

Royal Victorian Greenhouse

VI23,34,36,46



Exaco Edits 04.01.24
Janssens Version 2024.01

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.**



www.exaco.com

877-760-8500

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

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Customer Service or Assembly Questions?

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Please watch our animated assembly videos on our Exaco YouTube Channel. Find the link at www.exaco.com

OR Scan the code below:



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

Questions? Need Assembly Support?

Please call Exaco at 877-760-8500 or email customerservice@exaco.com.

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

Introduction

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

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

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

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.
- When installing AGAINST a wall, this wall must be stable, level, and square.
- 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, as well as the wood of the glass pallet 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.

Basic Foundation Guidelines

- It is recommended that the greenhouse must be placed on a sufficient load-bearing (concrete) foundation that is deep enough to reach up to a solid frost-free ground.
- The dimensions of our aluminum structures 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.
- In some cases (small rectangular greenhouses), it is also possible to anchor only the 4 corners of the greenhouse. (in this case, we do not recommend the lowered threshold as it will not be properly supported by bare ground.
- Get detailed advice on the foundation from your local professional – climate/regional requirements may vary.
- The anchoring as well as the routine checking of the condition must always be provided by the owner or operator.
- Additional information on foundation and anchoring can be found further on in the section on “Foundation and Anchoring”

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.

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

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



Refer to the Exaco YouTube Playlist for the 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.

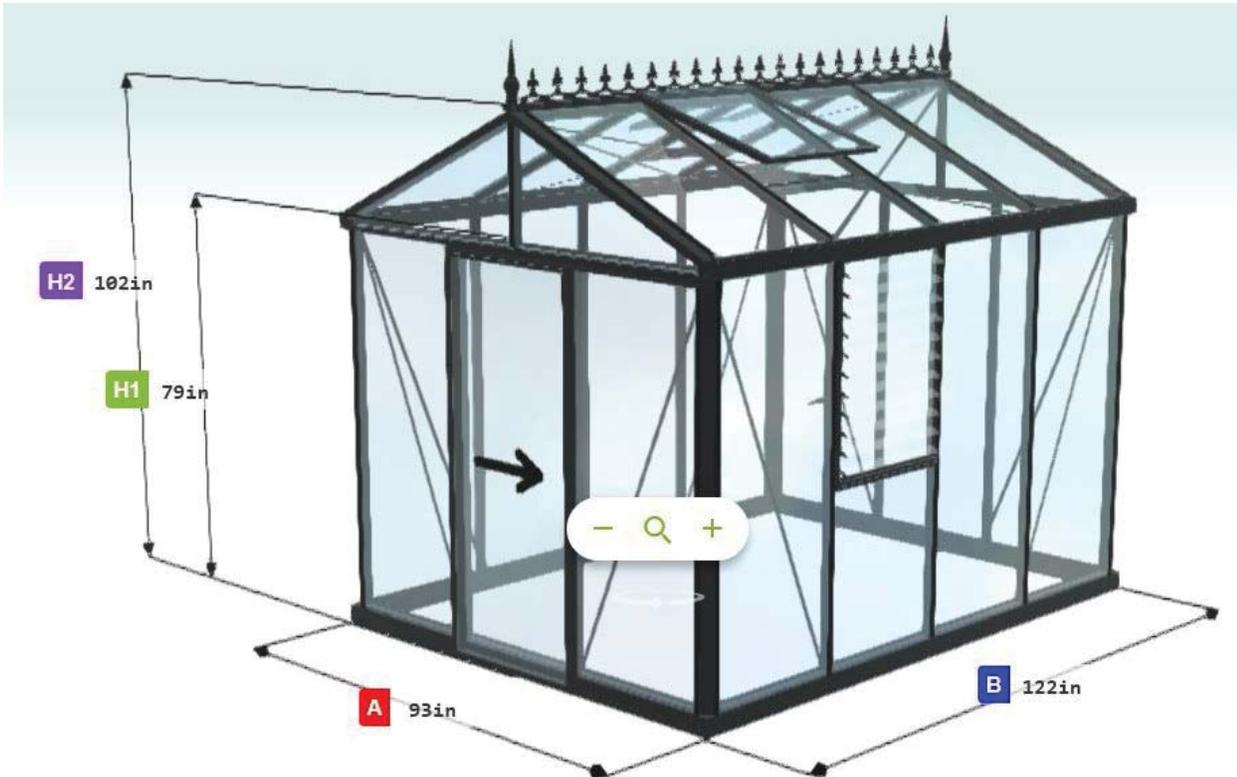
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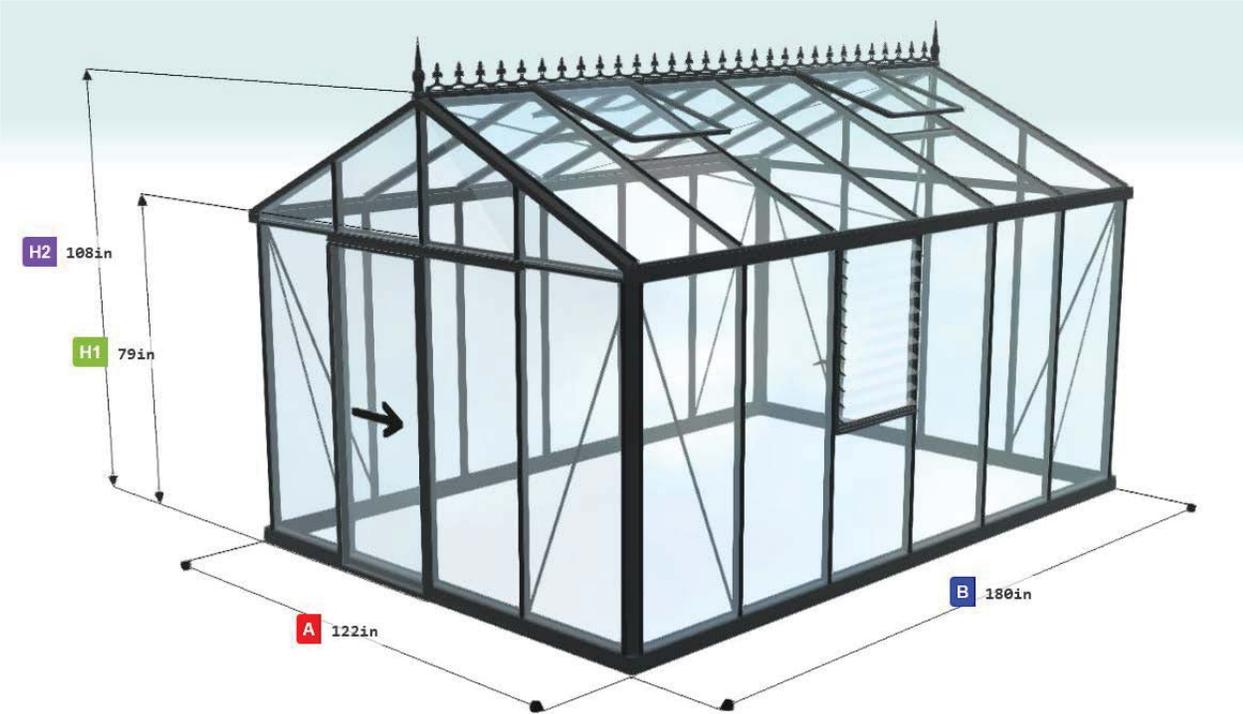


Royal Victorian Greenhouses come standard with the following: (additional accessories/kits may be added)

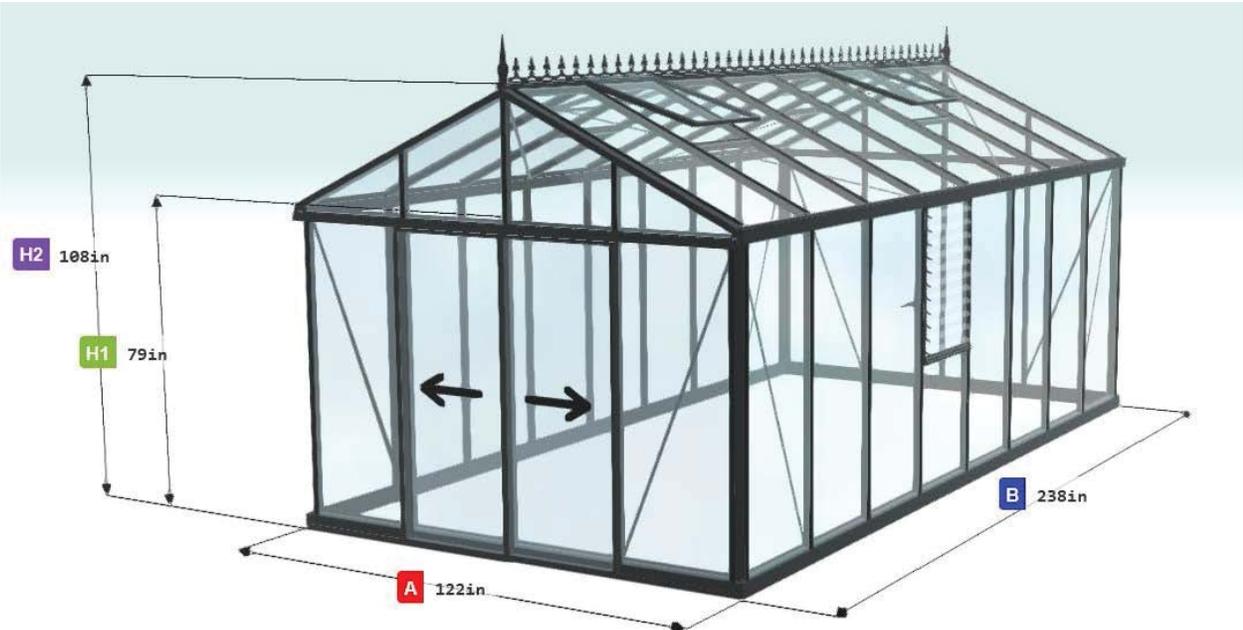
VI 23 (7'9" x 10'2") - Foundation frame/base, single sliding door, two roof vents (1 automatic opener, 1 spindle opener), one louvered window (with optional auto opener and winter cover), misting system, gutters and downspouts.



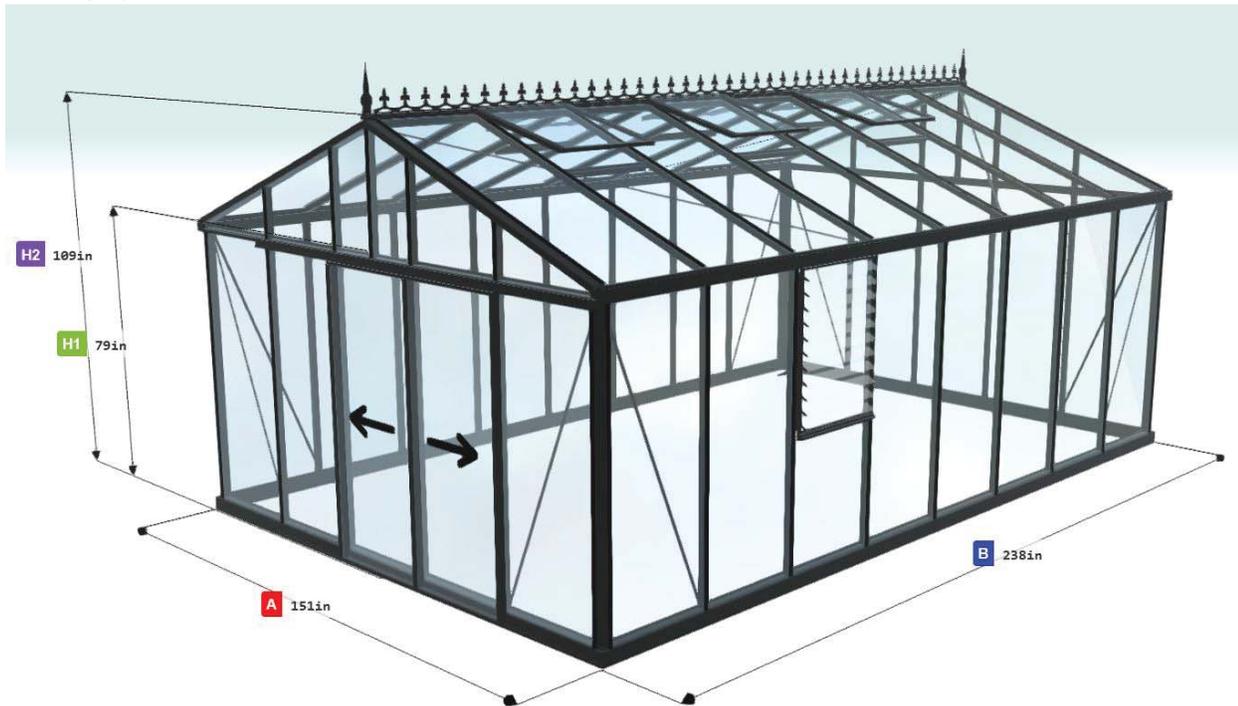
VI 34 (10'2" x 15') - Foundation frame/base, single (or double for most models shipped after April 2024) sliding door, three roof vents (2 automatic openers, 1 spindle opener), one louvered window (with optional auto opener and winter cover), misting system, gutters and downspouts.



VI 36 (10'2" x 19'10") - Foundation frame/base, double sliding door, four roof vents (2 automatic openers, 2 spindle openers), one louvered window (with optional auto opener and winter cover), misting system, gutters and downspouts.



VI 46 (12'7" x 19'10") - Foundation frame/base, double sliding door, six roof vents (4 automatic openers, 2 spindle openers), one louvered window (with optional auto opener and winter cover), and misting system.



Doors

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

Door Options:

- **Sliding Doors:** Single or double options are available. The sliding door/s of the greenhouse hang/slide along the outside of the greenhouse and feature brush weatherstripping. Keyed locks attached at the bottom of the door. Double doors will have no center support. For standard kits, the sliding door threshold will be the 4 ½" high base frame unless a low threshold kit (see below) is purchased. If you are building on a stem wall - please note special considerations for sliding doors on stem walls before building your stem wall.
- **Low Threshold Kits:** Standard greenhouse sliding doors will have the 4 ½" base frame as the threshold for the doorway. The upgrade to a low threshold kit requires cutting the base frame at the doorway to allow installation of a 1" high threshold to secure the sliding door guide and make walking in and out of the greenhouse easier. 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 upgrade, but are significantly more challenging. We recommend installation by a highly skilled handyman. The hinged doors are time-consuming, require adjustments, and special tools (such as a grinder) may be needed. The doors are inset into the frame of the greenhouse and are further weatherproofed with rubber

gaskets. The doors feature their own door jamb including low threshold and high-quality adjustable hinges for easier hanging. Traditional handles with a keyed lock will keep your greenhouse secure. Double or single hinged doors are available. A hinged door can be easier to work with if the greenhouse is placed on a stem wall. It is preferable to order a hinged door with the greenhouse as the hinged doors must be sent via freight truck and shipping costs can be prohibitive if shipped at a later date.

- **Drop Door Kits –**

- You may choose to place your “ground mount” greenhouse on a knee/stem wall. If you do this, you will need to 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.
- We strongly recommend upgrading 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.
 - Additionally, 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”, “Sliding Door/s on a Stem Wall with Drop Door Kit” and “Hinged Door/s on a Stem Wall with Drop Door Kit”

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Number of doors vary by size of greenhouse:

- **VI 23** standard greenhouse includes one single sliding door. This model has 3 wall panes on the gable end and 4 on the longer side. A single door may be easily centered on the gable end, but will be placed off center on the long side.
- **VI 34** standard greenhouse includes one single sliding door. Models shipped after April 2024 may include double doors. This model has 4 wall panes on the gable end and 6 on the longer side. A single door will not be centered on either wall. Door upgrades are available if desired.
- **VI 36** standard greenhouse includes a double sliding door. This may be placed as a double door opening (with no center support) OR as two single sliding doors. This model has 4 wall panes on the gable end and 8 on the longer side. A double door opening may be centered on either side, a single door opening will not be centered. If placing a double door on the long side, please see note below regarding “Special Considerations for VI36 and VI46”.
- **VI 46** standard greenhouse includes a double sliding door. This may be placed as a double door opening (with no center support) OR as two single sliding doors. This model has 5 wall panes on the gable end and 8 on the longer side. A double sliding door may be centered on the long side (please see notes below on “Special considerations for VI 36 and VI46”), but can only be centered on the gable end with additional parts and customization on site (please see notes on “Customizing Door Placement”).
- **Retro Victorian Greenhouses** come standard with hinged double doors regardless of size and will also include push-out (top hang) window/s rather than a louvered window.

Special Consideration for VI 36 and VI46 Door Placement: These two models include a set of 3 Spandrels/Deco Scroll Supports to help support the long profiles/extrusions of the greenhouse. These attach at the gutters and ridge beam at the midpoint of the greenhouse. They will interfere with centering a double door on the long side of the greenhouse as the spandrel at the gutter needs to attach to the rafter and the vertical glazing bar. Find information on the spandrels in the table of contents.

There are a few options to remedy this while still centering the double door on the long wall:

- Purchase one additional spandrel to have a pair that may be installed to the left and the right of the door. The spandrel for the ridge and opposite gutter will remain at the midpoint. This option looks nice, provides sufficient support and will minimally interfere with a shadecloth. The shadecloth will still meet at the midpoint at the opposite gutter and ridge beam but will be separated at the doorway due to the spandrels.
- Purchase an additional set of three spandrels, install one set of three to the right of your doorway (at gutters and ridge) and the other set of three to the left of your doorway (at gutters and ridge). This is a good option for areas with heavier snow/wind requirements, but will interfere with the shadecloth - as it will not slide past the spandrels. See shadecloth diagrams in the table of contents. If desired, you may purchase additional narrow panels of shadecloth to cover the sections where the doorway is.

Please note if you have your greenhouse on a stem wall with a “drop door” kit, the above methods are still recommended as it is best to shift the weight down to the glazing bars to the right and left of your double doorway rather than down the header (which is not supported).

Custom Centering a Door on a Wall

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

Windows

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

• Roof Vent Openers

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

• Louver/Jalousie Side Wall Window

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

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

Optional Accessories

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

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

Placement of the Greenhouse

The placement of the greenhouse varies by intended usage, climate, location, and space available. There is a wealth of information to be found online on this subject, here are some considerations:

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

exposure. It may help to watch the seasonal variations of sun angles in your yard to determine the placement.

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

Foundation and Anchoring

All greenhouses must be securely anchored. All Victorian greenhouses include corner brackets attached to the foundation/base frame that extend an additional 12" below ground level. The VI 36 and 46 include an additional pair to use at the midpoint of the long wall. 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.

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

Alternatively, you may also choose to anchor the greenhouse by trimming the corner anchors off at ground level, cutting them in sections to be used as L brackets to secure the greenhouse frame to your anchoring surface with the appropriate hardware. An additional method of anchoring using concrete screws (not included) through the base frame may be used. Please see the following pages for these alternative options. Please choose the method best suited for your site and wind load.

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

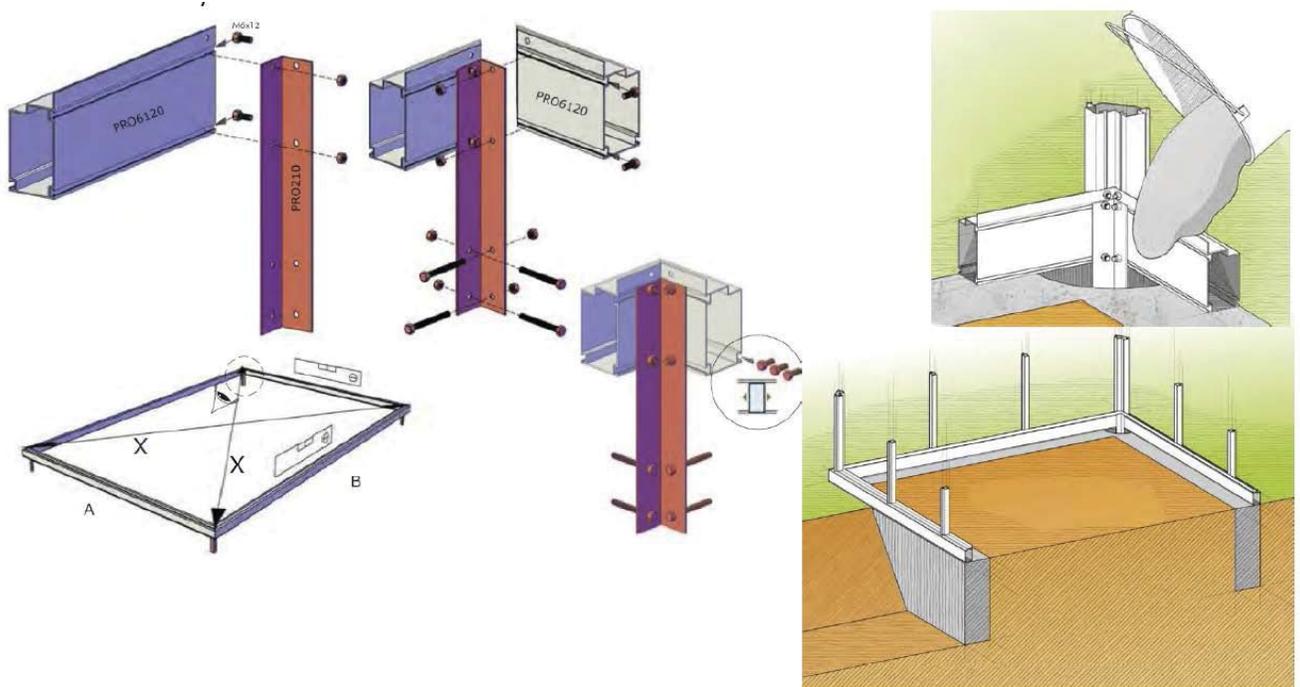
If a permit is needed in your area, we do have structural certification letters and permit sets for most of our greenhouses. They are Texas stamped. We may be able to obtain other state stamped documents, however if you need them specific to your state, we do not cover this expense. Your local

engineer may reach out to our Texas engineers for documents if needed. Please contact Exaco if structural documents are needed.

Anchoring Options (detail):

OPTION 1: Embedding the anchors into your concrete – most secure, manufacturer recommended.

It is recommended to leave a 4" 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 4" wide in diameter.

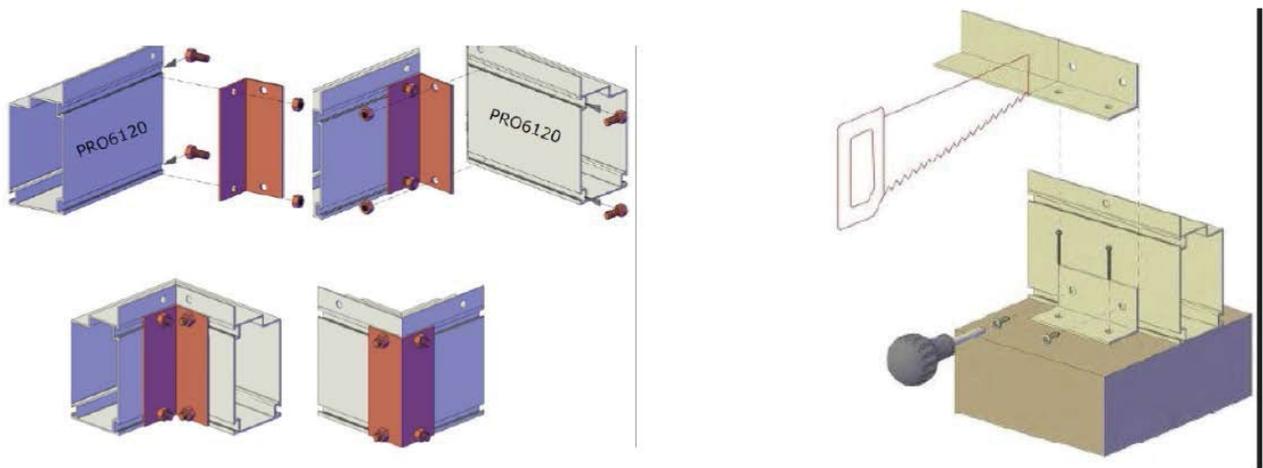


OPTION 2: Cutting the anchors and use concrete screws/self-tapping screws

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

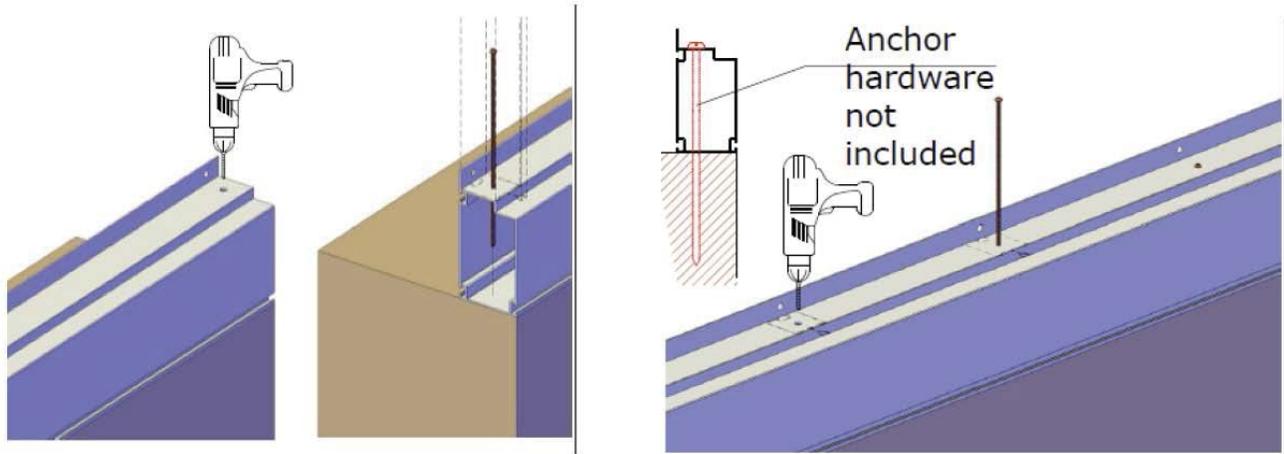
Steps:

- You will have (4) 15 3/4" long L brackets. VI 36 & 46 will have (6) long L Brackets-Cut off 4" of the L bracket to connect the foundation frame pieces together.
- Cut the remaining 11 3/4" into thirds and flip horizontally 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: 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.

