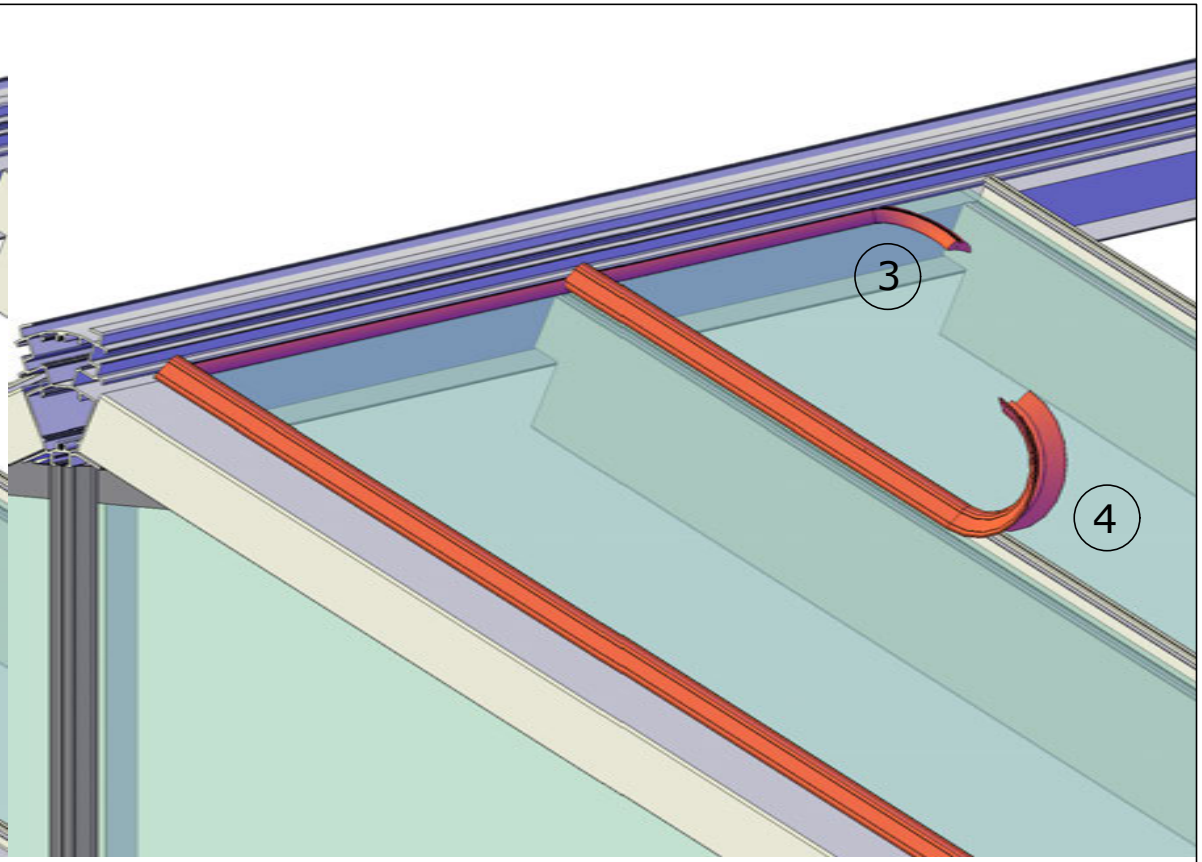
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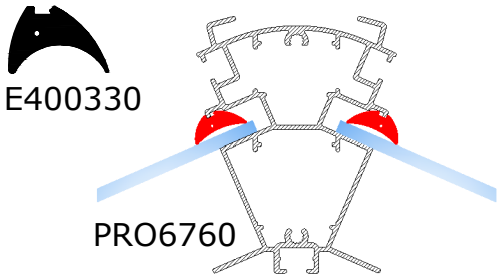
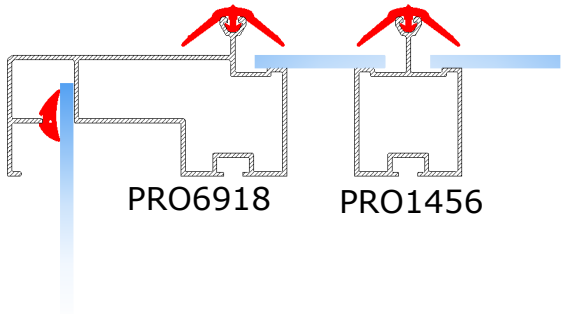
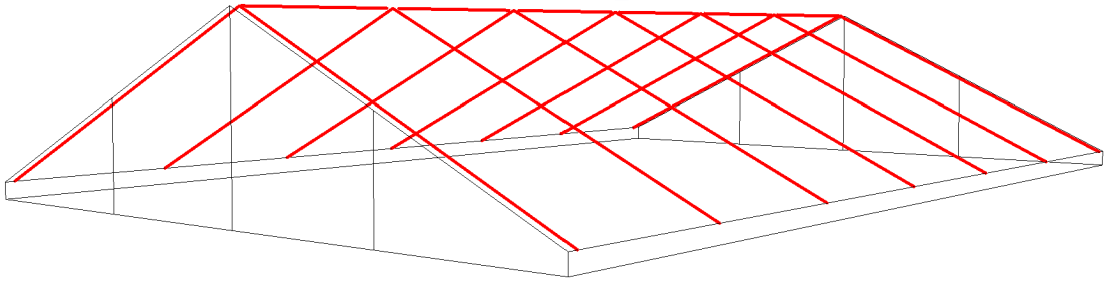
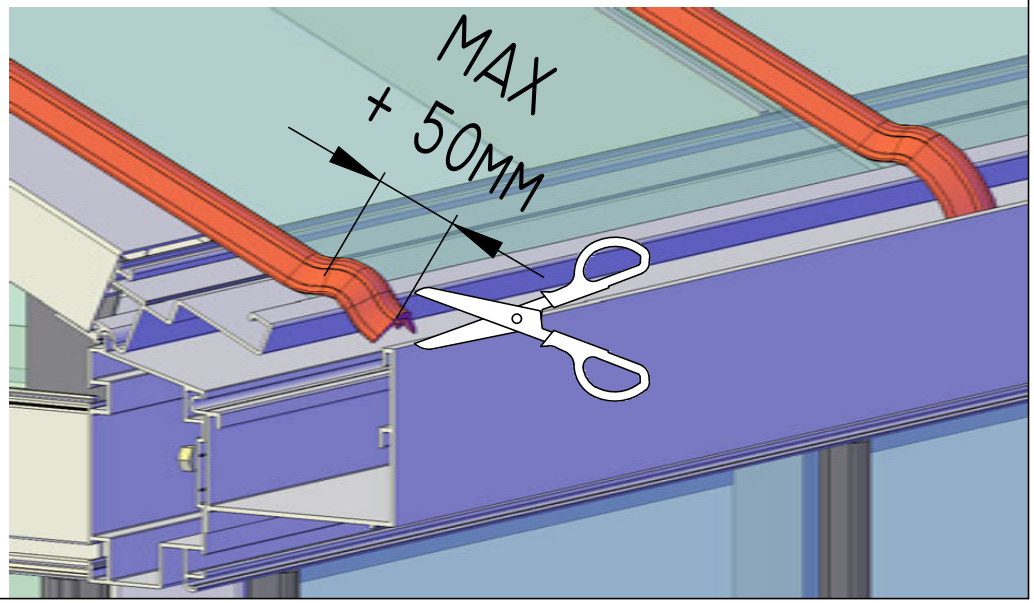
4


E400330
PRO6760


PRO6918
PRO1456




MAX
+ 50MM

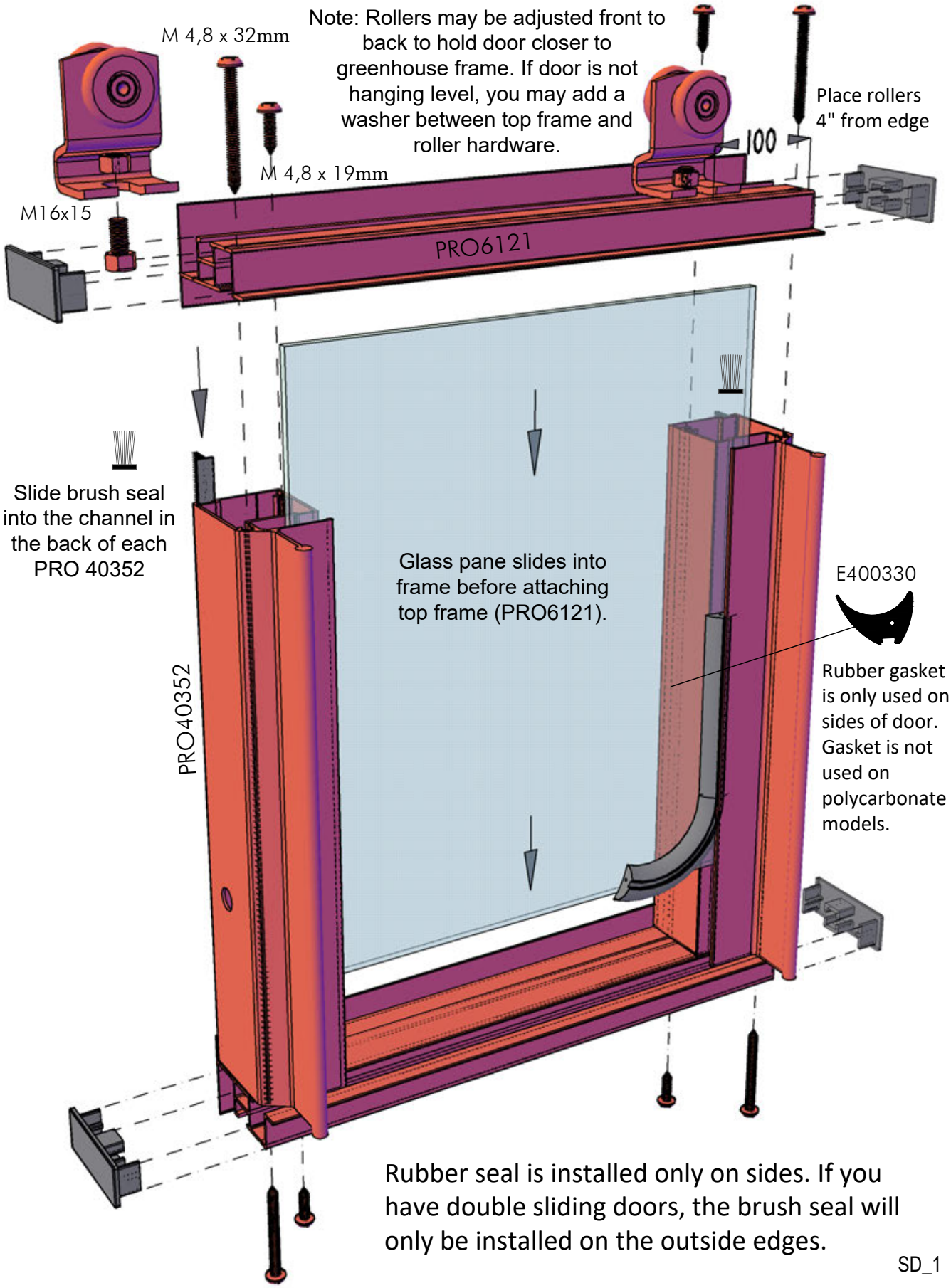
ACCESSORIES

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!

Sliding Door (Standard for most models). VI36 and 46 come with a double sliding door. Additional doors may be added to your greenhouse.

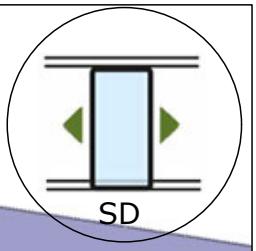
SD

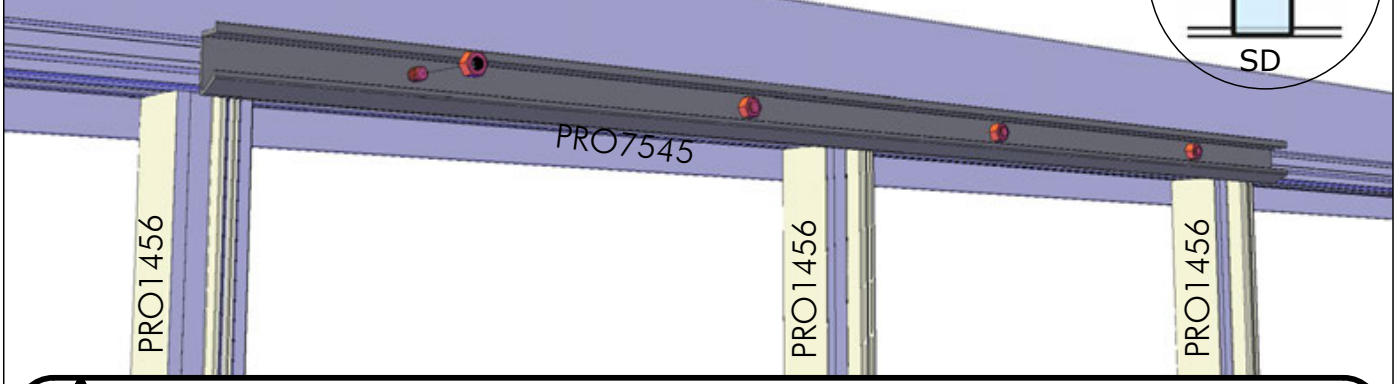


Rubber seal is installed only on sides. If you have double sliding doors, the brush seal will only be installed on the outside edges.

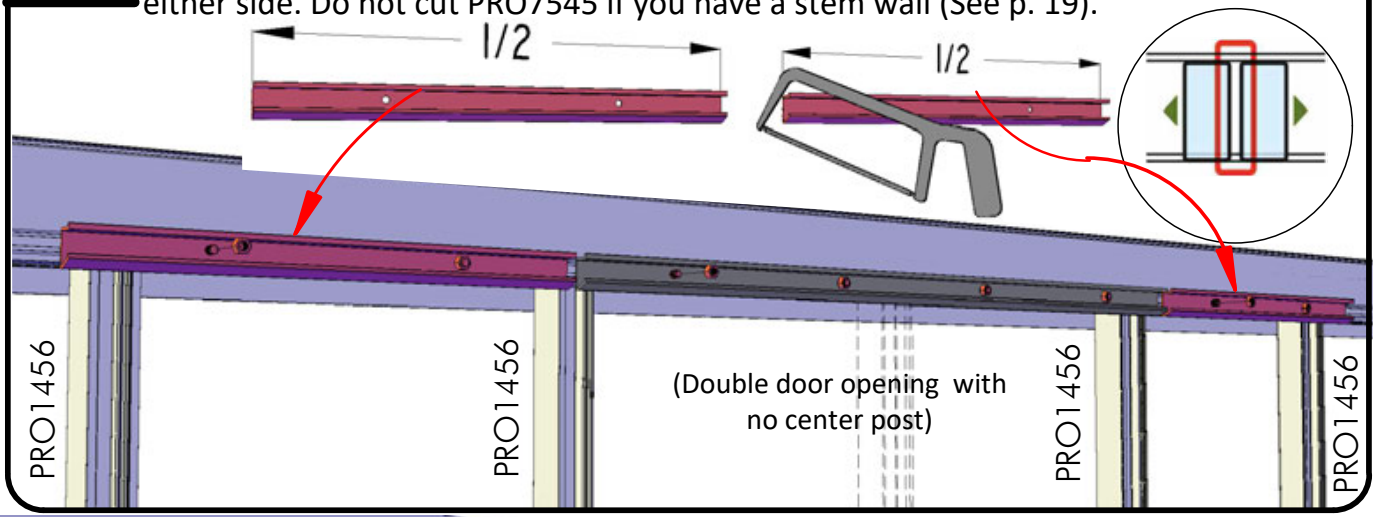
SD_1

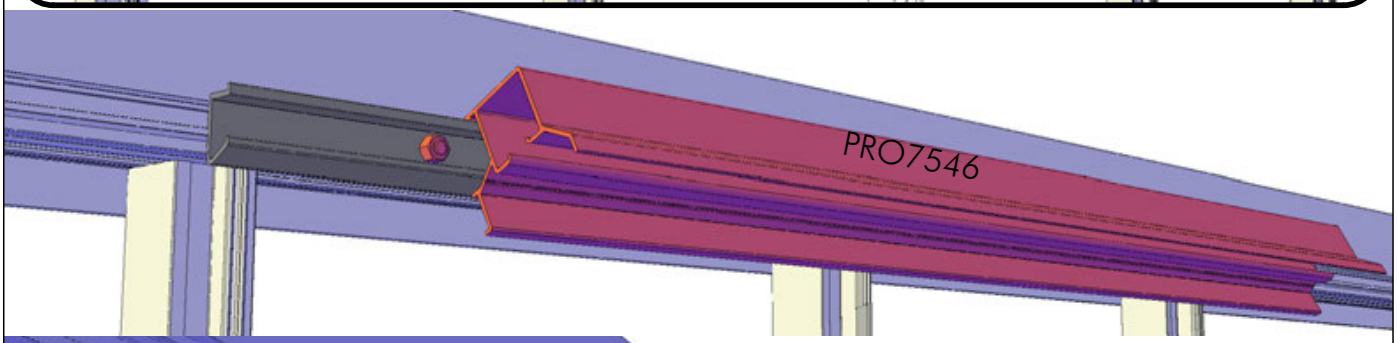
Sliding Door: Sliding door/s may be attached in any bay (with exceptions to corner placement)

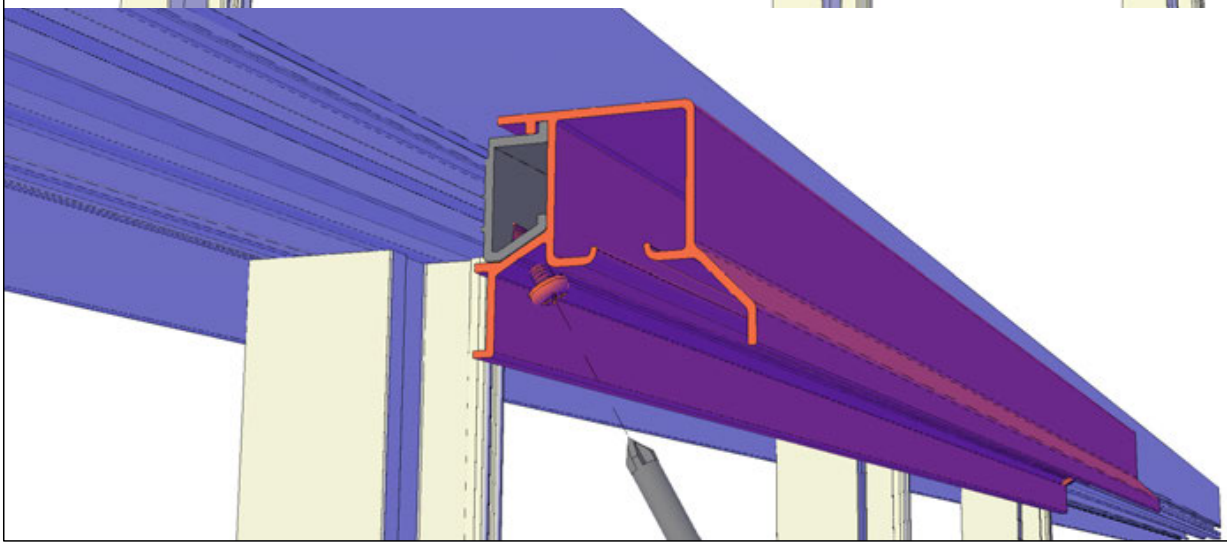




IMPORTANT for Double Sliding Door Opening!! Cut one PRO7545 in half. Place long PRO7545 in center (to support double opening) and the half PRO7545 on either side. Do not cut PRO7545 if you have a stem wall (See p. 19).

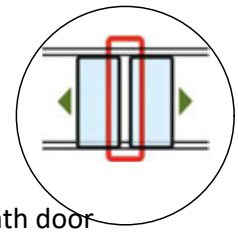




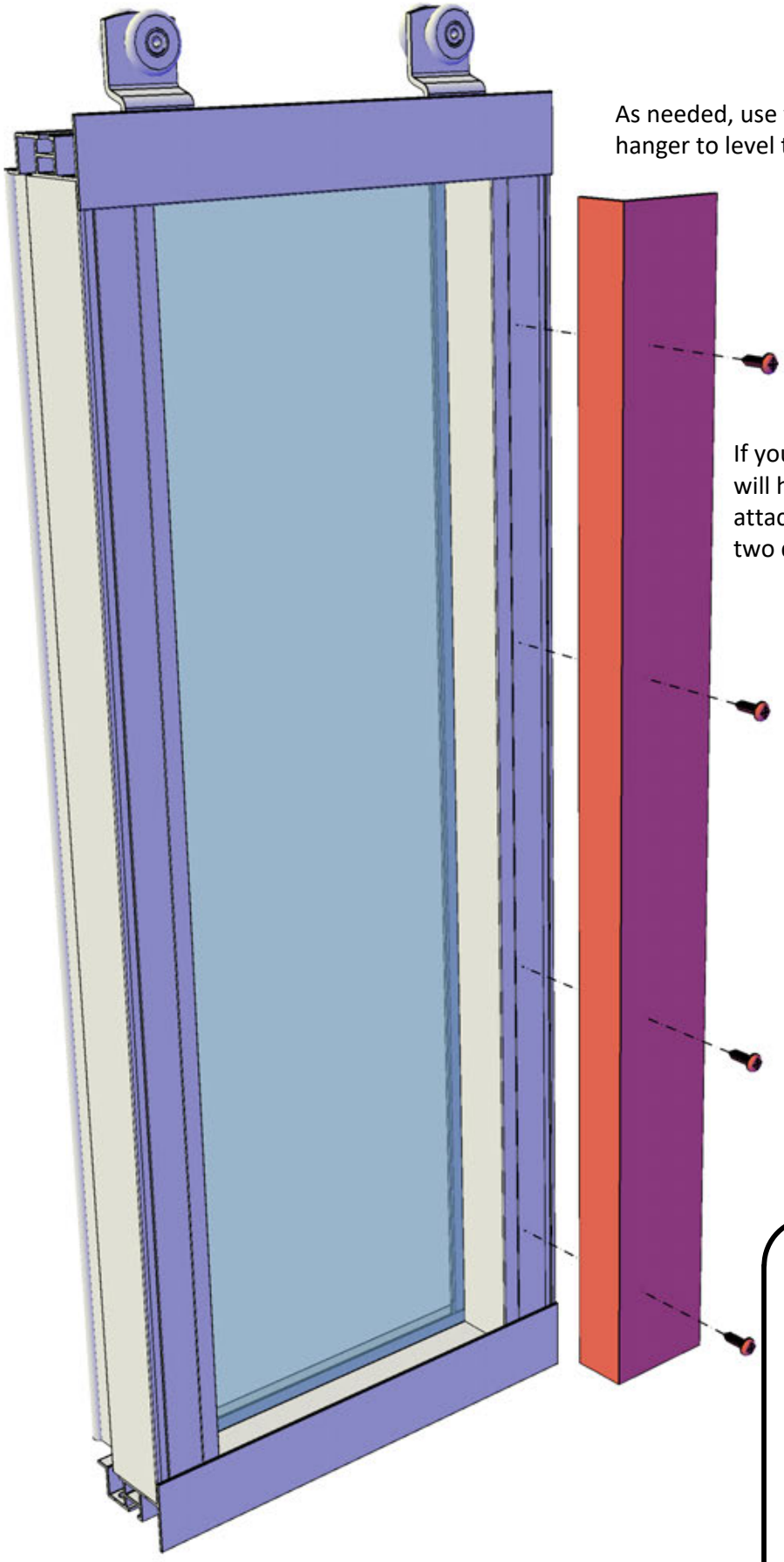


SD_2

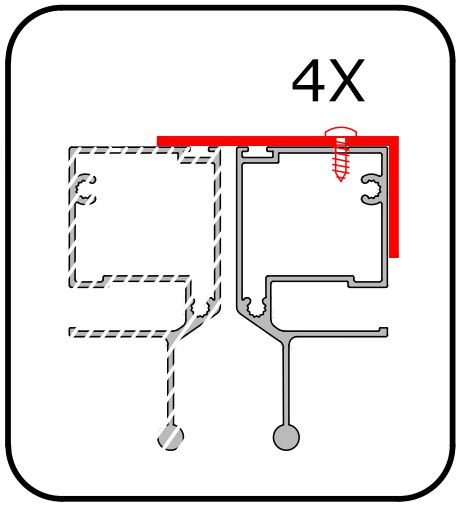
OPTION: Double Sliding Door



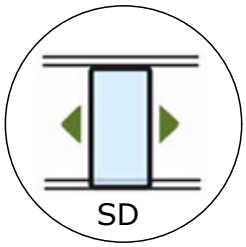
As needed, use washer underneath door hanger to level the door/s .



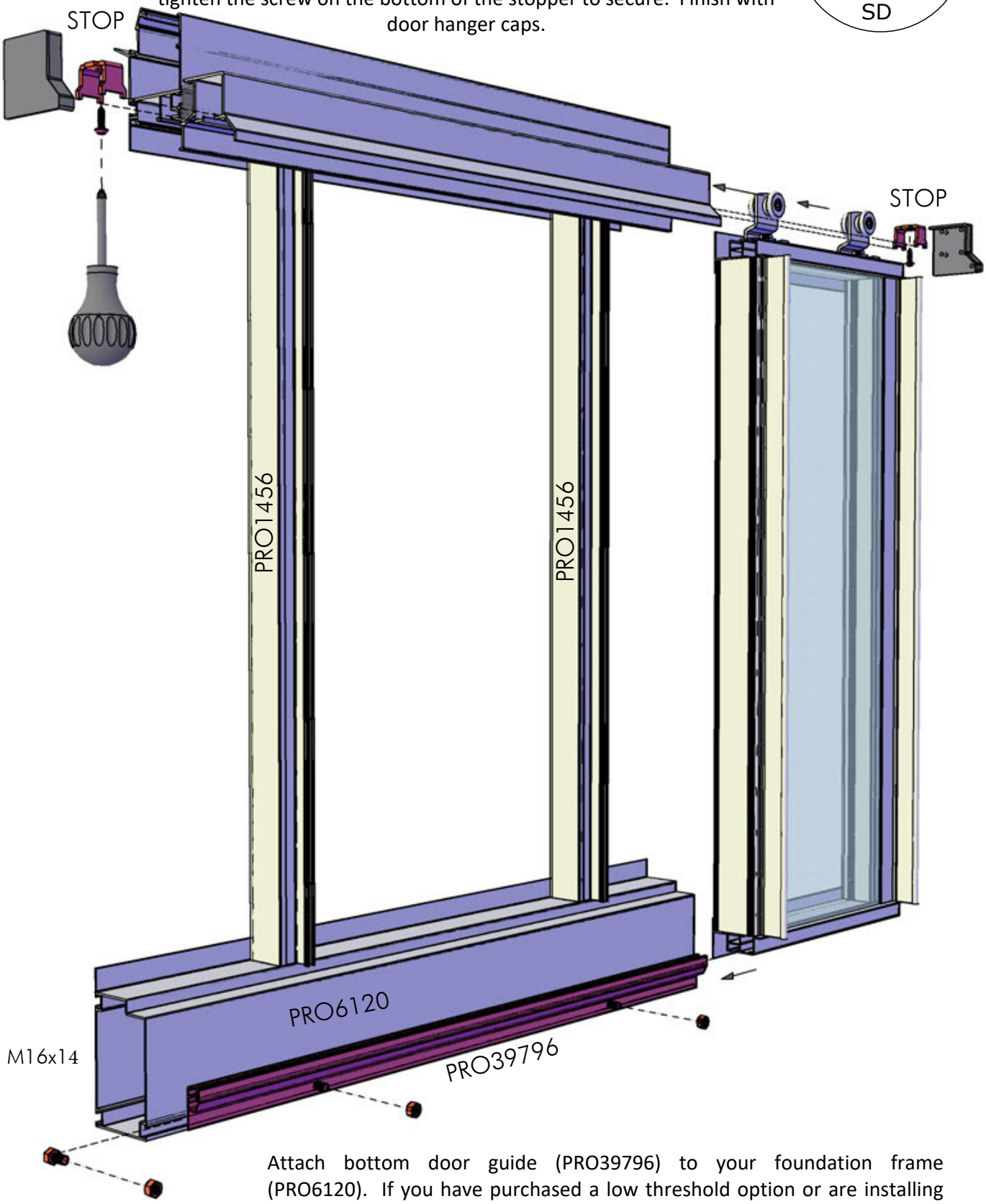
If you have a double sliding door, you will have a long L bracket that will attach to close any gap between the two doors.



SD_3



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.

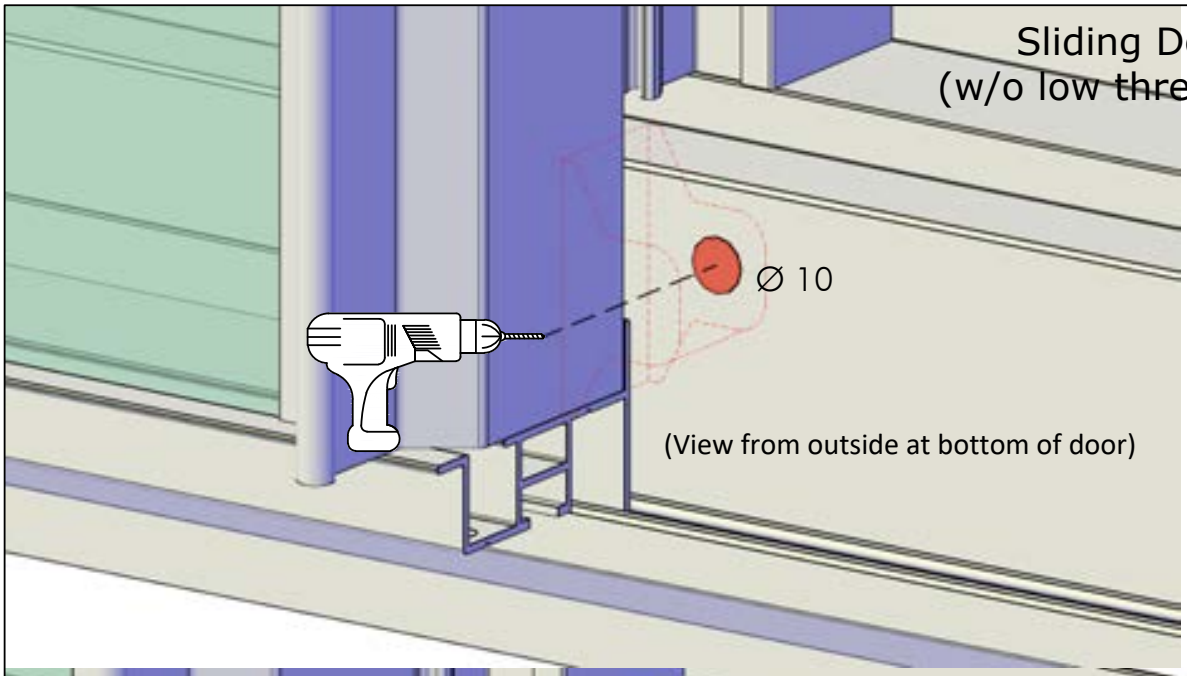


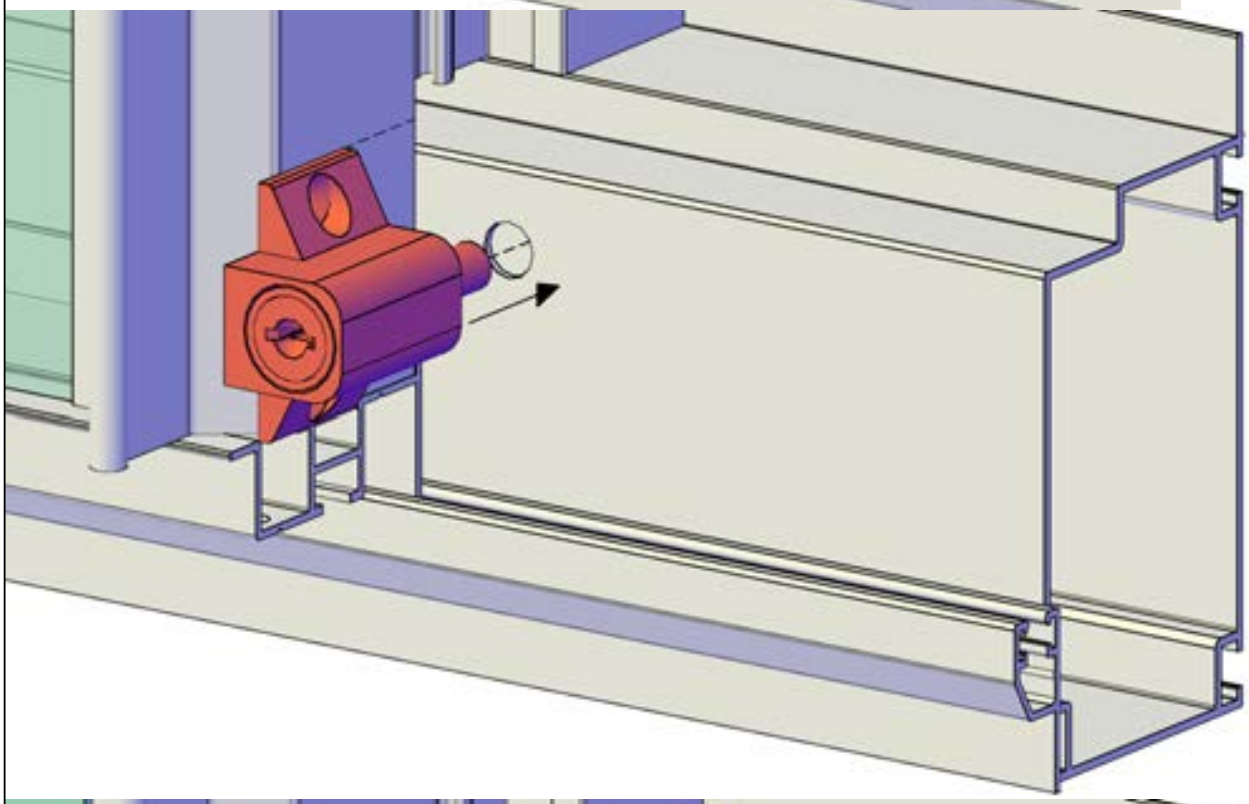
Attach bottom door guide (PRO39796) to your foundation frame (PRO6120). If you have purchased a low threshold option or are installing your greenhouse on a wall, please refer to the following pages marked SD_MUR for stem wall and KSD for low threshold kit before installing door, bottom door guide, and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

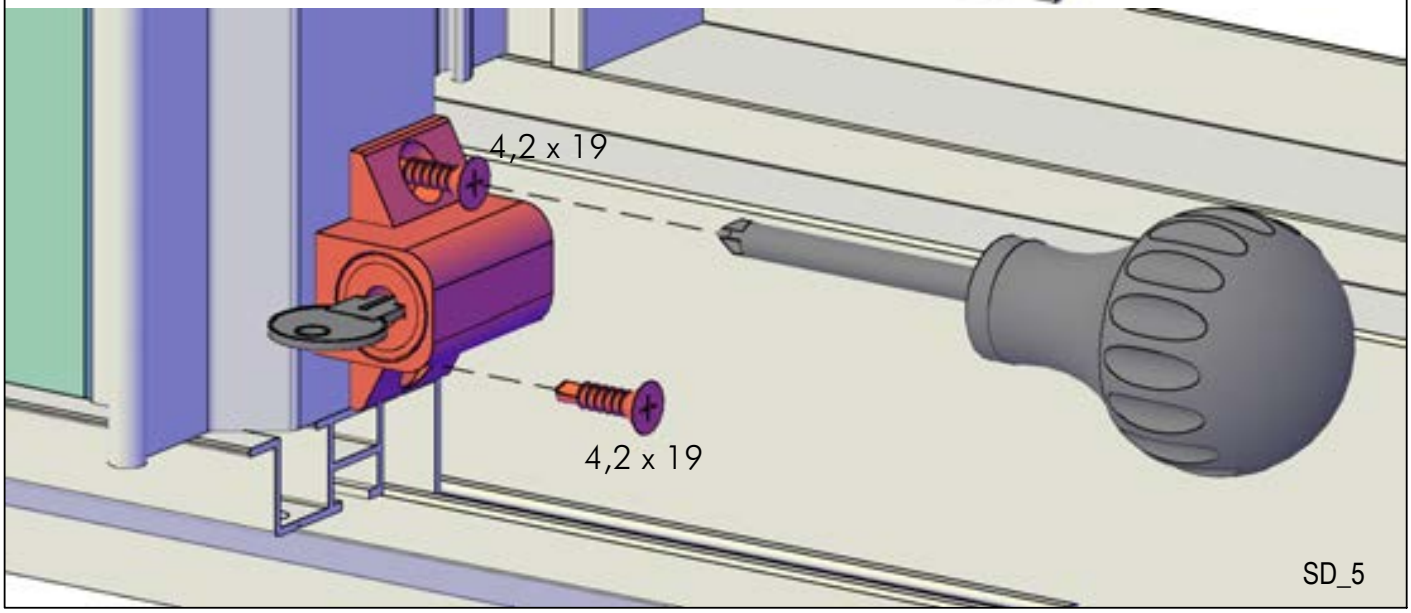
SD_4

Sliding Door Lock
(w/o low threshold kit)

Install lock at bottom of a: - single sliding door
-first door of double sliding doors
-both of your double sliding doors







(View from inside at top of door)

Double Sliding Door Lock (w/o low threshold kit)

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

Ø 10

4,2 x 19

4,2 x 19

SD_6

OPTION: Greenhouse on a stem/knee wall SD_MUR

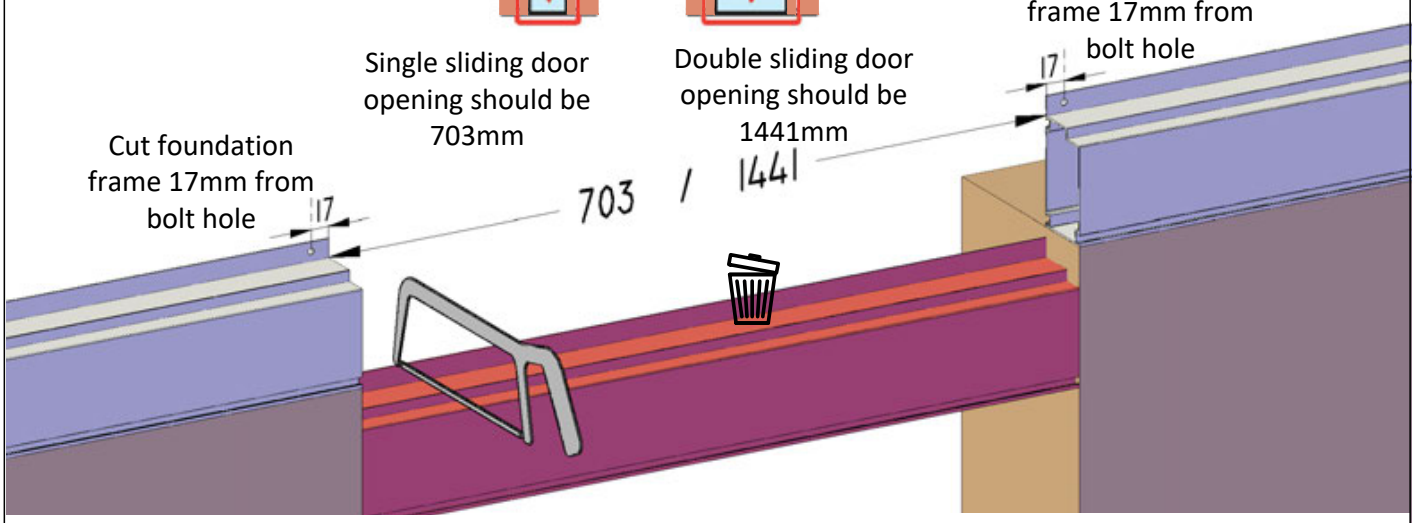
KSD_70

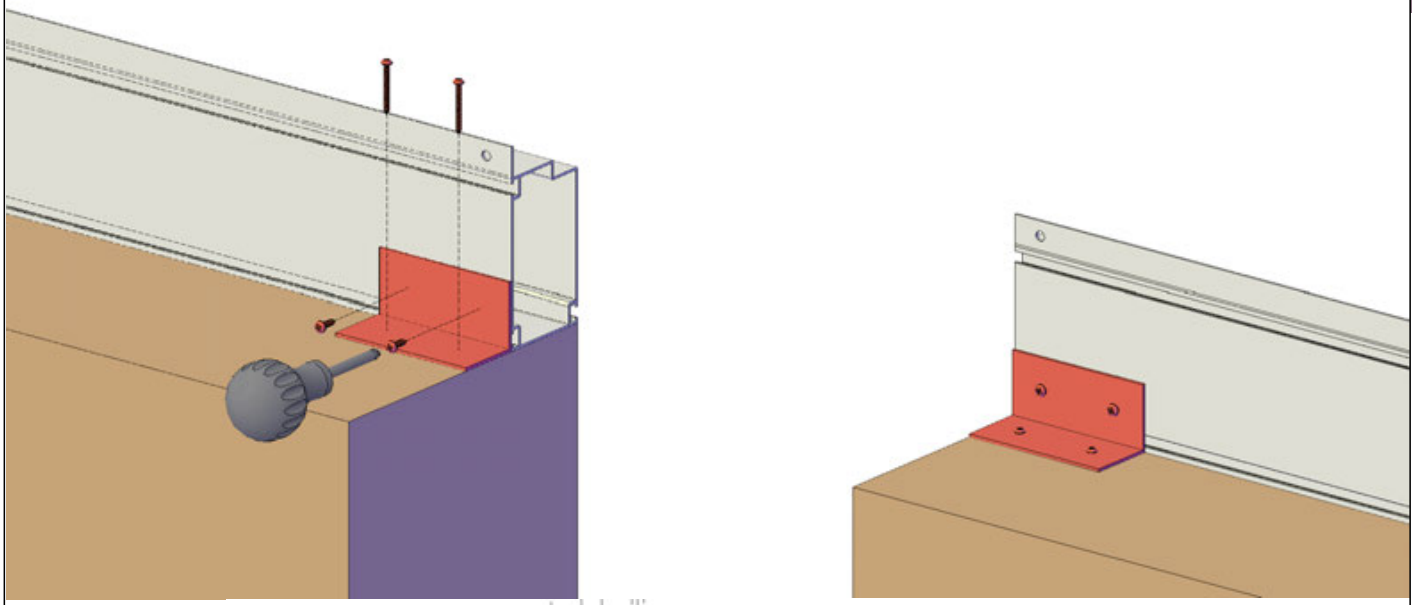
Single sliding door opening should be 703mm

KSD_144

Double sliding door opening should be 1441mm

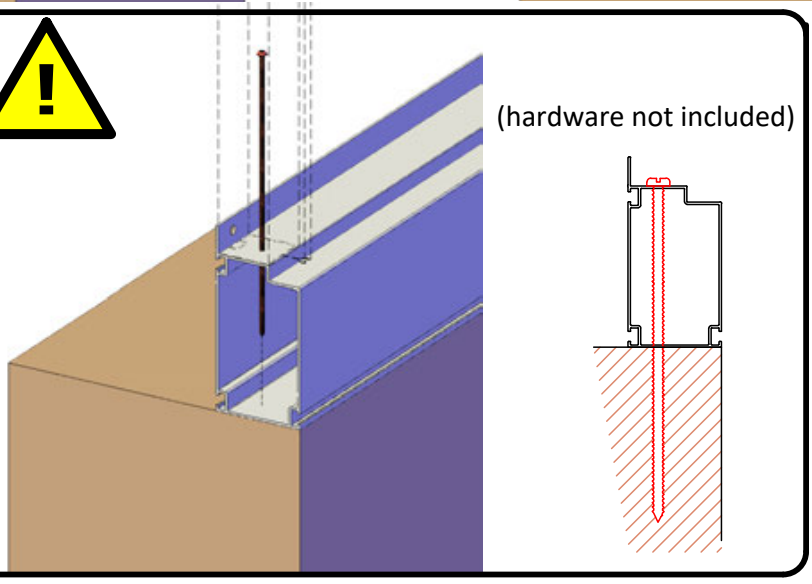
Cut foundation frame 17mm from bolt hole





ALTERNATIVE

(hardware not included)



SD MUR_1

OPTIONAL UPGRADE: Fall 2022
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

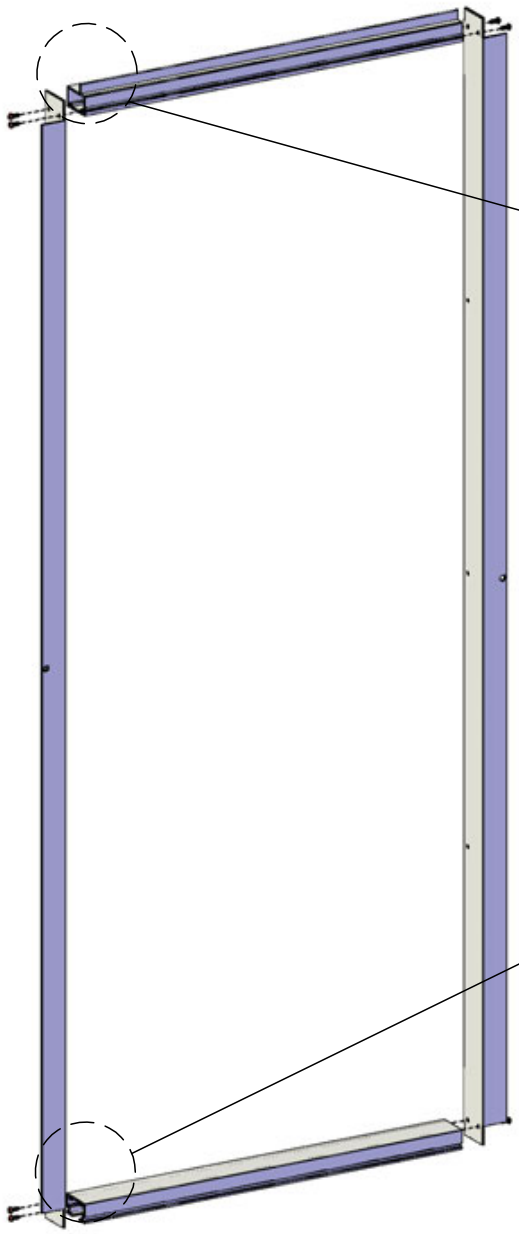
Cut foundation frame 17mm from bolt hole

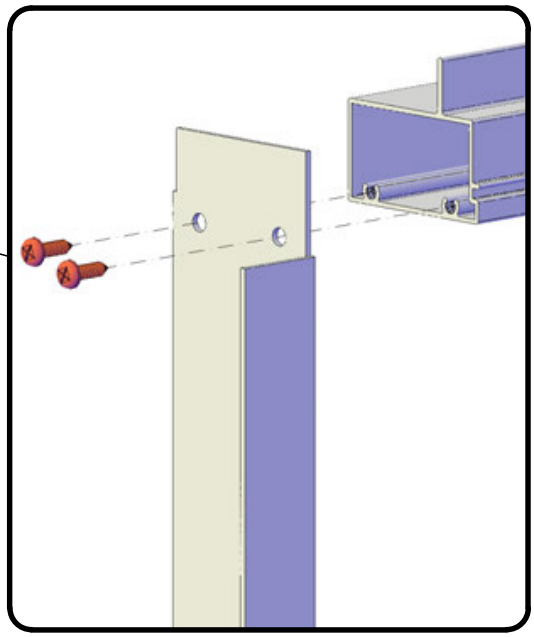
17

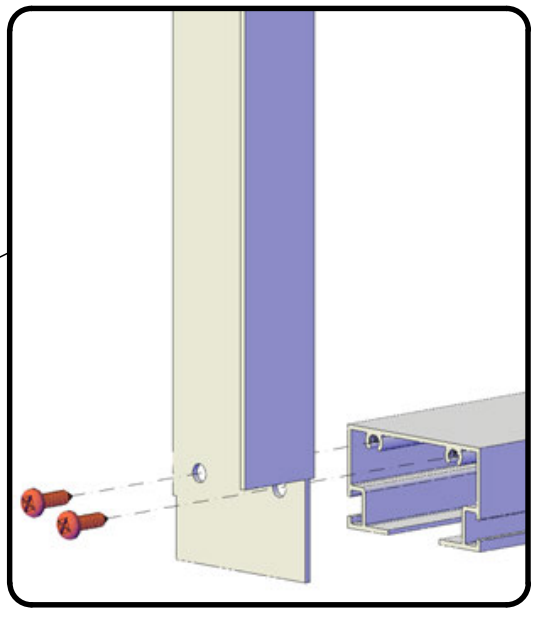
703 / 1441

Cut foundation frame 17mm from bolt hole

17

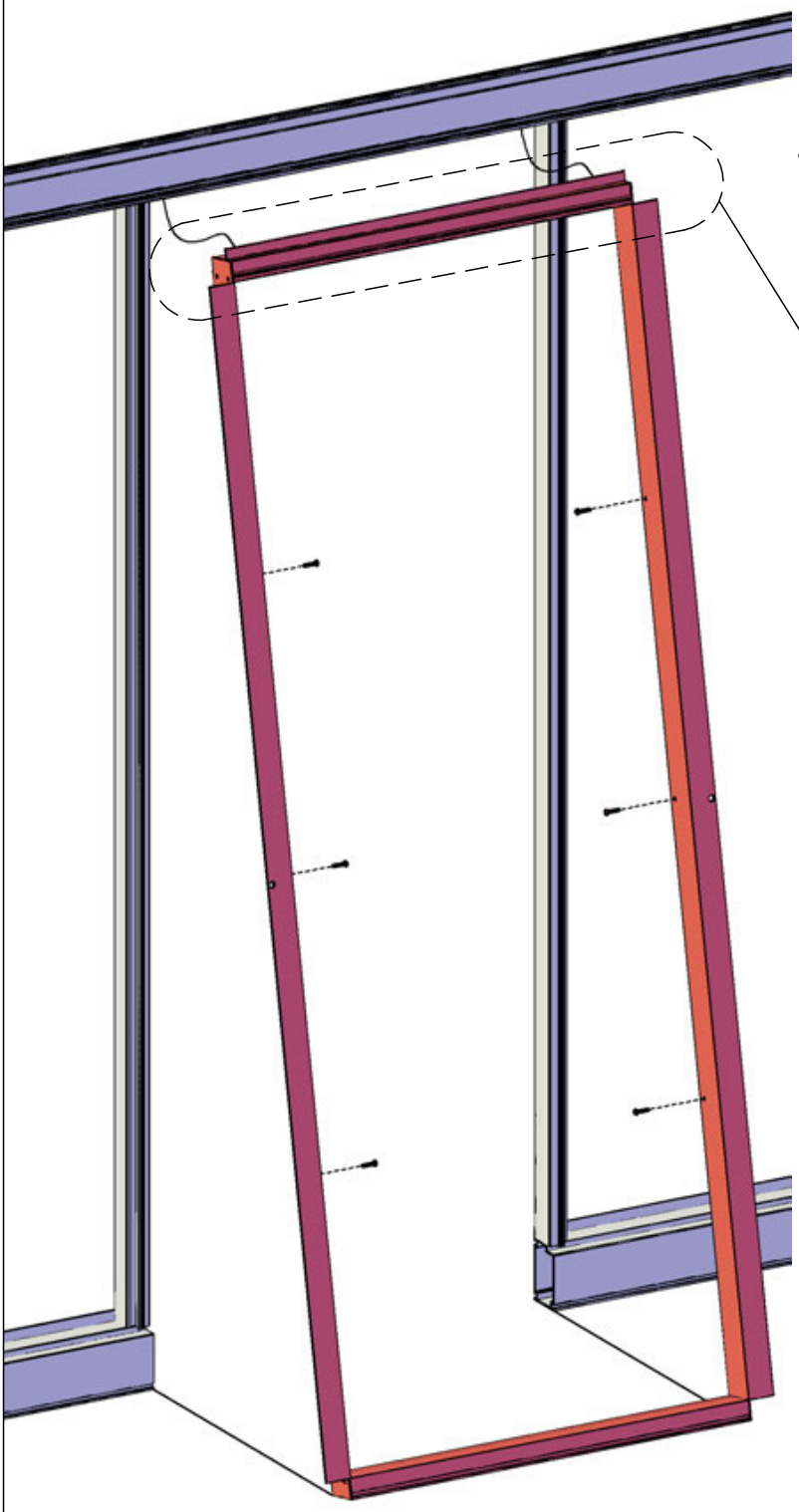


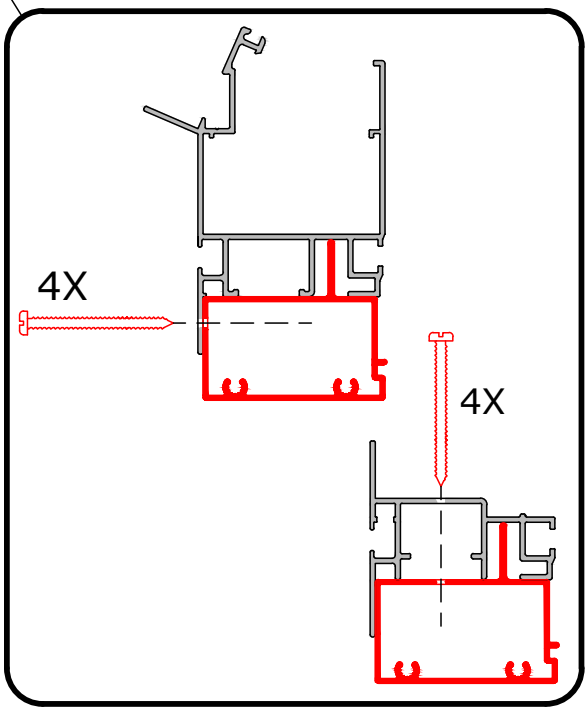


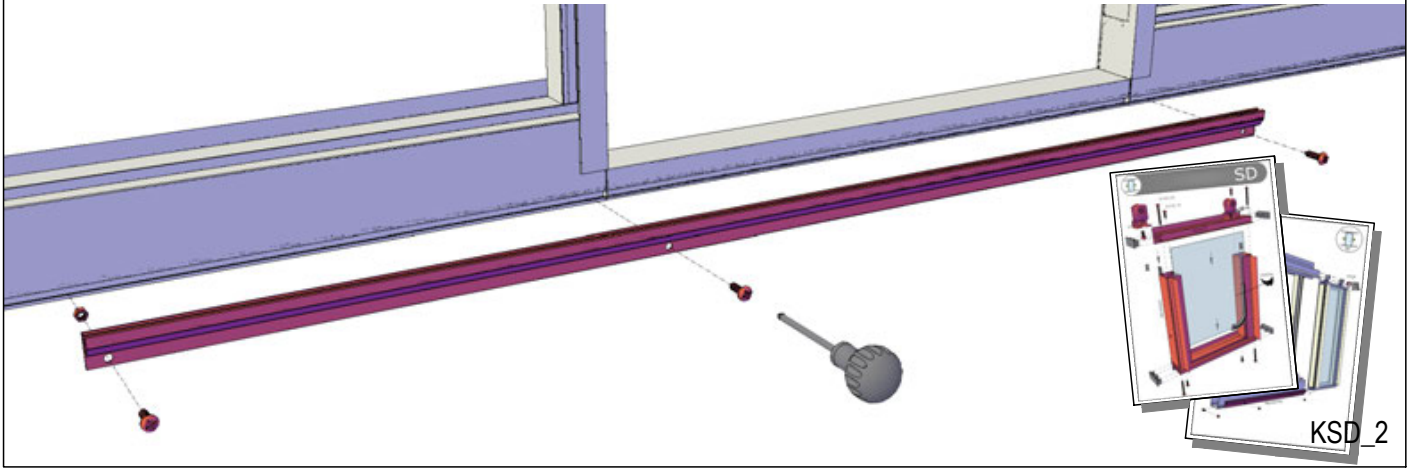


KSD_1

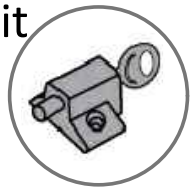
OPTIONAL UPGRADE: Fall 2022 - Low Threshold for Sliding Door/s

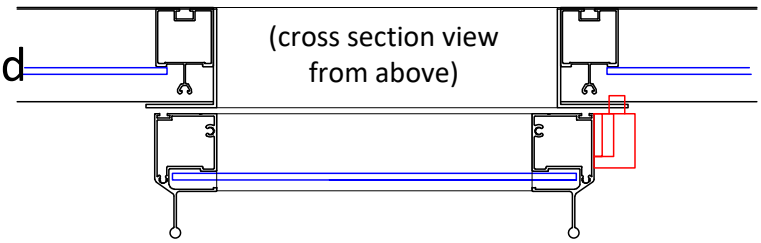


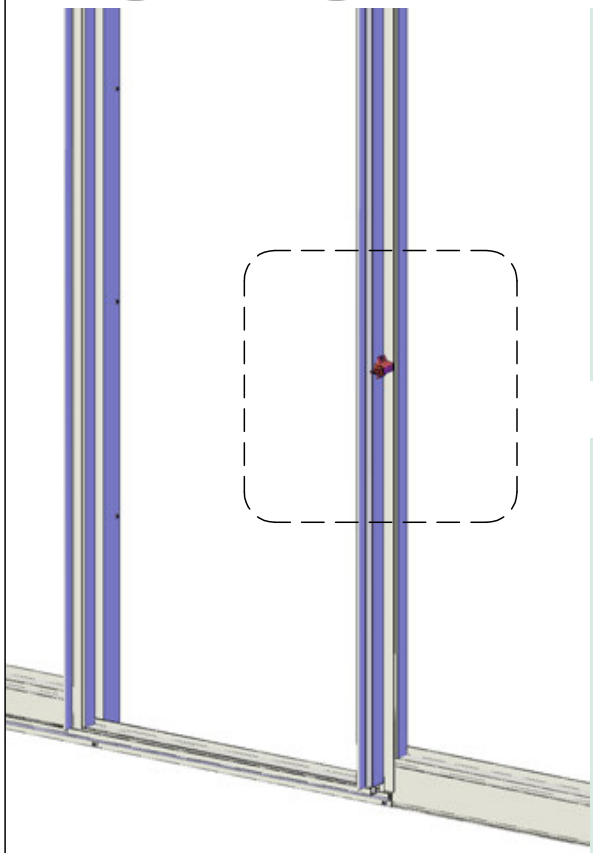


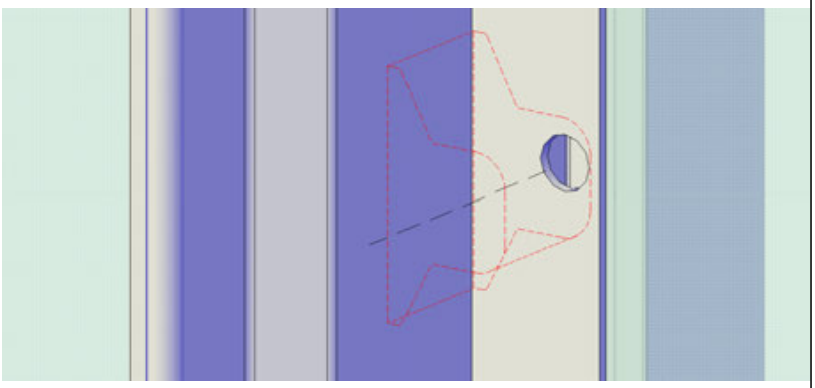


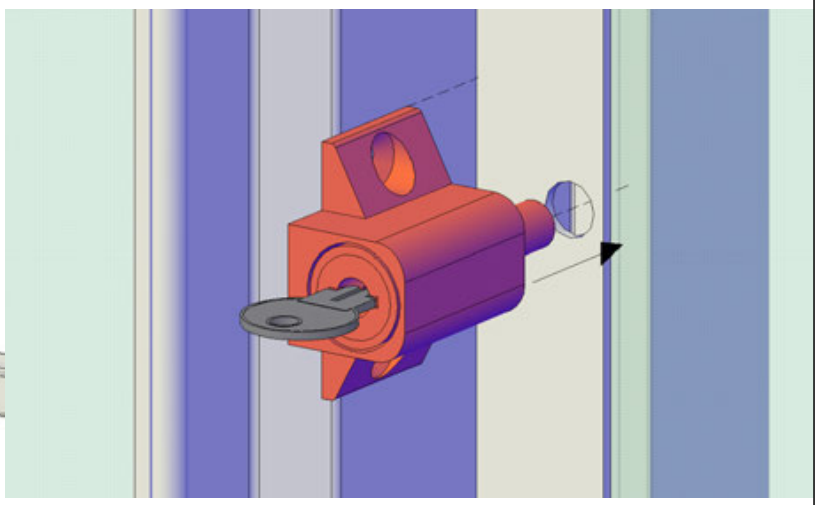
Optional Upgrade: Lock installation with Low Threshold Kit