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

Ventilation and Cooling of Greenhouse

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

- Shadecloth - Janssens makes an interior shadecloth system
- Exhaust Fan - recommended to be installed in the gable of the greenhouse to blow out the hottest air. Replace a glass pane with a lexan panel into which you can mount the fan. Many exhaust fans will use an external thermostat to control at what temperature it turns on and off. Place the exhaust fan opposite your louver window to create a cross breeze. For the most effective cross breeze, it is often recommended to close roof 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.

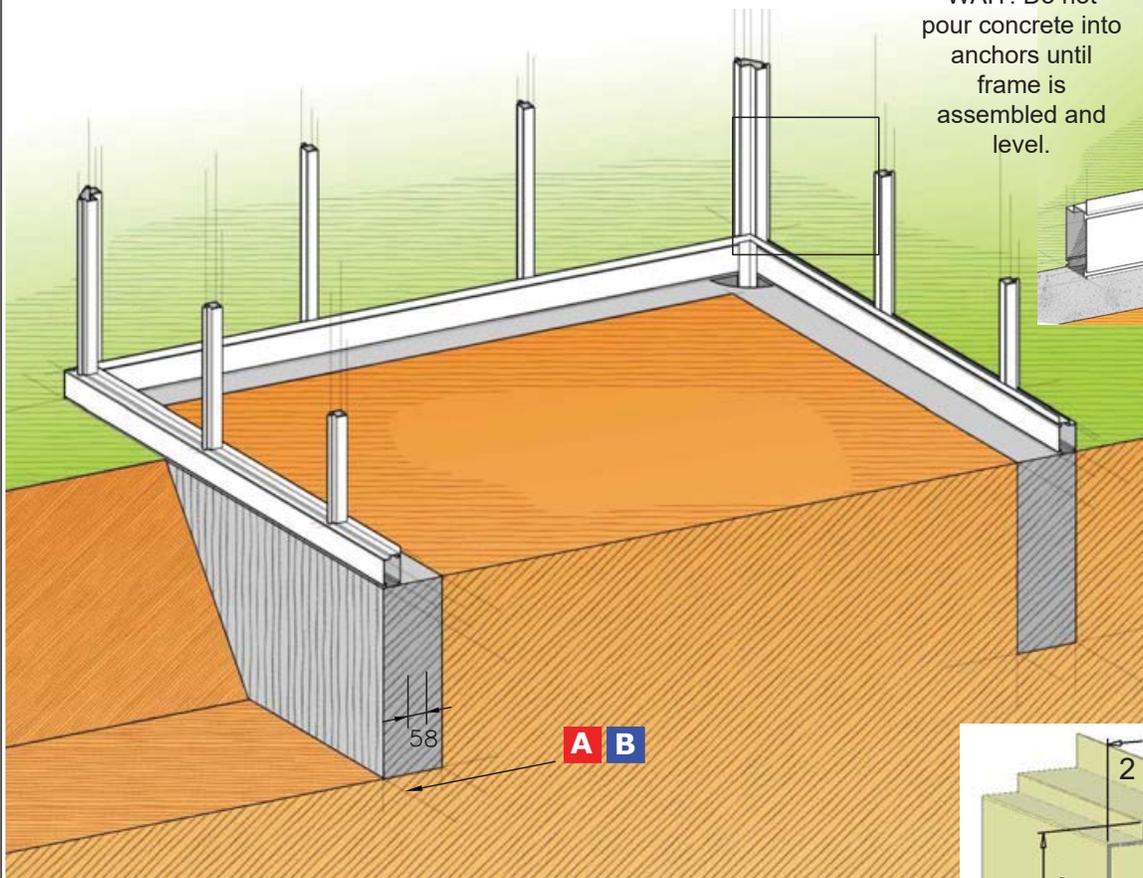
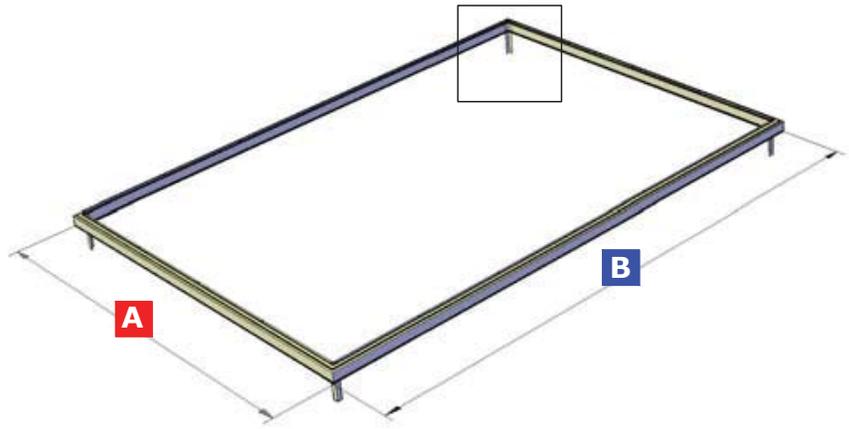
- If you are expecting heavy snowfall that you will not be able to clear in a timely manner, we recommend bracing your ridge beam with a 2x4 in the center to help support the weight. Snow should still be cleared as soon as it is possible.
- If you are in an area that routinely gets significant snow there 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 PRO210 anchors to be installed at every vertical glazing bar, embedded in a concrete foundation. 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.
 - Adding Narrow Top shelves (or similar long angle iron/lateral support) from one gable end to the other (along both long walls) can help support against wind.
- 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.
- Polycarbonate Cleaning - use a gentle cleaner, such as Palmolive dish soap with a soft cloth.

Questions? Need Assembly Support?

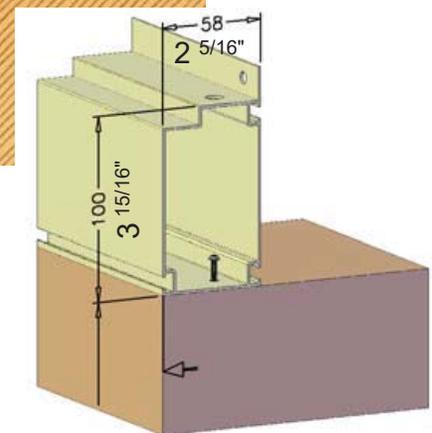
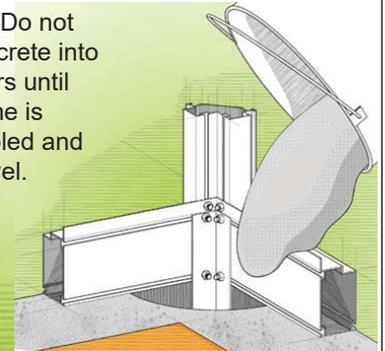
Please call Exaco at 877-760-8500 or email customerservice@exaco.com.

Royal Victorian Foundation - Exterior Dimensions

	A	X	B
VI 23	93 inches (2360mm)		122 inches (3098mm)
VI 34	122 inches (3098mm)		180 inches (4574mm)
VI 36	122 inches (3098mm)		238.2 inches (6050mm)
VI 46	151 inches (3836mm)		238.2 inches (6050mm)



WAIT! Do not pour concrete into anchors until frame is assembled and level.

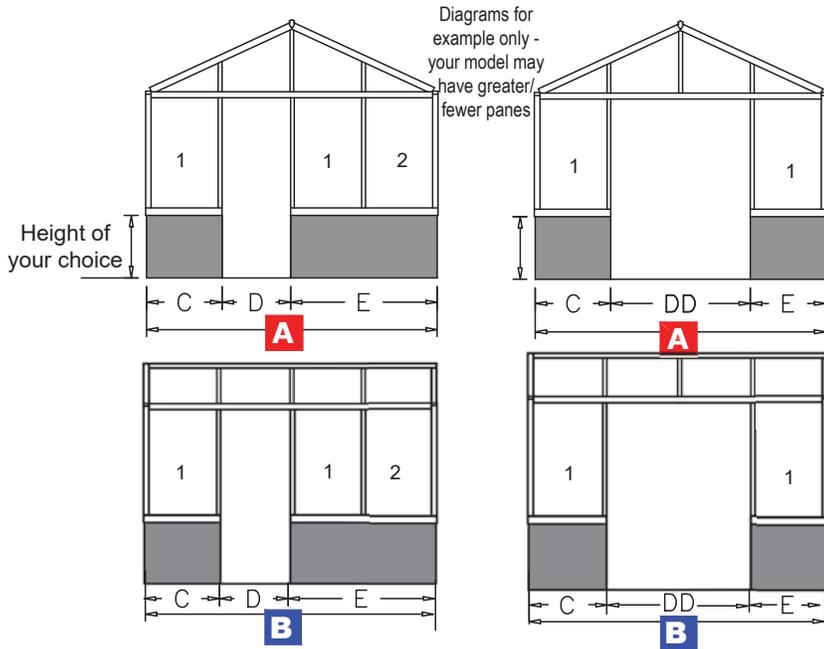


IMPORTANT NOTES FOR PREPARING YOUR SITE:

- Do not set anchors in concrete until the entire greenhouse frame is complete, level and square. You will need some play to attach the uprights.
- It is recommended to build your foundation down to the frost line in your area and/or consult a local contractor for recommendations.
- Greenhouse base frame is 2.25" wide
- Corner anchor posts are 1.5" x 1.5". They attach at the interior corners of the base frame, then extend 12" below ground. Bolts attach to the bottom of the anchor to be a "catch" in the concrete. We recommend leaving a 4 to 6" hole in your concrete for the anchor. Do not embed the corner anchors into concrete until the greenhouse structure is built, leveled and square.
- Embedding the corner anchor into concrete is the most secure method, although you may choose to trim them off, cut in half, and use as L brackets to attach to the greenhouse and foundation with the appropriate stainless steel screws (i.e. Tap Con screws for concrete)

OPTION: Building a stem wall for your greenhouse

(Door extension kit is required)

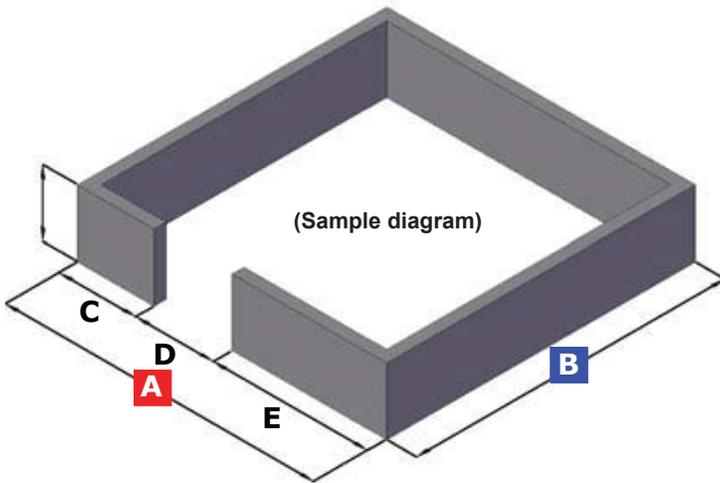


- A** = Gable end length if placing door on gable
- B** = Side length if placing door on long side
- C** = Measurement to left of door based on # of glass panes - see diagrams in intro for your greenhouse if unsure
- D** = Rough opening for SINGLE door
- DD** = Rough opening for DOUBLE door
- E** = Measurement to right of door based on # glass panes

Measurements are in millimeters for precision. Please use combination tape measure in your kit.

DOUBLE CHECK YOUR MEASUREMENTS:

A OR B = C + D(OR DD) + E!!!!



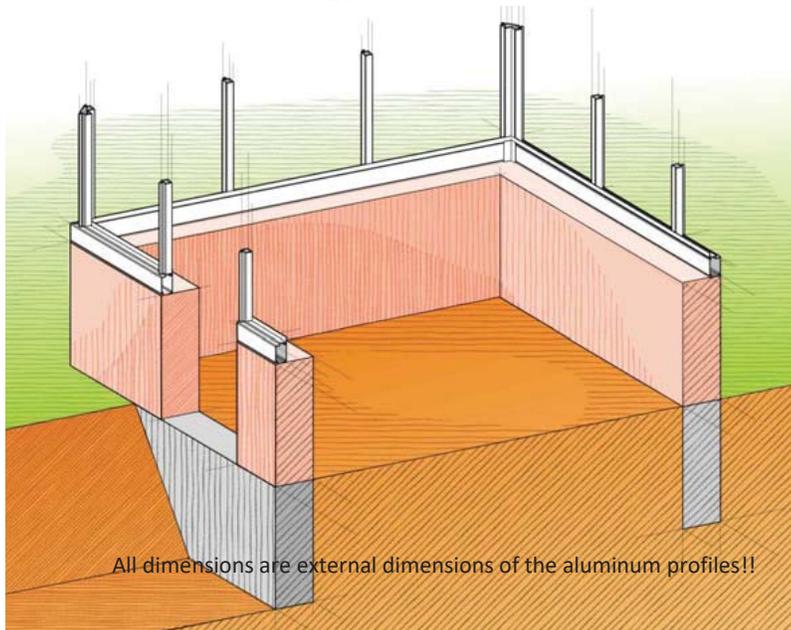
A	(gable) = 2360 3098 3836
B	(side) = 2360 3098 3836 4574 5312 6050

- C** = 1 pane = 829
2 panes = 1567
3 panes = 2305
4 panes = 3043
- D** = 703 (**DD** = 1441)
- E** = 1 pane = 829
2 panes = 1567
3 panes = 2305
4 panes = 3043

A OR B = C + D(D) + E !!!

Notes about stem walls:

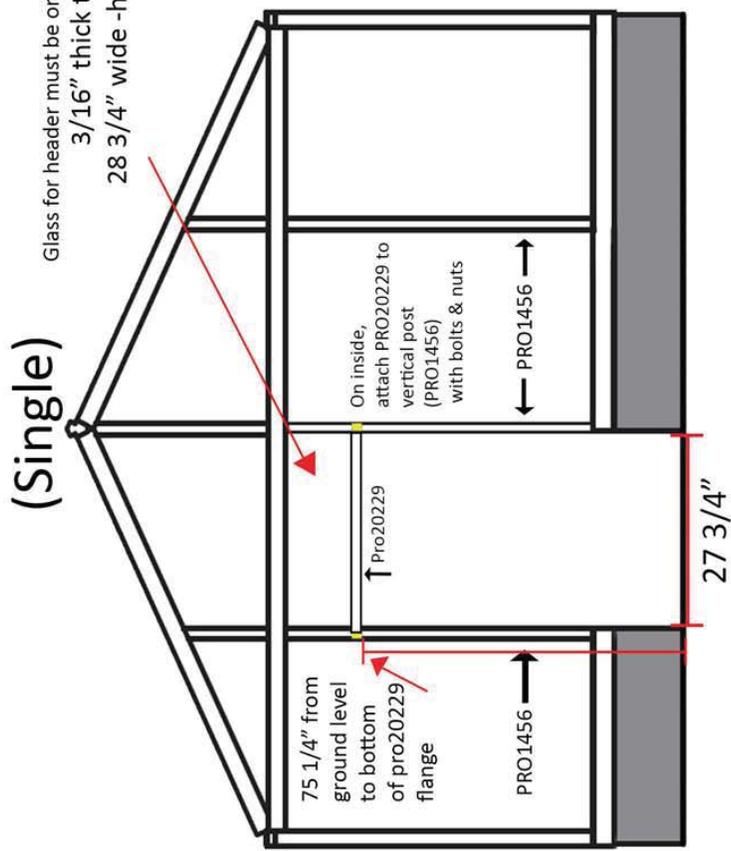
- Read notes on previous and following pages to understand anchoring options, and measurements of frame for thickness of your wall.
- Please also see additional notes under "Drop Door Kits for building on a knee stem wall" in the introductory section.
- Your doorway may be placed on the gable end or long side.
- Stemwall height is determined by you, maximum height with standard kit is 30".
- All measurements are external dimensions of the aluminum profiles.



IMPORTANT: Knee walls for sliding doors must be perfectly flush with the exterior dimensions of the greenhouse including any veneer, capstone, or texture! You will need to customize a metal strap to support the top rail of the sliding door for the open position. Please see "OPTIONAL UPGRADE: Drop Door Kits for building on a knee/stem wall" in table of contents for additional information.

Sliding door extension installation

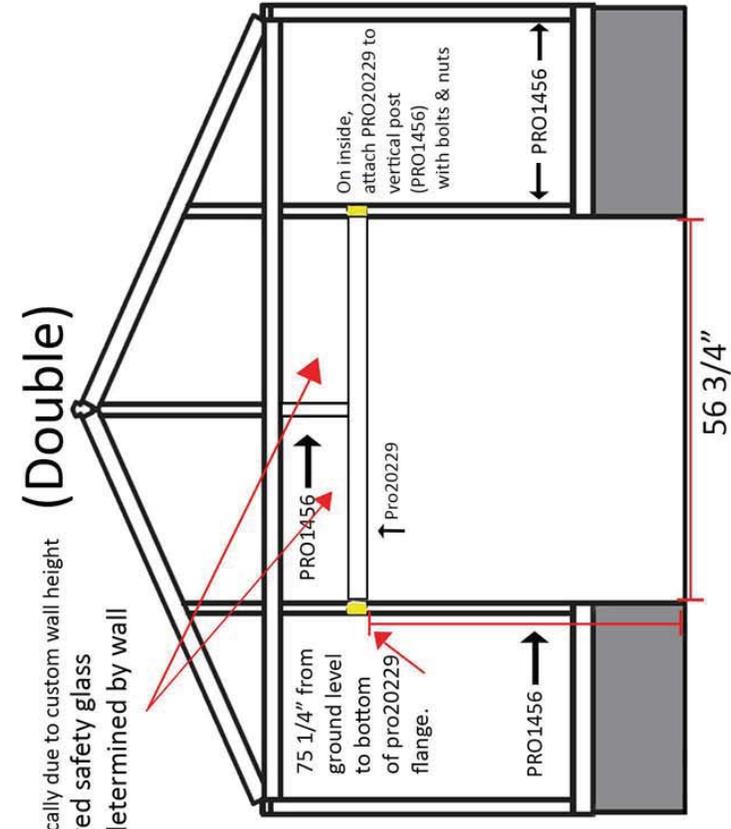
Can be installed on long or short gable end of greenhouse



-Opening will be 27 3/4" wide

Kit will include:

- (1) Pro20229 w/ flanges
- Nuts & Bolts



-Opening will be 56 3/4" wide

Kit will include:

- (1) Pro20229 w/ flanges
- (1) 30" Pro1456 (cut to match the height of stem wall)
- Nuts & Bolts

After the doorway is framed out - move to manual for door assembly & installation

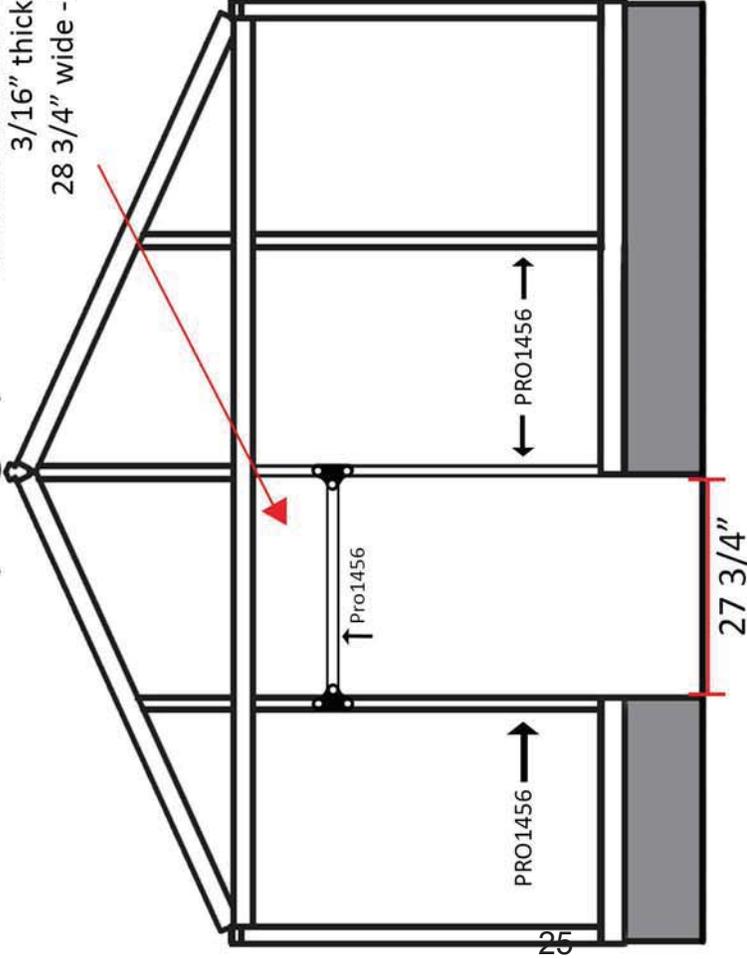
Hinged door extension installation - View from inside Greenhouse

Can be installed on long or short gable end of greenhouse
(see door considerations for VI36/VI46 at front of manual)

(Single)

Glass for header must be ordered locally due to custom wall height
3/16" thick tempered safety glass

28 3/4" wide - height determined by wall



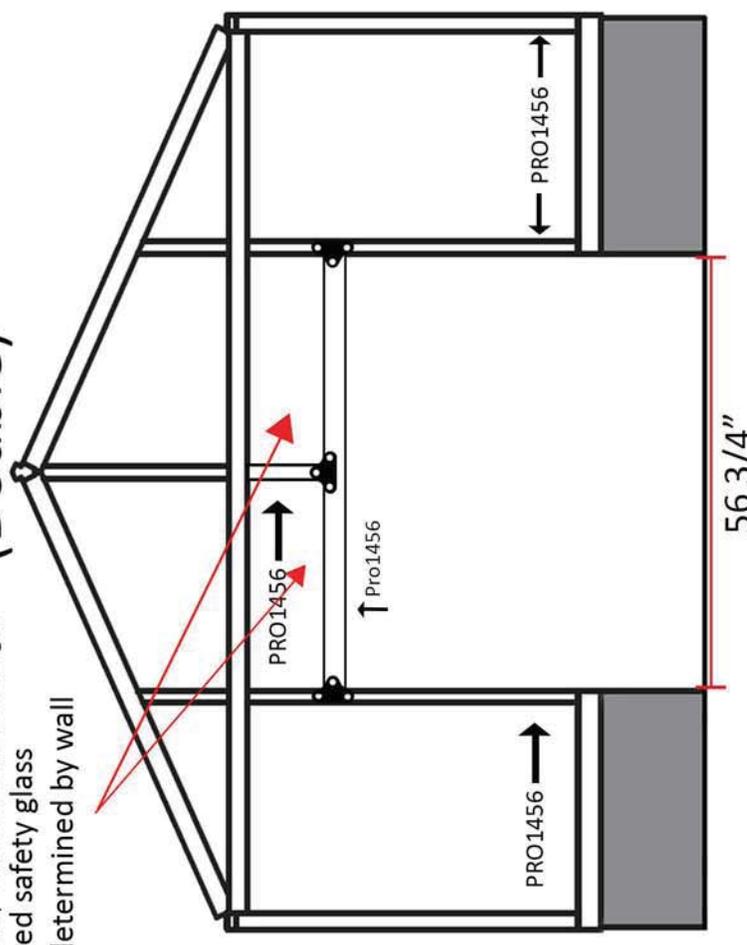
-Opening will be 27 3/4" or 703 mm wide

Kit will include:

- (1) PRO1456
- (2) 3-Hole Brackets
Nuts & Bolts

Hinged door will include its own door jamb - place the horizontal PRO1456 on top of the door jamb.
move to manual for door assembly & installation

(Double)

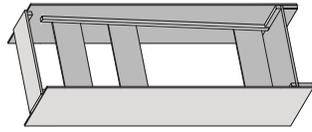


-Opening will be 56 3/4" or 1441 mm wide

Kit will include:

- (1) PRO1456
- (1) 30" Pro1456 (cut to match the height of stem wall)
- (3) 3-Hole Brackets
Nuts & Bolts

PALLET Royal Victorian



WEIGHT:	MASTER
V123	384 kg
V124	485 kg
V134	567 kg
V136	676 kg
V146	630 kg + 170 kg
DIMENSIONS:	
	800 x 900 x 2300 mm

NOTE: This is the packing list for the standard kit for the Royal Victorian greenhouses. If you have added optional accessories, they will not be on this list.

Identify parts by extrusion shape (cross section) and length. We strongly recommend using a metric or combination tape measure. Measurements are kept in metric for precision.

Be aware items are packed in front of the glass as well as in the cubby behind the glass.