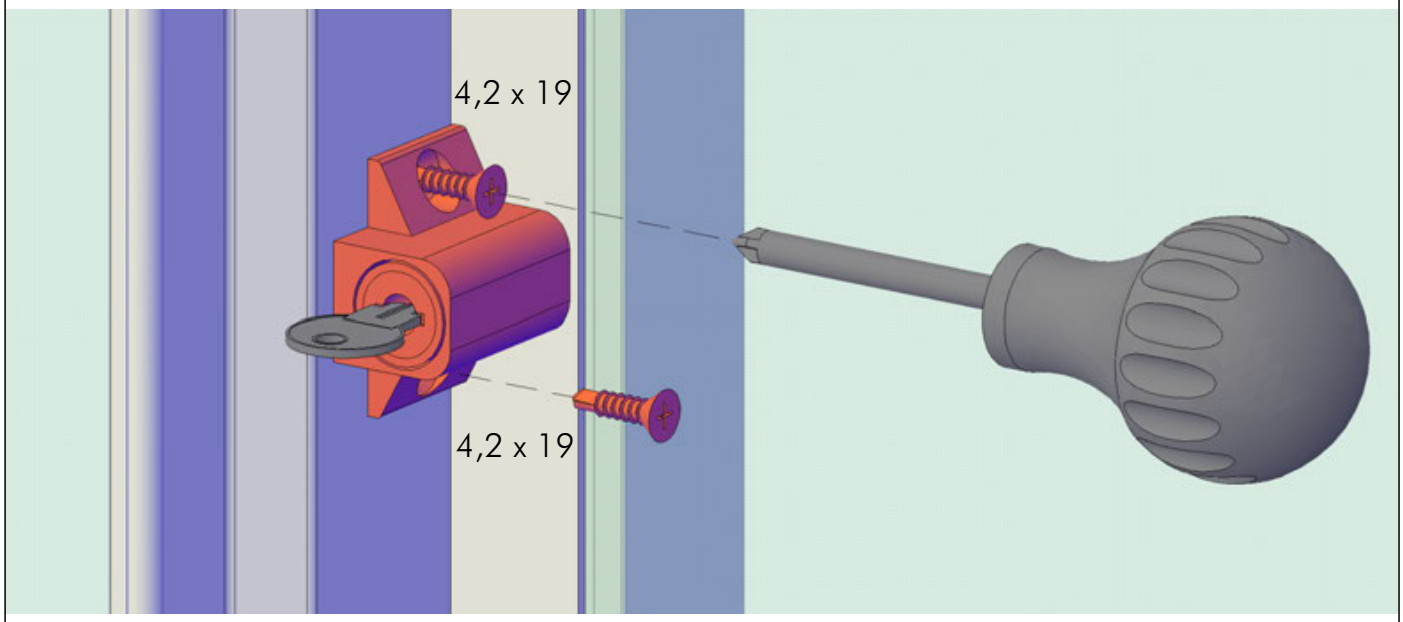




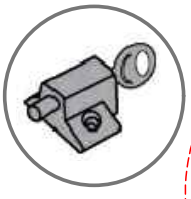


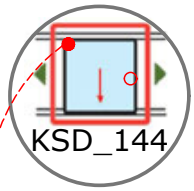




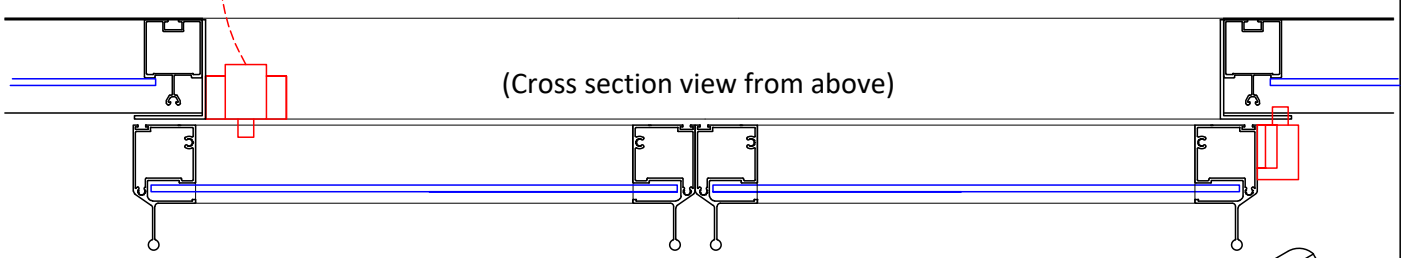


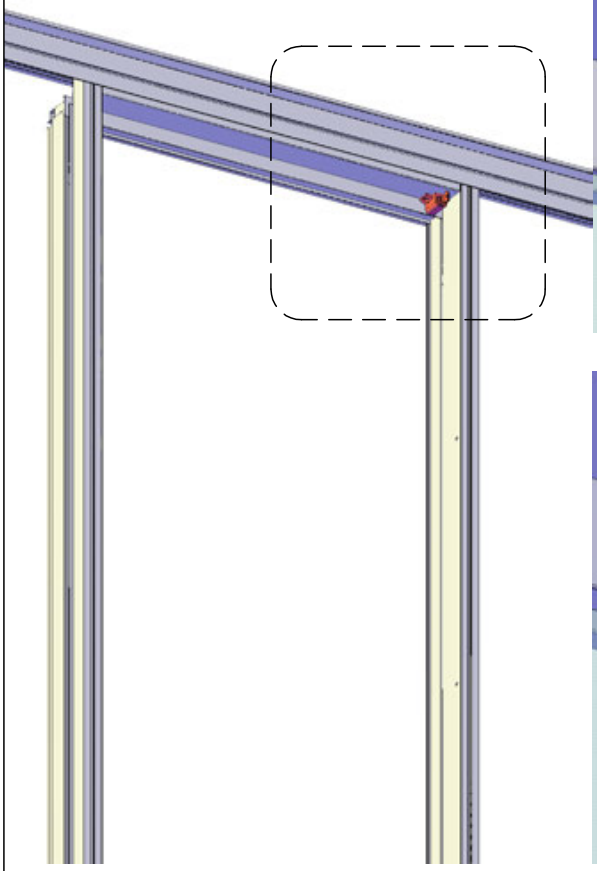
KSD_3

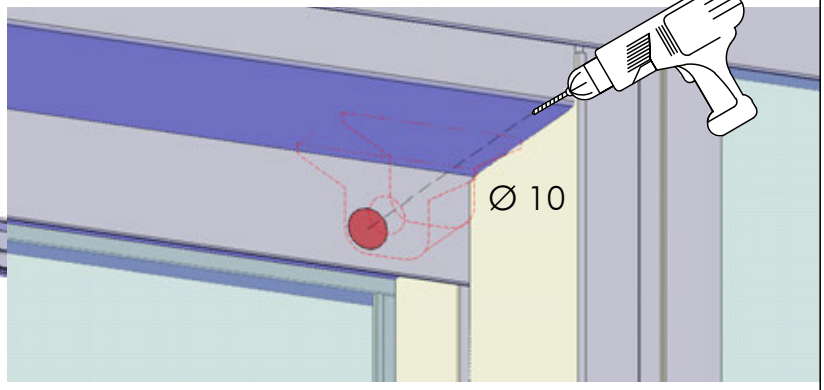


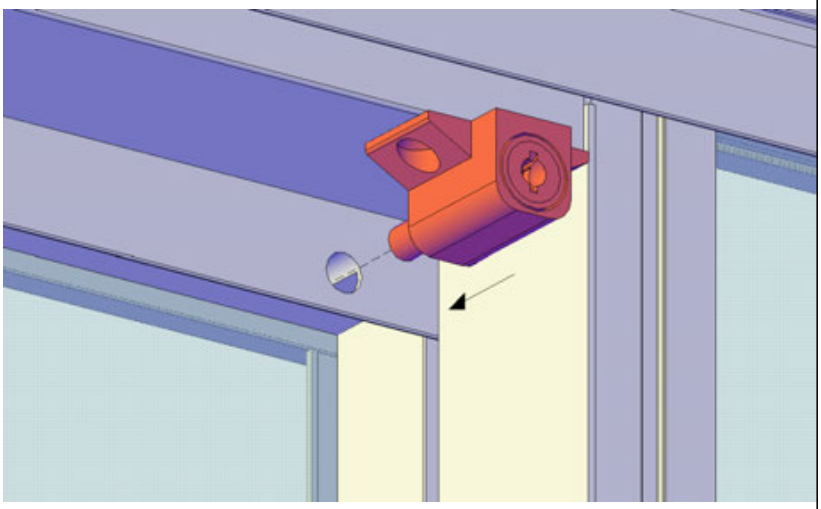


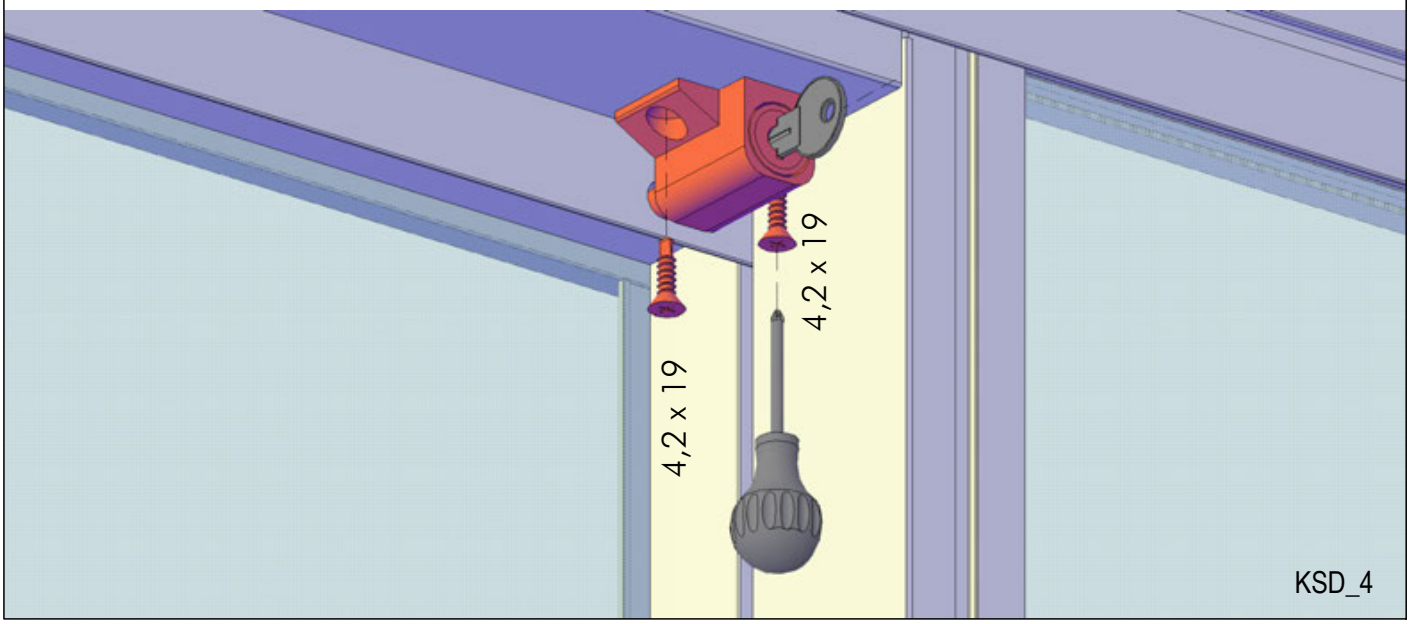
Optional Upgrade: Lock installation with Low Threshold Kit (Double Sliding Door - installed on the inside on one door)



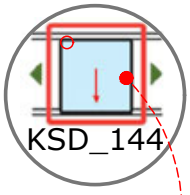


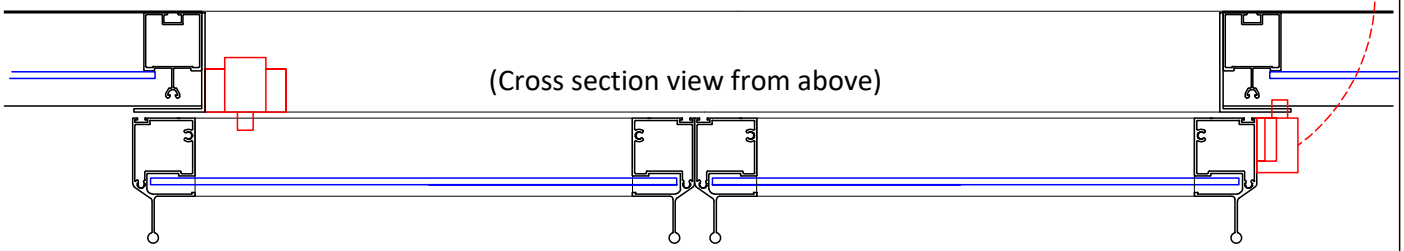


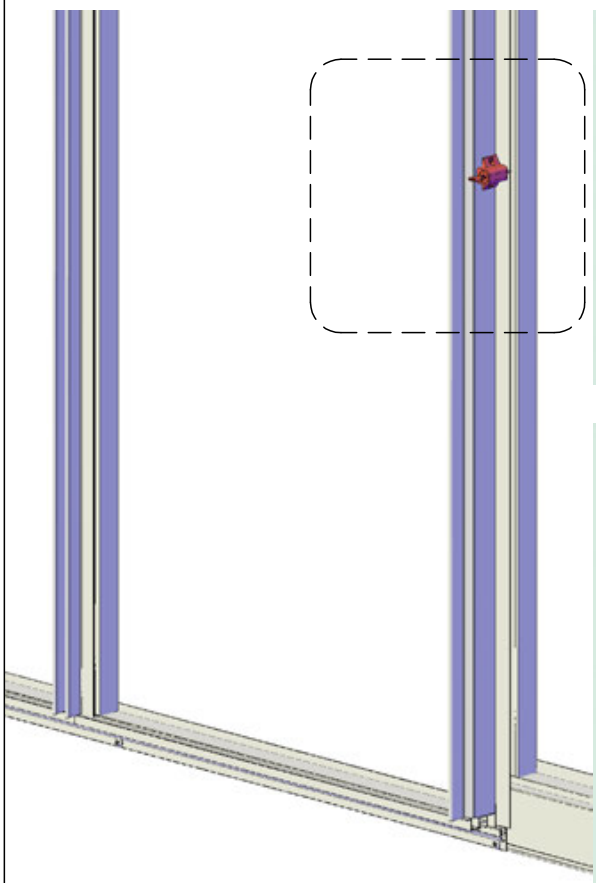


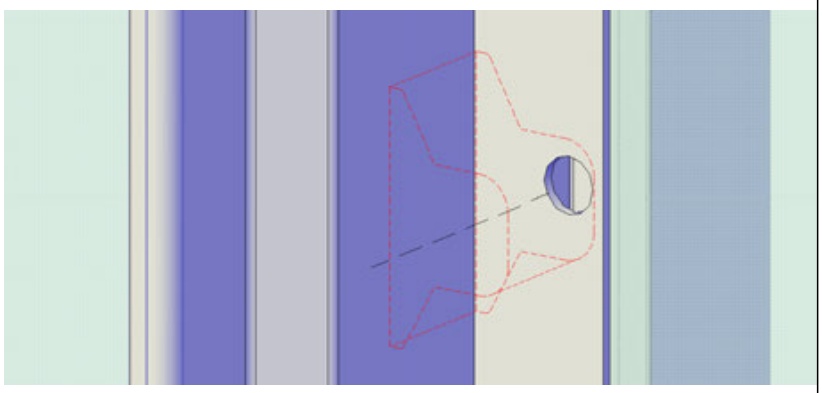


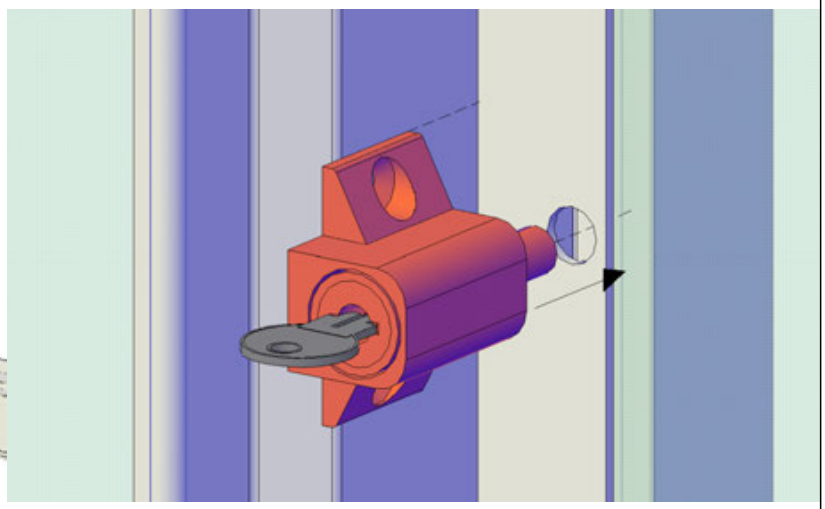
Optional Upgrade: Lock installation with Low Threshold Kit (Double Sliding Door - installed on the exterior for other door)

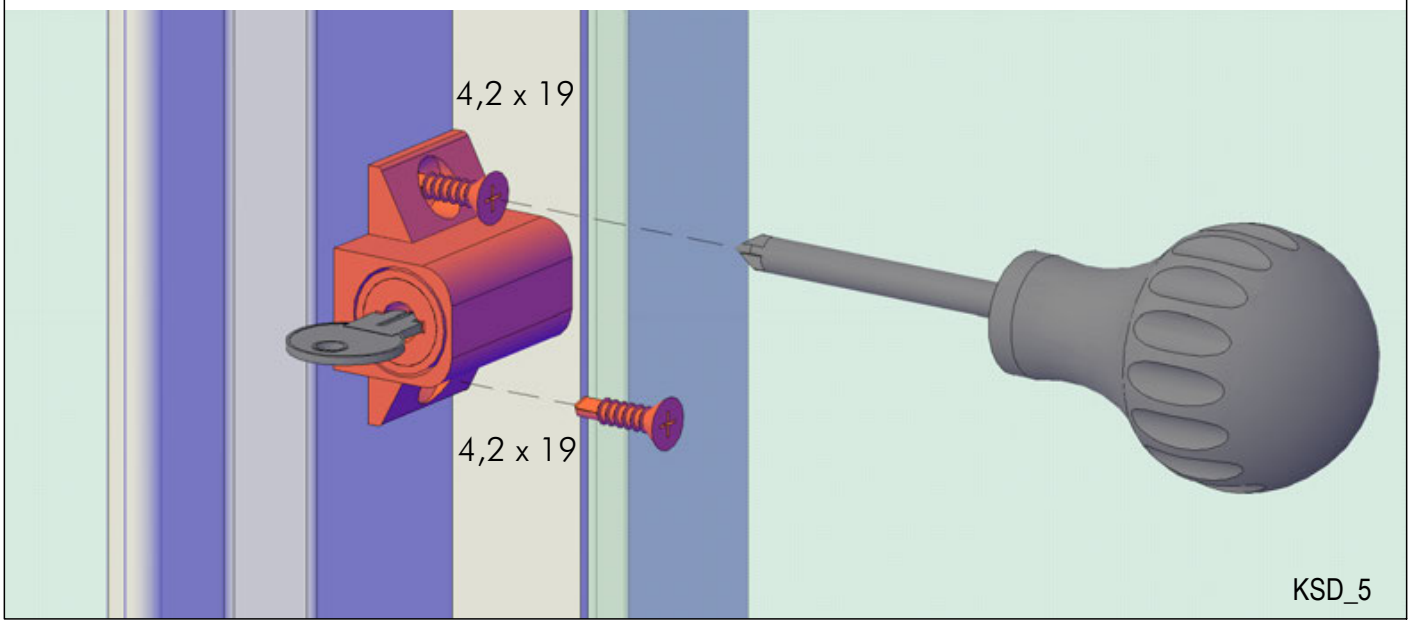








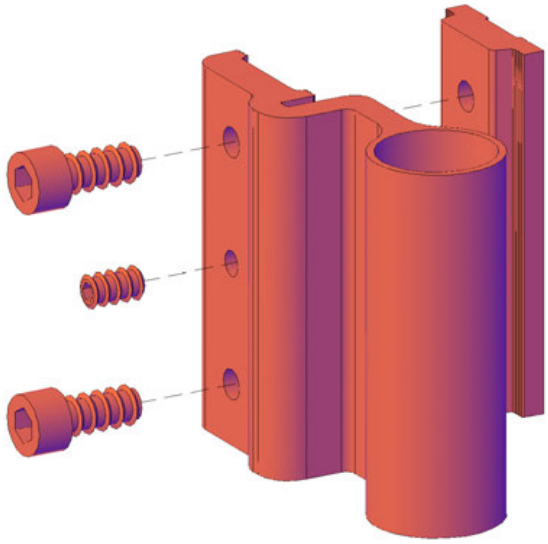


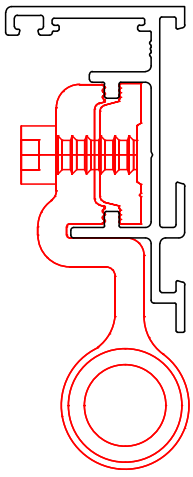


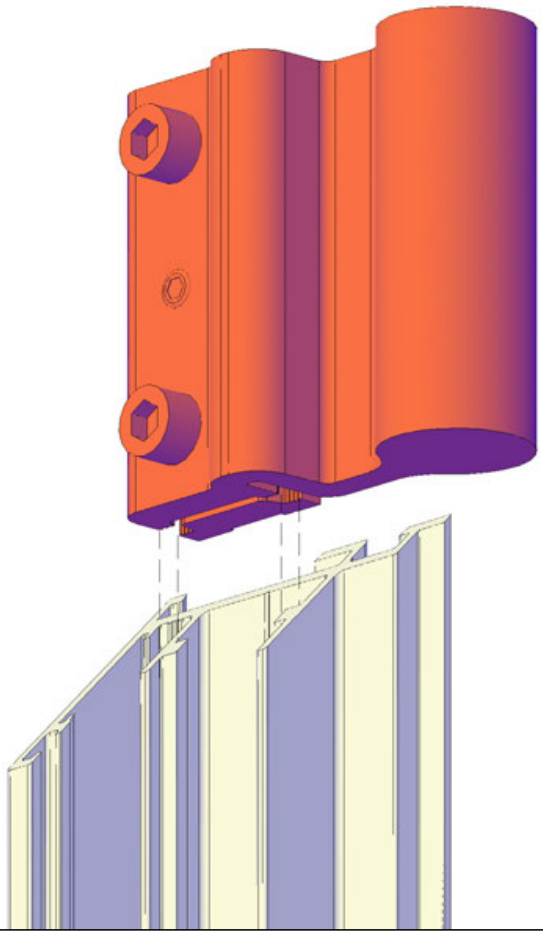
OPTIONAL UPGRADE: Hinged Door

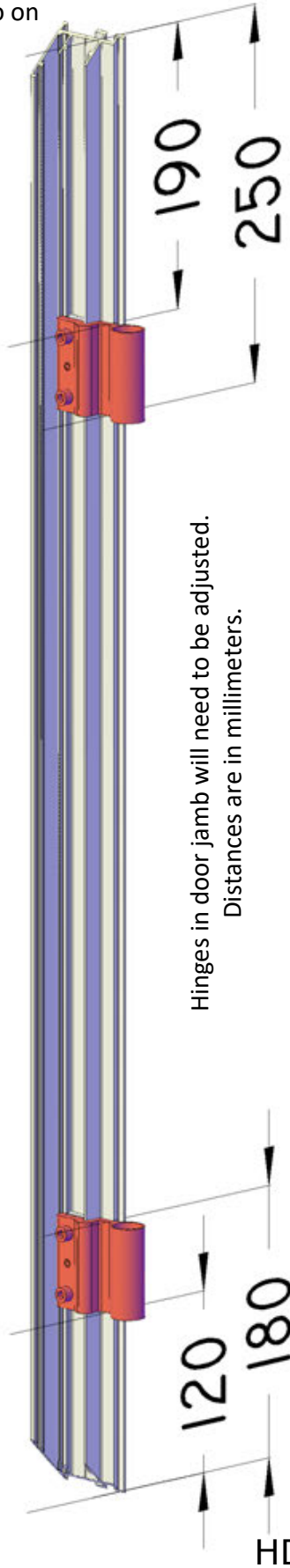
HD

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



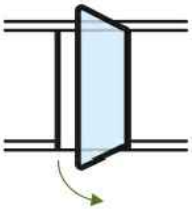


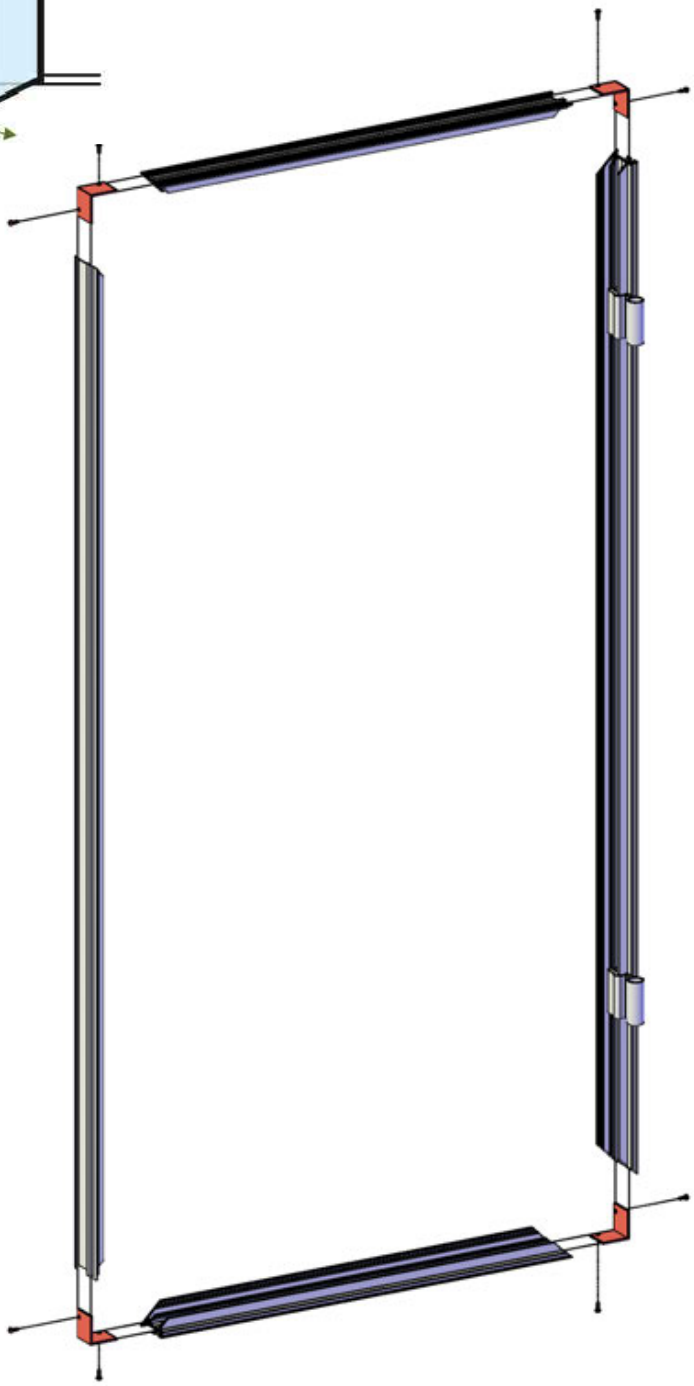




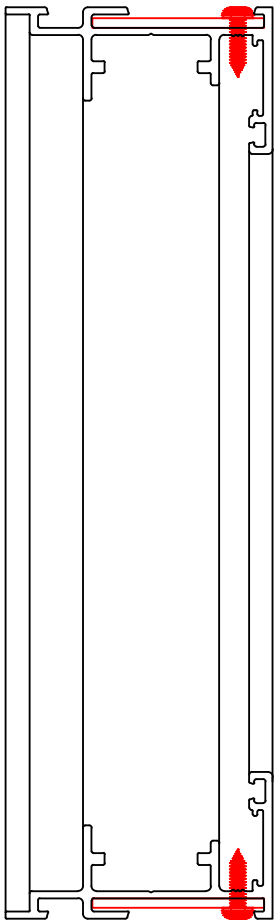
Hinges in door jamb will need to be adjusted.
Distances are in millimeters.

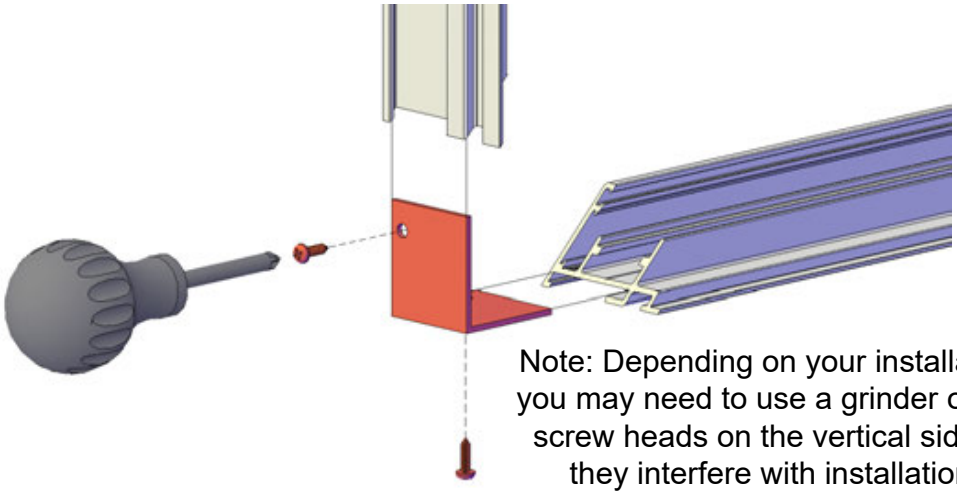
HD 1

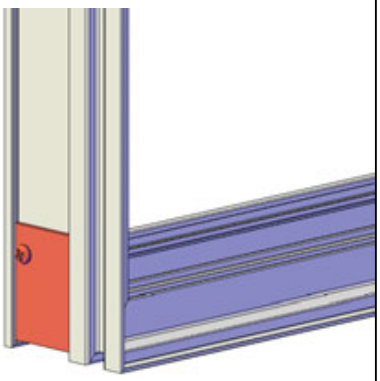




	ITEM	PC.	L
	L 40X40	4 PC	36 MM
	PRO6280	2 PC	703 MM
	PRO6280	2 PC	1.441 MM
	PRO6280	2 PC	1.930 MM
	4,2 X 13	8 PC	



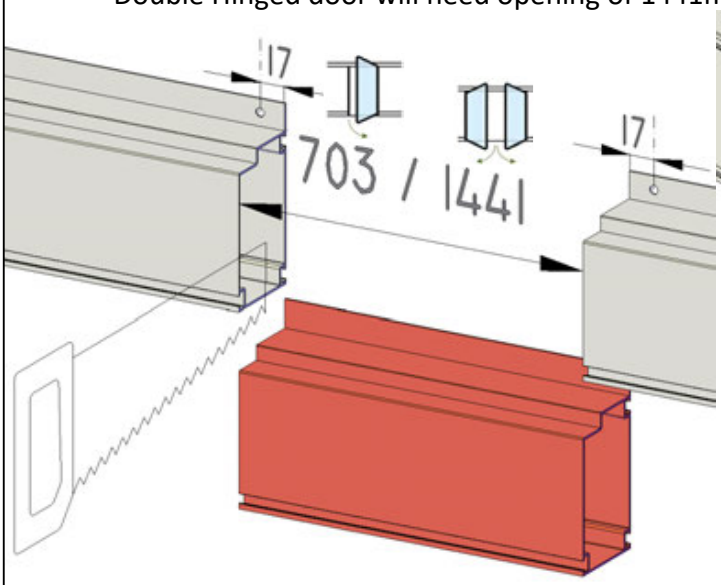


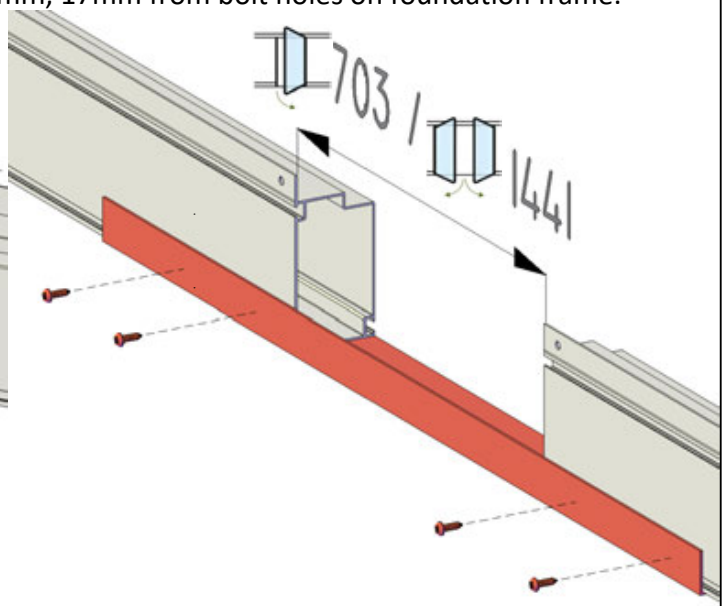


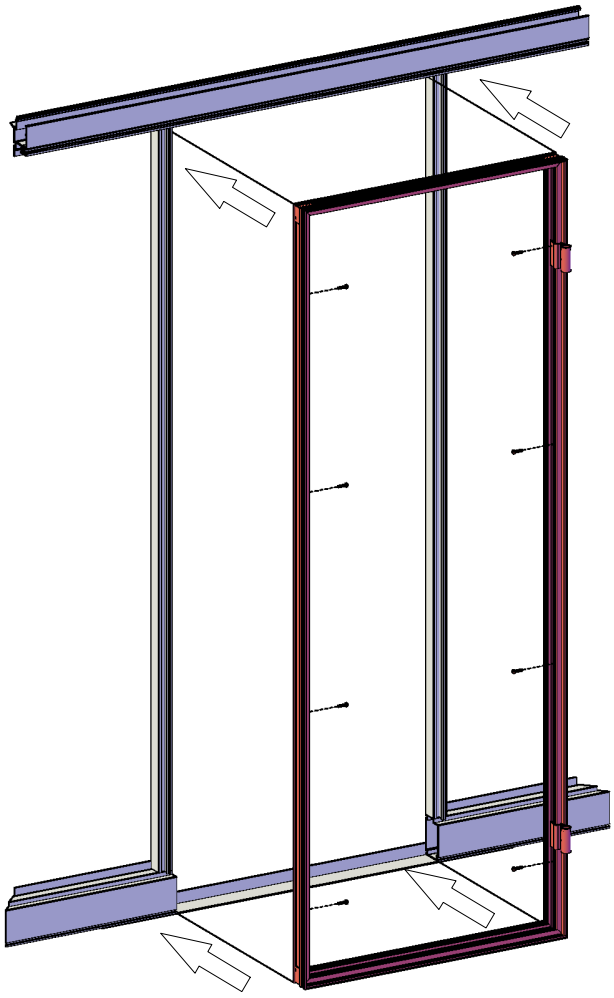
Note: Depending on your installation, you may need to use a grinder on the screw heads on the vertical sides if they interfere with installation.

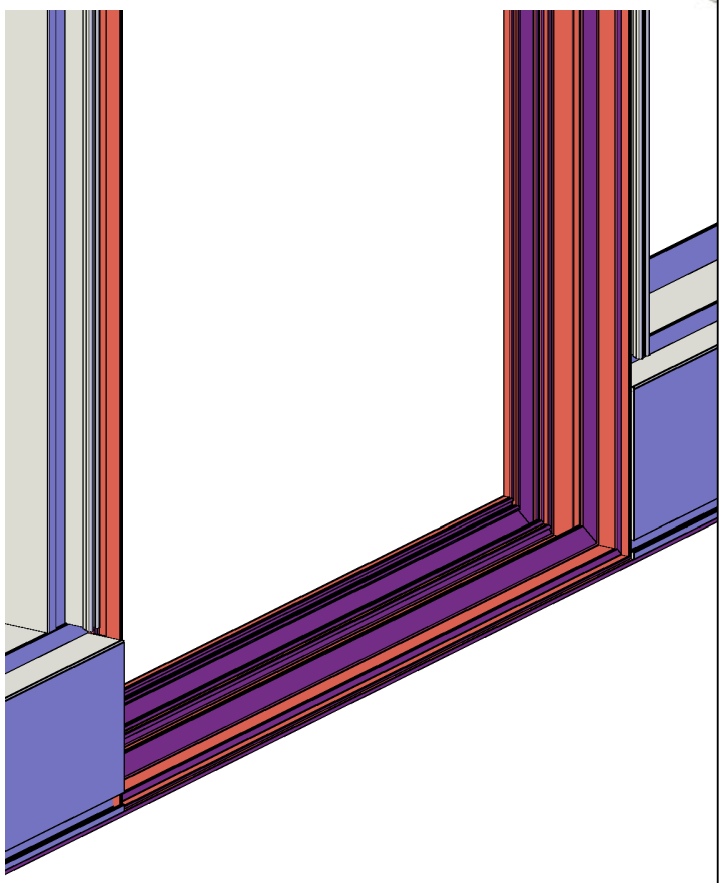
HD 2

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

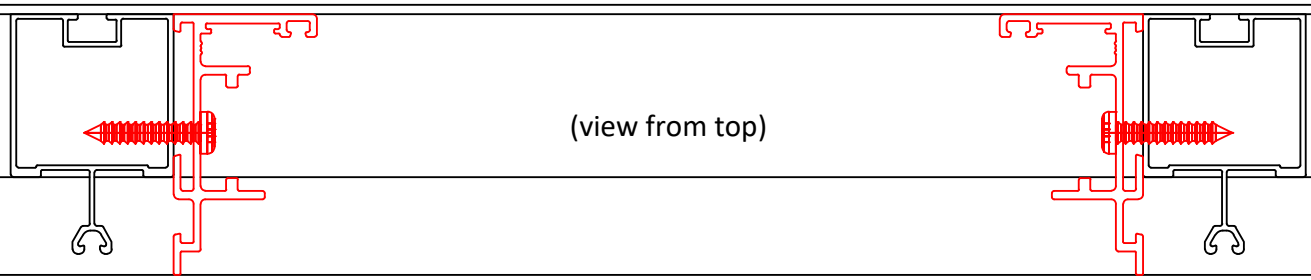






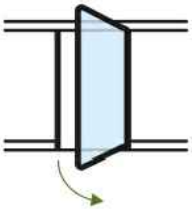


(Single door shown, double door jamb installation will be identical)

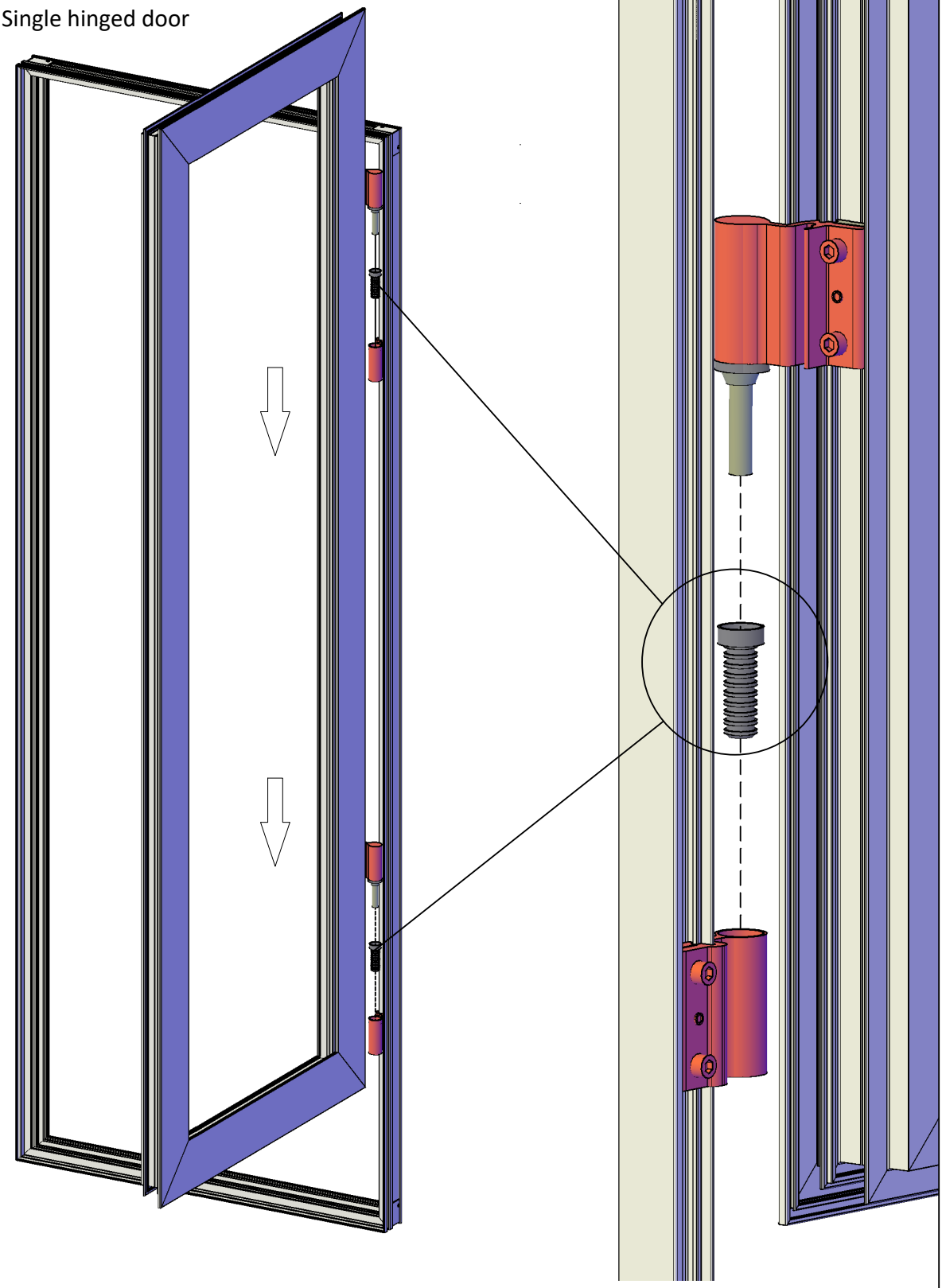


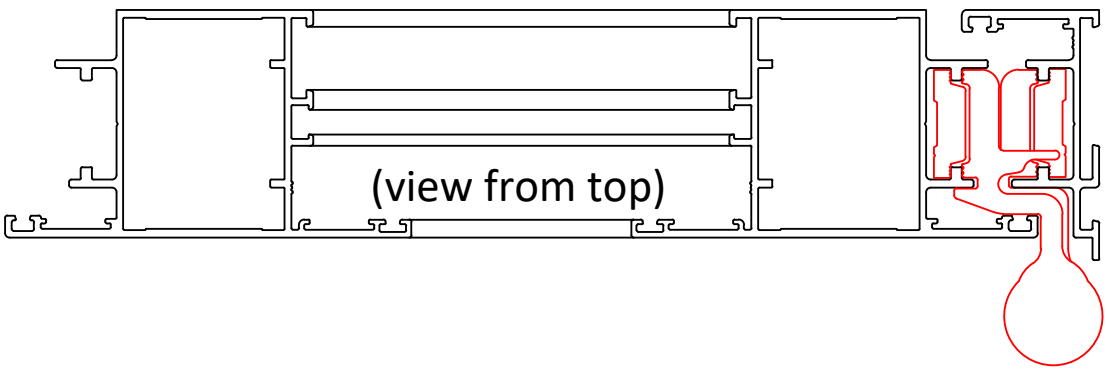
(view from top)

HD 3

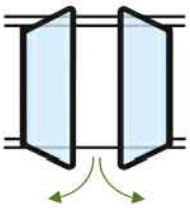


Single hinged door

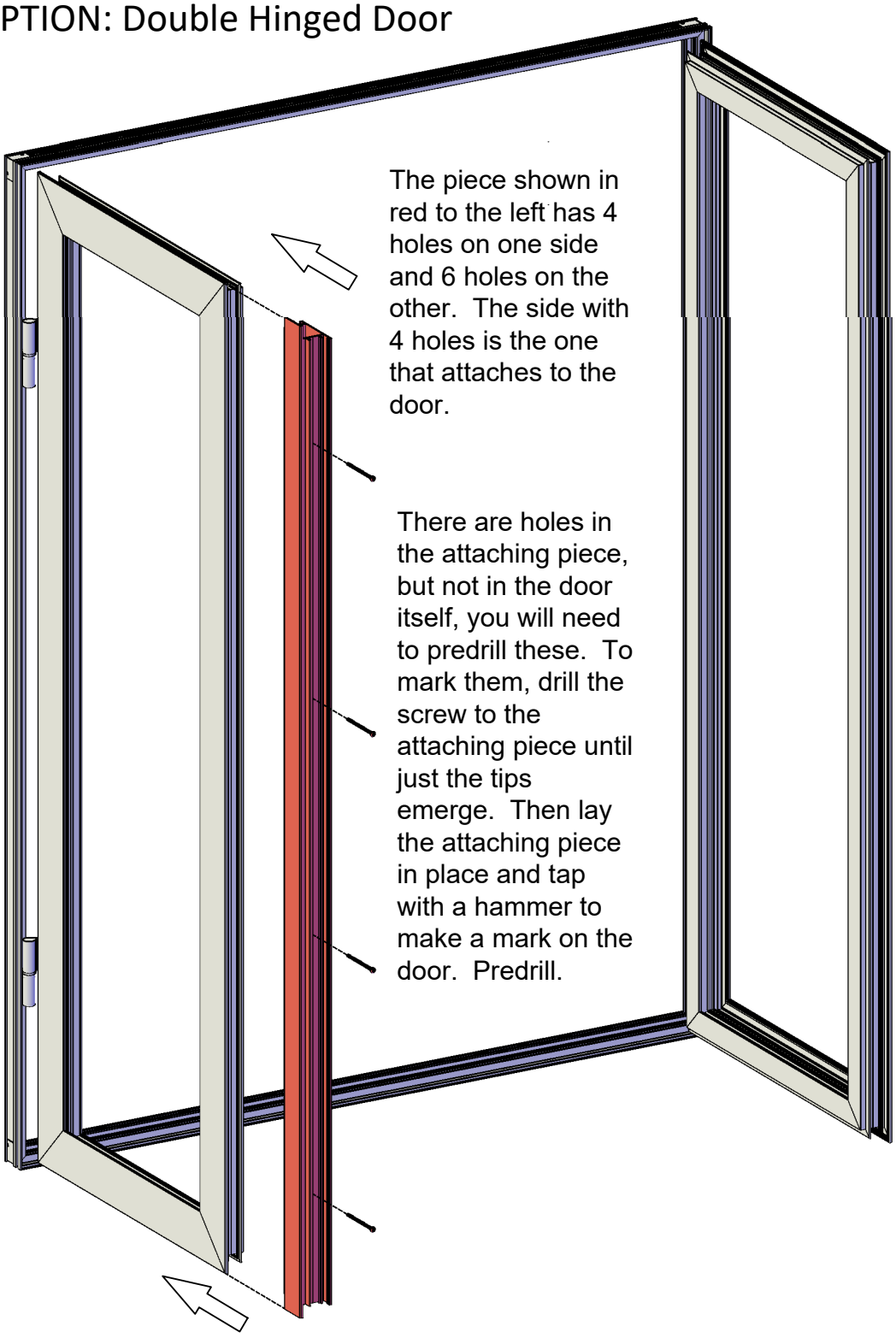




HD 4

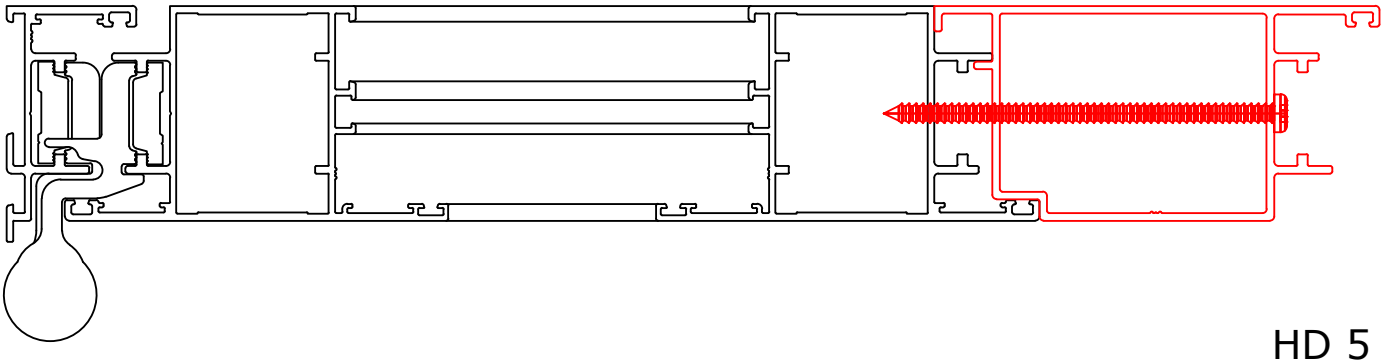


OPTION: Double Hinged Door

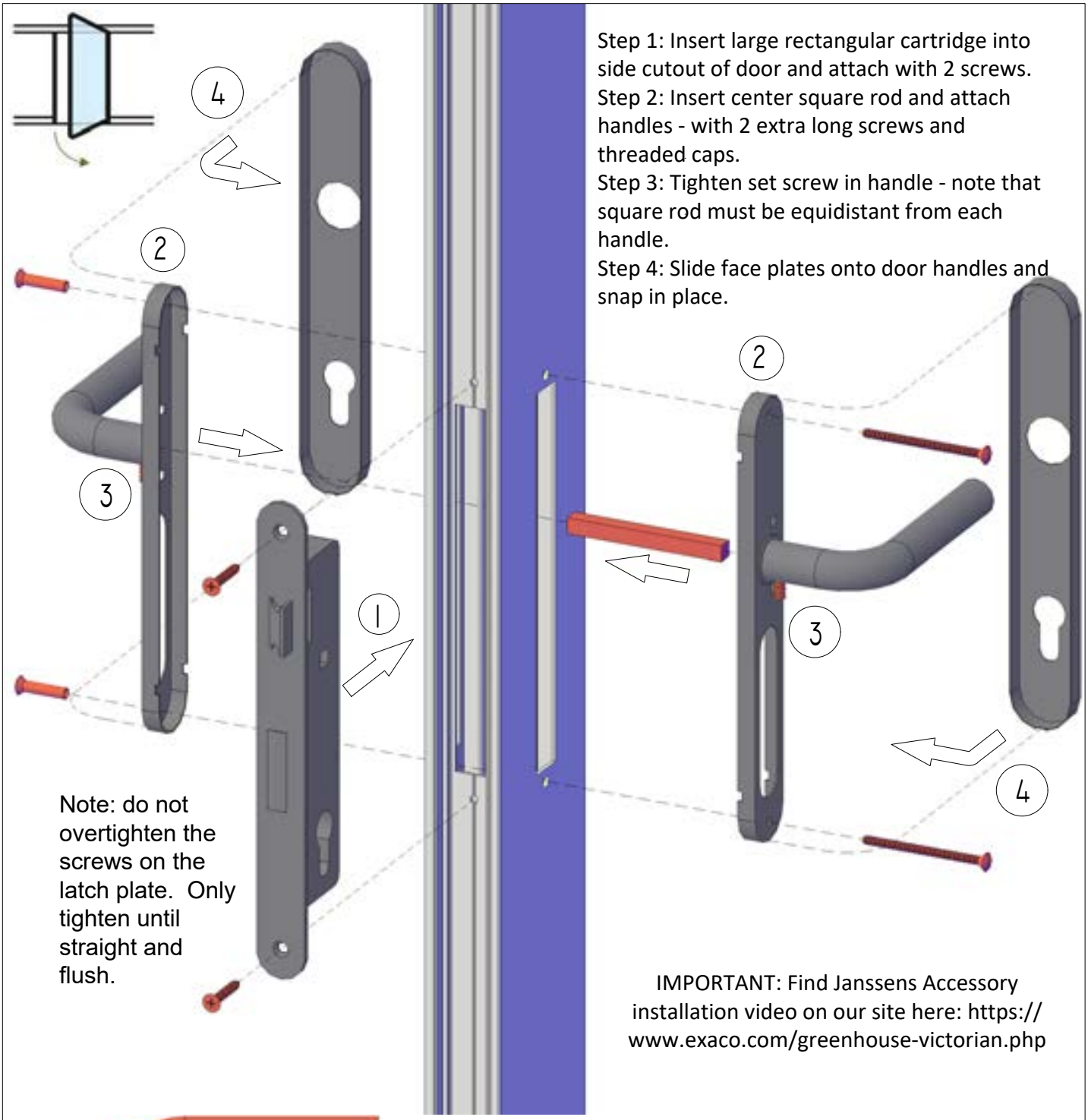


The piece shown in red to the left has 4 holes on one side and 6 holes on the other. The side with 4 holes is the one that attaches to the door.

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

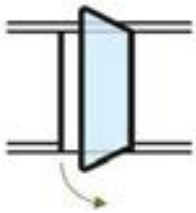


Step 1: Insert large rectangular cartridge into side cutout of door and attach with 2 screws.
Step 2: Insert center square rod and attach handles - with 2 extra long screws and threaded caps.
Step 3: Tighten set screw in handle - note that square rod must be equidistant from each handle.
Step 4: Slide face plates onto door handles and snap in place.

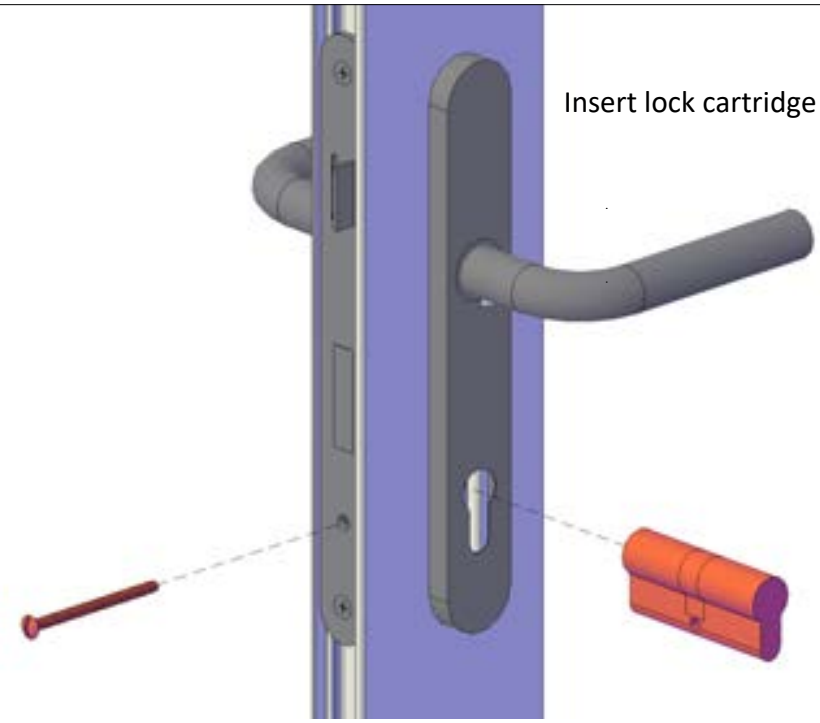
Note: do not overtighten the screws on the latch plate. Only tighten until straight and flush.

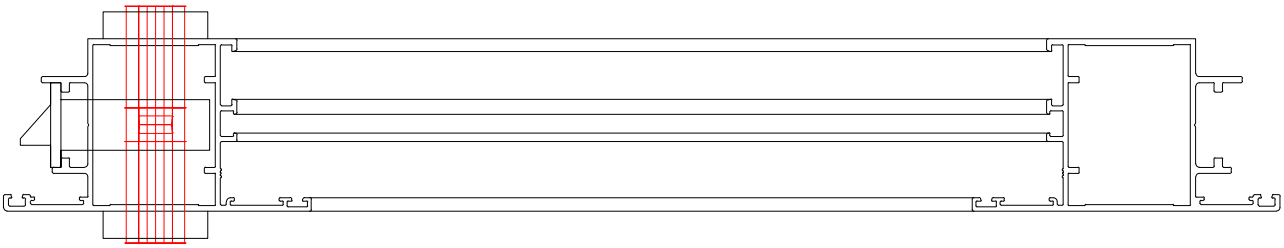
IMPORTANT: Find Janssens Accessory installation video on our site here: https://www.exaco.com/greenhouse-victorian.php

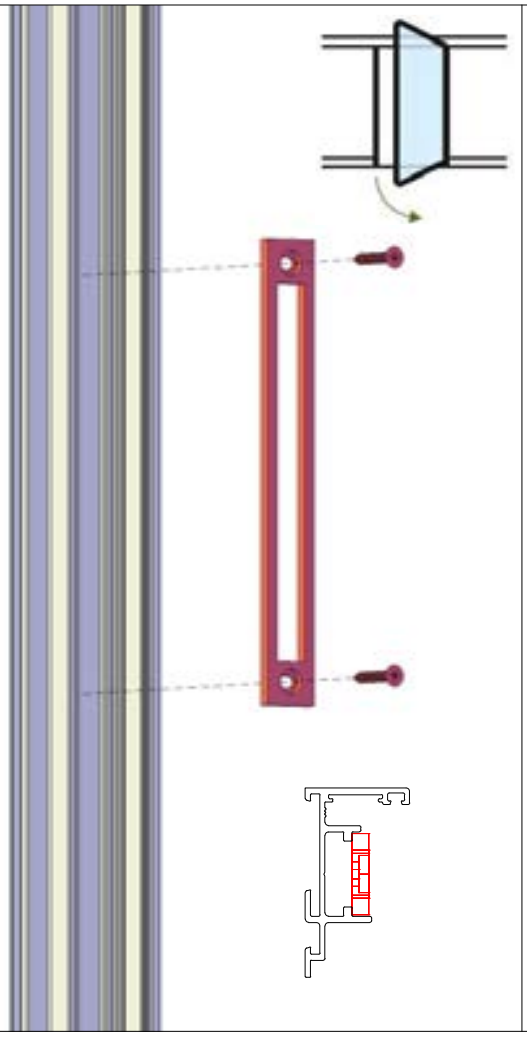
HD 6

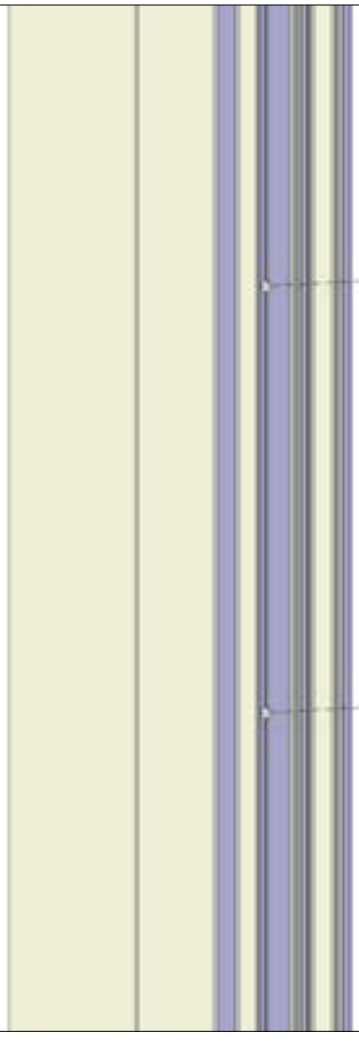


Insert lock cartridge and secure with screw.