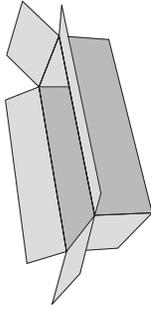
ITEM	V123	V124	V134	V136	V146
Louvered window (Black)	1 pc	1 pc	1 pc	1 pc	1 pc
Sliding door (ESD_183_ZS)	1 pc	1 pc	1 pc	2 pc	2 pc
Roof Window (DAKR_HEL)	2 pc	3 pc	3 pc	4 pc	6 pc
PRO6578 corner profile	1830 mm	4 pc	1830 mm	4 pc	1830 mm
PRO1456 glazing bar wall	1830 mm	10 pc	1830 mm	20 pc	1830 mm
PRO6918 endbar roof	1230 mm	4 pc	1630 mm	4 pc	1986 mm
PRO1456 glazing bar roof	1230 mm	6 pc	1630 mm	10 pc	1986 mm
Gutter downspout(PRO10980 tube Ø40)	1900 mm	2 pc	1900 mm	2 pc	1900 mm
PRO21214 wind bracing wall	1975 mm	8 pc	1975 mm	8 pc	1975 mm
PRO1748 rubber 12m/rol	5 pc	6 pc	7 pc	8 pc	9 pc
Mixed Hardware (ZAK_H): Screw 4.8x38mm (for gutter elbow) 2 pc Bolt M6x25mm (for roof/wind braces) 4 pc Screw 4.8x19mm (roof/wind braces/finials) 10 pc	1 pc	1 pc	1 pc	1 pc	1 pc
Glassholder (PRO20780) 32 pc	1 pc	1 pc	1 pc	1 pc	1 pc
Gutter Elbow PVC Ø40 90° PVC 2 pc					
Black Gutter inserts 2 + 2 pc					
BAG_GLASS SPACERS red spacers/shims 80 pc					
silicone 1 pc					
RIDGE DECORATION box	1 pc	1+1 pc	1+1 pc	2+1 pc	2 + 1 pc
SPANDREL (Deco Scroll Support)			3 pc		3 pc
V146 Additional Nuts/Bolts (ZAK_BOUT): nut cap M6 50 pc nut M6 50 pc bolt M6x12 50 pc					1 pc

Main kit of nuts and bolts will be in Colli B - see notes

POSITION	GLASS DIMENSIONS	V123	V124	V134	V136	V146
sliding door	730 x 1850 mm (28 3/4" x 72 3/4")	1 pc	1 pc	1 pc	2 pc	2 pc
walls	730 x 1850 mm (28 3/4" x 72 3/4")	12 pc	16 pc	18 pc	21 pc	23 pc
under louvre-vent	730 x 825 mm (28 3/4" x 32 1/2")	1 pc				
triangle H1	1099 x 74 x 543 mm	4 pc	4 pc	-	-	-
triangle H2	730 x 74 x 411 mm	-	-	4 pc	4 pc	-
triangle H3	730 x 414 x 696 mm (113 plat)	-	-	4 pc	4 pc	-
triangle H4	730 x 72 x 357 mm	-	-	-	-	4 pc
triangle H5	730 x 360 x 645 mm	-	-	-	-	4 pc
triangle H6	361 x 648 x 737 mm (133 plat)	-	-	-	-	4 pc
roof	730 x 1250 mm (28 3/4" x 49 3/16")	6 pc	9 pc	-	-	-
roof	730 x 1650 mm (28 3/4" x 64 7/8")	-	-	9 pc	12 pc	-
roof	730 x 2000 mm (28 3/4" x 78 3/4")	-	-	-	-	10 pc
roofwindow	730 x 825 mm (28 3/4" x 32 1/2")	2 pc	3 pc	3 pc	4 pc	6 pc
under roofwindow	730 x 425 mm (28 3/4" x 16 3/4")	2 pc	3 pc	-	-	-
under roofwindow	730 x 825 mm (28 3/4" x 32 1/2")	-	-	3 pc	4 pc	-
under roofwindow	730 x 1180 mm (28 3/4" x 46 1/4")	-	-	-	-	6 pc

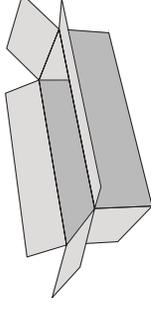
COLLI A (Carton A)

WEIGHT:	
V123/V124	19 kg
V134/V136	25 kg
V146	29 kg
DIMENSIONS:	
250 x 150 x 2800 mm V123 / V124	
3300 mm V134 / V136	
4050 mm V146	



COLLI B (Carton B)

WEIGHT:	
M23	26 kg
M24 / M34	39 kg
M36 / M46	52 kg
DIMENSIONS:	
250 x 150 x 3200 mm V123	
4700 mm V124/V134	
6250 mm V136/V146	



ITEM	V123 / V124	V134 / V136	V146
 PRO6120 foundation profile	2360 mm	2 pc	2 pc
 Roof Diagonal Support B19_1030 (round tube Ø19)	400 mm	4 pc	4 pc
 Corner Anchors (L40X40GATFUND)	2244 mm	2 pc	2 pc
 PRO20229 horizontal gable profile	2543 mm	4pc	4 pc
 PRO21214 wind bracings roof	547 mm	2 pc	2 pc
 PRO1456 gable glazing bar			
 PRO1456 gable glazing bar 90 / 65			
 PRO1456 gable glazing bar 90 / 65			
 PRO1456 gable glazing bar 65 / 90			
 PRO1456 gable glazing bar 65 / 90			
 E400330 halfmoon glazing rubber gasket	1 pc	1 pc	1 pc
 Mixed Hardware (SAPAKHELIOS): Small Black PVC gable pieces 4+4+2 pc Corner Anchor Bolts M6x50 16 pc Corner Anchor Nut M6 16 pc Gable L brackets (L2G) 10 pc	1 pc	1 pc	1 pc

ITEM	V123	V124 / V134	V136 / V146
 PRO6120 foundation profile	3098 mm	2 pc	2 pc
 PRO20227 gutter profile	3098 mm	2 pc	2 pc
 PRO6760 ridge profile	3098 mm	1 pc	1 pc
 Assembly Bolts/Nuts (ZAK_BOUT) nut cap M6 50 pc nut M6 50 pc bolt M6x12 DIN933 A2 50 pc	2 pc	3 pc	3 pc
 Additional VI 46 Corner Anchors (L40X40GATFUND)			400 mm
			2 pc



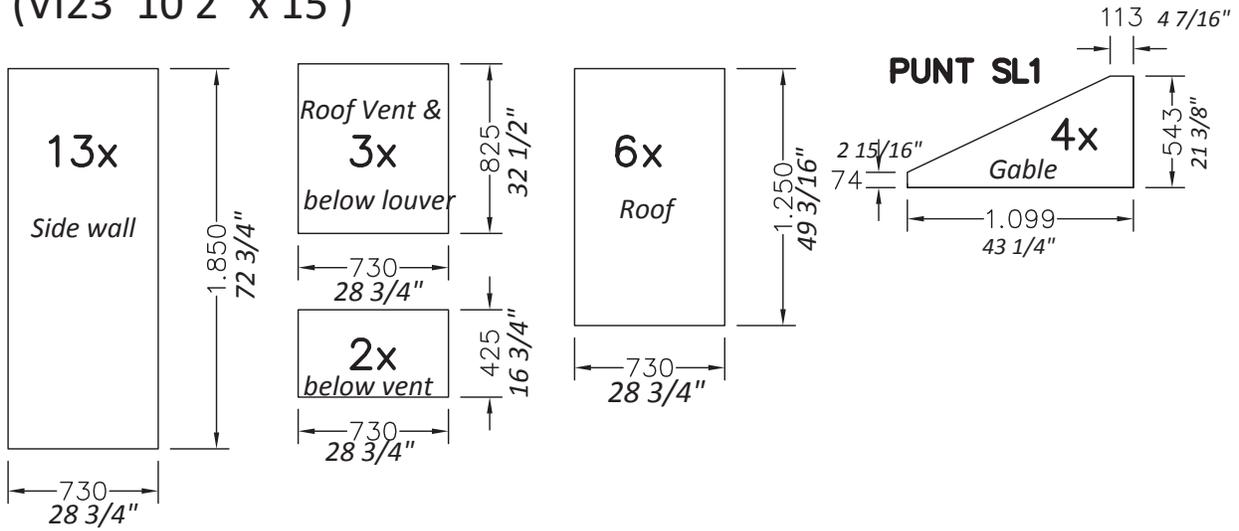
IMPORTANT!!! The packages of nuts/bolts/covers are tucked **INSIDE** the gutter profiles (PRO20227). You must cut off all shrink wrap on gutters to find them.

Note: E400330 and SAPAKHELIOS are usually together in one bag. If you don't find this in "Colli A" please check the pallet.

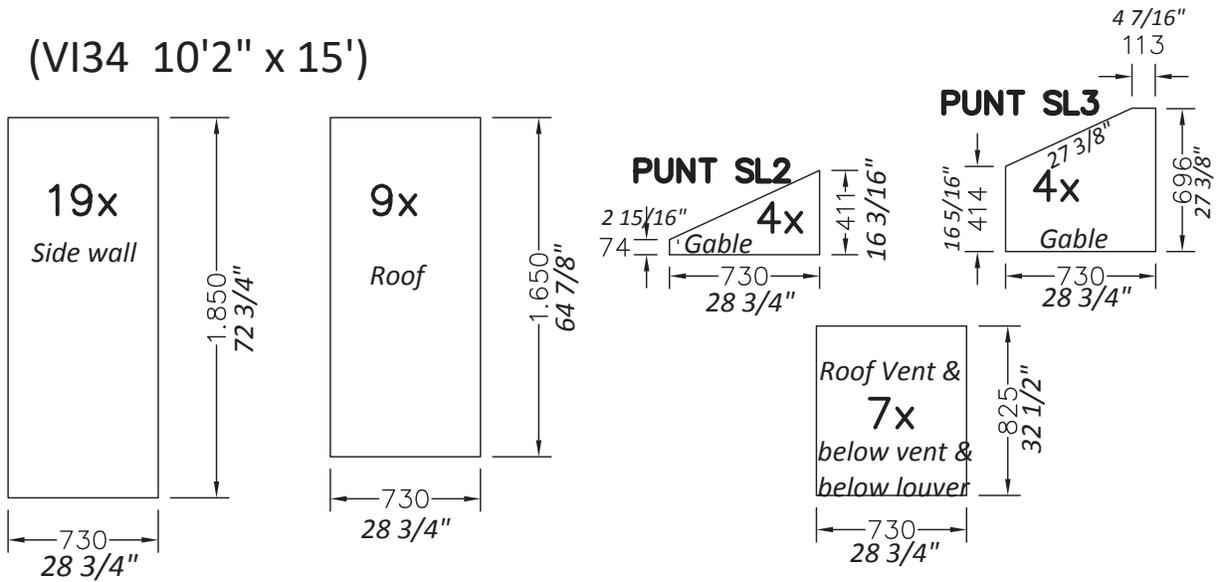
Royal Victorian Glass Sizes - 4mm thick (3/16")

Glass counts are for standard models - if you have changed any options on your greenhouse, counts may vary.

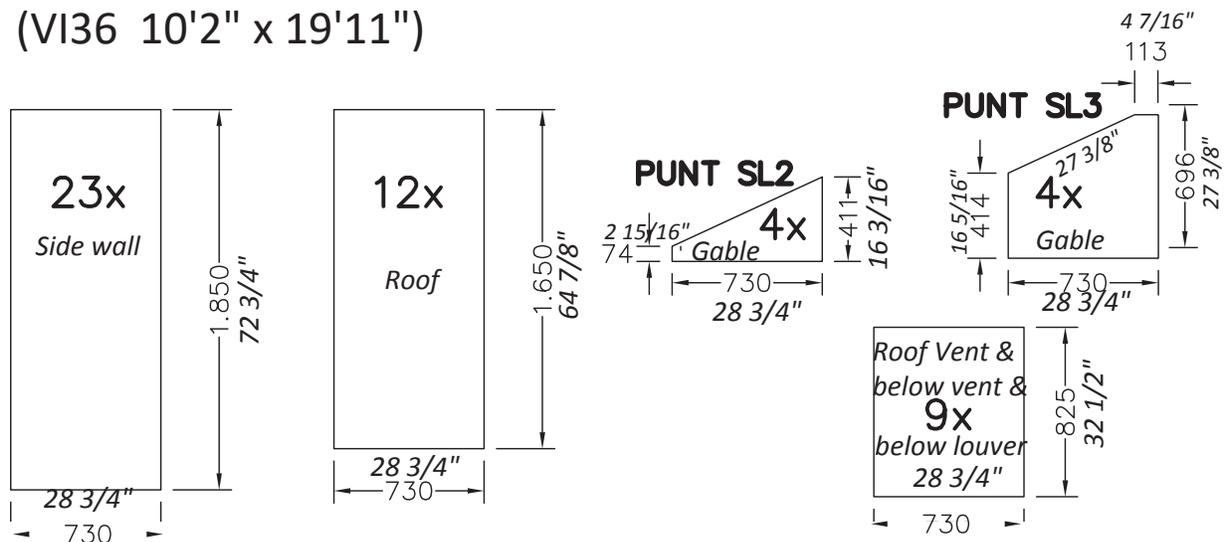
(VI23 10'2" x 15')



(VI34 10'2" x 15')



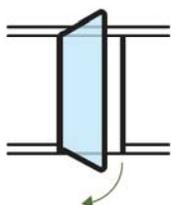
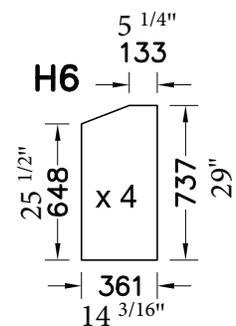
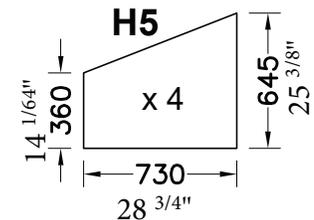
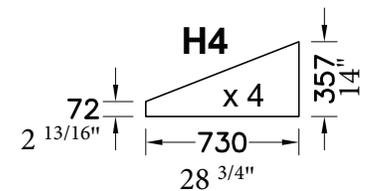
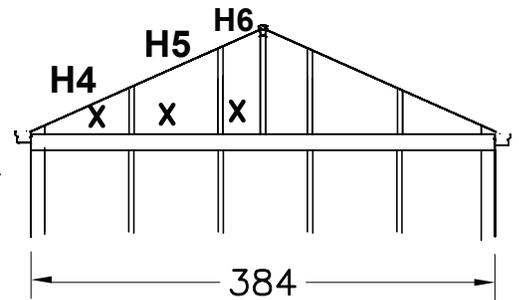
(VI36 10'2" x 19'11")



VI46 Glass

3/16" (4mm) tempered safety glass

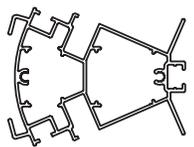
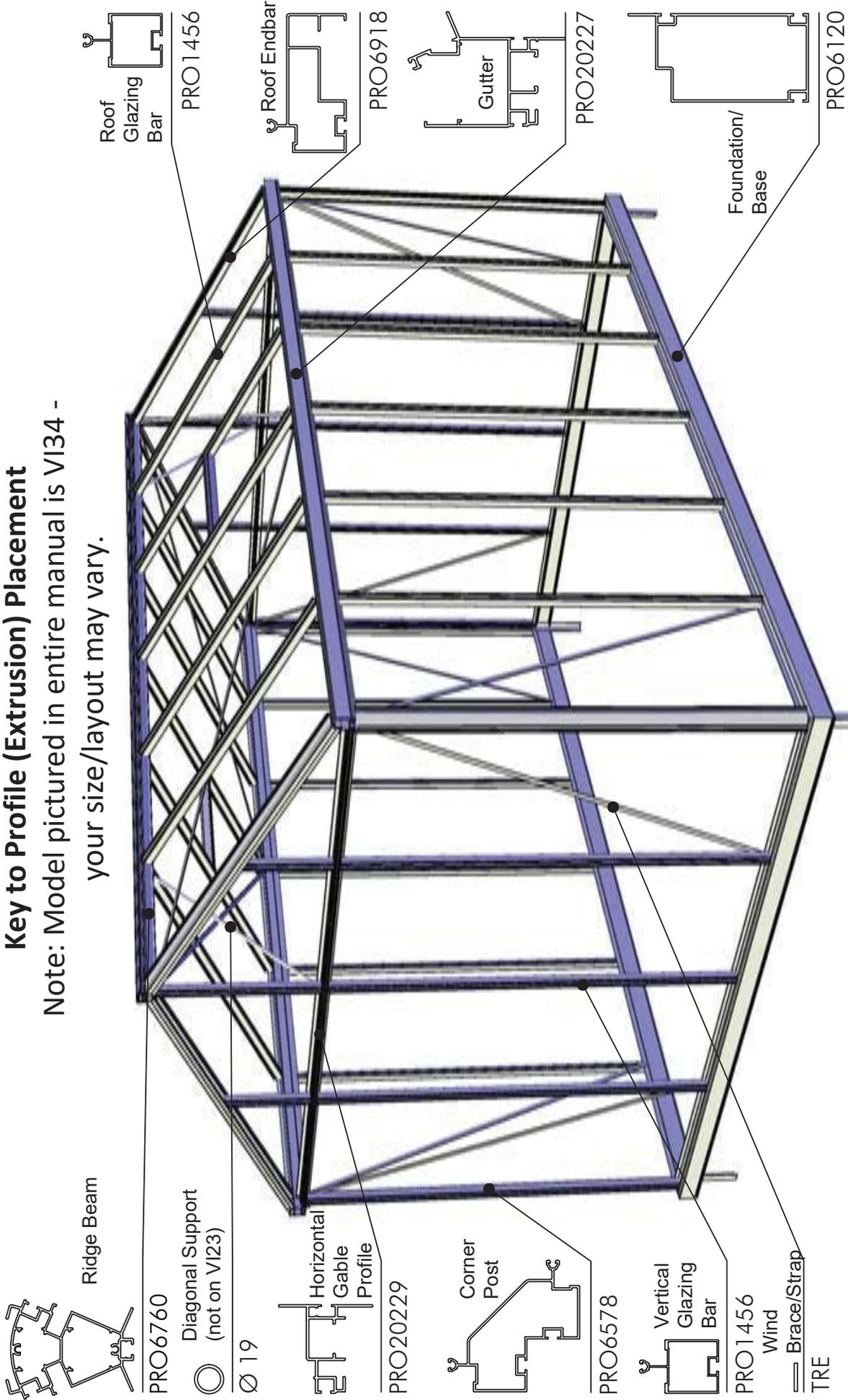
	<p>Full Roof Pane x 10 A=384cm: 730 x 2.000 28 3/4" x 78 3/4"</p>
	<p>Roof Vent Pane x 6 730 x 825 28 3/4" x 32 1/2"</p>
	<p>Glazing Under Roof Vent x 6 A=384cm: 730 x 1.175 28 3/4" x 46 1/4"</p>
	<p>Side Wall Glazing x 22 H1=201cm: 730 x 1.850 28 3/4" x 72 3/4"</p>
	<p>Sliding Glass Door x 2 H1=201cm: 730 x 1.850 28 3/4" x 72 3/4"</p>
	<p>Top Hang Window (optional) 730x1022 28 3/4" x 40 1/4"</p>
	<p>Glass Below Top Hang Window/Louver 730 x 825 x 1 28 3/4" x 32 1/2"</p>



OPTIONAL: Hinged door glass panes are 527mm x 1754mm (20 3/4" x 69 1/16")

Key to Profile (Extrusion) Placement

Note: Model pictured in entire manual is VI34 - your size/layout may vary.



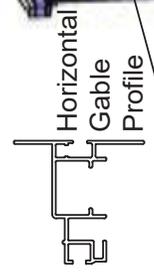
Ridge Beam

PRO6760



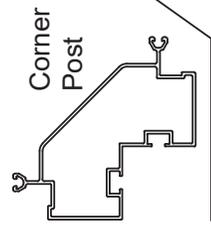
Diagonal Support
(not on VI23)

Ø 19



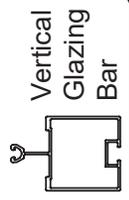
Horizontal
Gable
Profile

PRO20229



Corner
Post

PRO6578



Vertical
Glazing
Bar

PRO1456



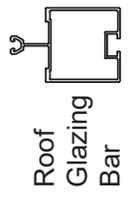
Wind
Brace/Strap

TRE



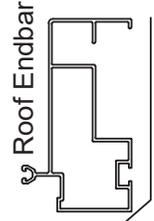
Corner Anchors (Extend 12"
below ground level)

PRO210



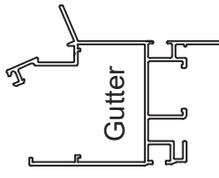
Roof
Glazing
Bar

PRO1456



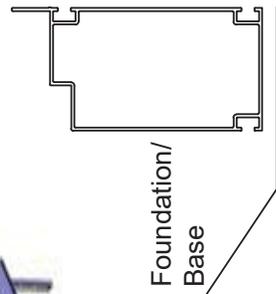
Roof Endbar

PRO6918



Gutter

PRO20227



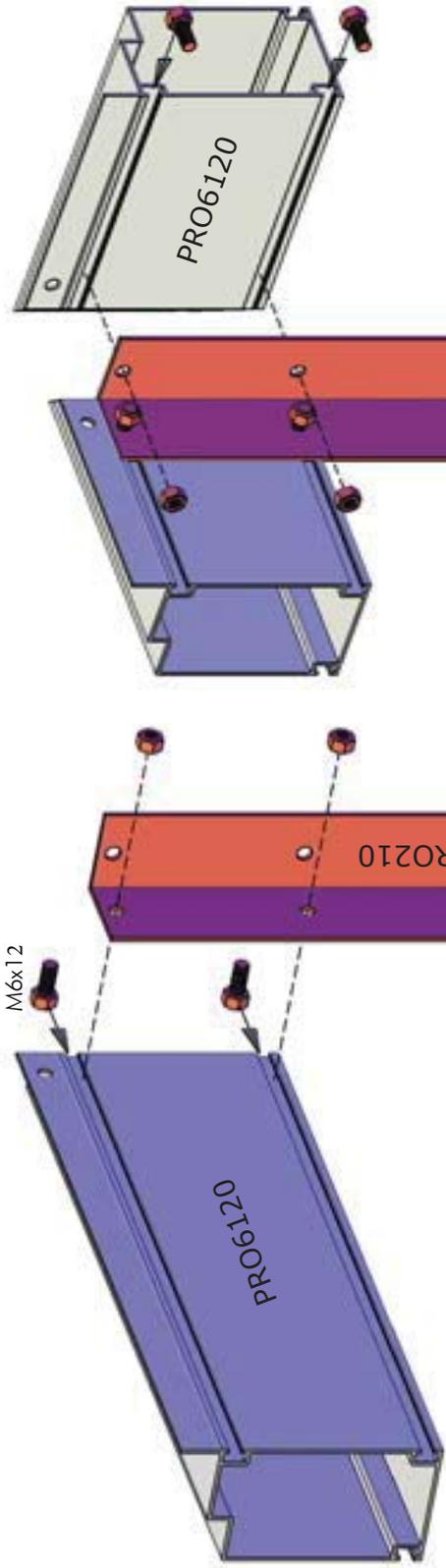
Foundation/
Base

PRO6120

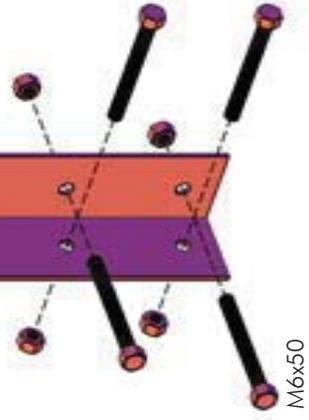
VI36 and VI46 Special Note:

These models include an additional pair of corner anchors at midpoint of 20' wall

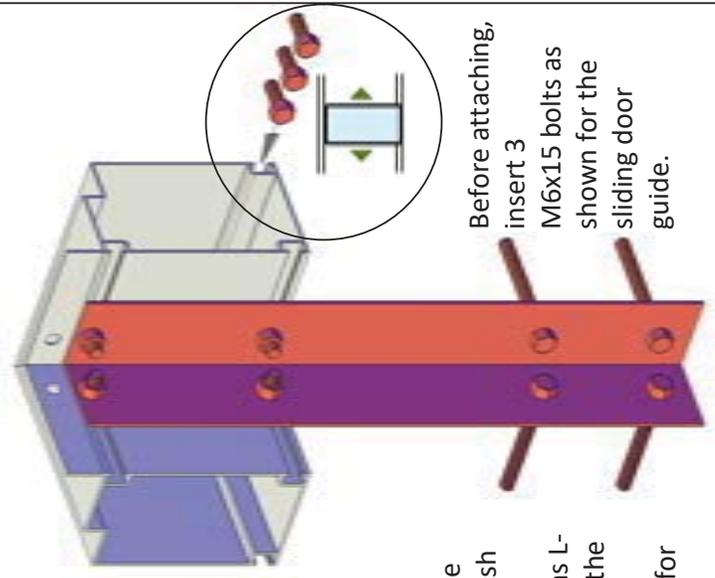
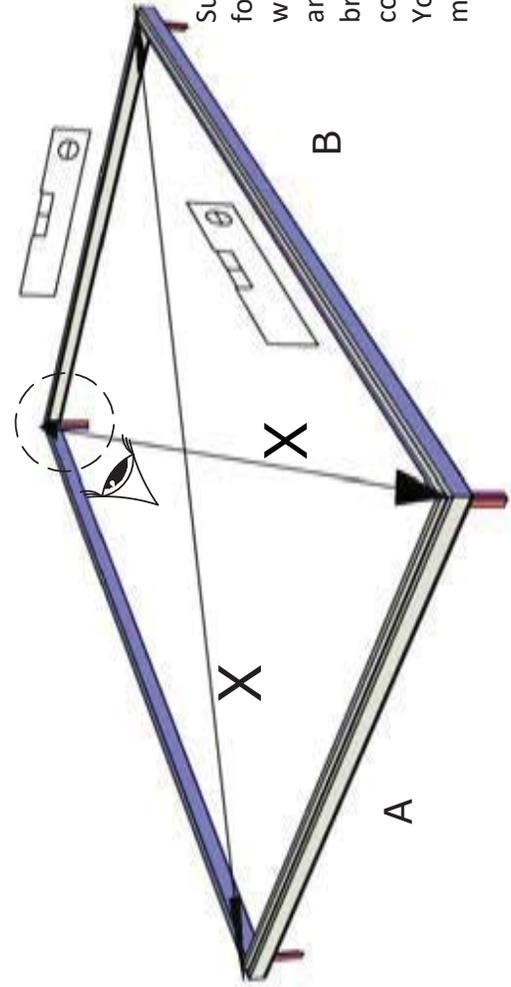
HELIOS



Note: When assembling the foundation in this step, only hand-tighten the nuts. The corners may need to be slightly loose to attach the corner uprights (PRO6578).