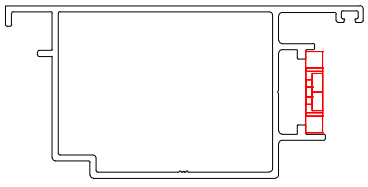






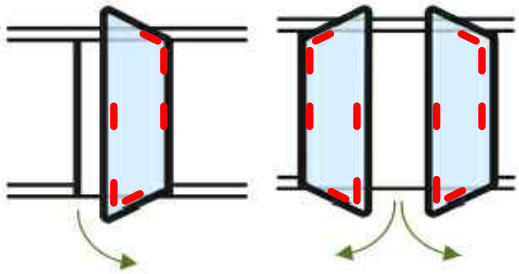
Attach latch catch plate to second door.

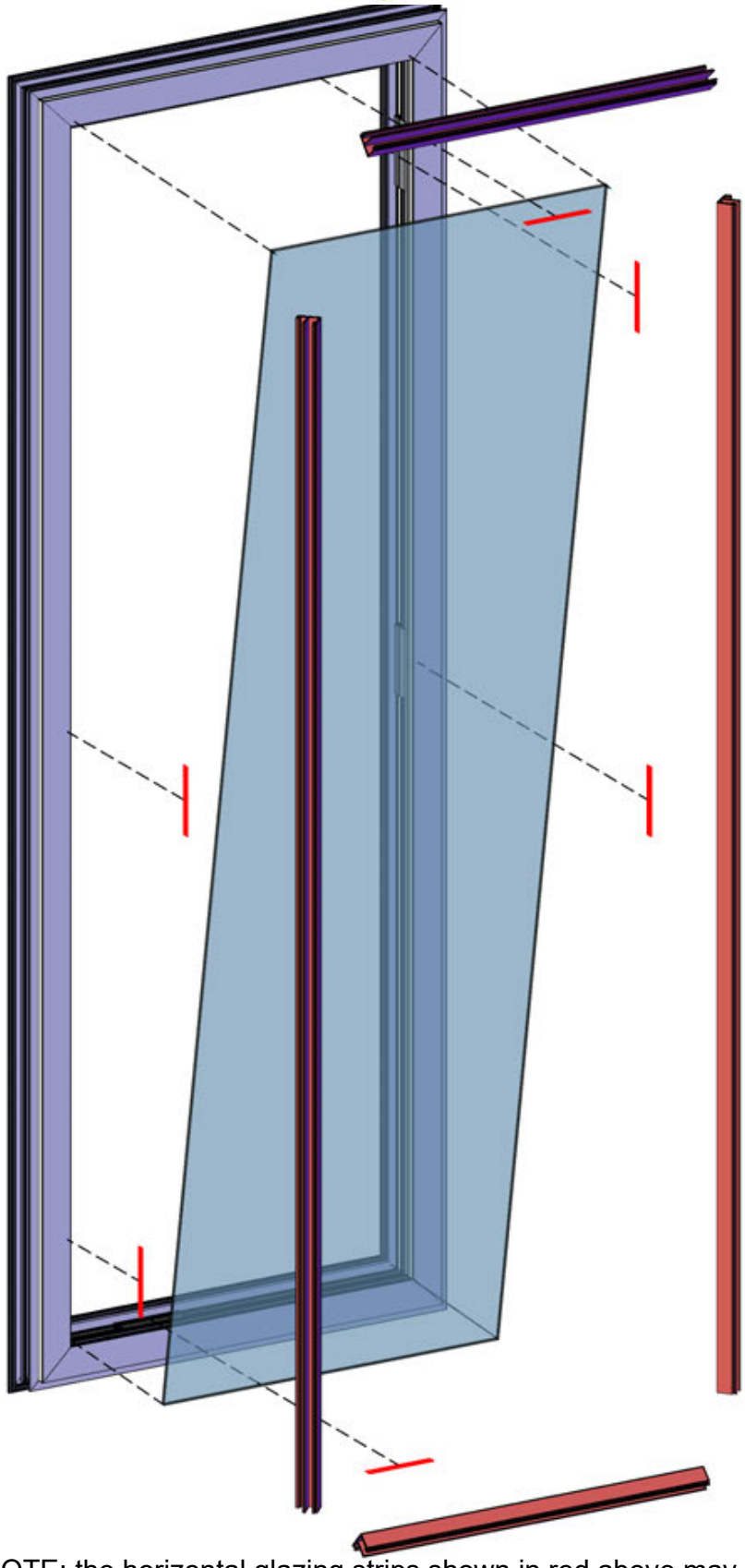
Note: do not overtighten the screws on the latch plate. Only tighten until straight and flush.

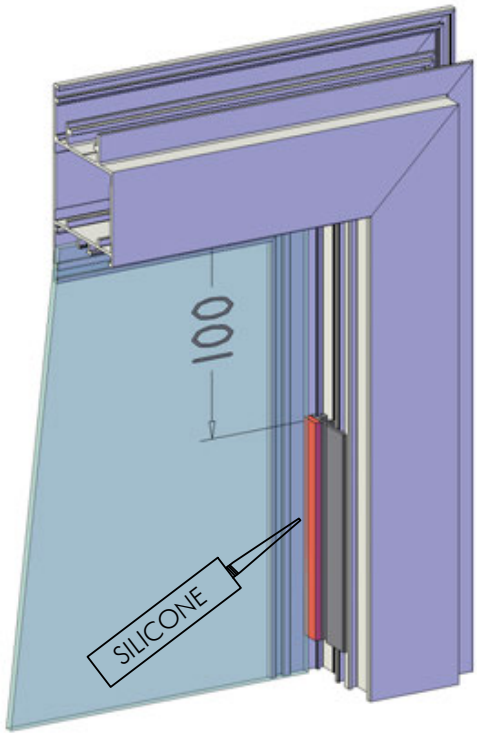


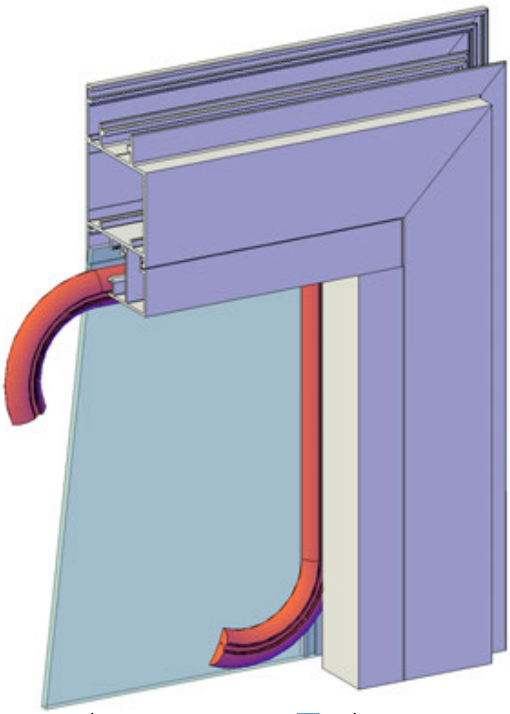
HD 7

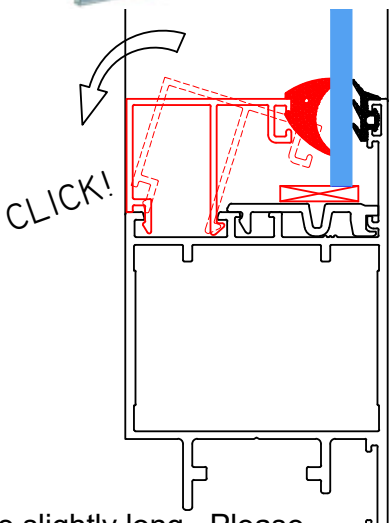
For the next step, we recommend placing the door flat until glass is installed.





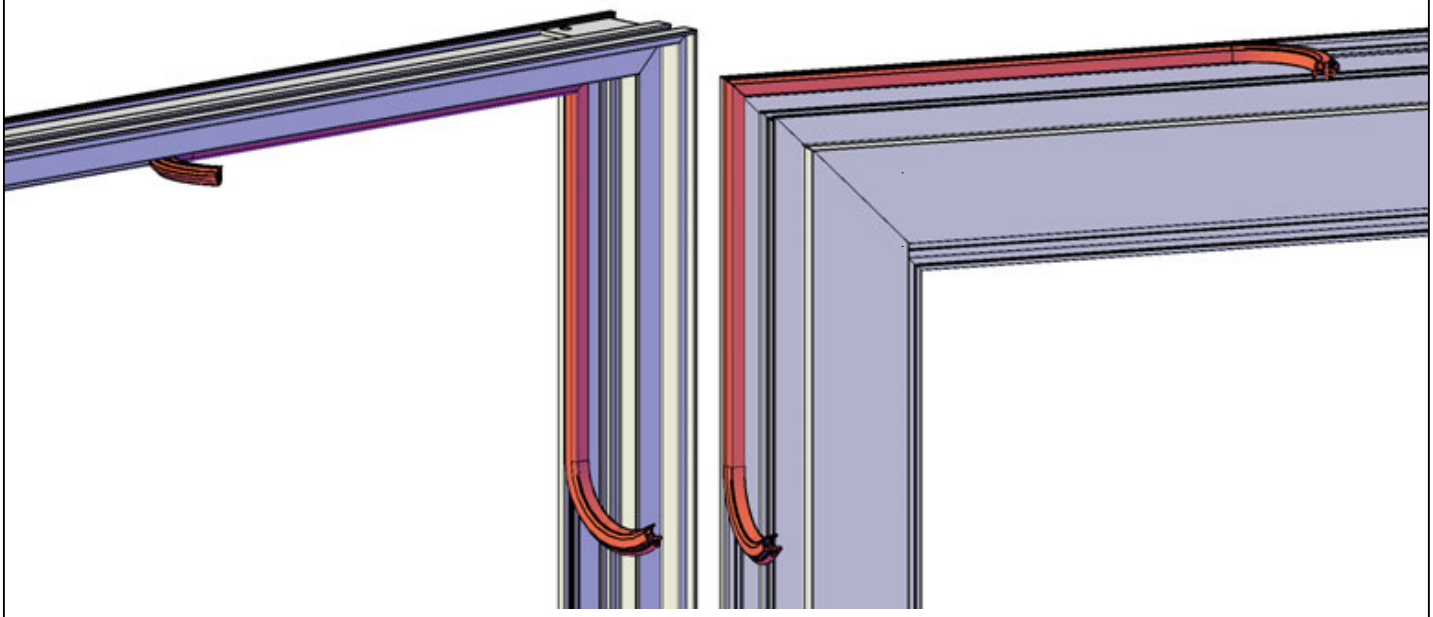


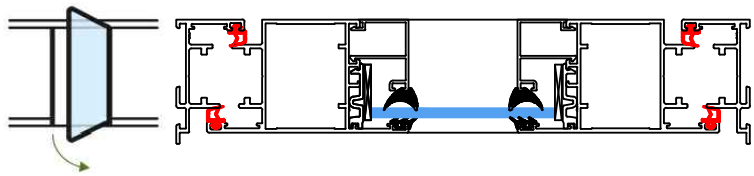


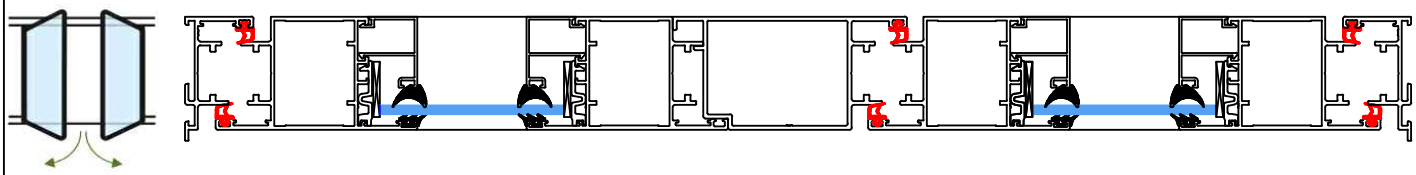


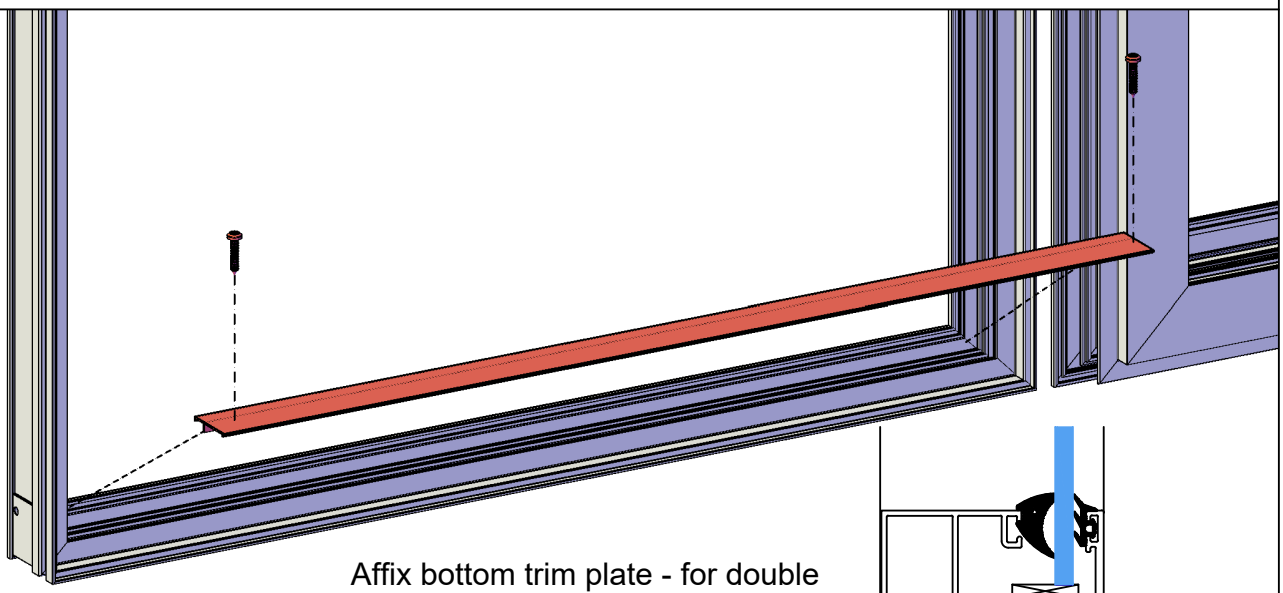
NOTE: the horizontal glazing strips shown in red above may be slightly long. Please measure and trim to fit your door usnig a hacksaw, hand file, angle grinder or similar tool!

HD 8

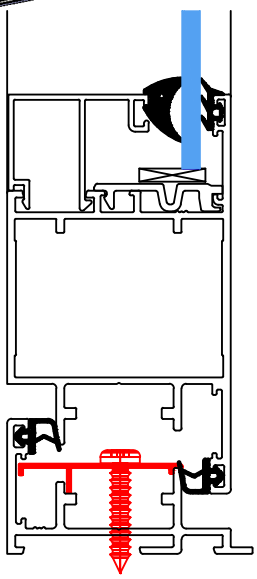






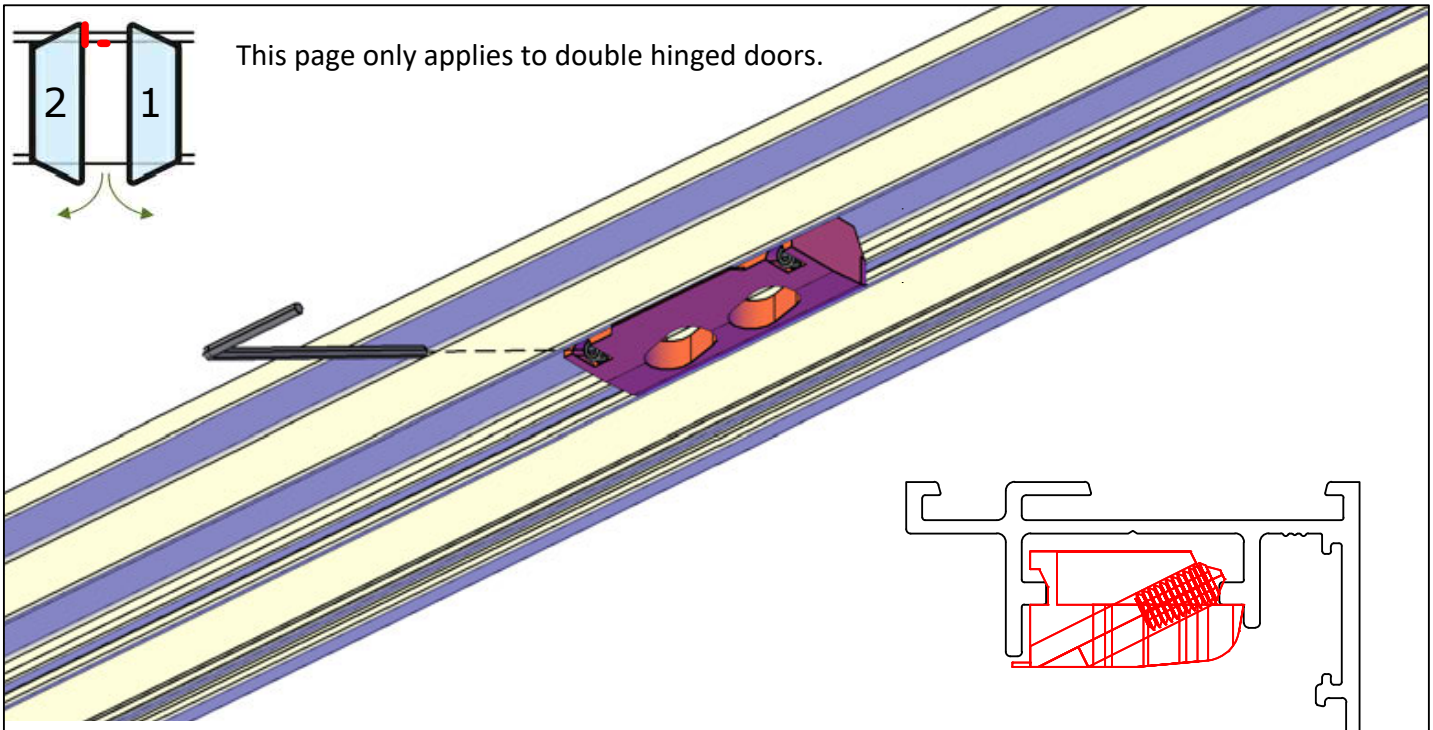


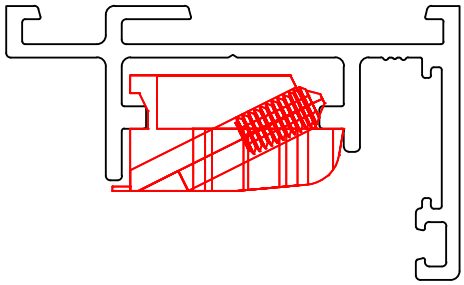
Affix bottom trim plate - for double doors see next page.

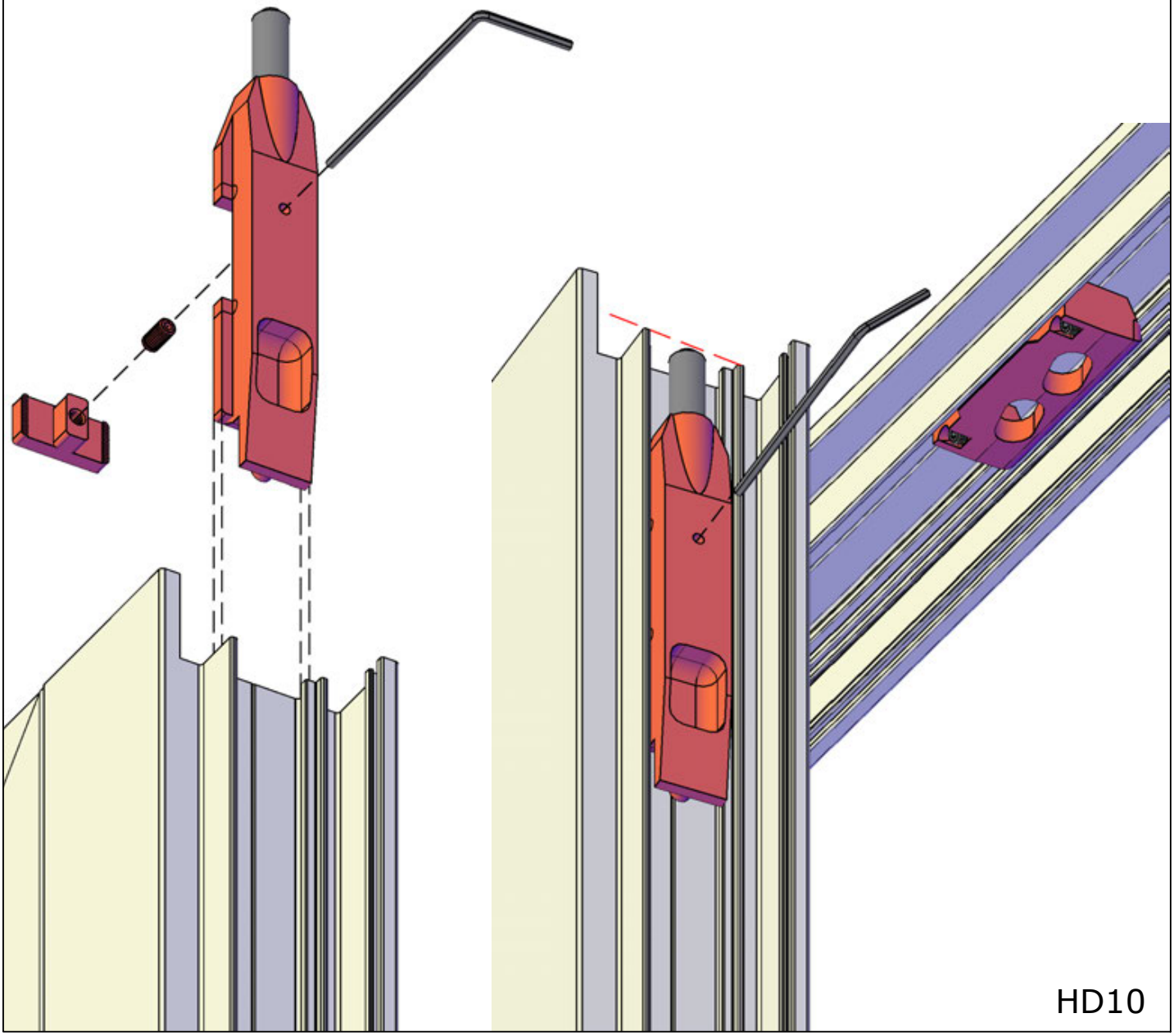


HD 9

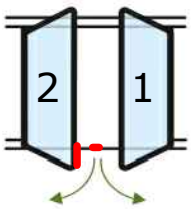
This page only applies to double hinged doors.

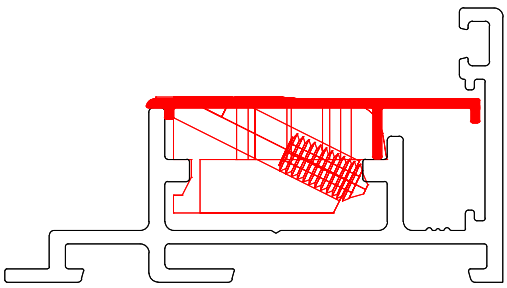






HD10

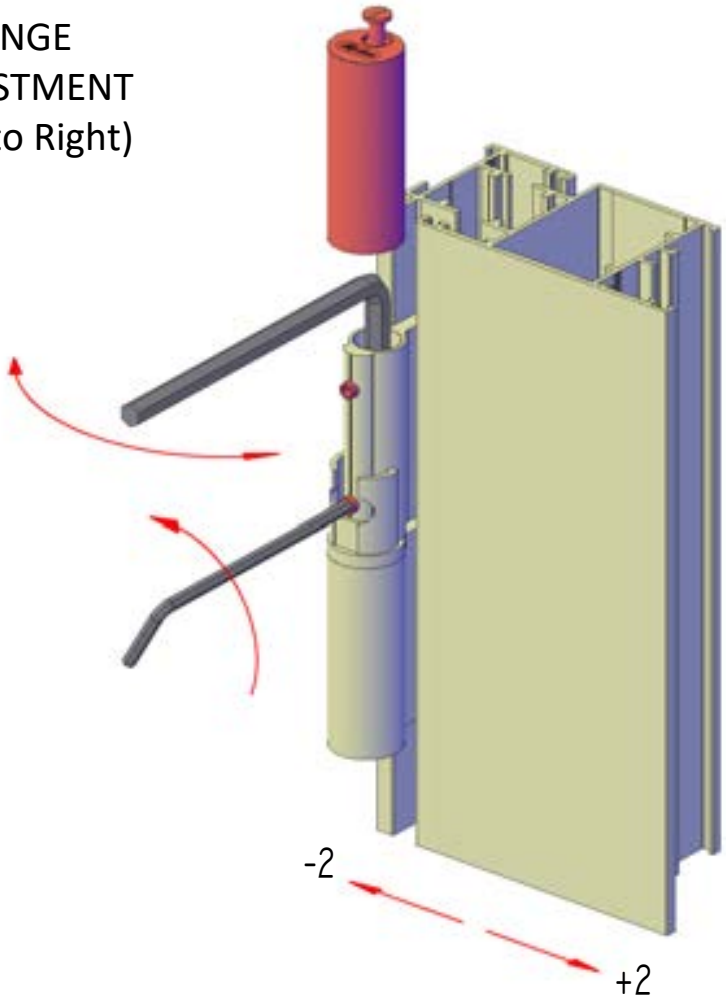


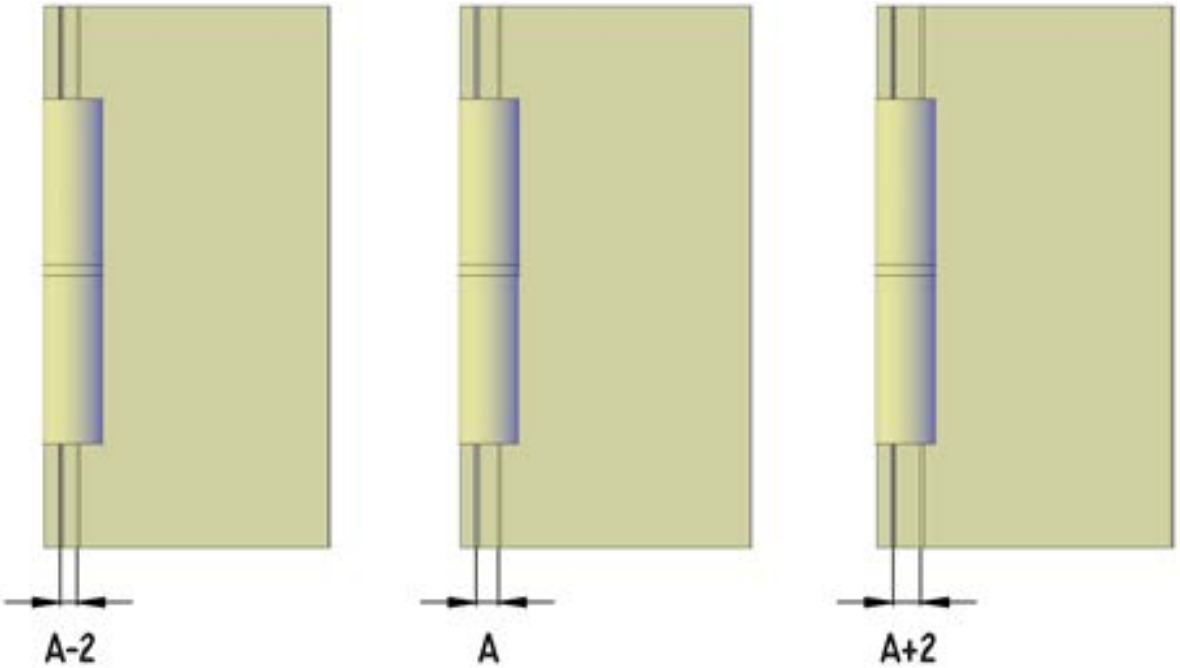


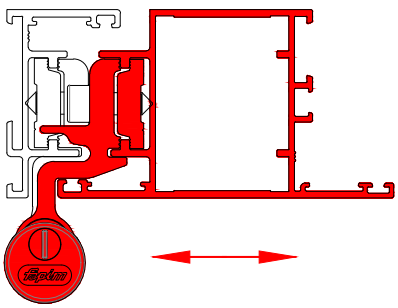
If using the bottom pin lock, you will need to trim the finishing plate in the middle as shown.

HD11

HINGE
ADJUSTMENT
(Left to Right)

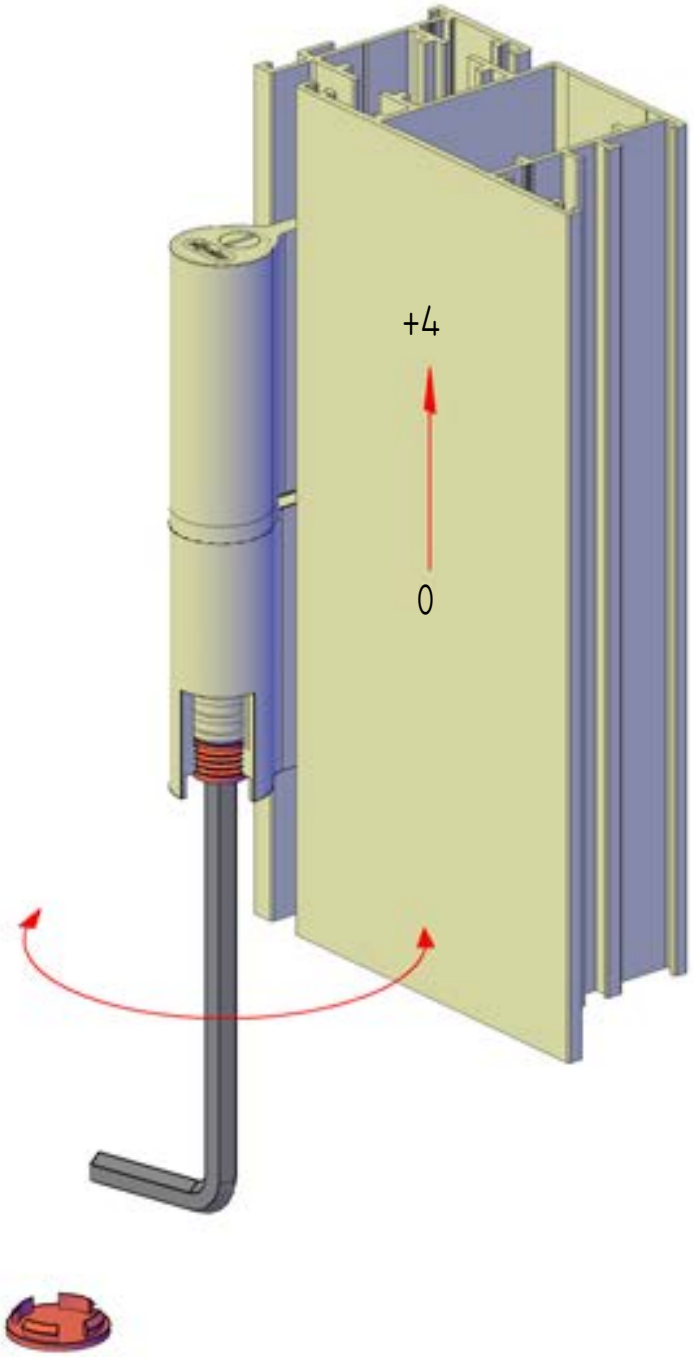




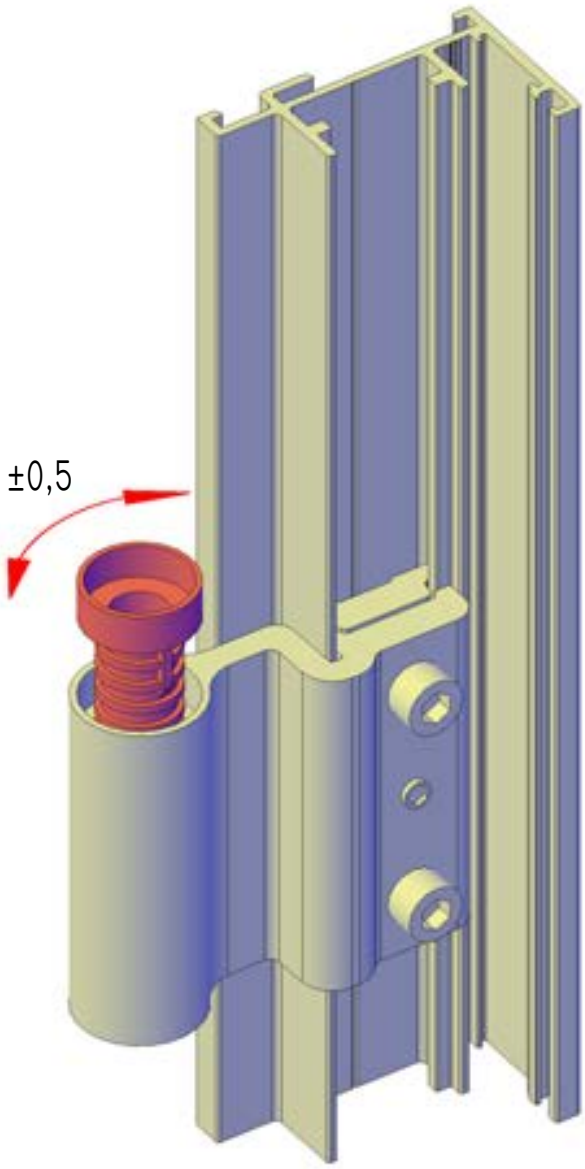


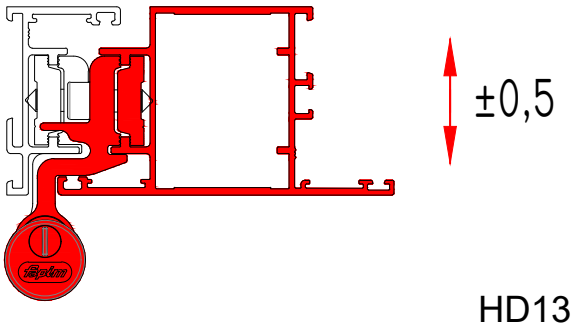
HD12

HINGE ADJUSTMENT (Up)



HINGE ADJUSTMENT (Front/Back)

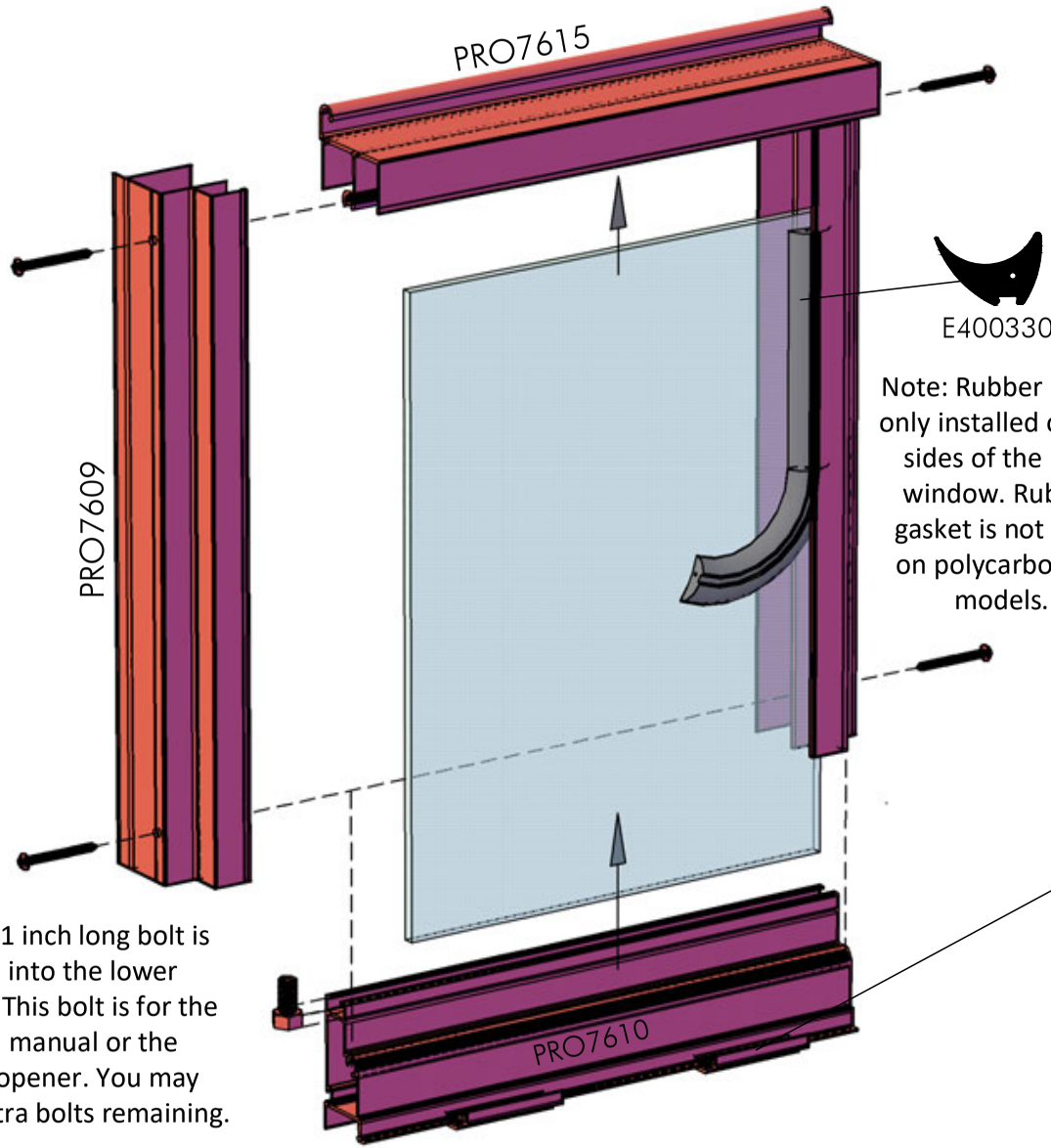




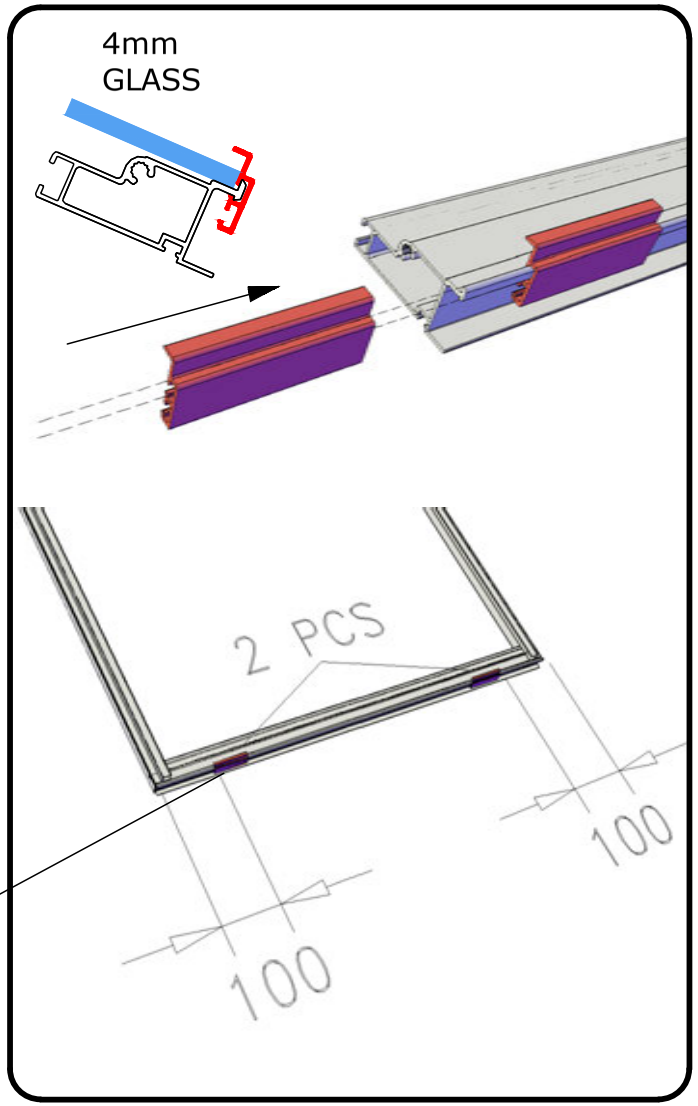
HD13

Roof Window /Vent - RW

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



Note: Rubber seal is only installed on the sides of the roof window. Rubber gasket is not used on polycarbonate models.

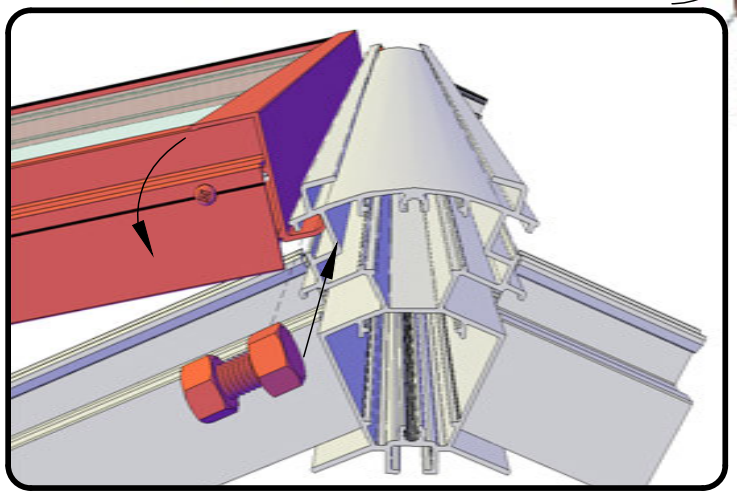


Note: A 1 inch long bolt is inserted into the lower profile. This bolt is for the optional manual or the spindle opener. You may have extra bolts remaining.

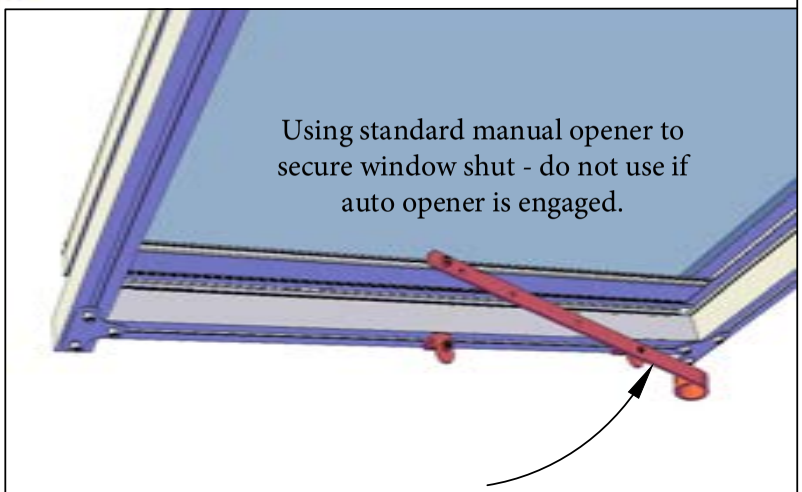
Roof Window Installation

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.

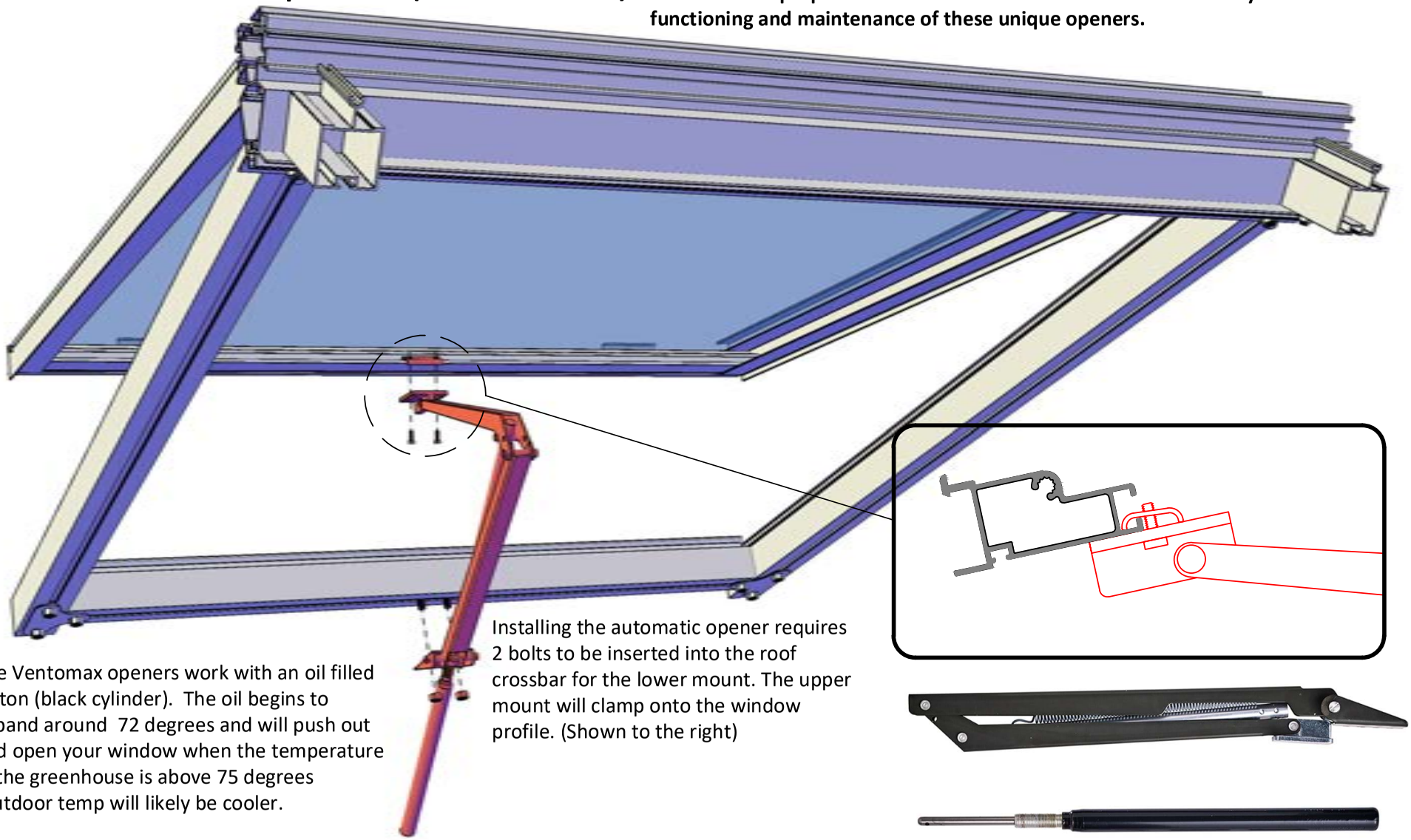


TO INSTALL: Slide window into the ridge beam from either end of the greenhouse. The "hook" on the top of the roof window profile will slide into the channel of the ridge beam (shown to the left).



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.

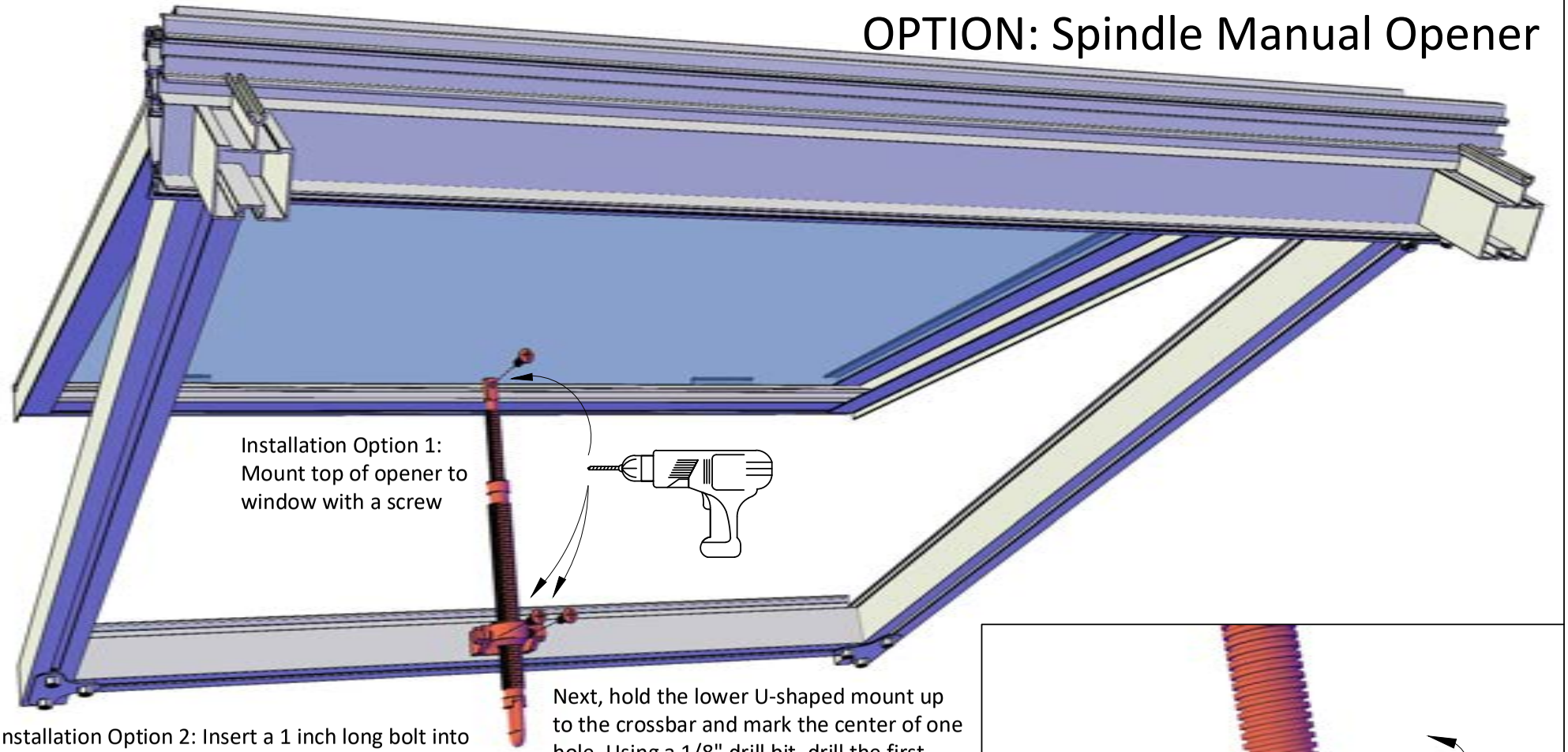


The Ventomax openers work with an oil filled piston (black cylinder). The oil begins to expand around 72 degrees and will push out and open your window when the temperature in the greenhouse is above 75 degrees (outdoor temp will likely be cooler.

Installing the automatic opener requires 2 bolts to be inserted into the roof crossbar for the lower mount. The upper mount will clamp onto the window profile. (Shown to the right)

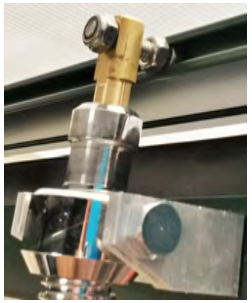
If you are struggling to install your piston and it is above 70 degrees, place the piston in cold water/ fridge for 10 minutes so the rod can retract.
Oil piston rod 2-3 times/year with a light oil such as WD40 or even olive oil.

OPTION: Spindle Manual Opener

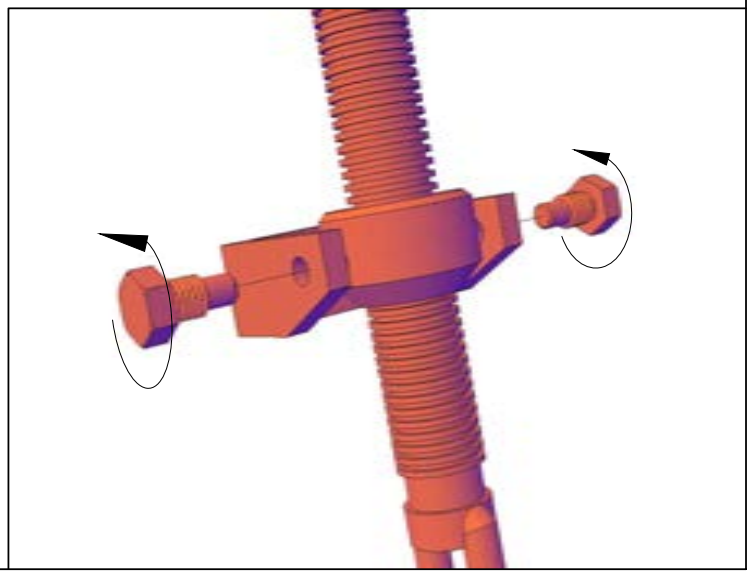


Installation Option 1:
Mount top of opener to window with a screw

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.

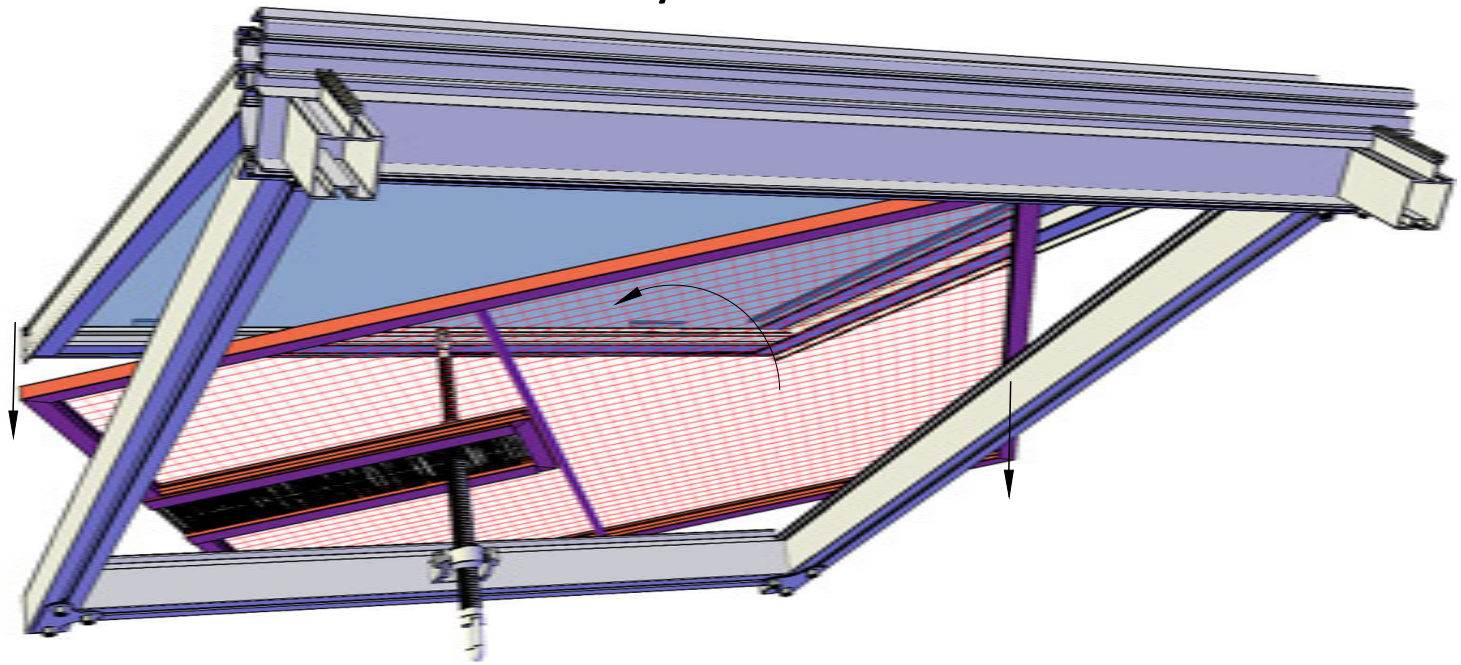


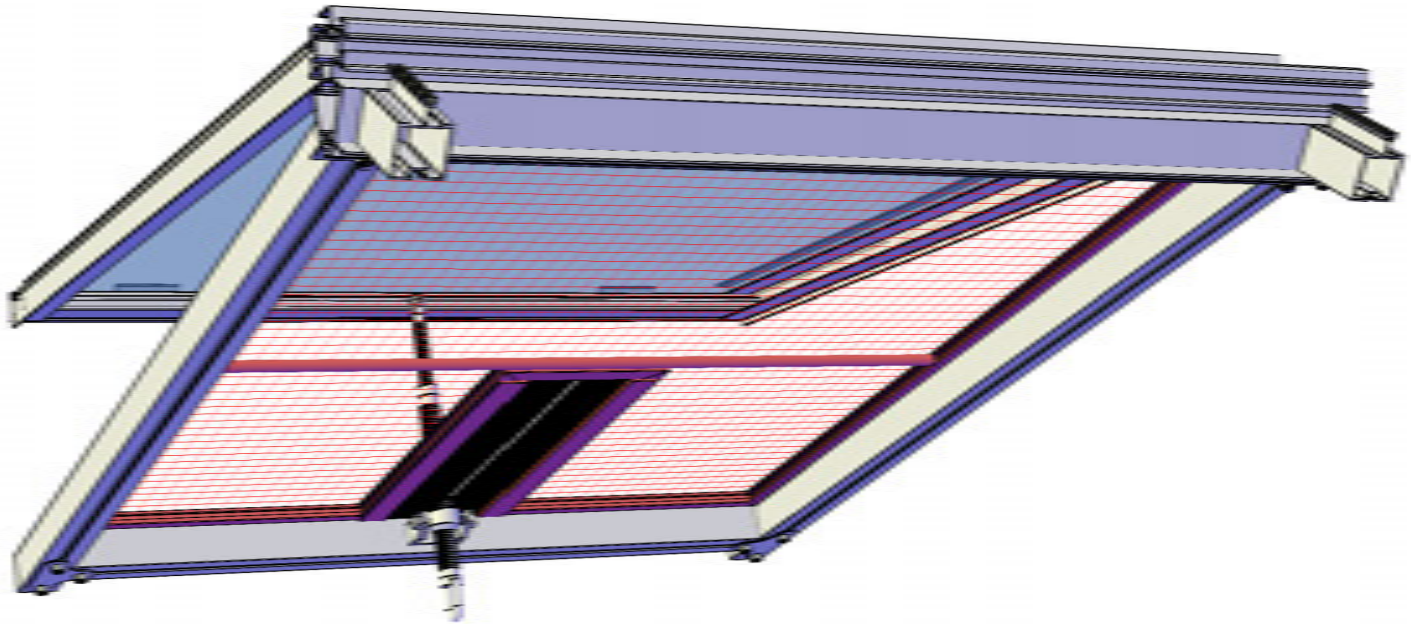
Next, hold the lower U-shaped mount up to the crossbar and mark the center of one hole. Using a 1/8" drill bit, drill the first hole, then screw the bracket on, check for level - then mark and drill the second hole. Slide the brass part of the opener over the bolt in the window channel. Use the supplied 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.