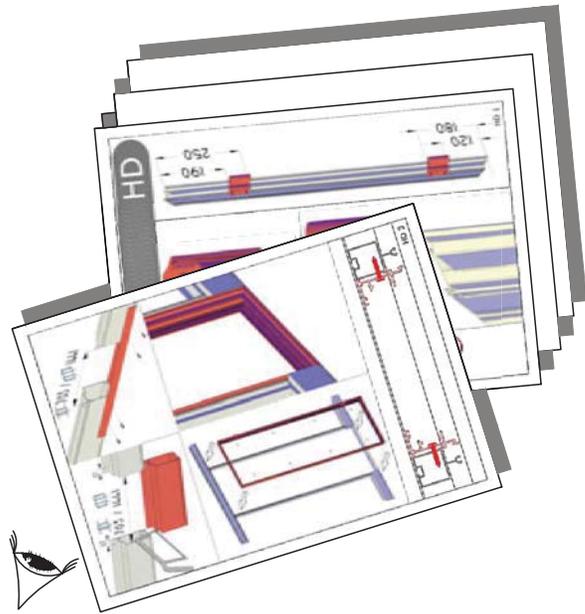
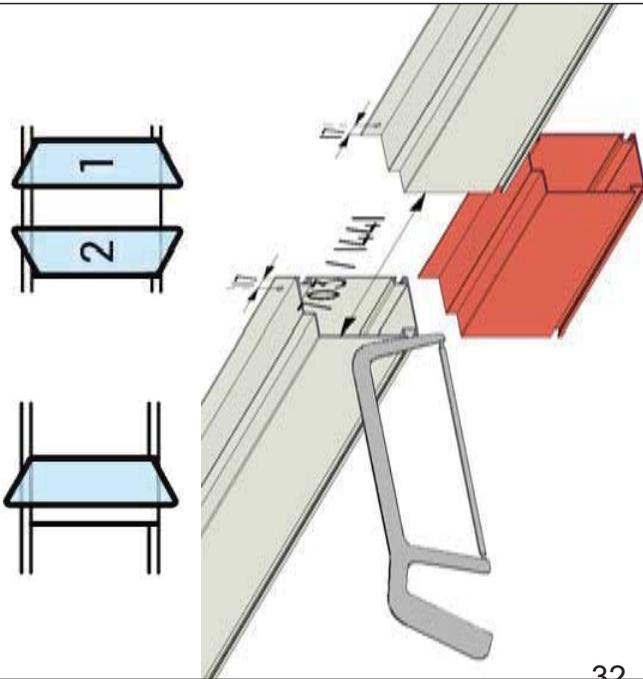
M6x50



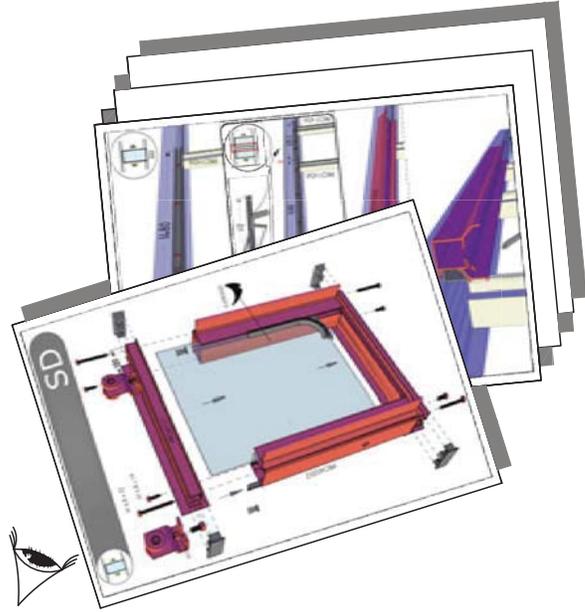
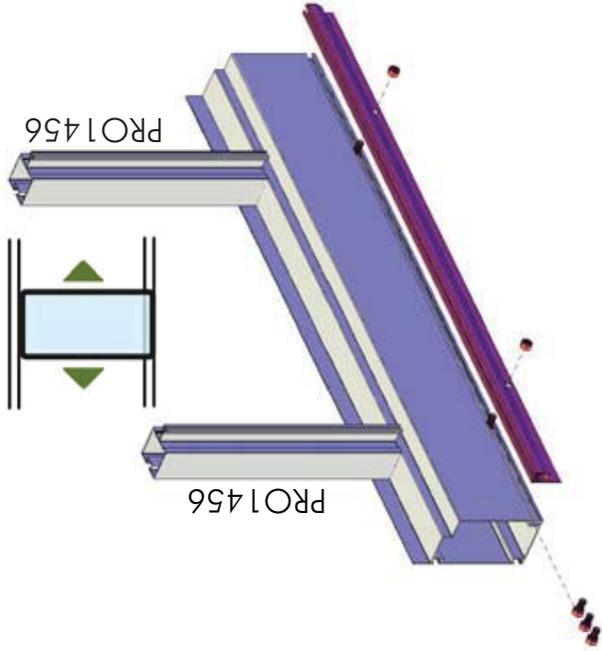
Before attaching, insert 3 M6x15 bolts as shown for the sliding door guide.

Suggestion: If installed on a concrete foundation you may cut PRO210 flush with the bottom of PRO6120. To anchor, use cut off PRO210 pieces as L-brackets to secure the PRO6120 to the concrete foundation. Please see YouTube animated assembly video for more information.

OPTION: HD (hinged door)

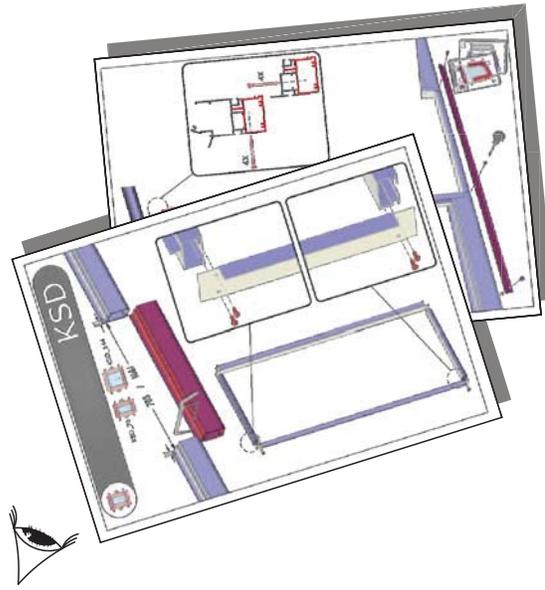
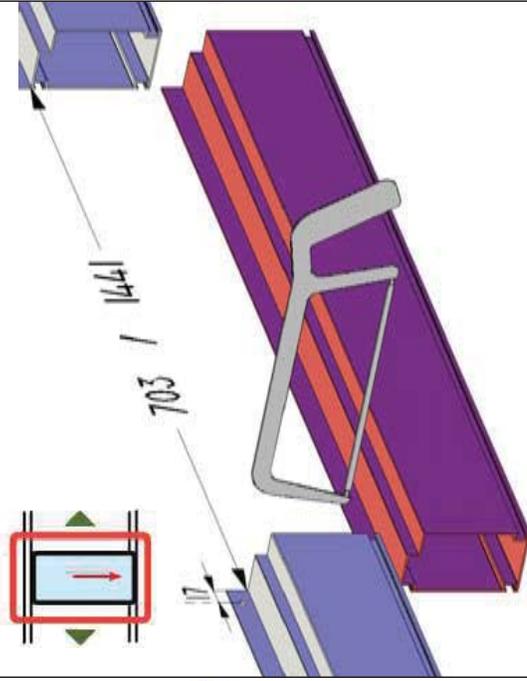


OPTION: SD (sliding door)



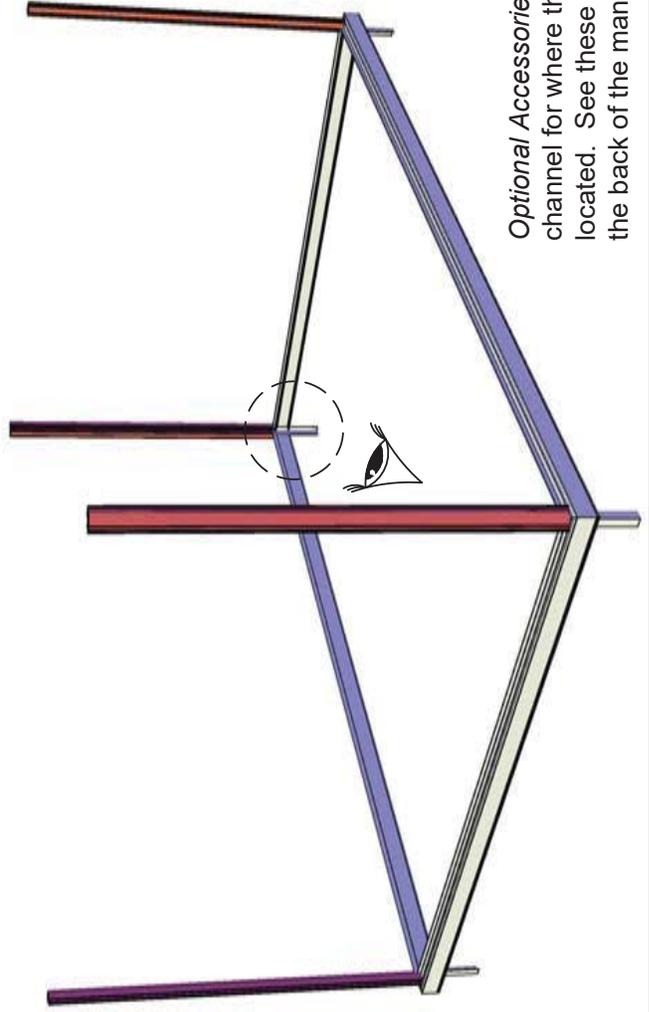
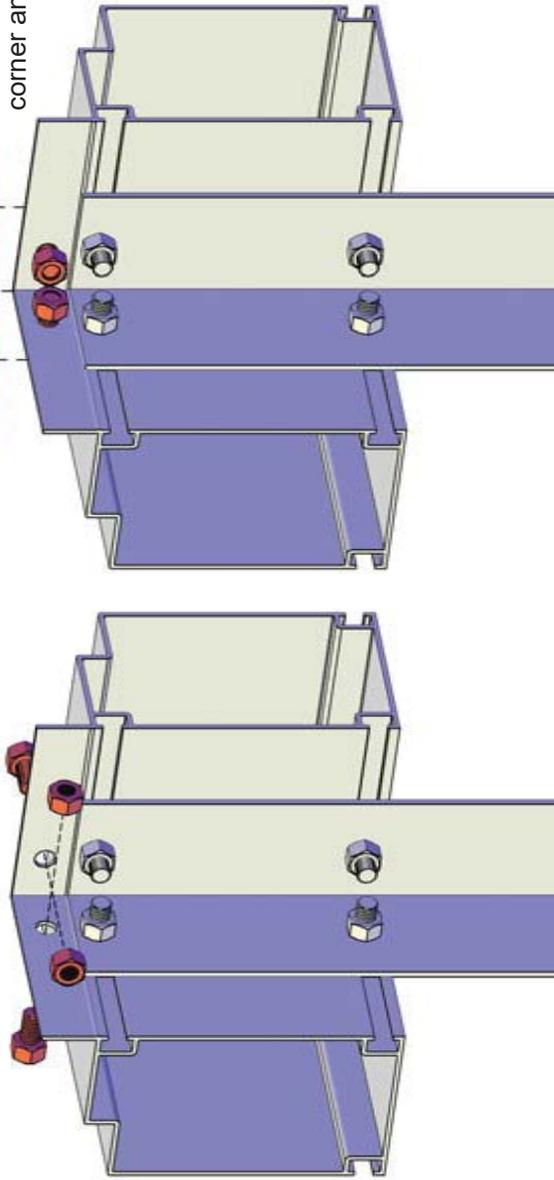
OPTION: KSD (low threshold)

NOTE: Your optional low threshold may be KSD (w/ 4 sided frame) OR SDL (just single piece for threshold)

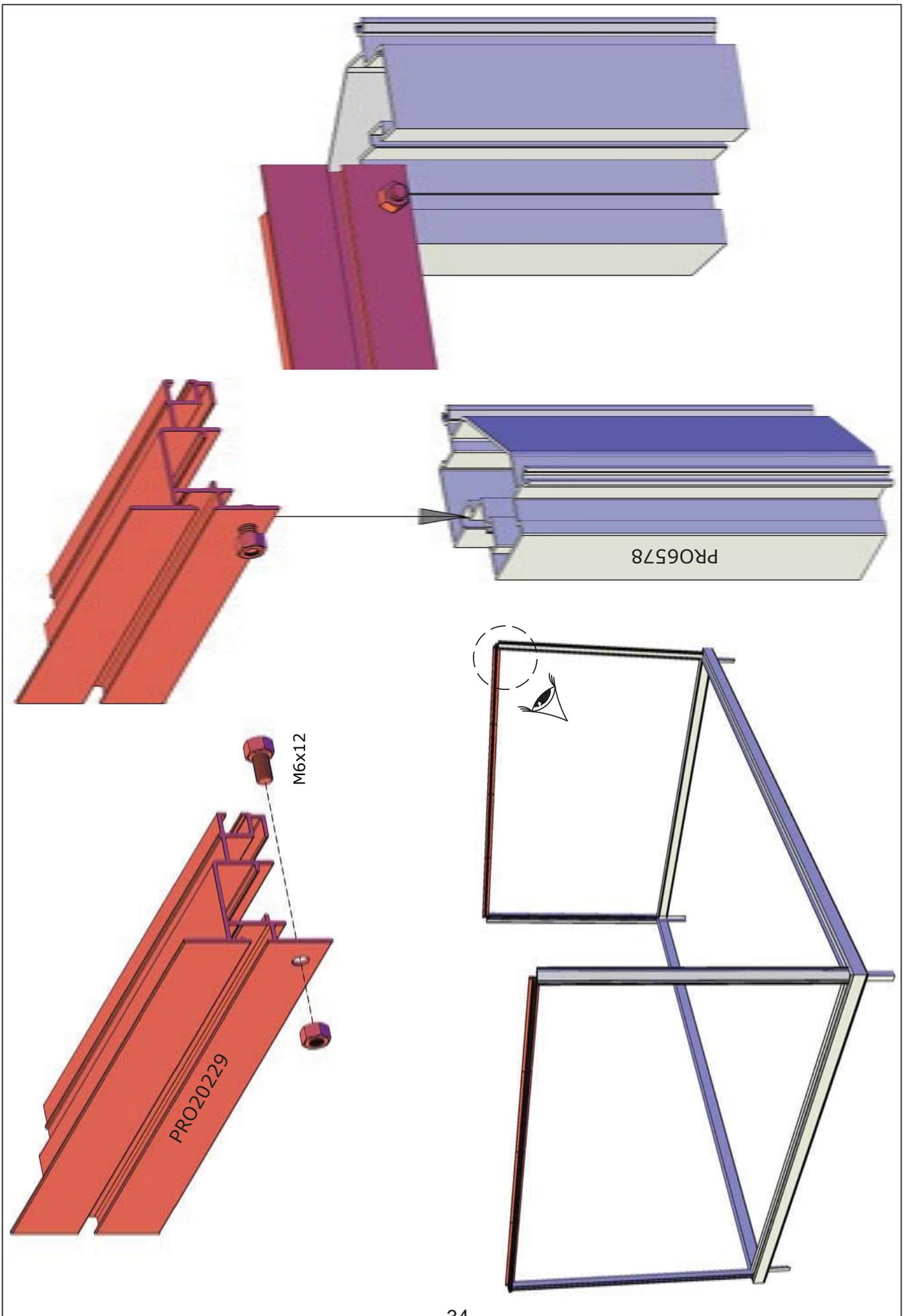


Sliding the corner post (PRO6578) down onto the head of the bolts can be challenging. Use two people: one hold the threaded tips of both bolts with a pliers to position the hexagonal head inline with the channels on the PRO6578. It may help to loosen the nuts holding the corner anchor to allow for a little bit of play.

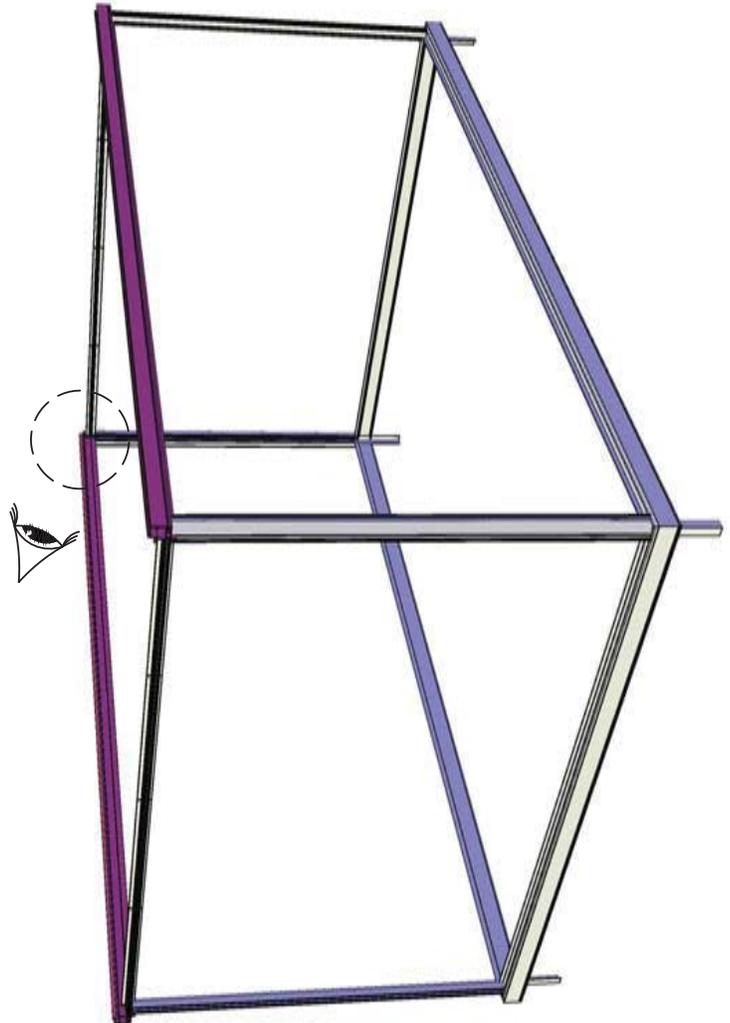
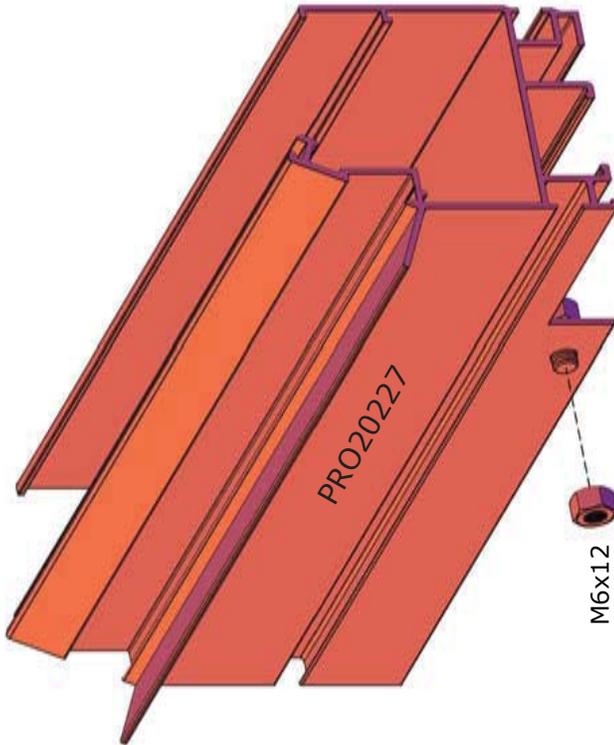
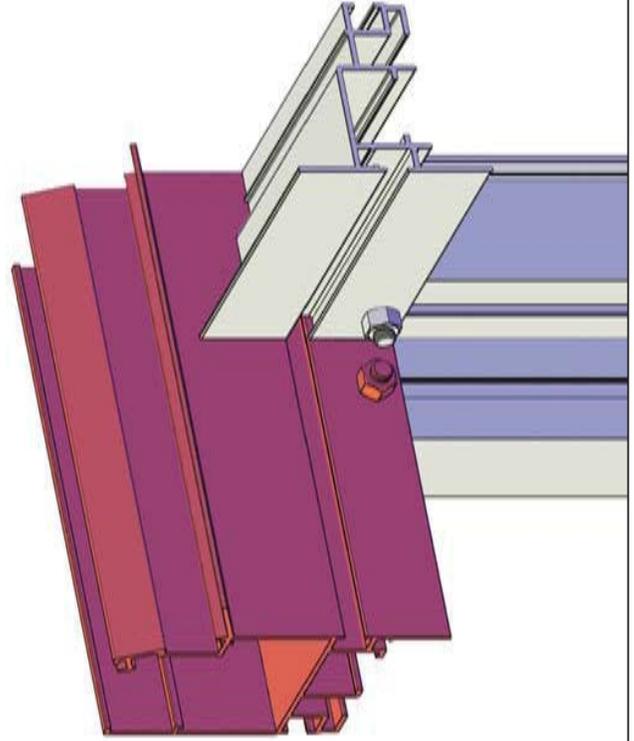
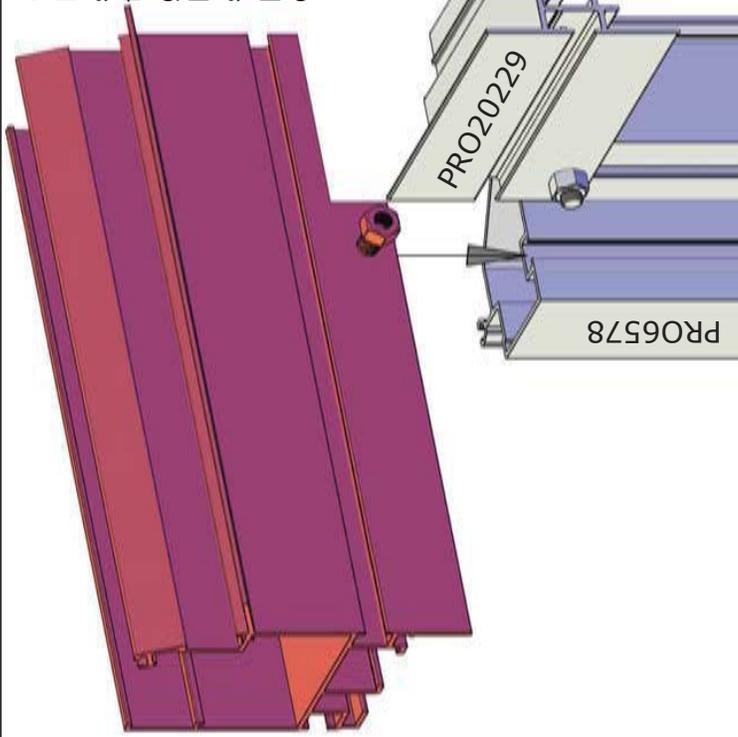
M6x12

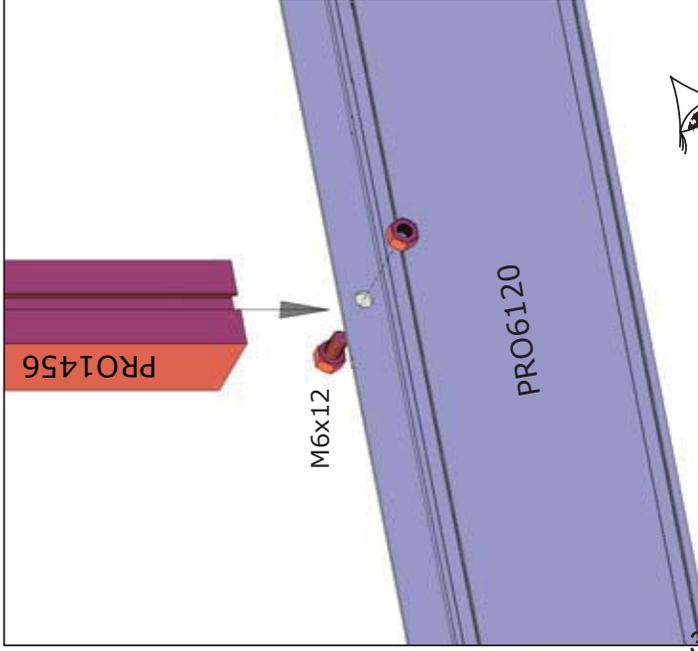


Optional Accessories! Insert a bolt into each corner post channel for where the top shelf and/or Seed Tray will be located. See these pages in the accessories section in the back of the manual.



Optional Accessories!
If you purchased shade curtains, insert the sliders into the gutter profile channel before this assembly step. See shadecloth pages near the back of the manual.