FW

OPTIONAL UPGRADE: Fly screen for roof vent





Louvre Window - All Standard Royal models include one louvred window

LV

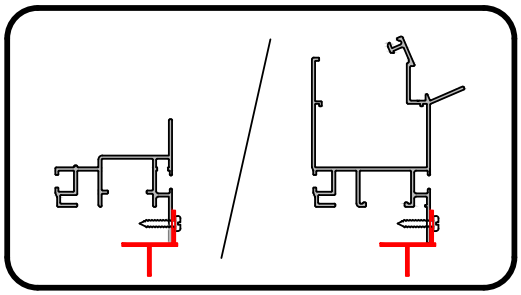
Note: All louvered window are <u>black</u> (even with green models)

Numbers below refer to steps in the following pages

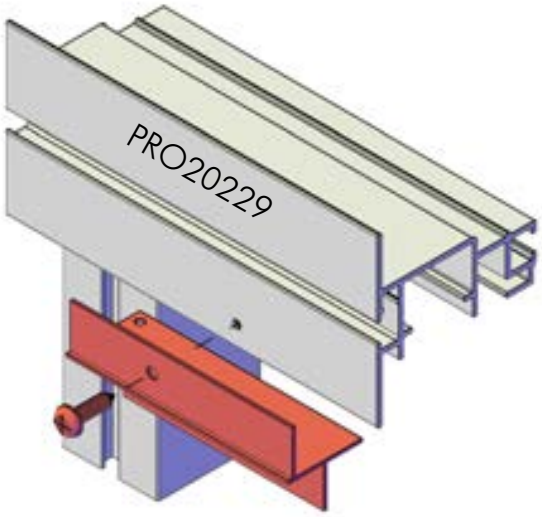
It is likely that your kit include an automatic opener (SESAM LIBERTY) for the louvre vent. Please refer to the Installation and Care manual packaged with the Sesam Liberty opener. You will need to remove the manual opener following the directions.

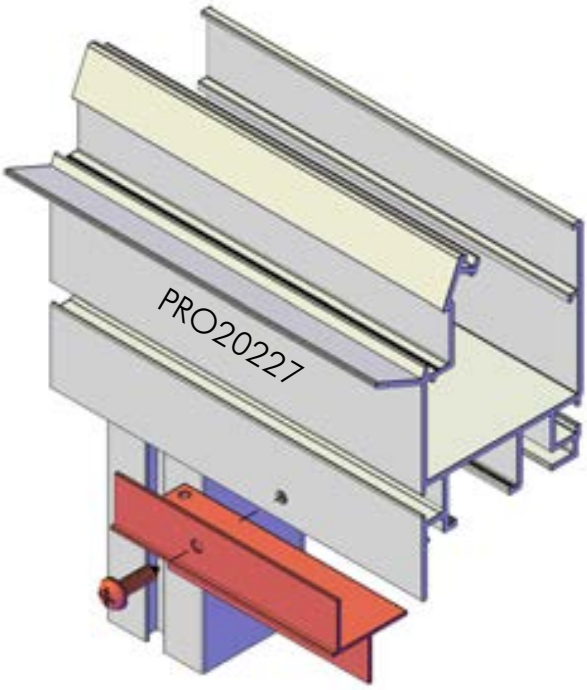
Piston maintenance: apply a light oil (WD40 or olive oil work) to the piston rod to keep it moving smoothly 2-3 times/year.

1

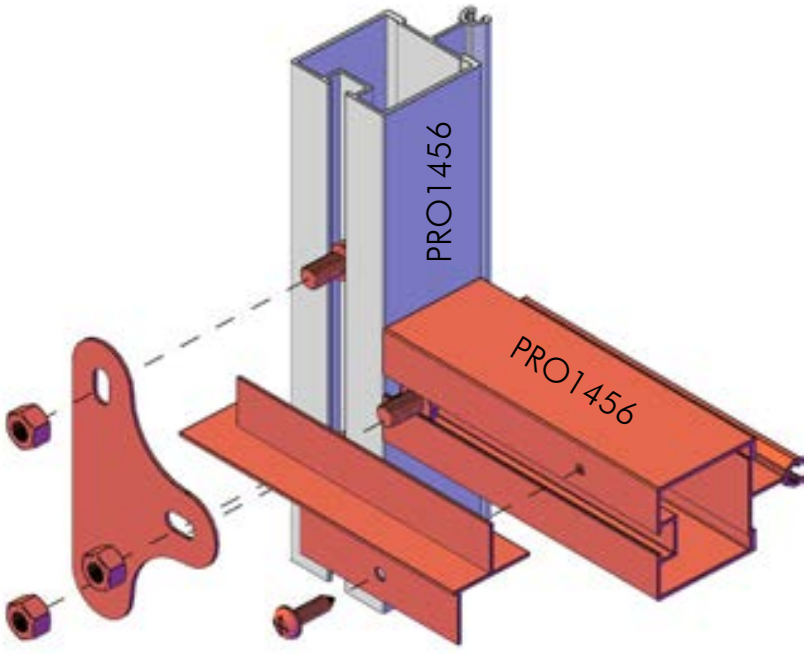


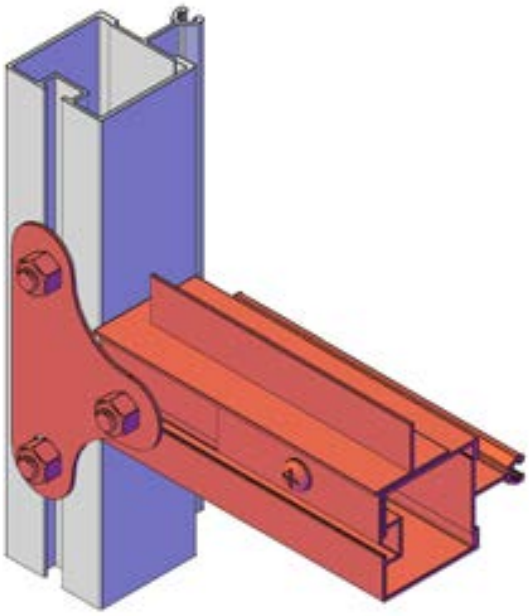
Louvred window may be installed on sidewall (under gutter profile (PRO20227)) or on gable end (under horizontal gable profile (PRO20229)). Both are shown to the left and below.



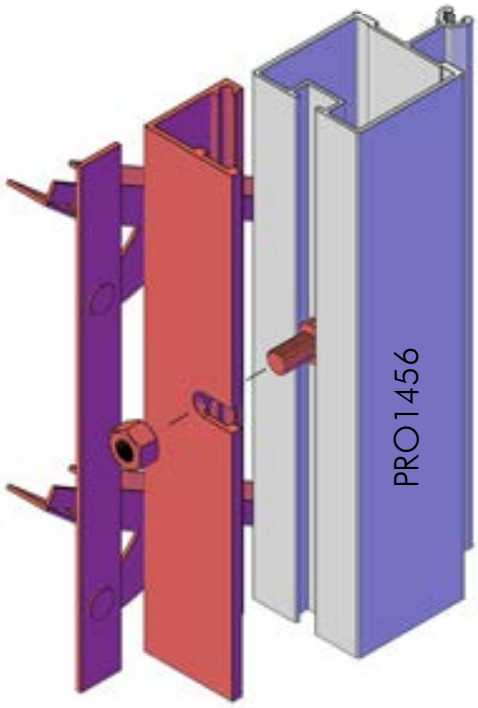


2





3

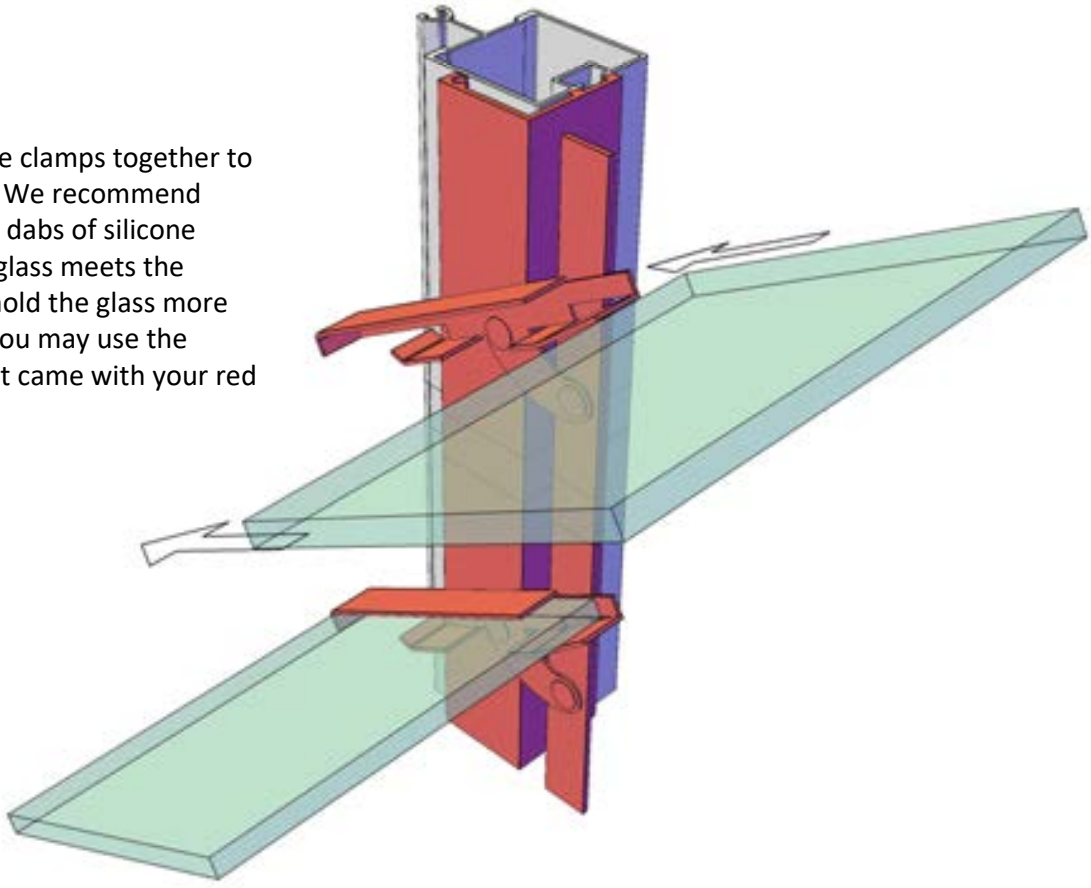


Insert a washer (not included) between black louvre frame and the greenhouse profile at all four bolt locations.

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

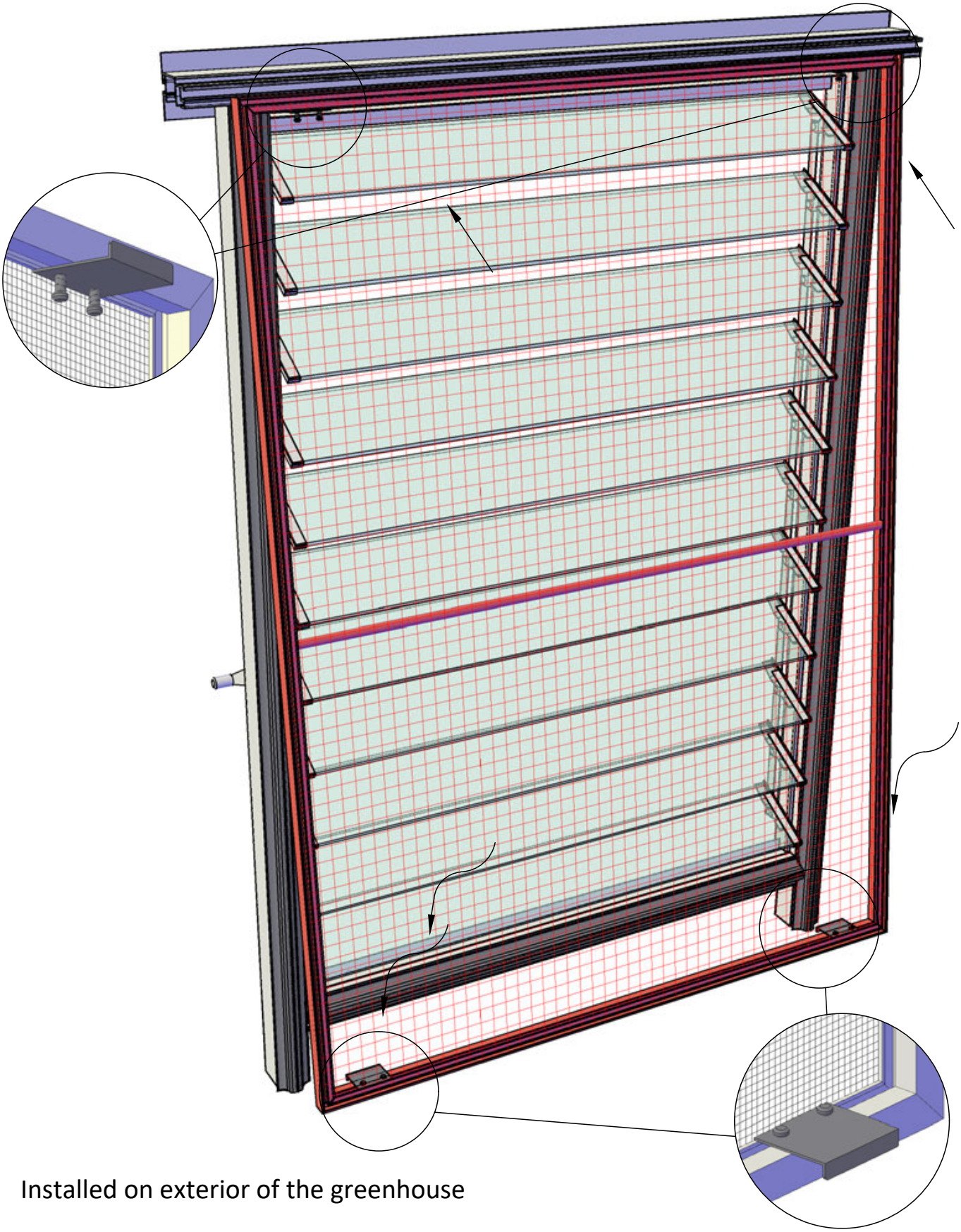
During cold weather, the louvered window may get drafty. Your kit includes as lexan cover to seal the louvers during this time.

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

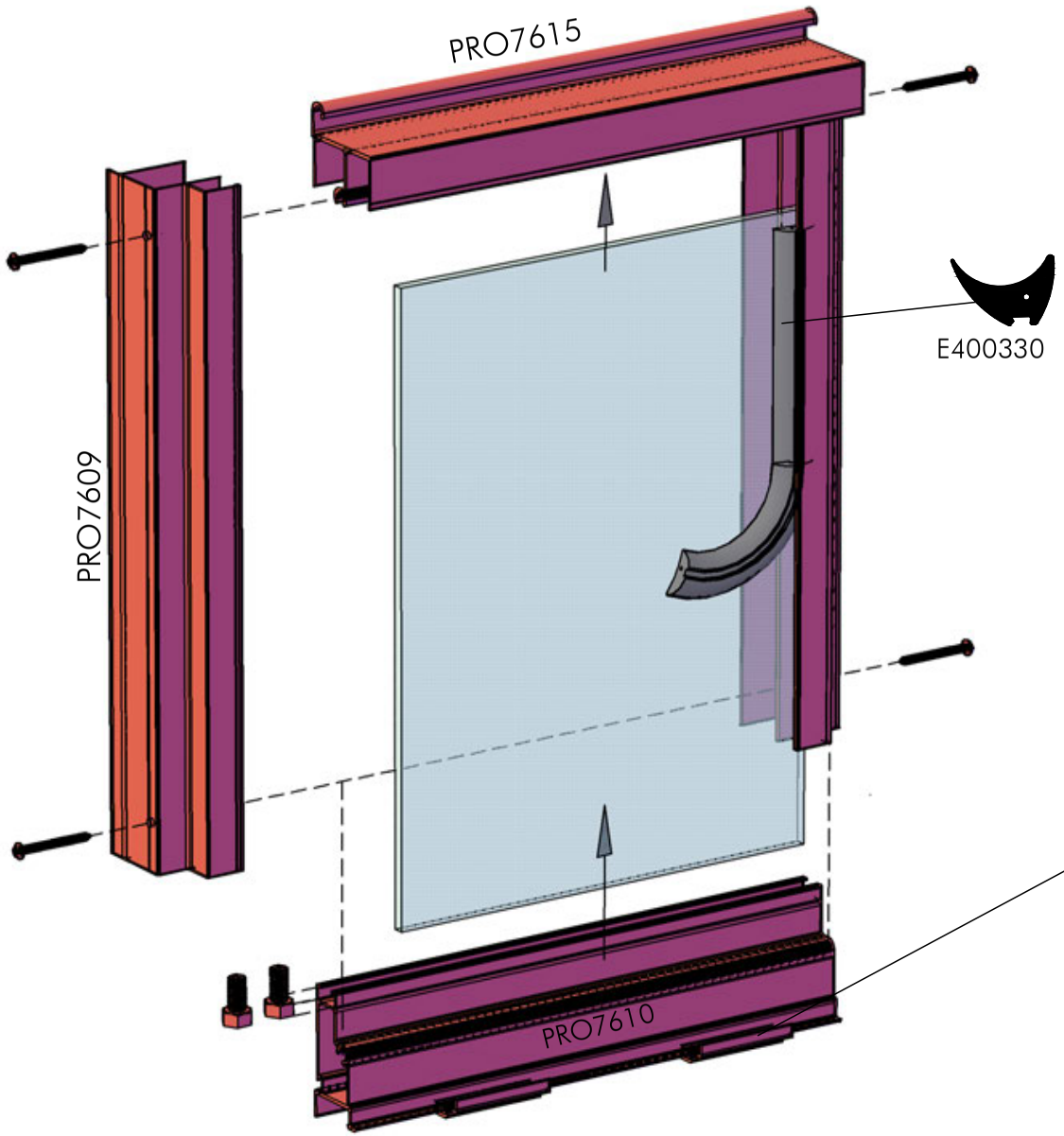
FLV

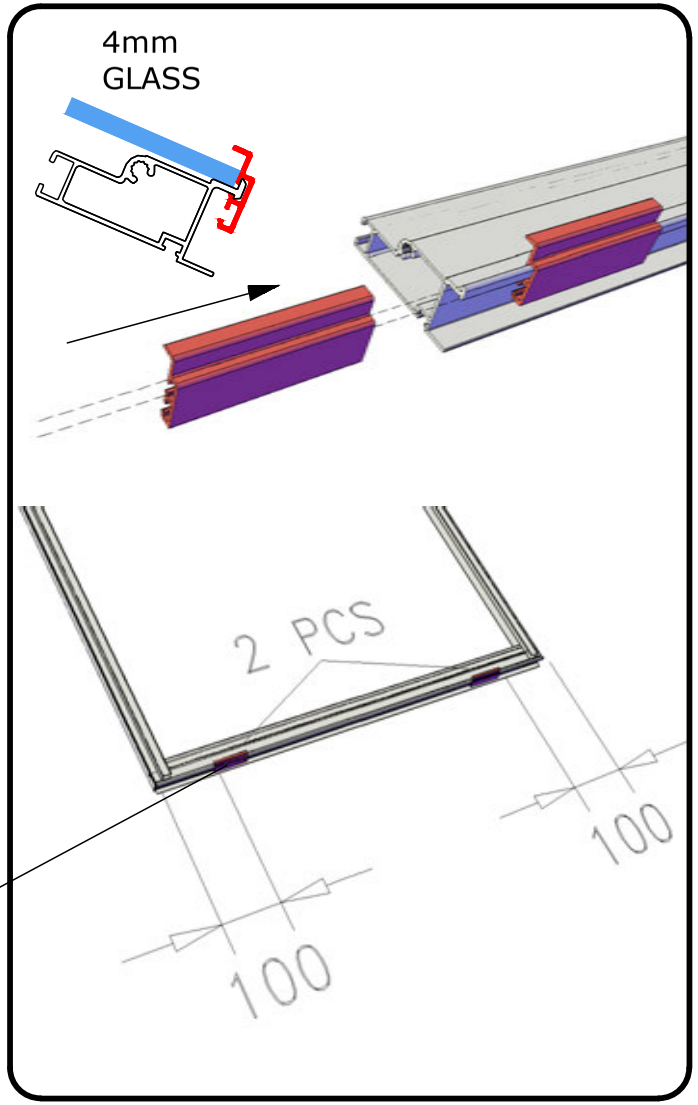


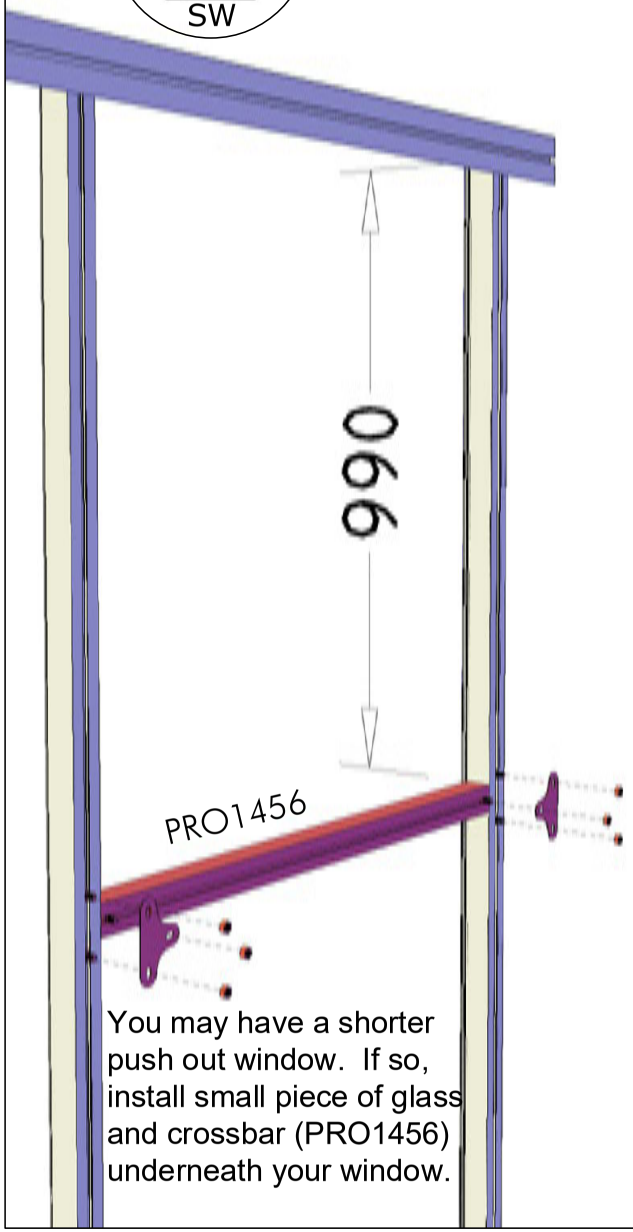
Installed on exterior of the greenhouse

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

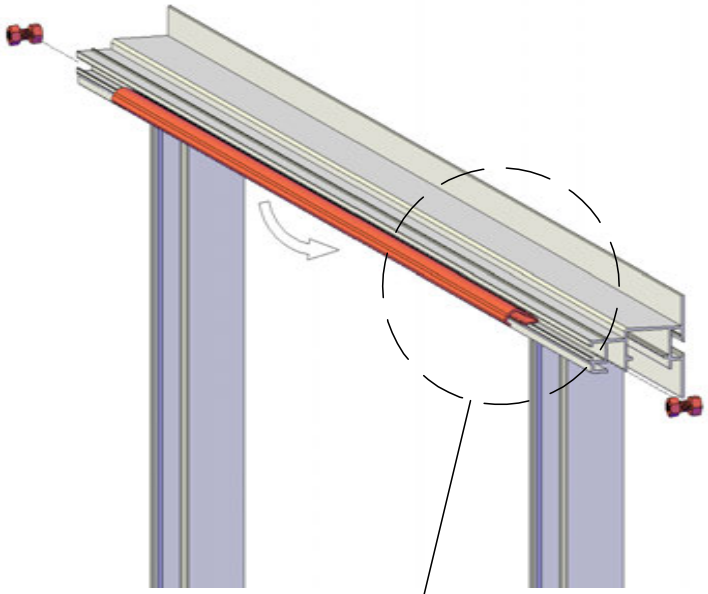
SW

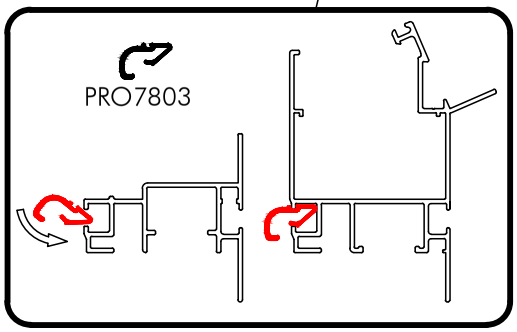


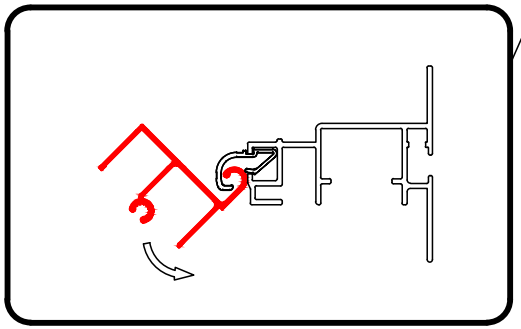


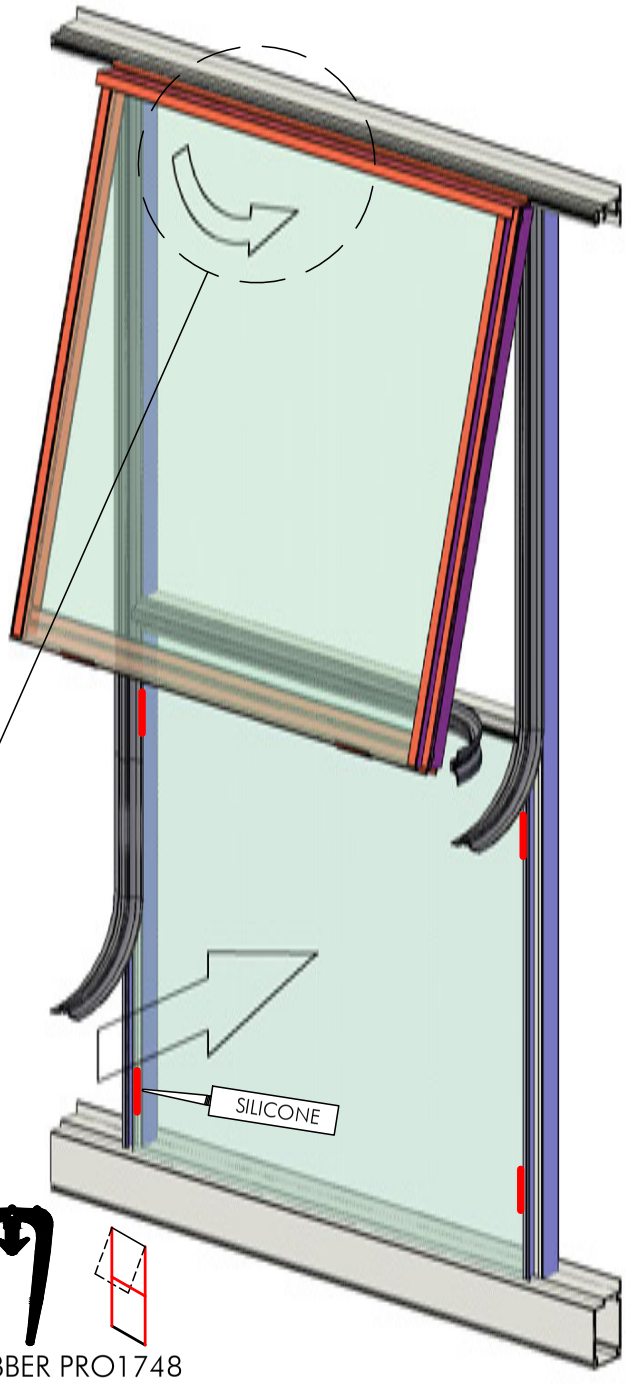


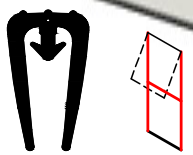
You may have a shorter push out window. If so, install small piece of glass and crossbar (PRO1456) underneath your window.

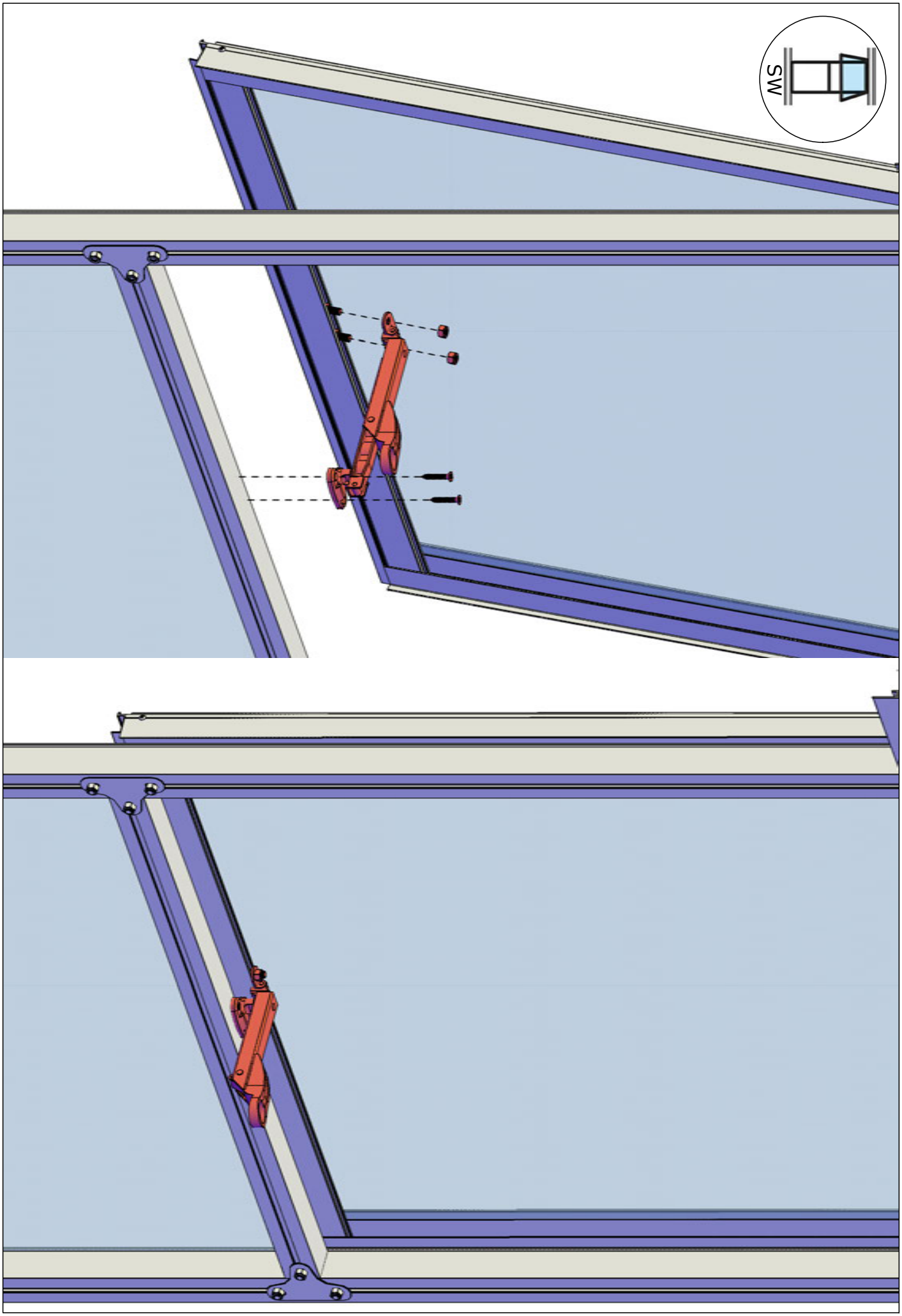




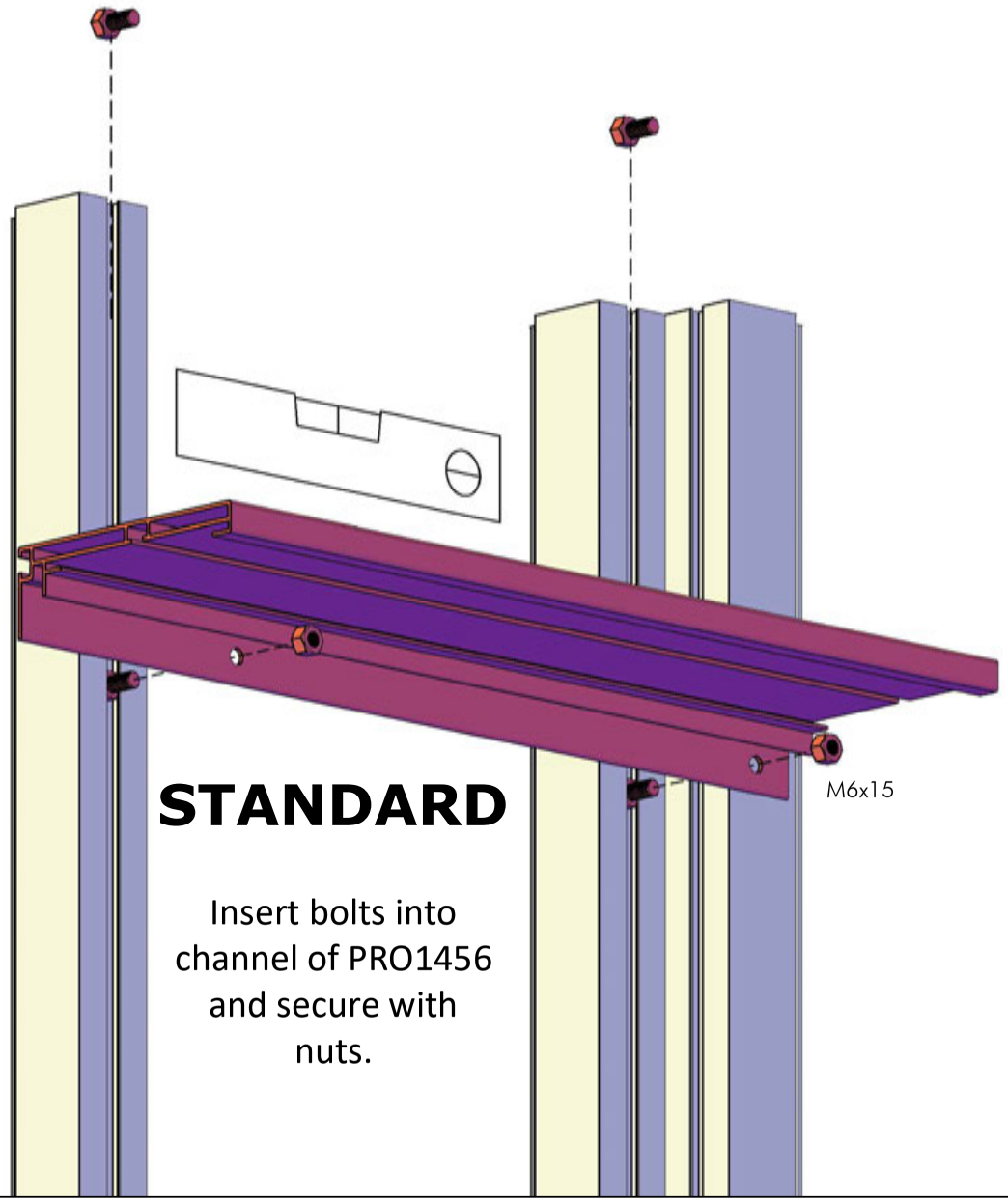






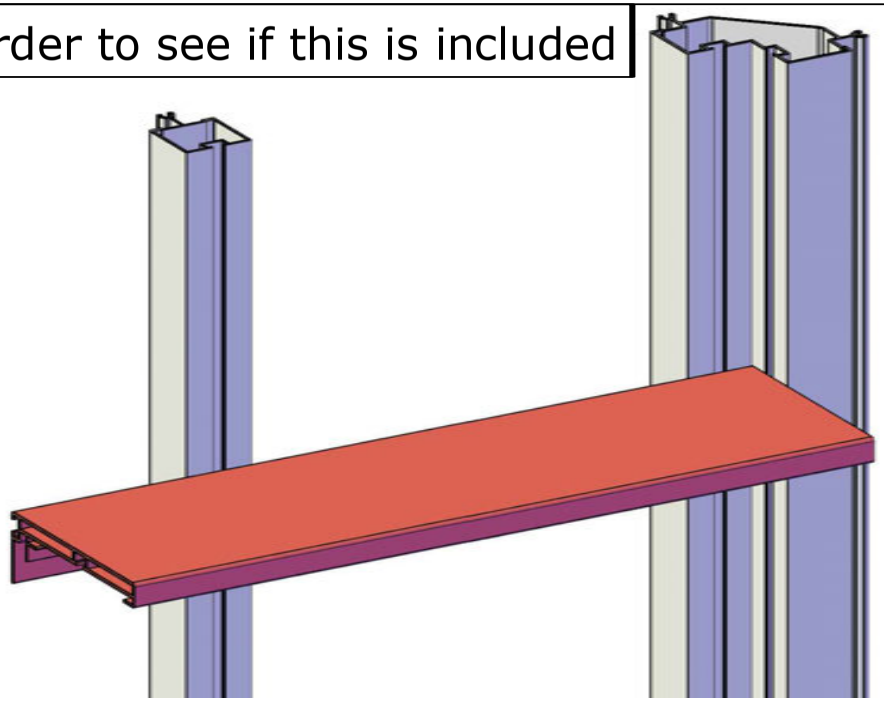

SW

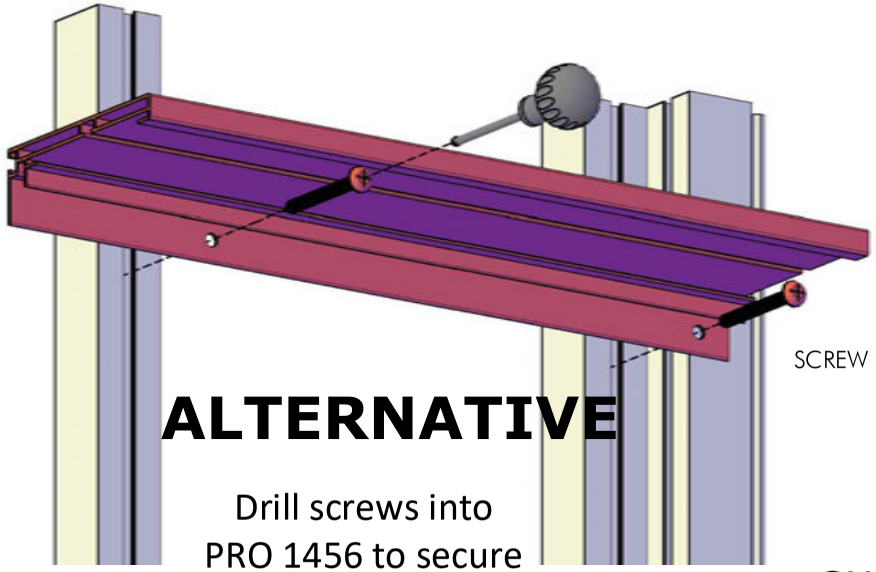
OPTION: Narrow Top Shelf - please check your order to see if this is included



STANDARD

Insert bolts into channel of PRO1456 and secure with nuts.



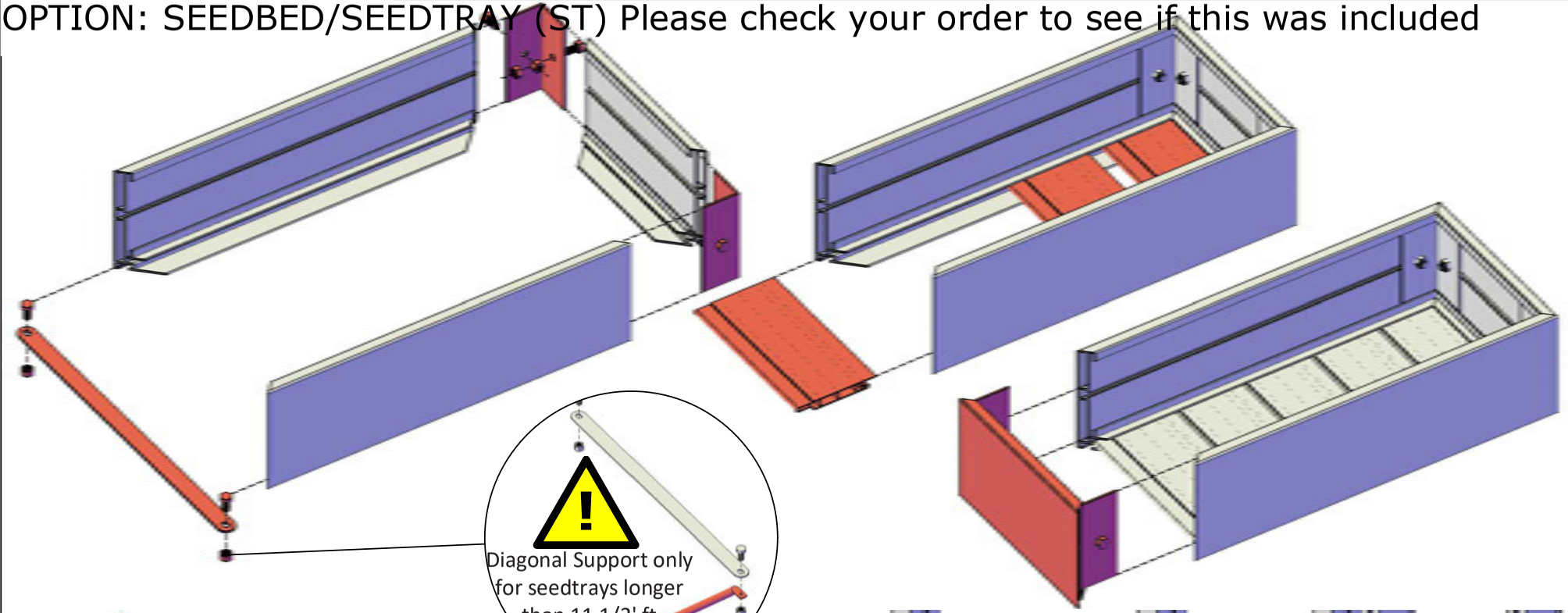


ALTERNATIVE

Drill screws into PRO 1456 to secure

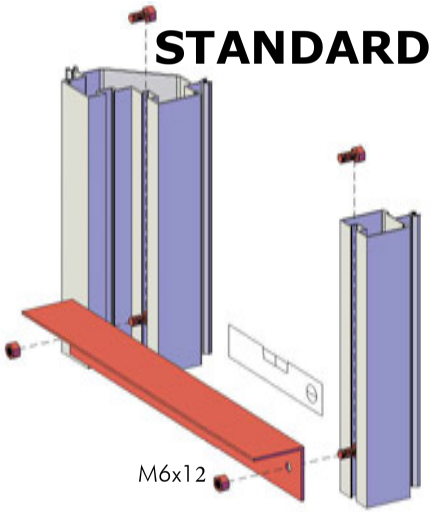
SH

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

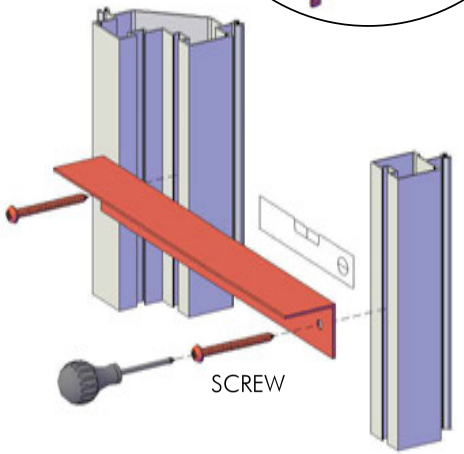


Diagonal Support only for seedtrays longer than 11 1/2' ft

STANDARD

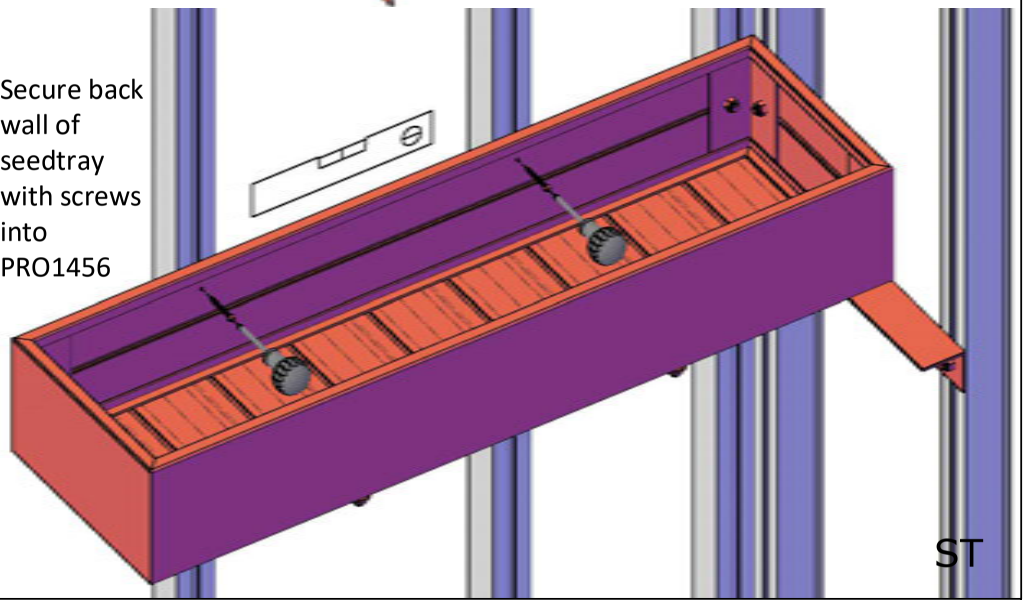


Attach L bracket to bolts inserted into corner post and PRO1456



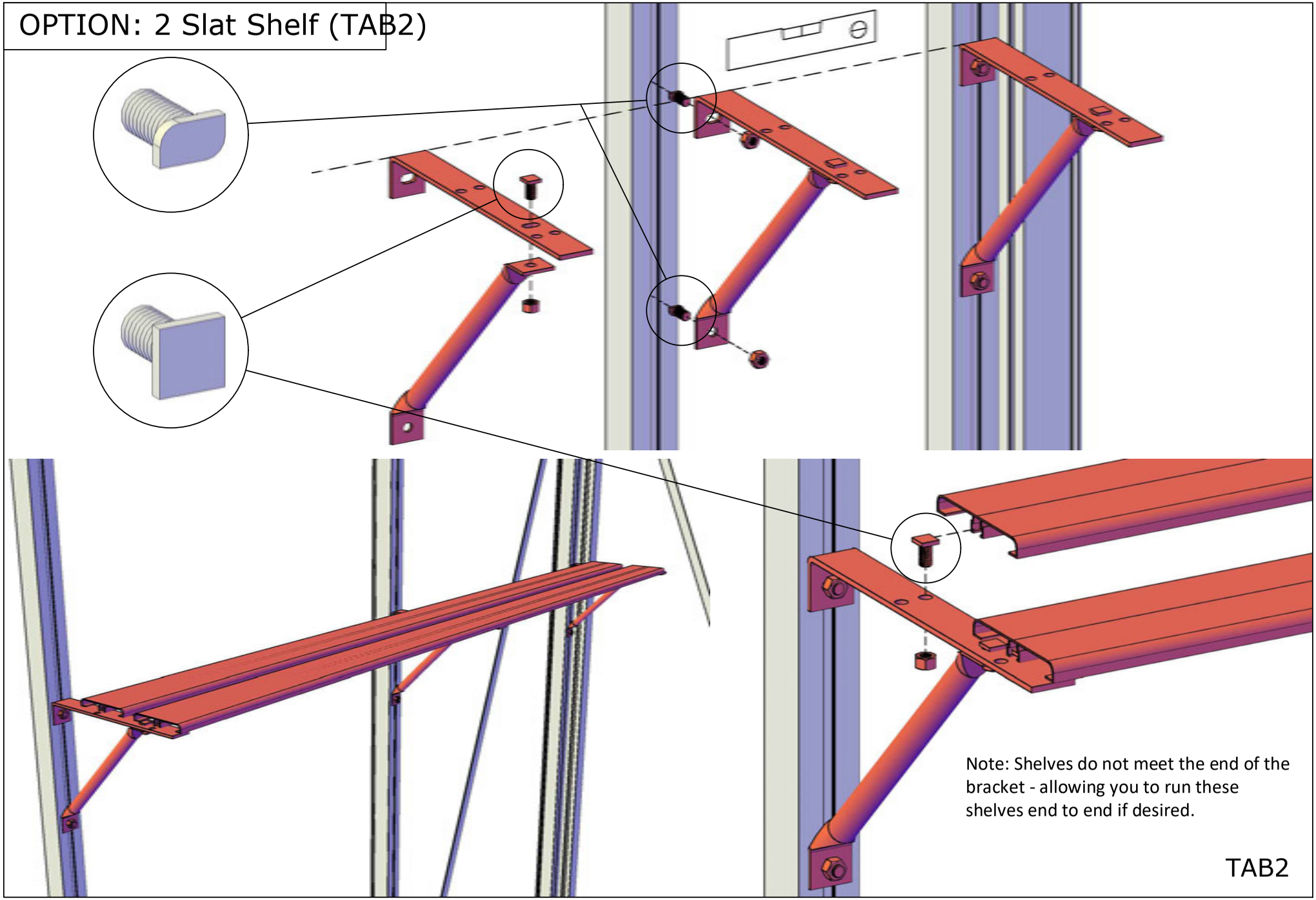
ALTERNATIVE

Secure back wall of seedtray with screws into PRO1456



ST

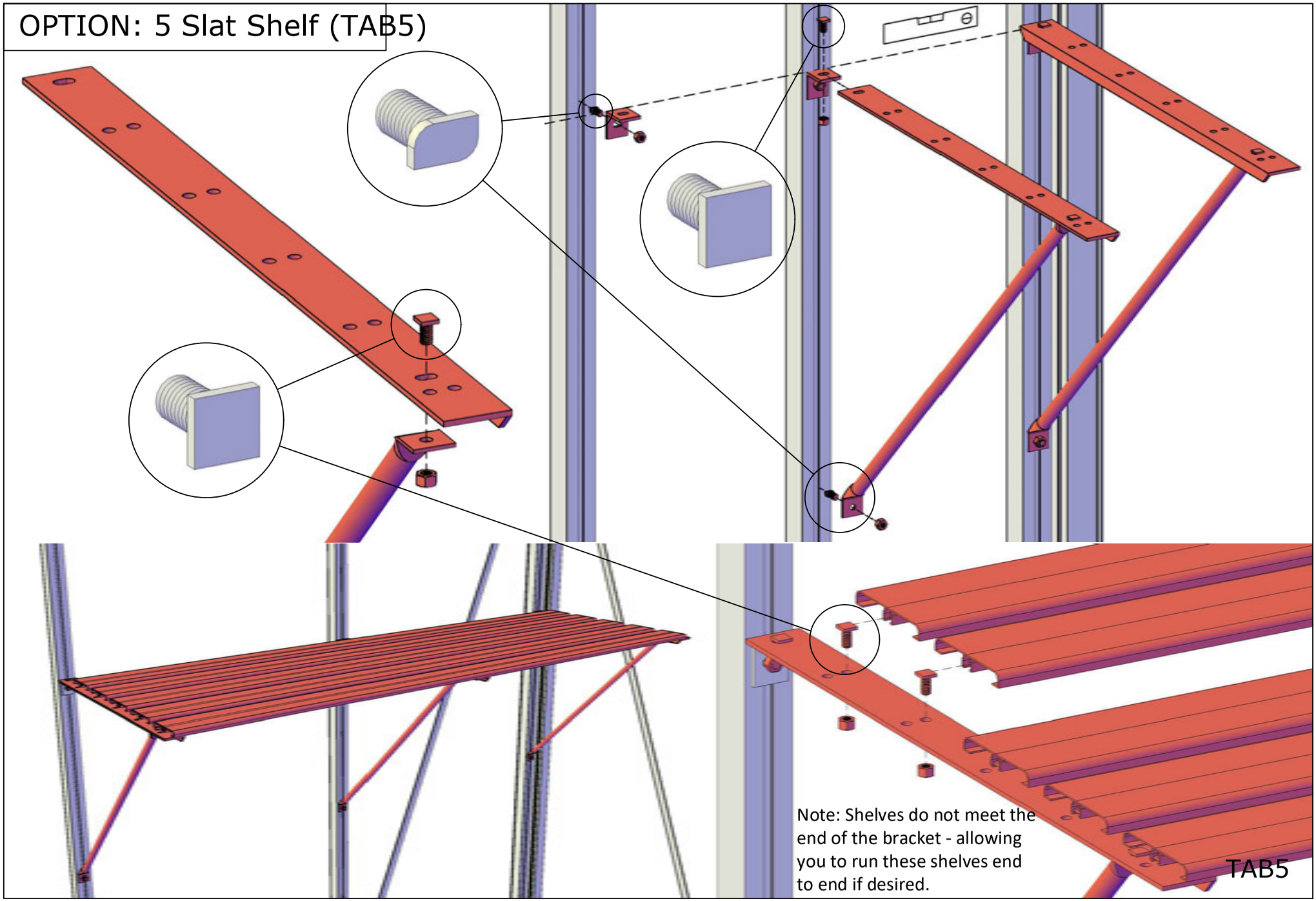
OPTION: 2 Slat Shelf (TAB2)



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

TAB2

OPTION: 5 Slat Shelf (TAB5)

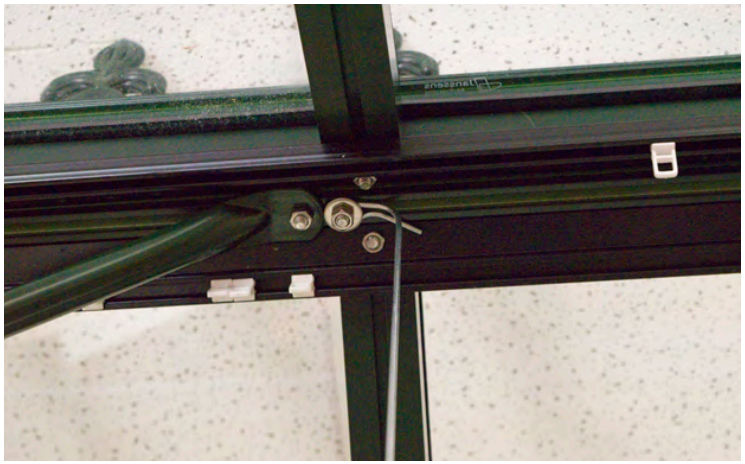


Note: Shelves do not meet the end of the bracket - allowing you to run these shelves end to end if desired.

TAB5

Misting System (If Equipped)

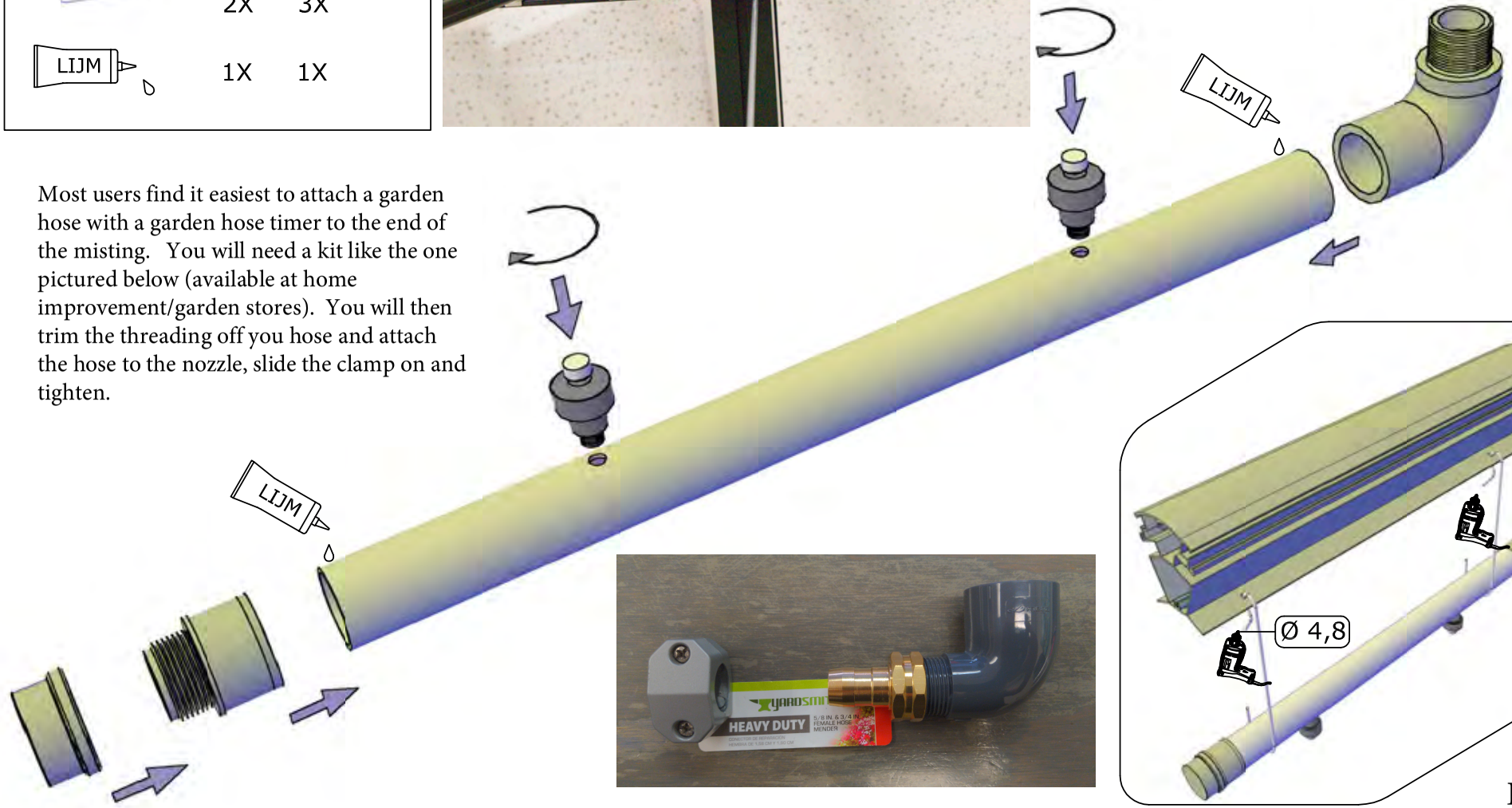
TYPE	Vi23 **310**	Vi34/36 **458**
	3X	4X
	1X	1X
	1X	1X
	2300	3300
	2X	3X
LIJM	1X	1X

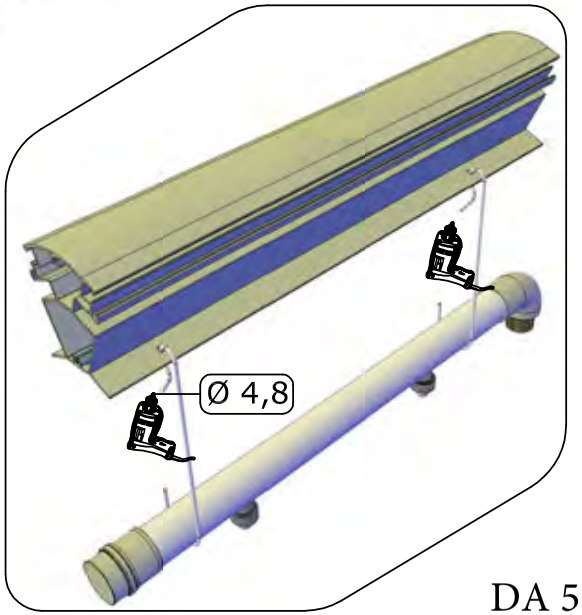


Note: If curtains are going to be installed, the misting system should be hung with bolts as shown to the left. The hangers will need top be bent into position.

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.





DA 5

Customer Service or Assembly Questions?

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customerservice@exaco.com
Exaco Trading
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Please watch our animated assembly video on our Exaco Trading Co YouTube Channel.
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