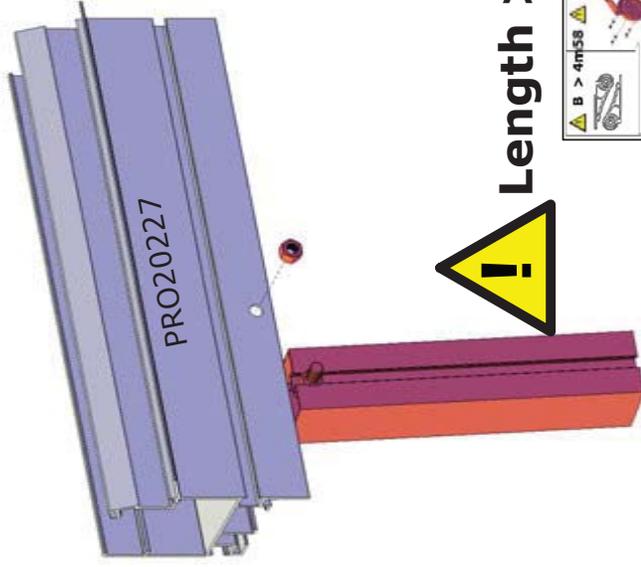




PRO1456

M6x12

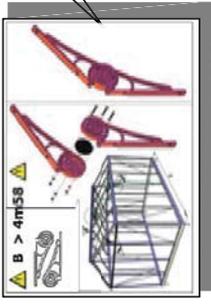
PRO6120



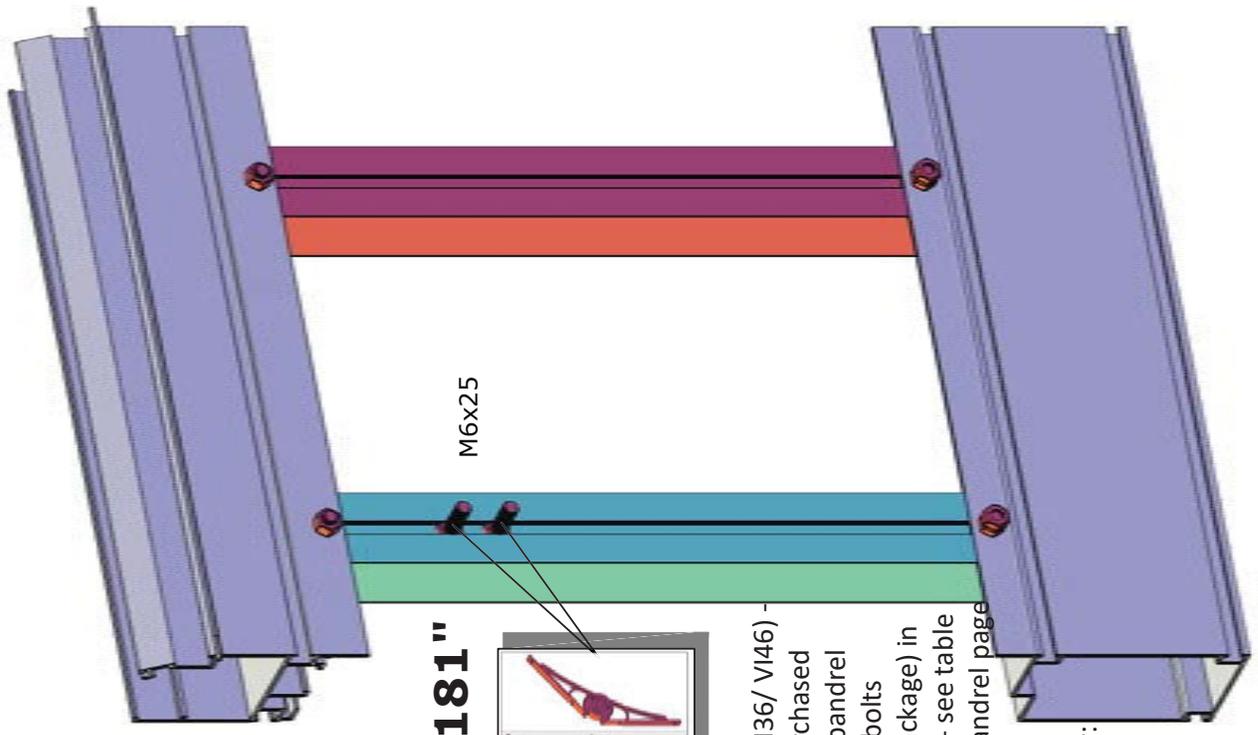
PRO20227



Length > 181"



If length > 181" (VI36/ VI46) -
 OR if you have purchased
 additional scroll/spandrel
 supports, insert 2 bolts
 (from Spandrel package) in
 the center profile - see table
 of contents for spandrel page



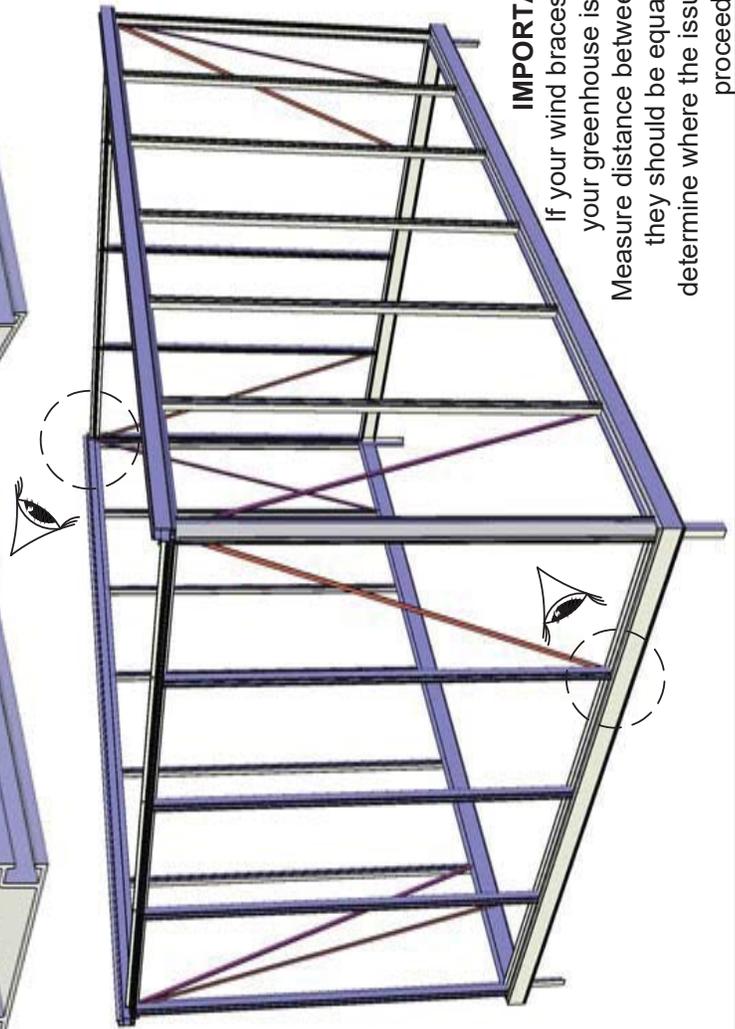
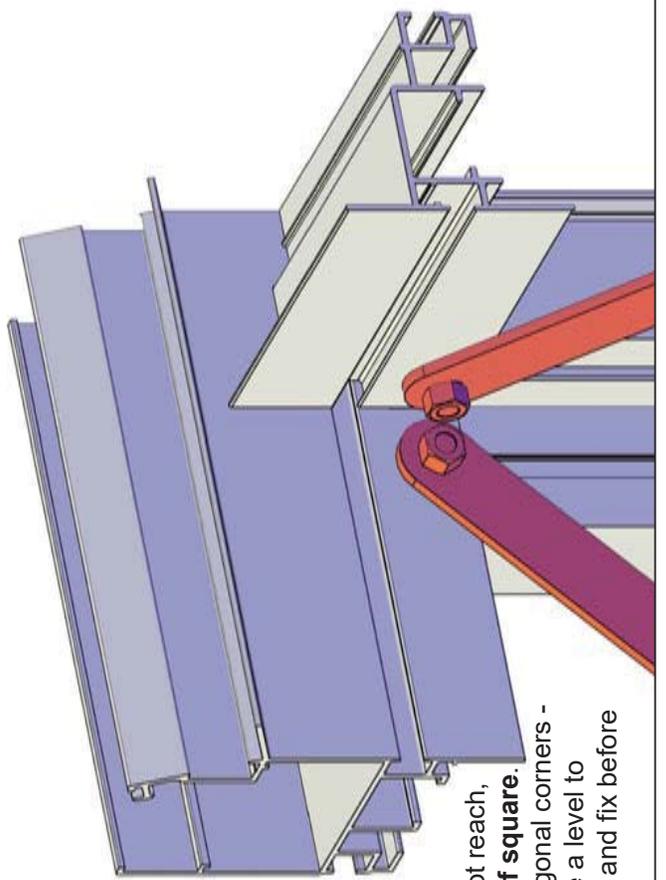
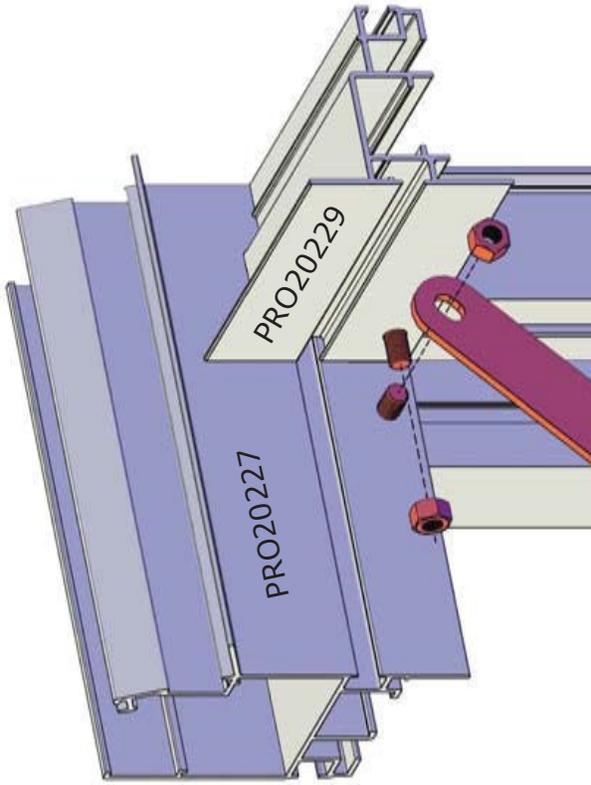
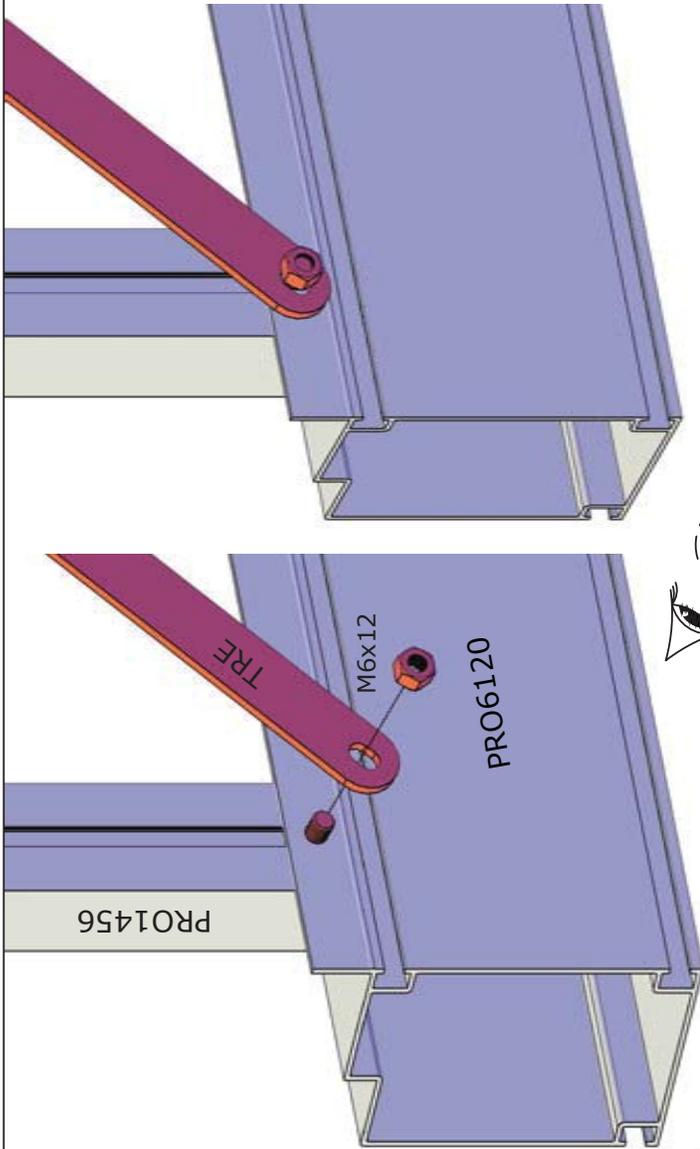
M6x25



NOTE! Before securing
 vertical profiles insert bolts for:

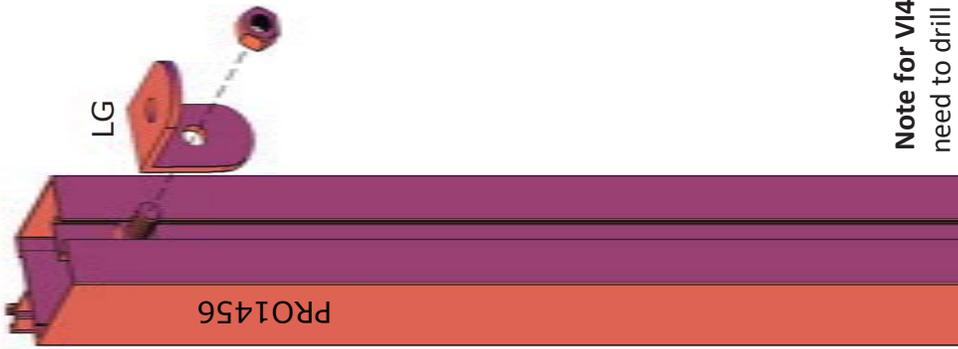
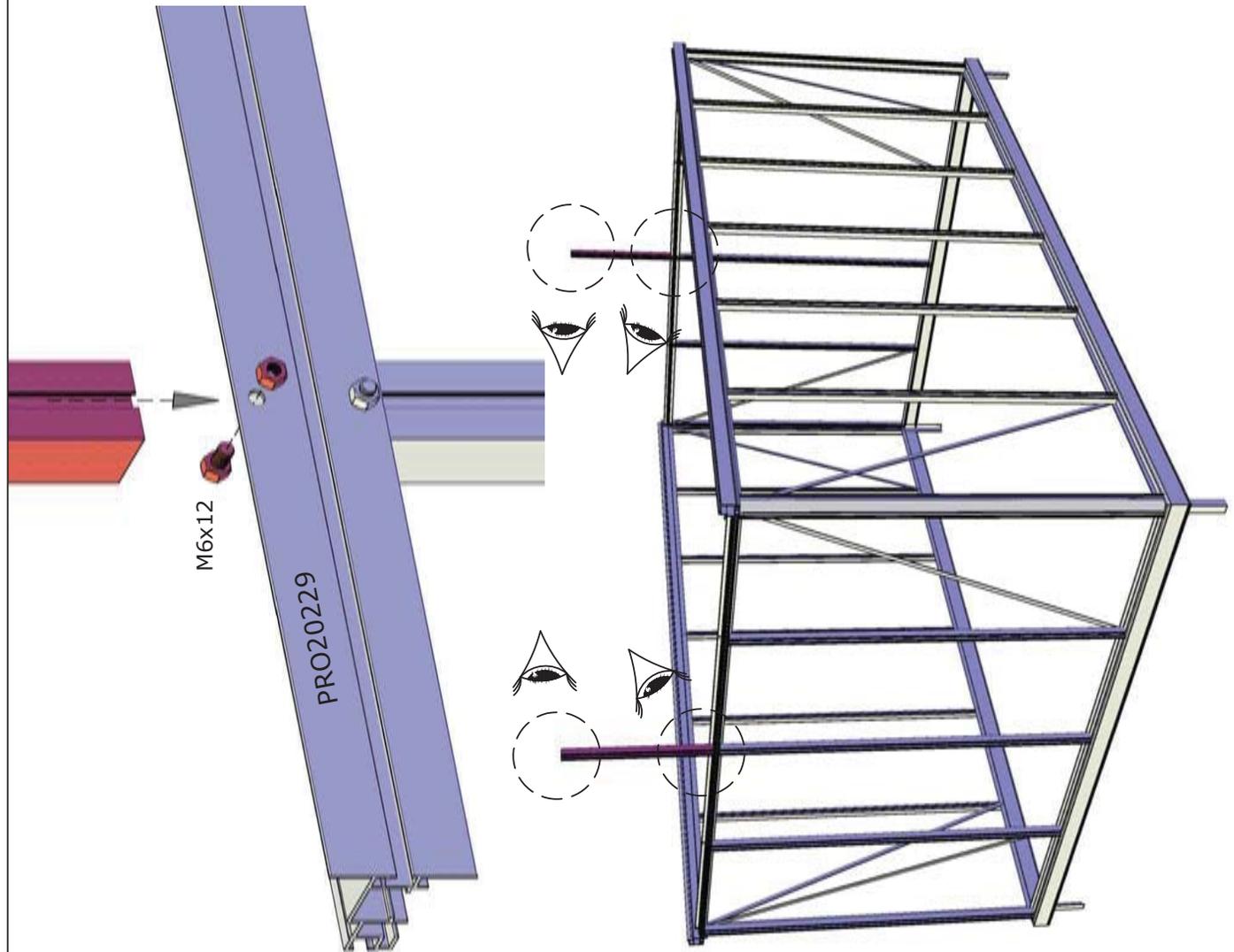
- Louvered Window
- Optional Top Shelf
- Optional Seed Tray

See table of contents for
 corresponding pages.

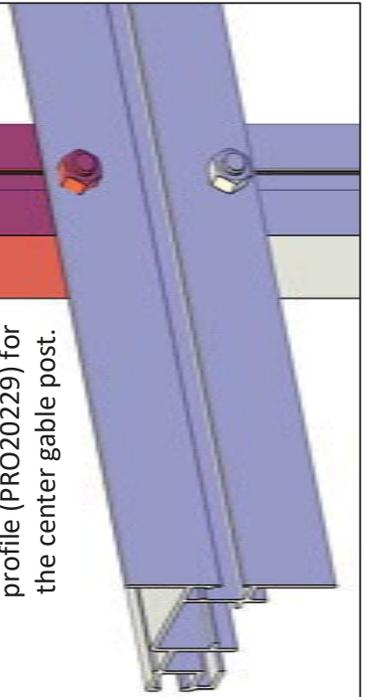


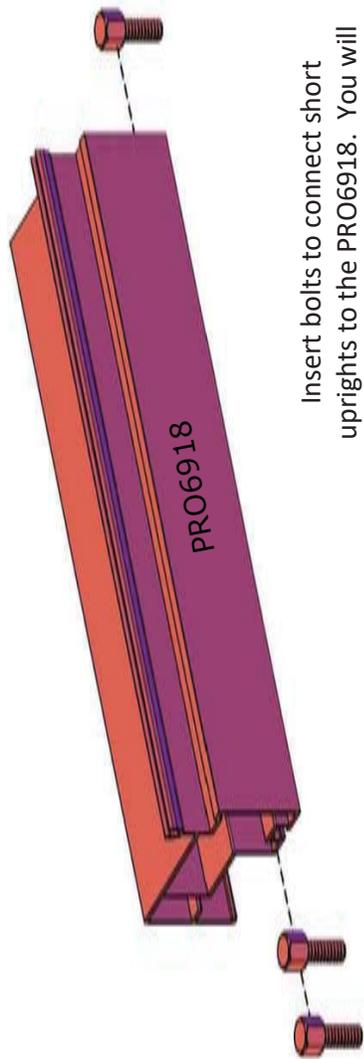
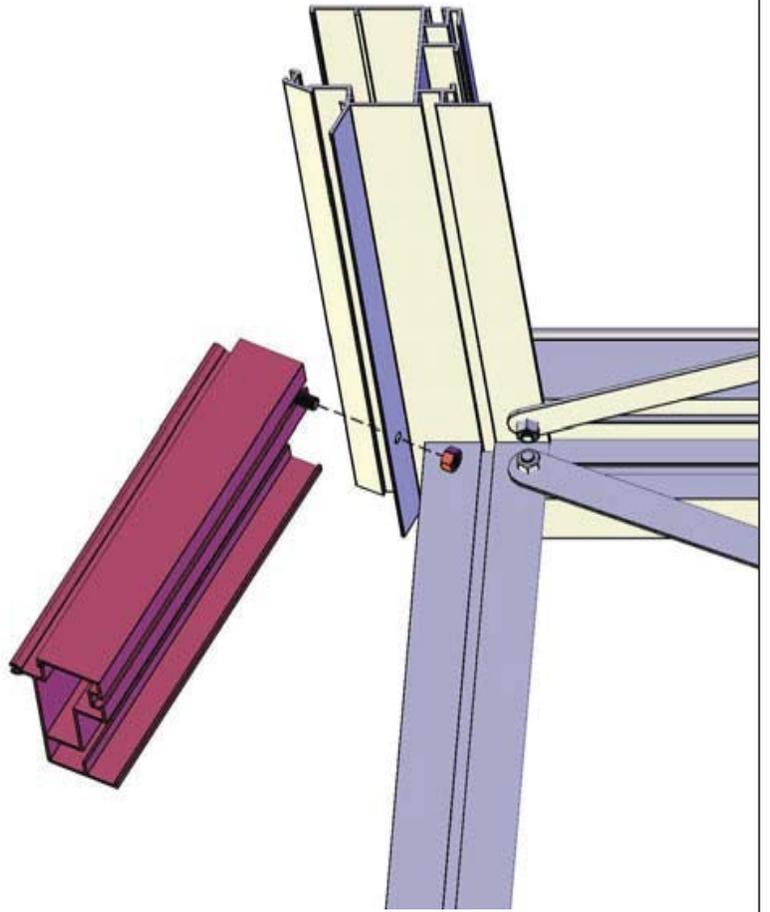
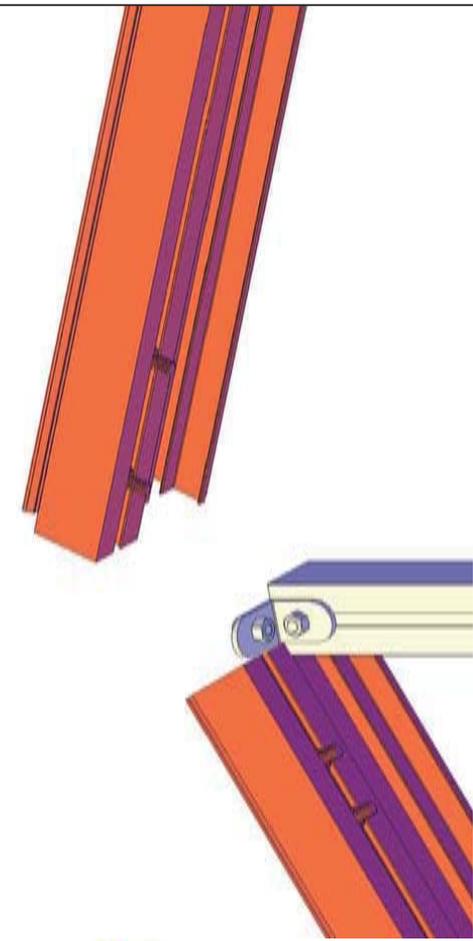
IMPORTANT!

If your wind braces do not reach, your greenhouse is **out of square**. Measure distance between diagonal corners - they should be equal. Use a level to determine where the issue lies and fix before proceeding.



Note for VI46: You will need to drill a hole into the horizontal gable profile (PRO20229) for the center gable post.

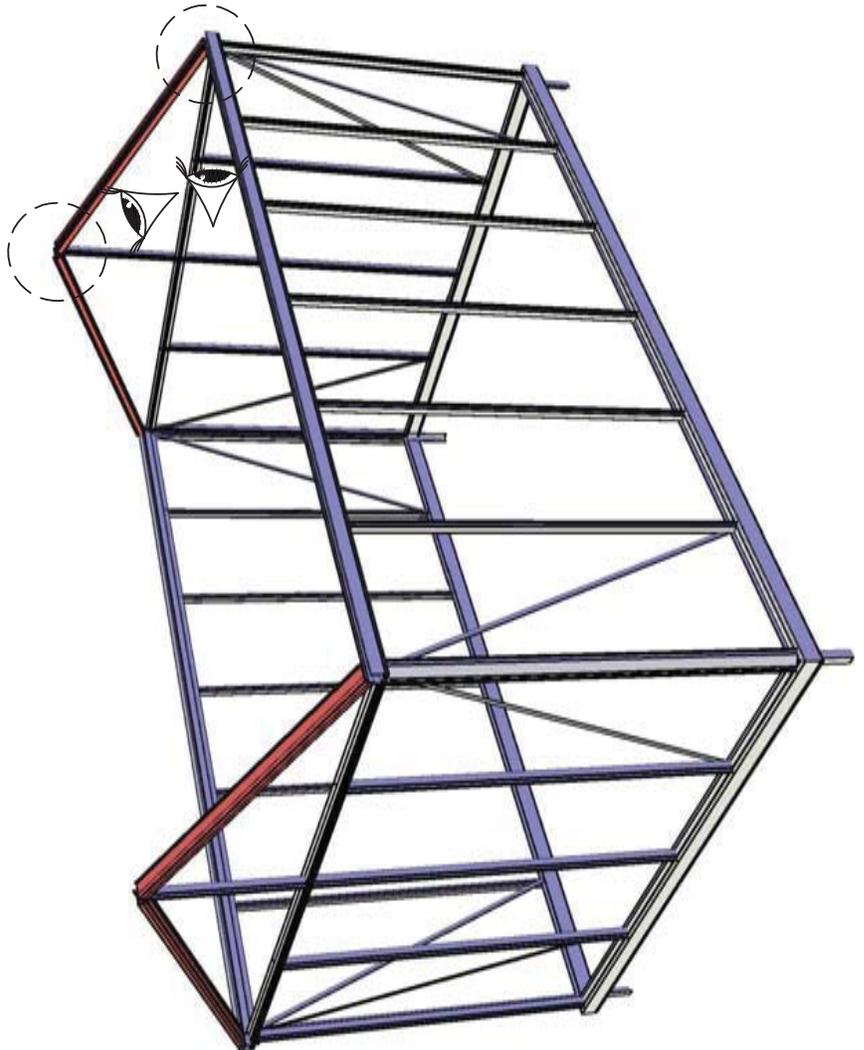




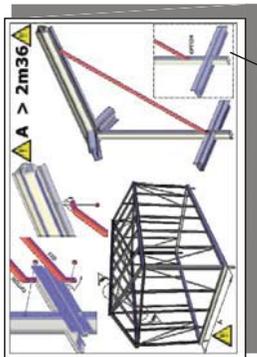
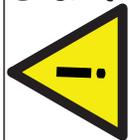
PRO6918

M6x12

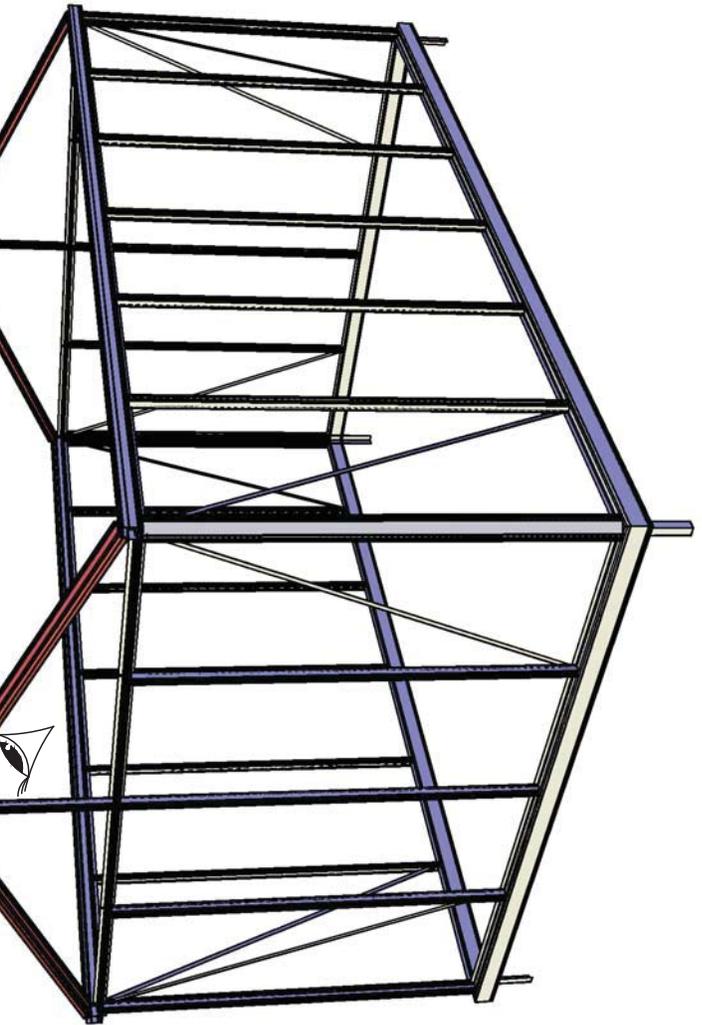
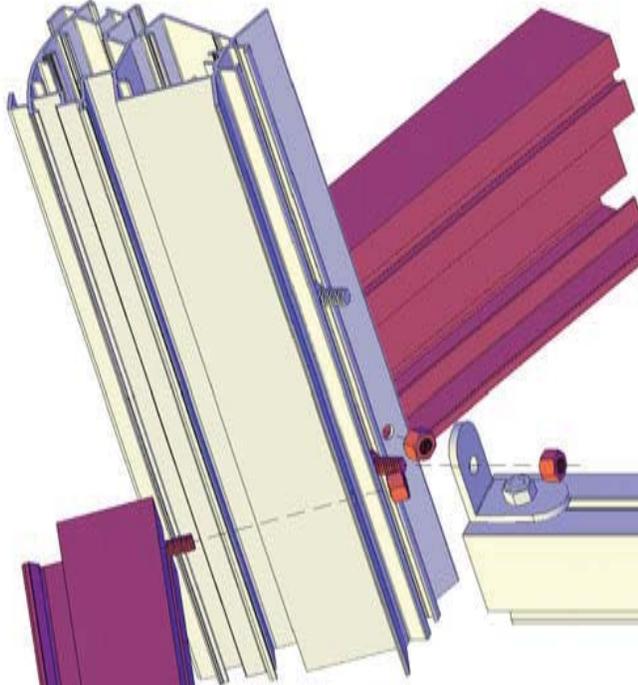
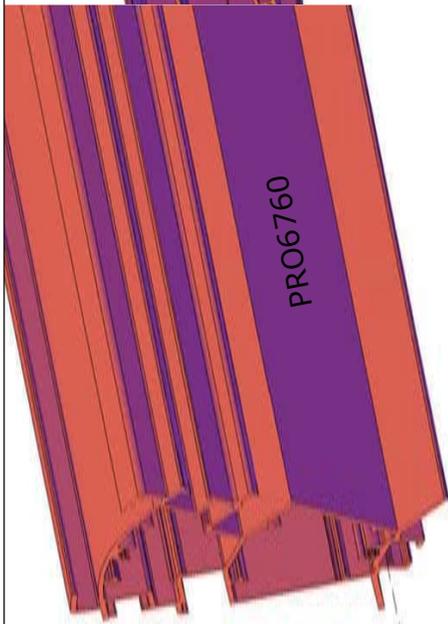
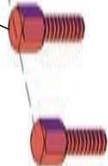
Insert bolts to connect short uprights to the PRO6918. You will need as many bolts as you have short uprights.

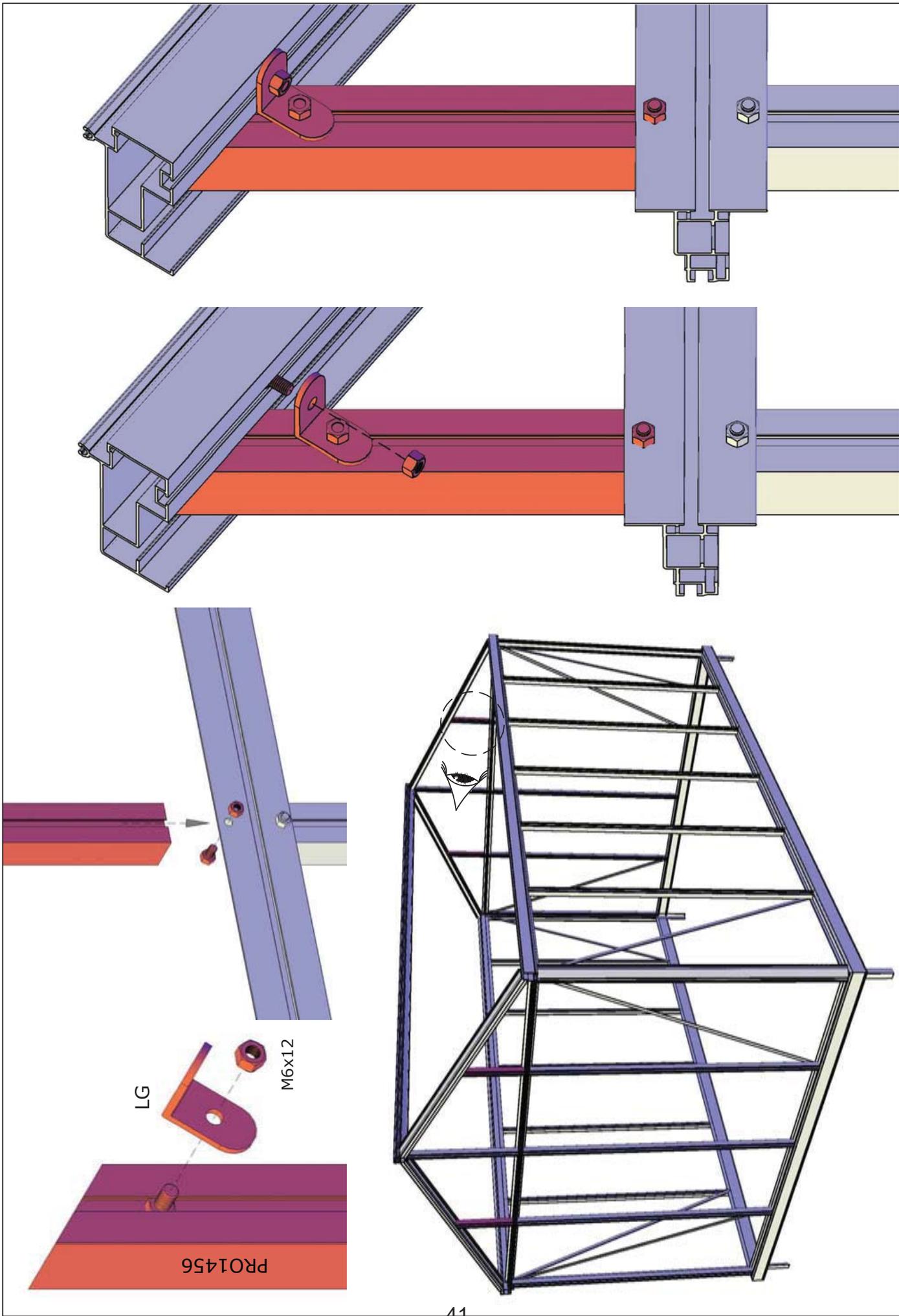


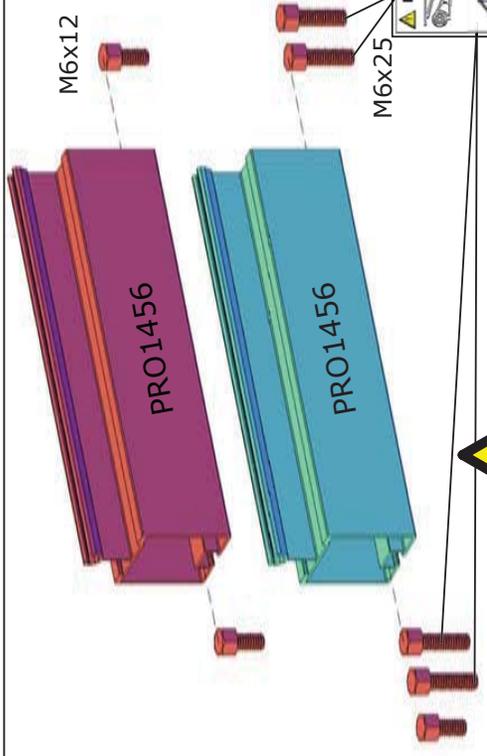
**Only for models over
93" wide (i.e. VI34, 36,
46) NOT in VI23**



M6x12

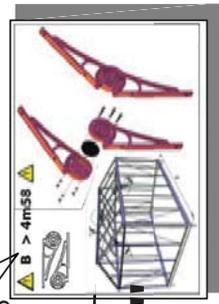




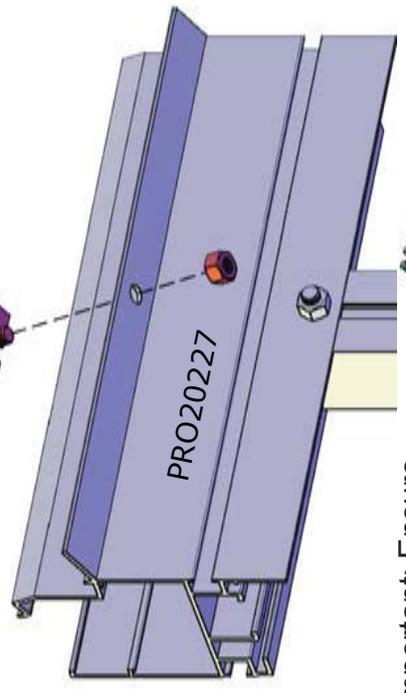


Insert bolts into rafters to attach them to gutter profile (PRO2027) and ridge beam (PRO6760)

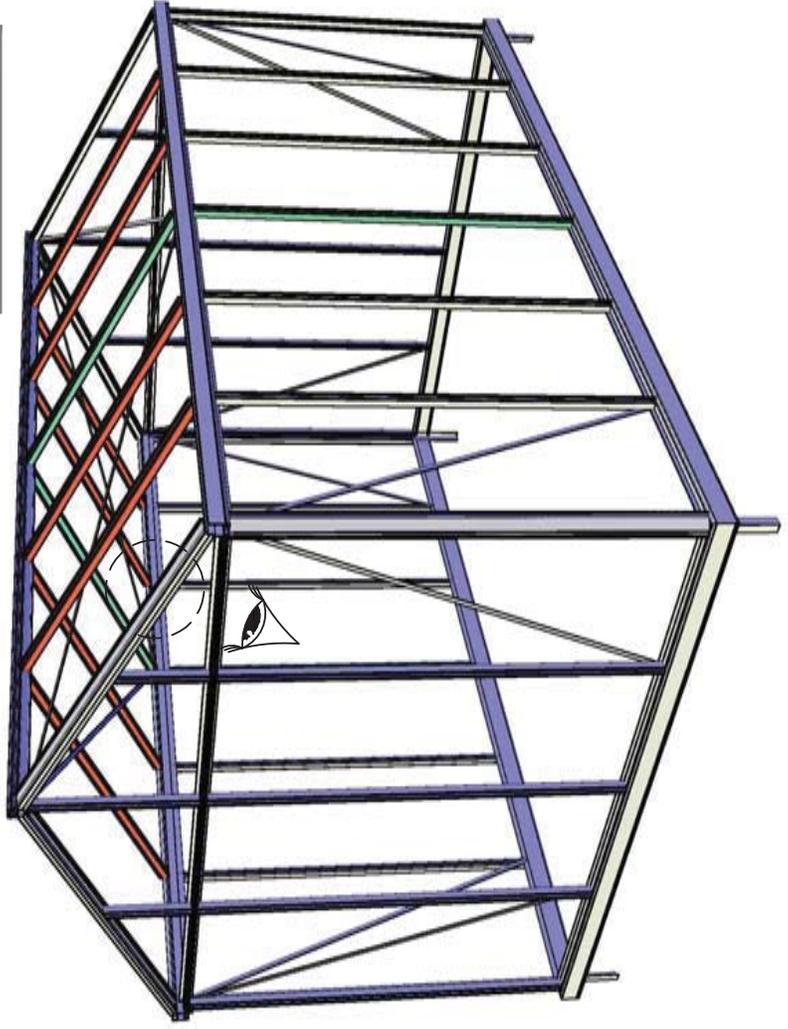
Only if length > 4580mm (i.e. VI36 and VI46) or if adding spandrels for extra support, then insert 25mm long bolts (in Spandrel/ Scroll Support package) in the center rafters/ vertical wall profiles - see H_20 and H_21



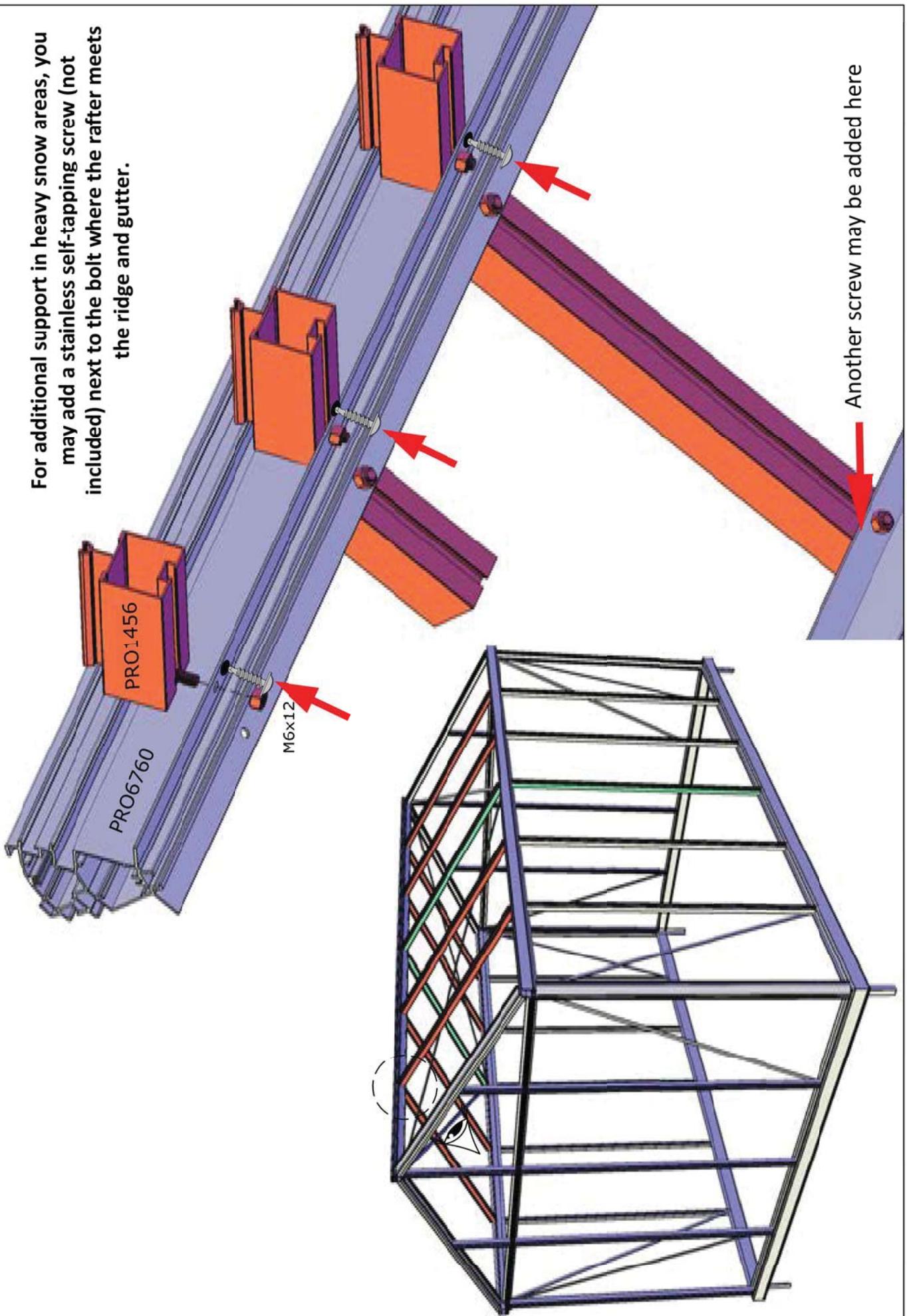
! Length > 181"



Important: Ensure bottom corner of rafter rests AGAINST the small flange on gutter - NOT on top of it.



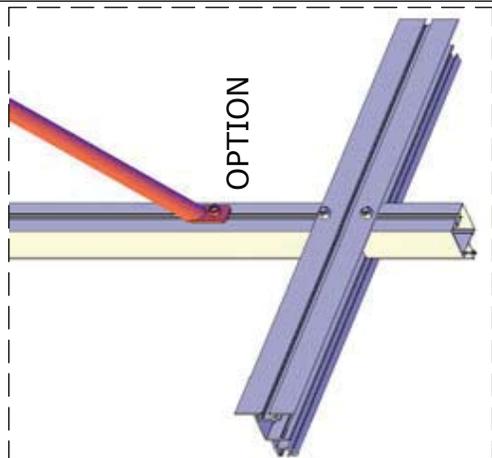
For additional support in heavy snow areas, you may add a stainless self-tapping screw (not included) next to the bolt where the rafter meets the ridge and gutter.



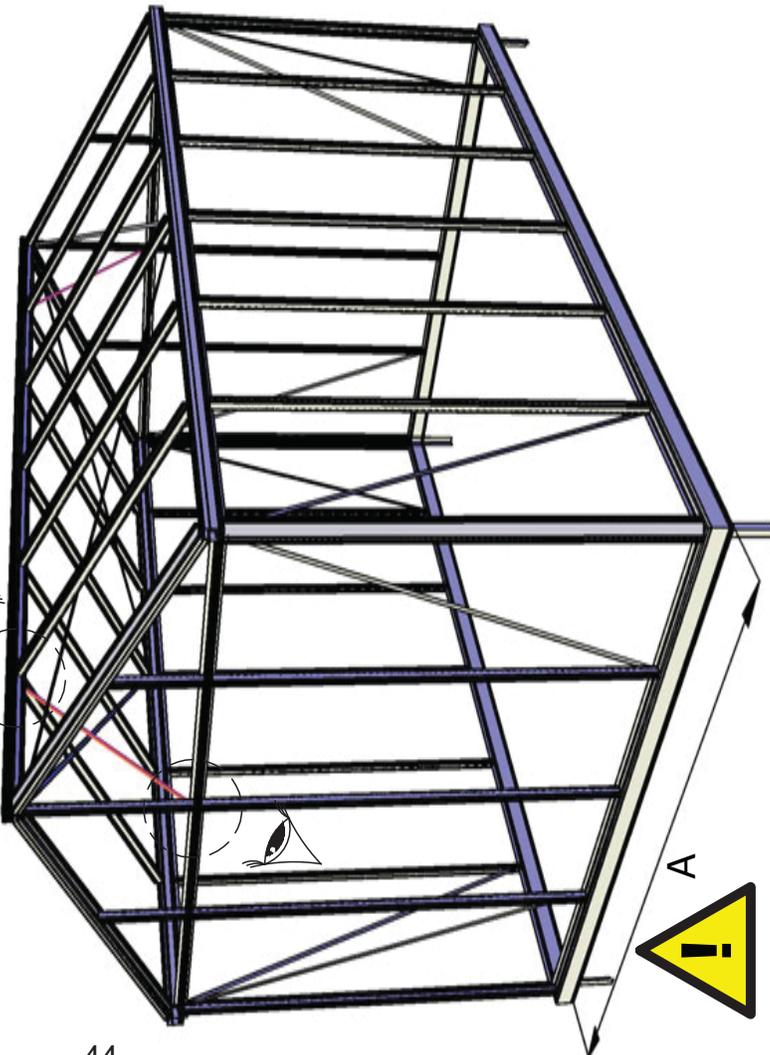
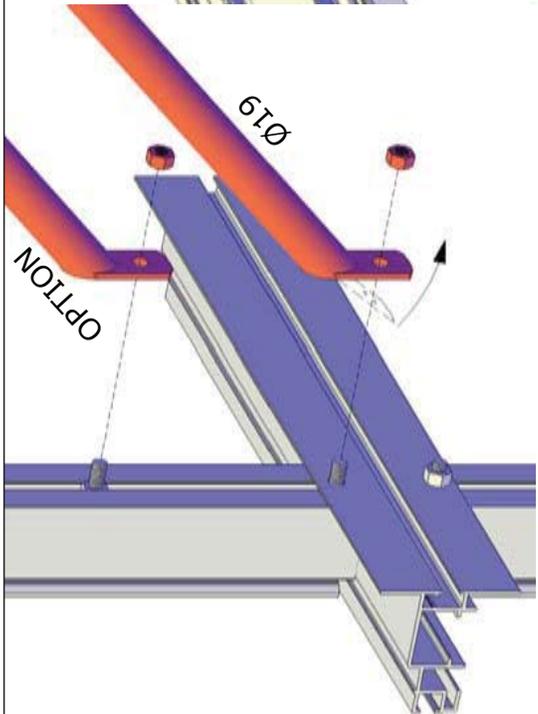
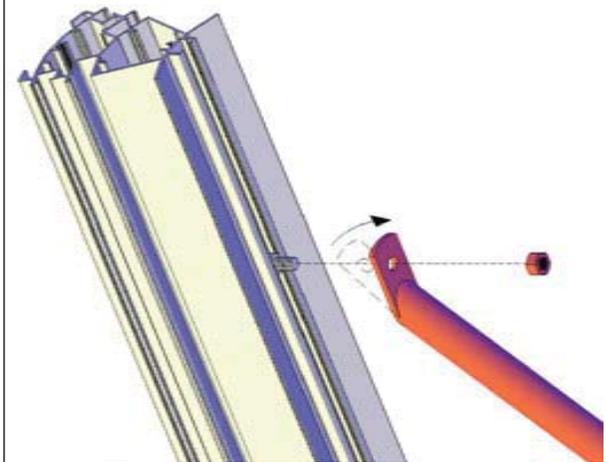


Width > 93"

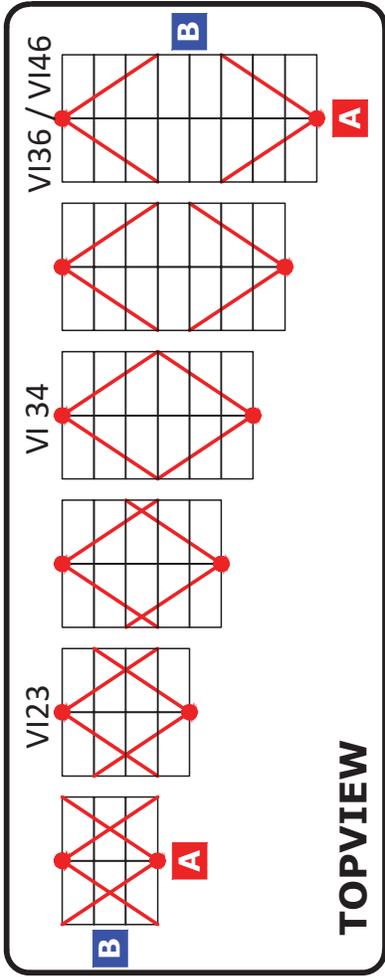
Diagonal Support is only supplied with models over 2360mm - V134, 36, 46.



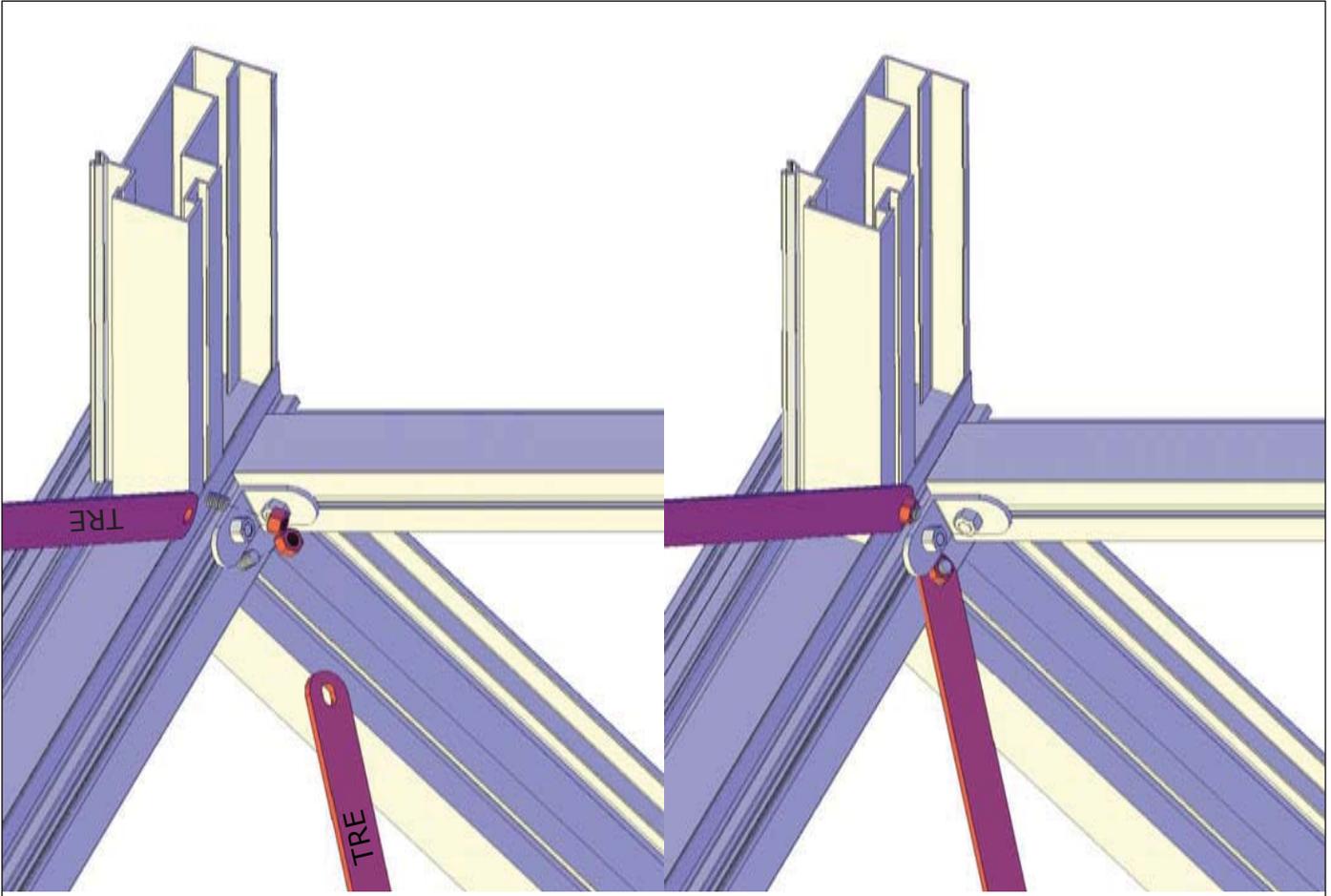
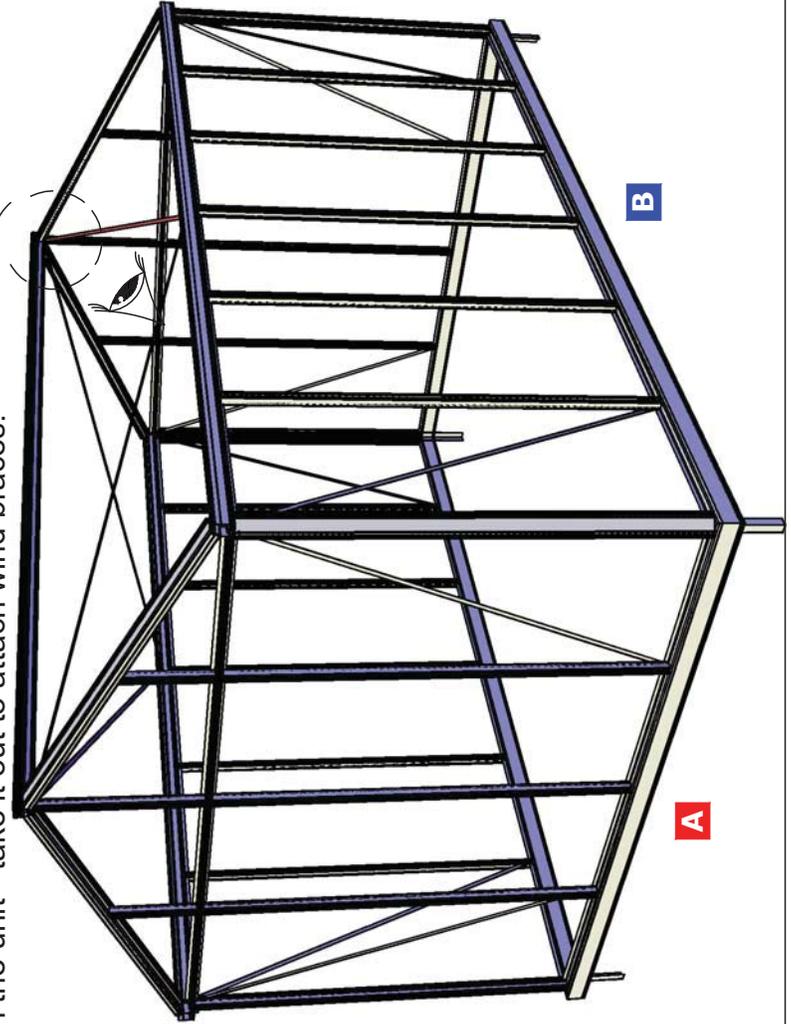
The diagonal support is about 40 1/2" long regardless of model. Yours may attach in either of these manners.



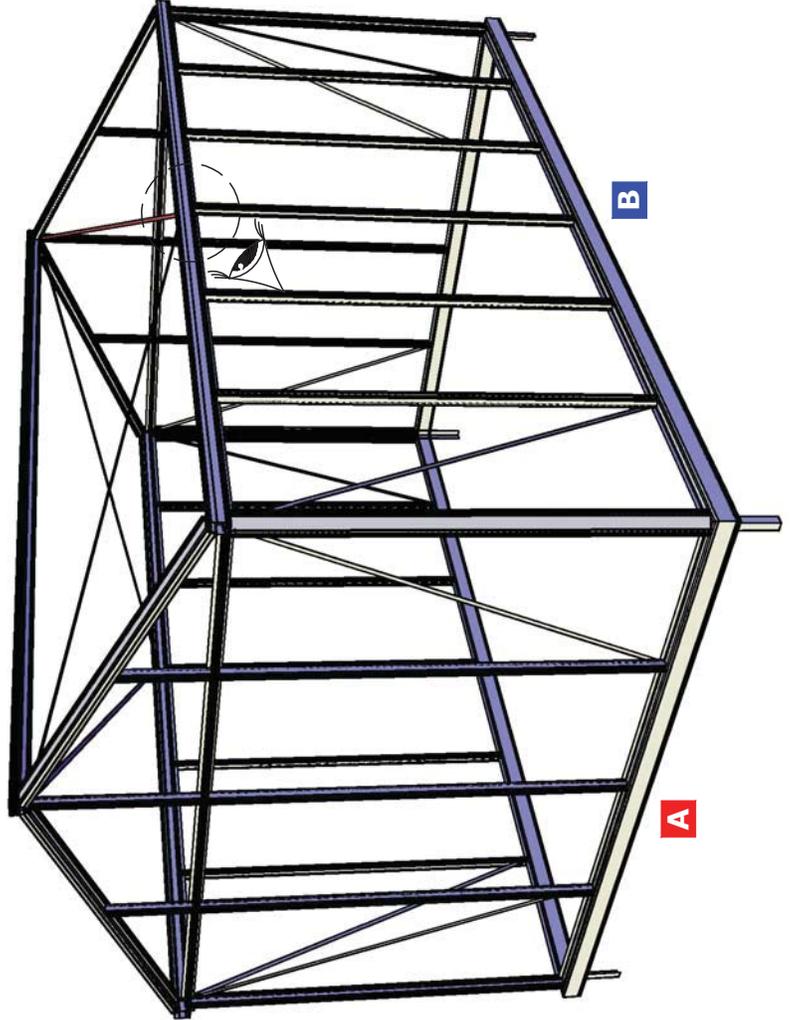
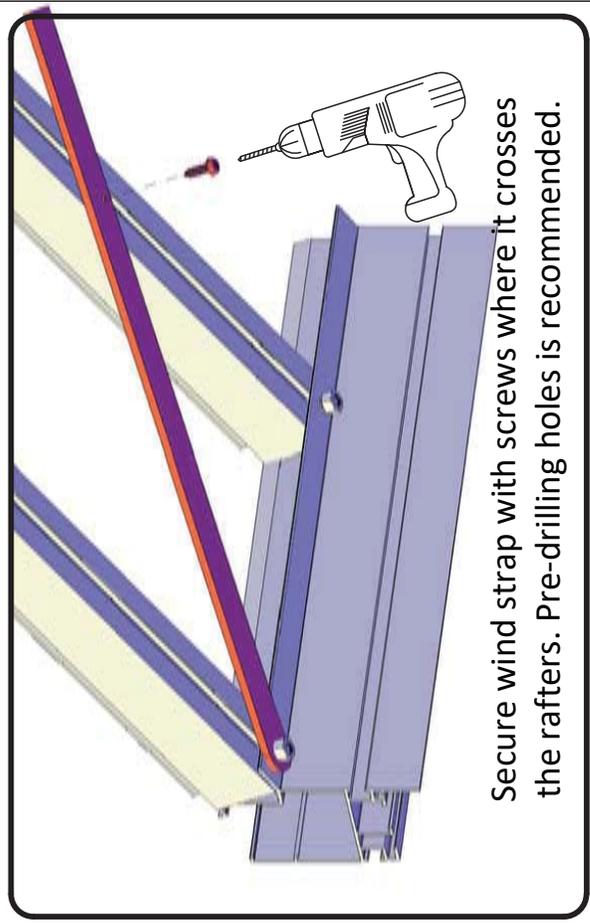
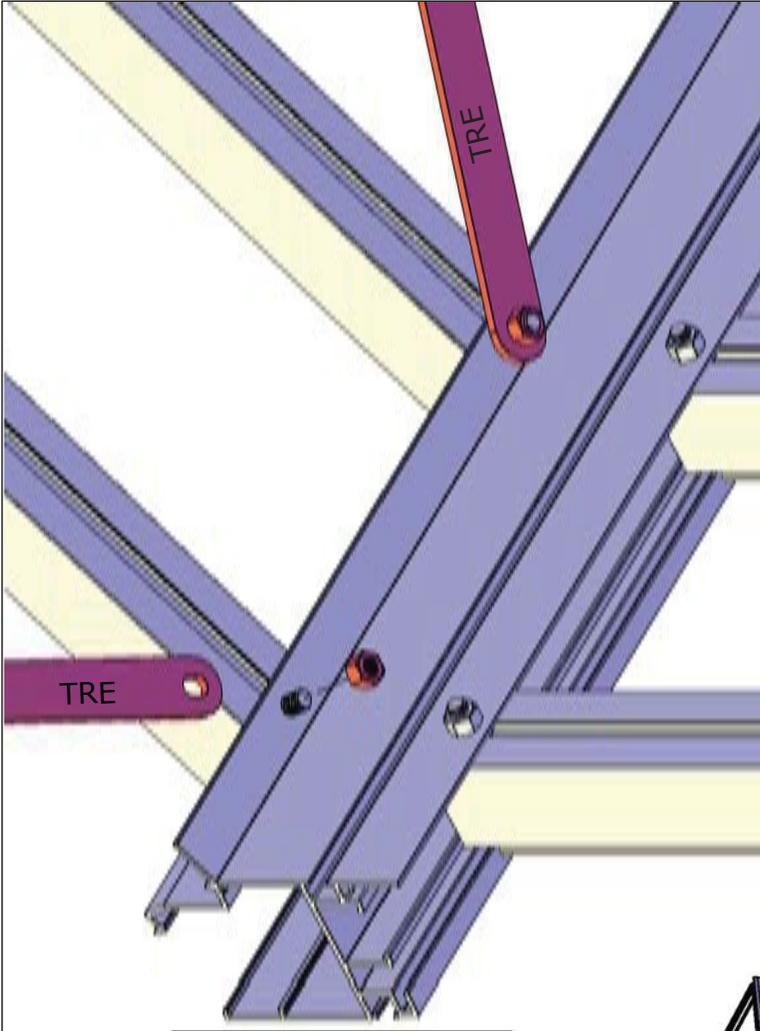
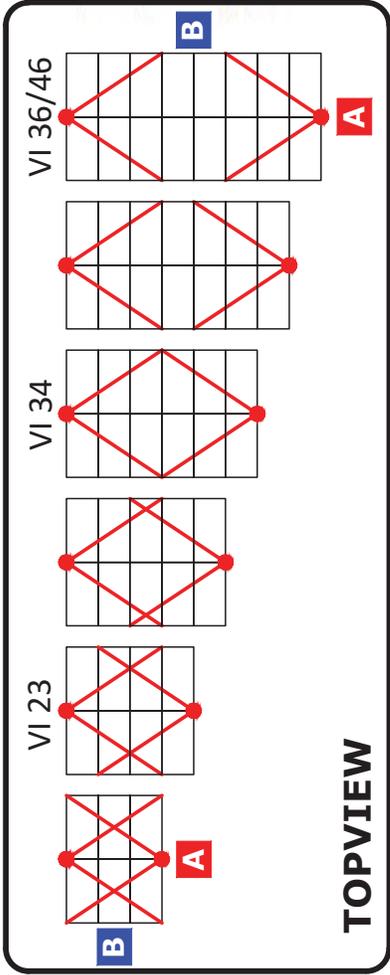
Placement of Roof Wind Braces (TRE) - View from above
 Attach at ridge beam first with 12mm bolts



If wind braces do not reach or are too long, your greenhouse may not be square/level. Measure diagonals and use a level. If you already have glass in the unit - take it out to attach wind braces.

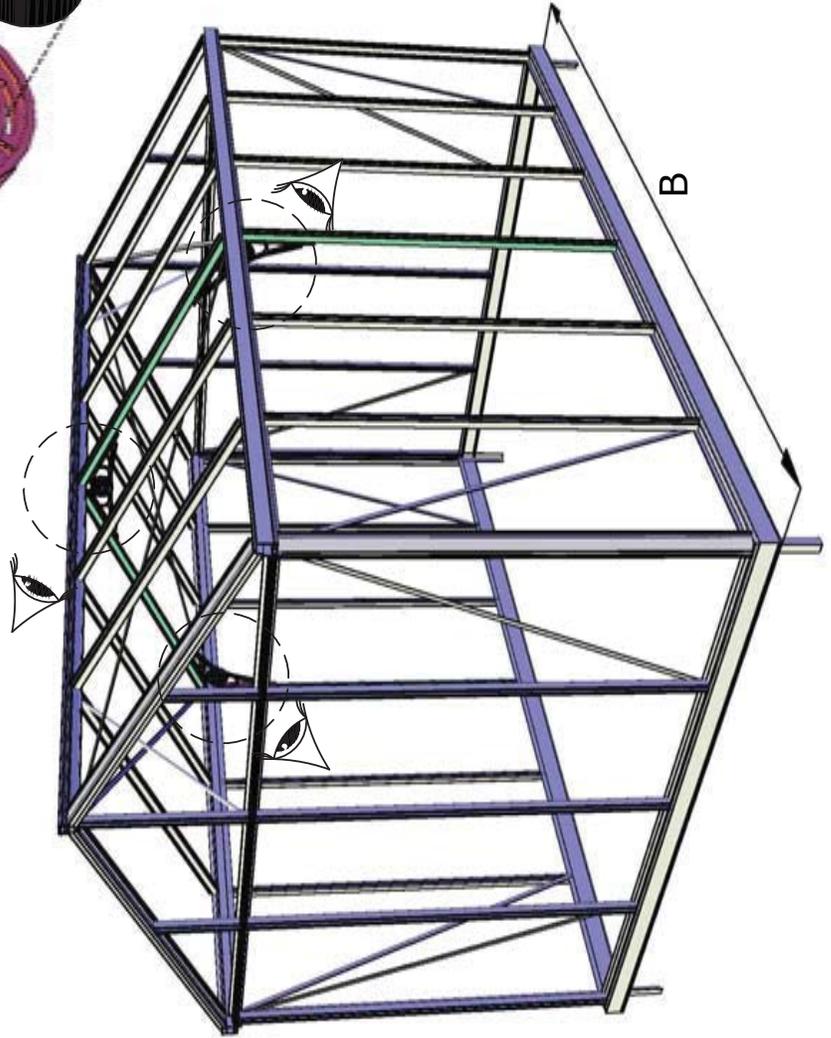
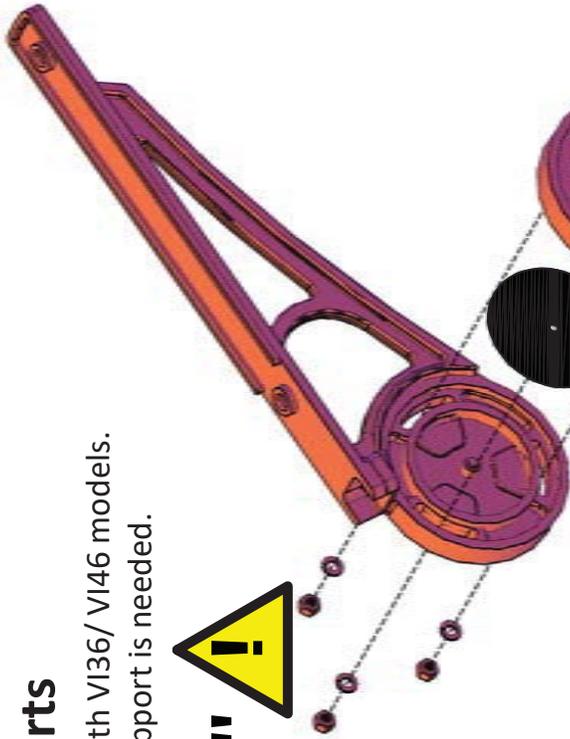
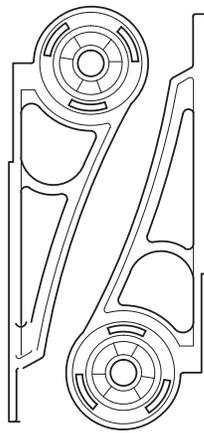


Placement of Wind Braces (TRE) View from above. Attach at gutter profile. NOTE for VI34: Use 25mm bolt in (ZAK_H) to accommodate both braces on a single bolt.



Spandrels/Deco Scroll Supports

Spandrels/Scroll supports are only included with V136/ V146 models.
Additional support may be ordered if more support is needed.

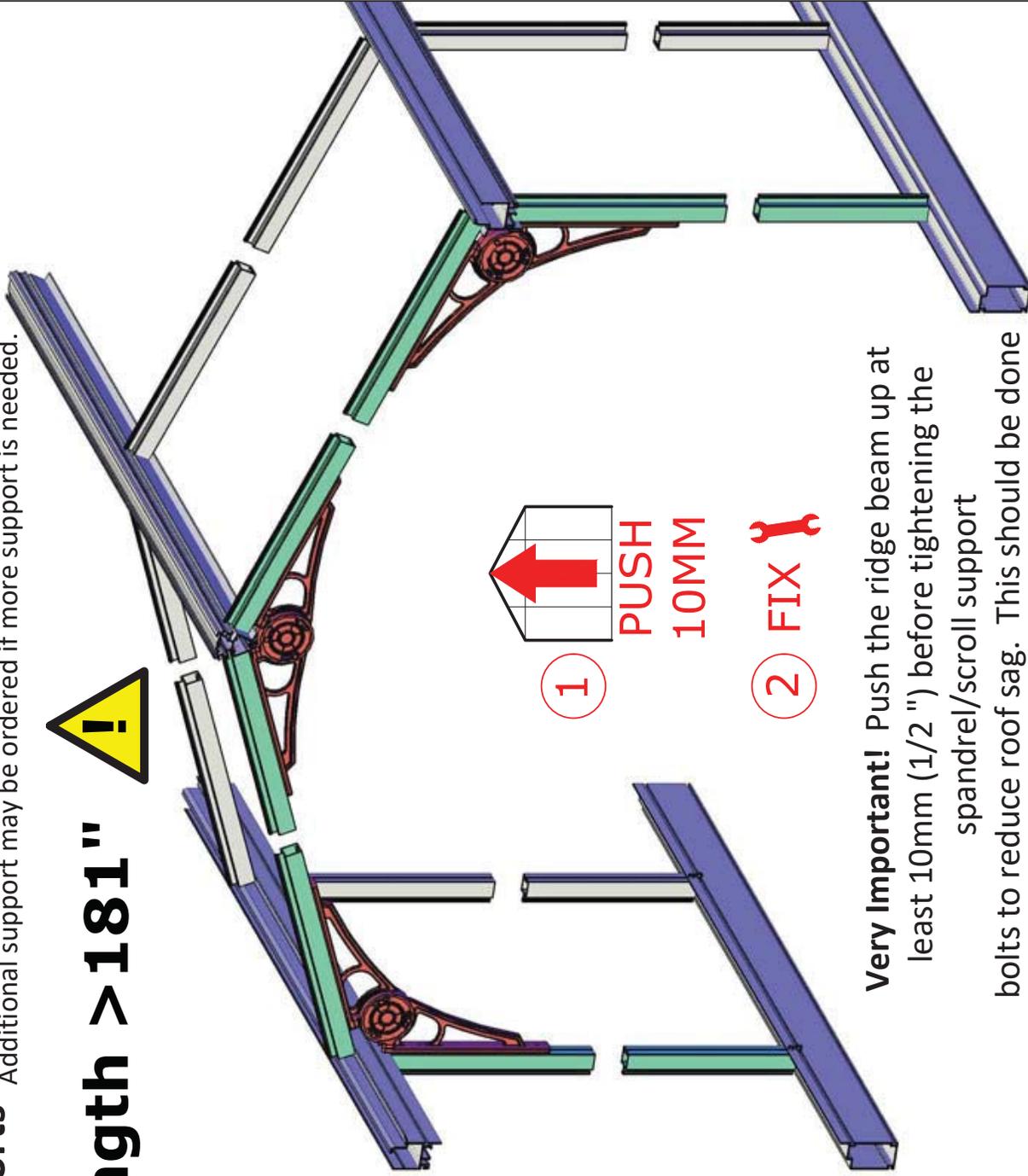


Spandrels/Deco Scroll Supports

Spandrels/Scroll supports are only included with VI36/ VI46 models.
Additional support may be ordered if more support is needed.



Length > 181"



1

**PUSH
10MM**

2

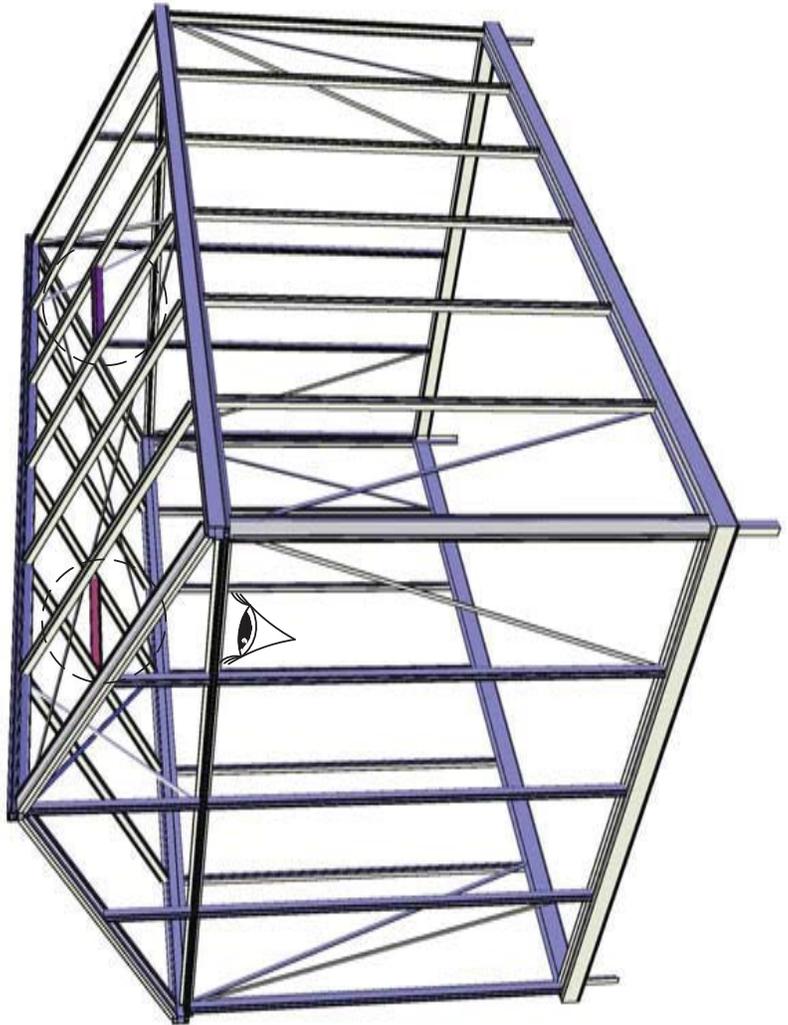
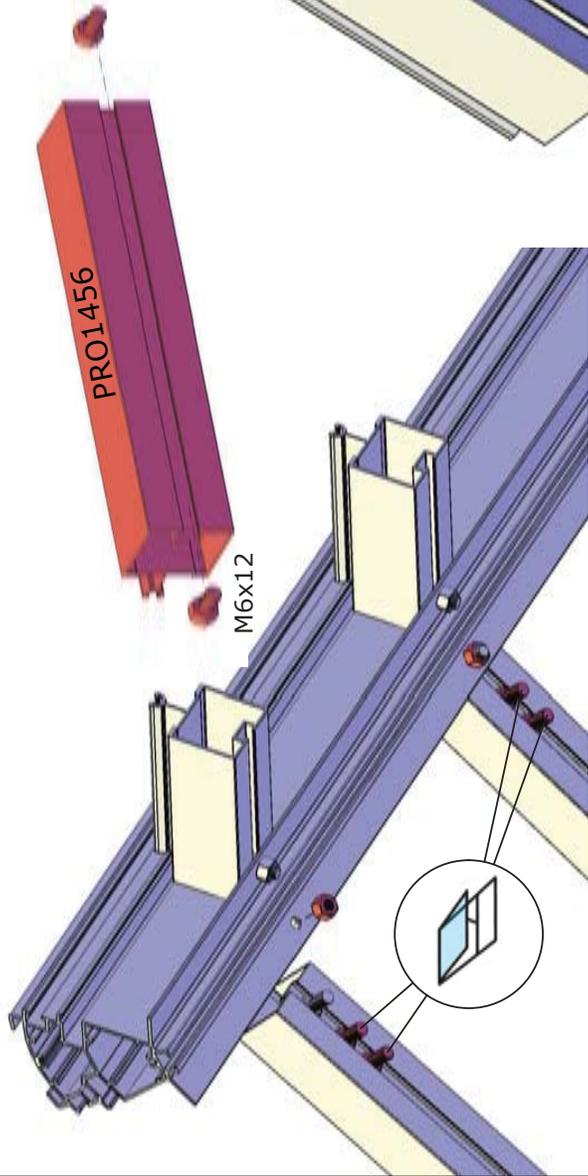
FIX 

Very Important! Push the ridge beam up at least 10mm (1/2 ") before tightening the spandrel/scroll support bolts to reduce roof sag. This should be done **BEFORE** glazing is installed.

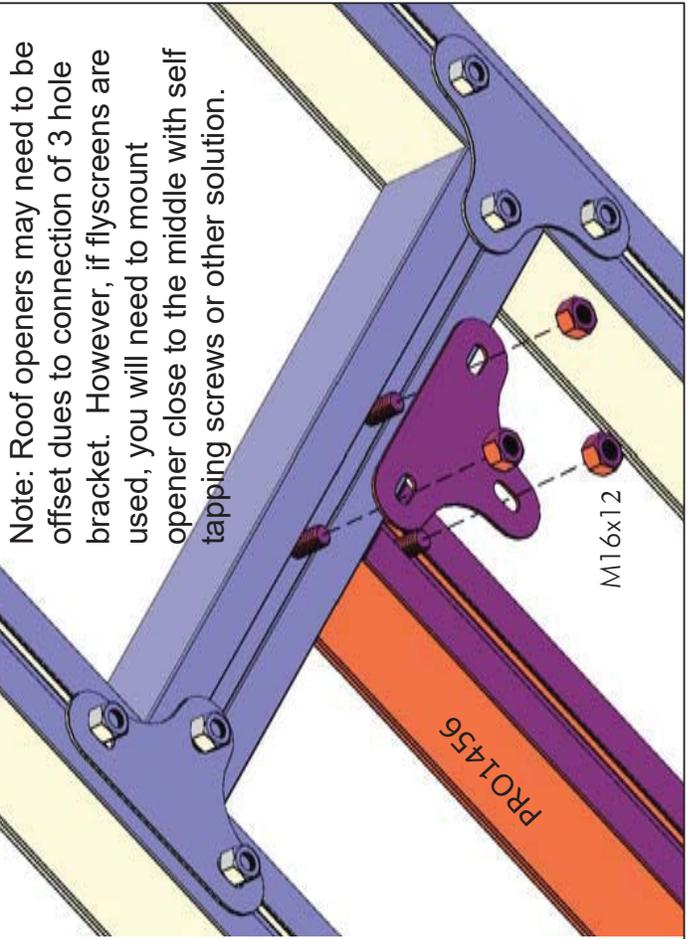
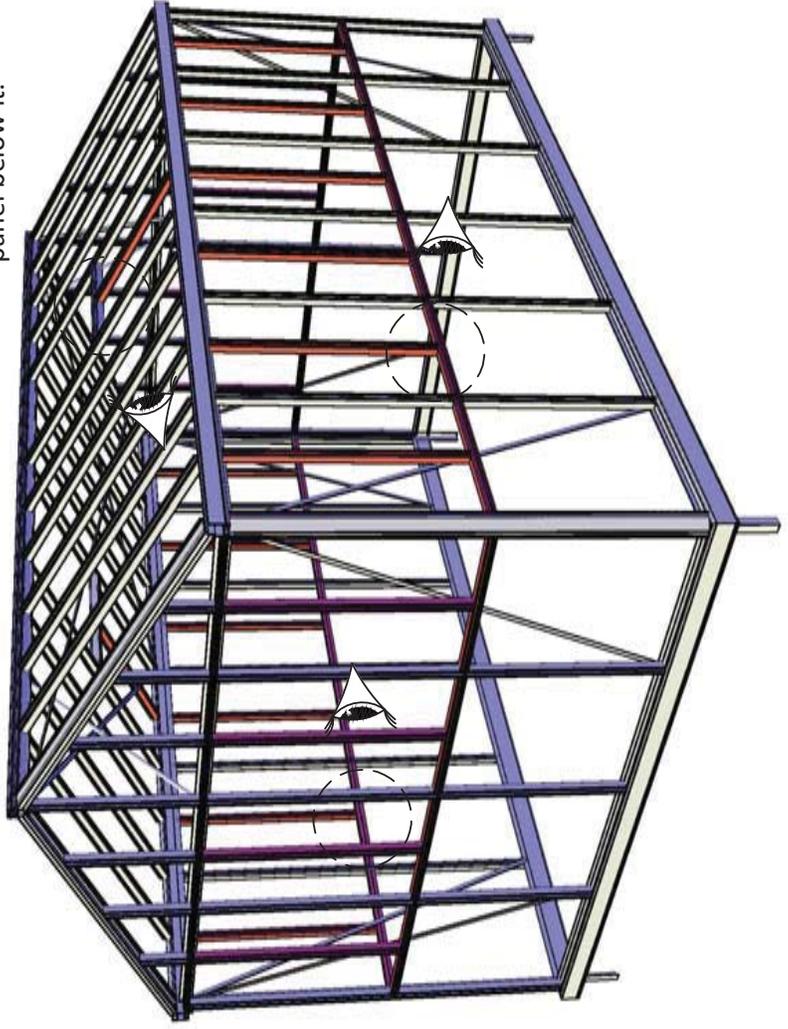
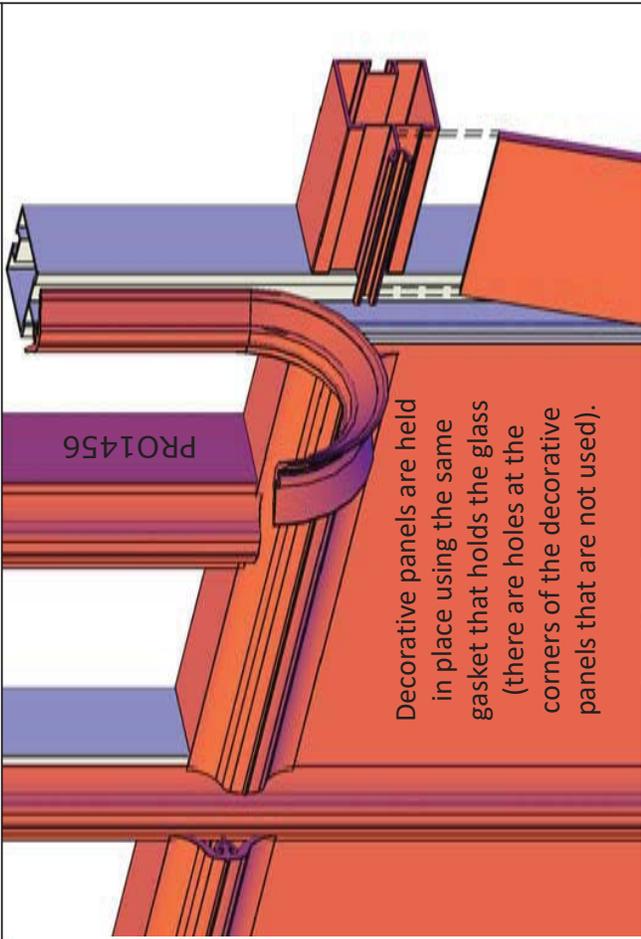
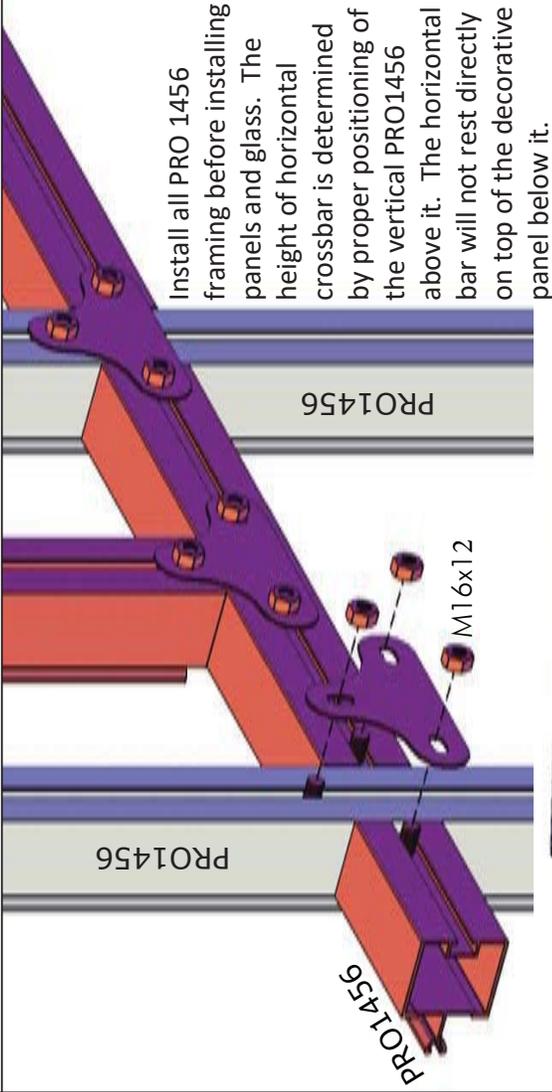
Crossbar for framing roof opening will be found in each Roof Window bag/package. Roof vents may be installed in any bay. They may not be placed side by side.

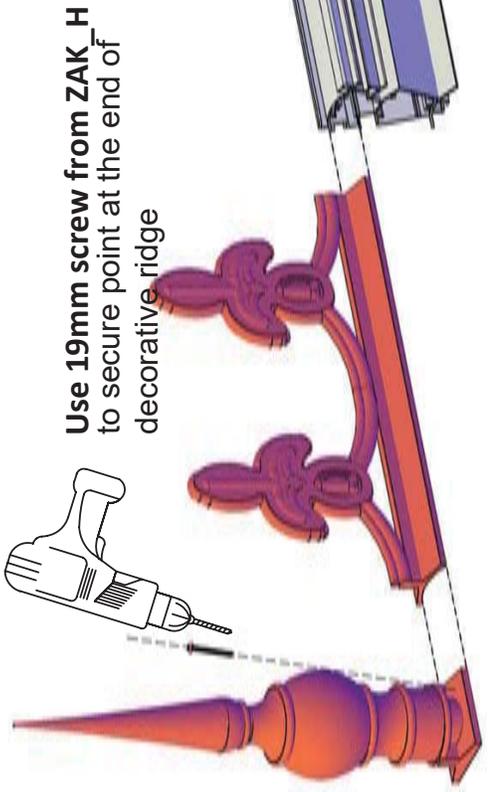
Insert bolts to attach connecting plate.

Crossbar should be installed 790mm (31.1") from tip of the rafter

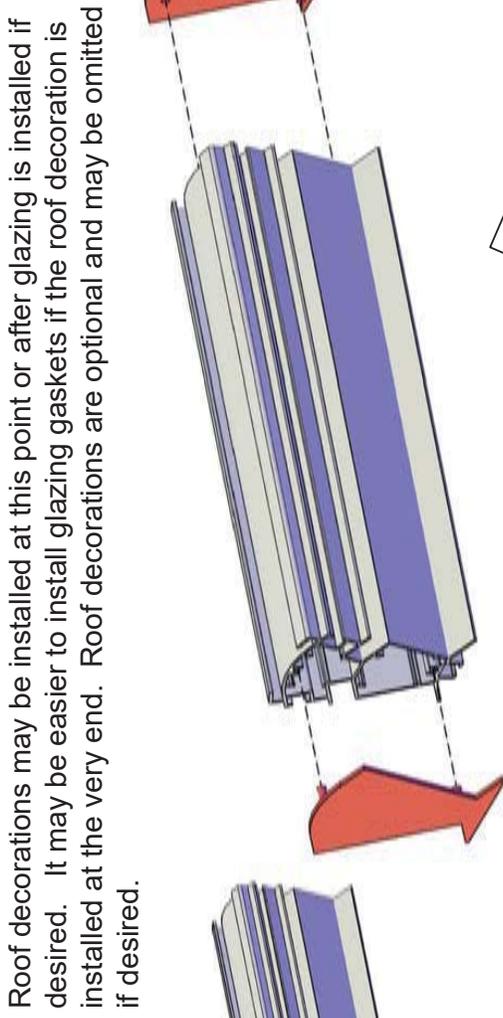


This page applies only to "RETRO" Model

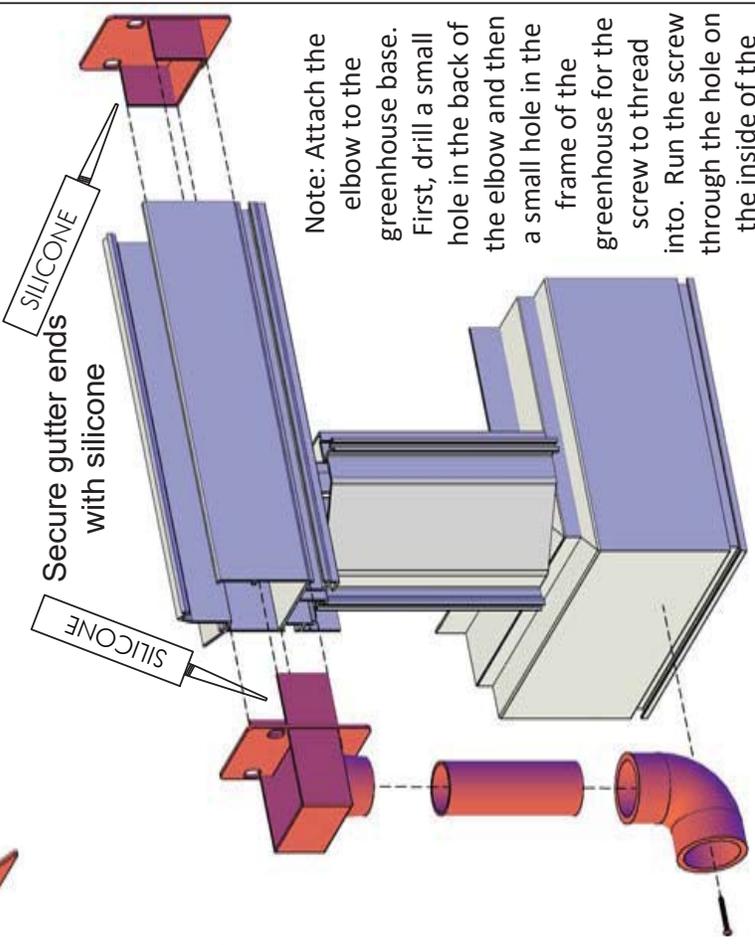
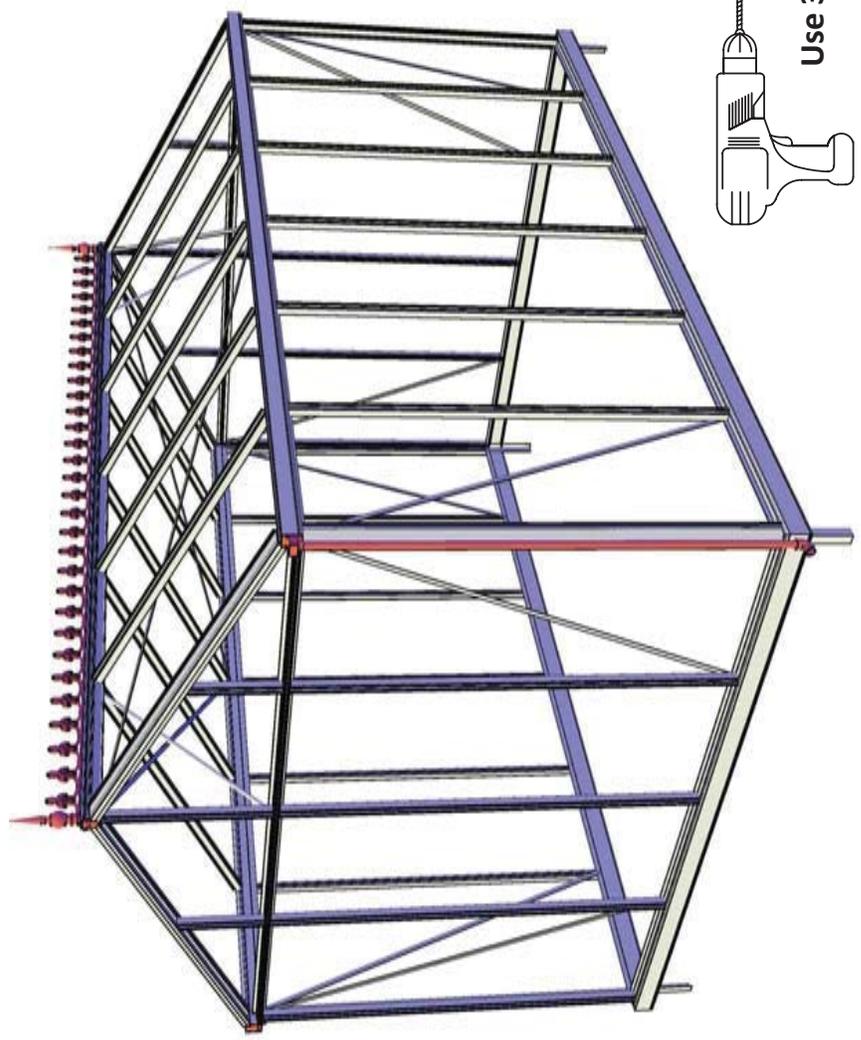




Use 19mm screw from ZAK_H to secure point at the end of decorative ridge



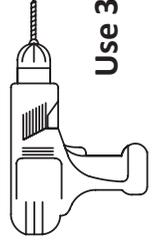
Roof decorations may be installed at this point or after glazing is installed if desired. It may be easier to install glazing gaskets if the roof decoration is installed at the very end. Roof decorations are optional and may be omitted if desired.



Secure gutter ends with silicone

SILICONE

Note: Attach the elbow to the greenhouse base. First, drill a small hole in the back of the elbow and then a small hole in the frame of the greenhouse for the screw to thread into. Run the screw through the hole on the inside of the elbow and into the greenhouse base.



Use 38mm screw from (ZAK_H)

STOP! Please read the following...

You are now ready to install your glazing. If you have polycarbonate glazing, please refer to next page for specific prep regarding the polycarbonate panels - you will not use the crescent shaped gasket (E400330) with your polycarbonate panels.

Tips for installing your glazing (more detailed steps/diagrams follow - this is an overview):

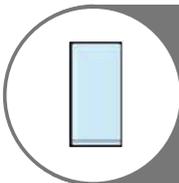
Use the provided (or other) glass suction cup - it helps a lot!

Wait until the end to install your roof vents - it will be easier to pop through the openings as needed to place the roof pieces and gaskets.

Start with your small, angled gable ends. For the smallest corner pieces, you may need to remove the vertical profile (PRO1456) next to it. Place the glazing, then replace profile. Secure the glass with the heavy duty gasket (PRO1748) on the verticals. Insert the crescent gasket (E400330) into the eaves (see figure on following pages) - it will be held in a flange that is further up than the one you can see.

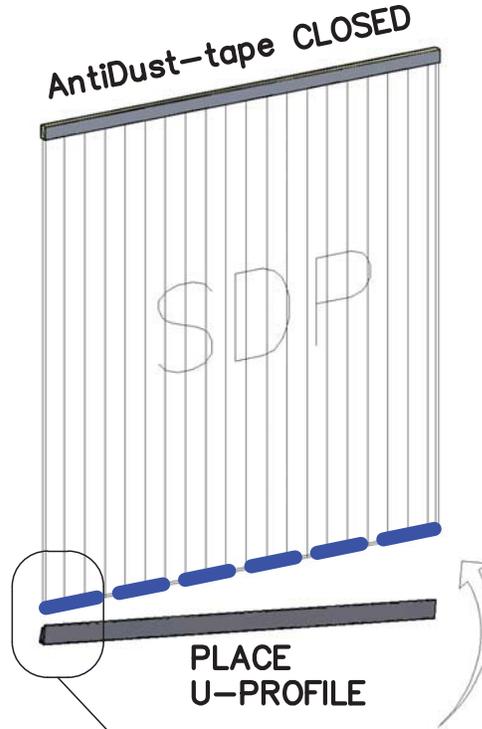
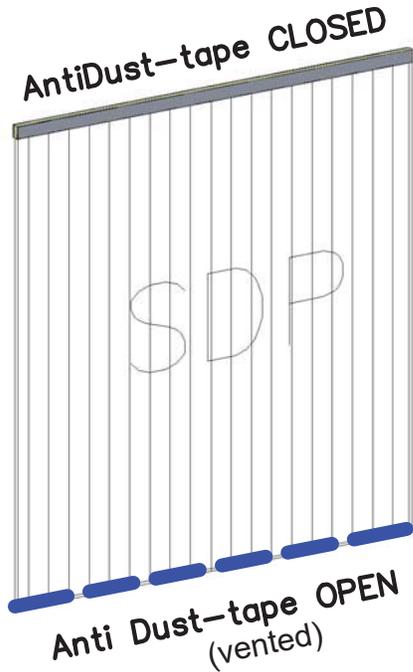
Do the roof next - always work one pane at a time! Slide top edge of glass into the ridge beam and set bottom into glassholder (PRO20780). Place one pane, then insert crescent gasket (E400330) into ridge and heavy duty gasket (PRO1748) into the channel on the rafter (PRO1456) on the far side of the glass. Place the next piece of glazing, then insert crescent gasket into ridge and the heavy duty gasket into the rafter on the far side. Repeat for the rest of the roof. You will also add the heavy duty gasket into the crossbar (PRO1456) that frames the roof vent openings.

Finally place your sidewall panes, working one at a time. Place a panel, then secure one side with heavy duty gasket (PRO1748), place next panel, then secure where the two panel meet with gasket (PRO1748). **NOTE:** The crescent gasket (E400330) is **NOT** inserted at the top of the sidewall. There will be no gasket there.



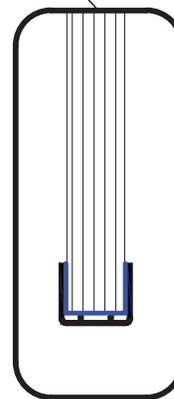
OPTION: Polycarbonate 10mm

SDP



You will find a bundle of WHITE U profiles in the pallet. Place them over the vented tape. This will be the bottom of your polycarbonate panel. The U channel creates a space for any condensation to exit and move away from the panel. (white is the only available color)

Do not add U profiles on polycarbonate for doors, vents, or windows.

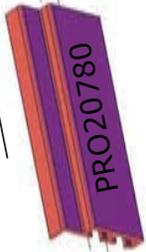


You will not use the crescent gasket with polycarbonate panels. It is included with the pallet but it is not used on the polycarbonate models.



Find Glass Holders in ZAK_H (with your gutter pieces and other hardware)

4mm GLASS



Note placement of PRO20780!

PRO20227

10mm POLYCARBONATE



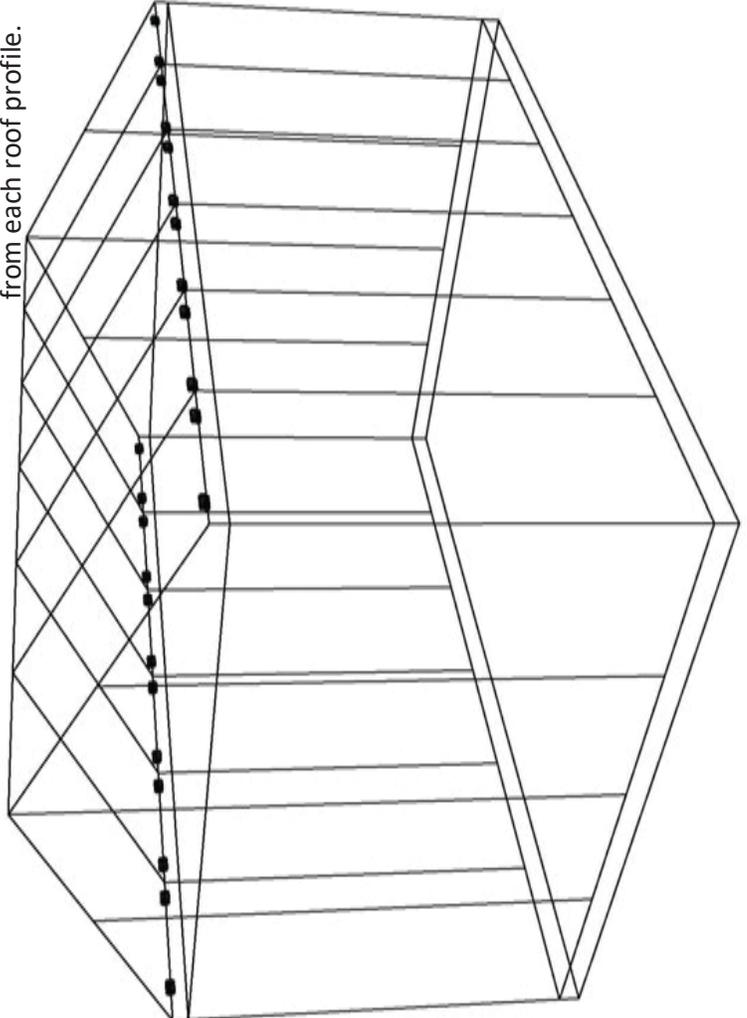
Note placement of PRO20780!

PRO20227

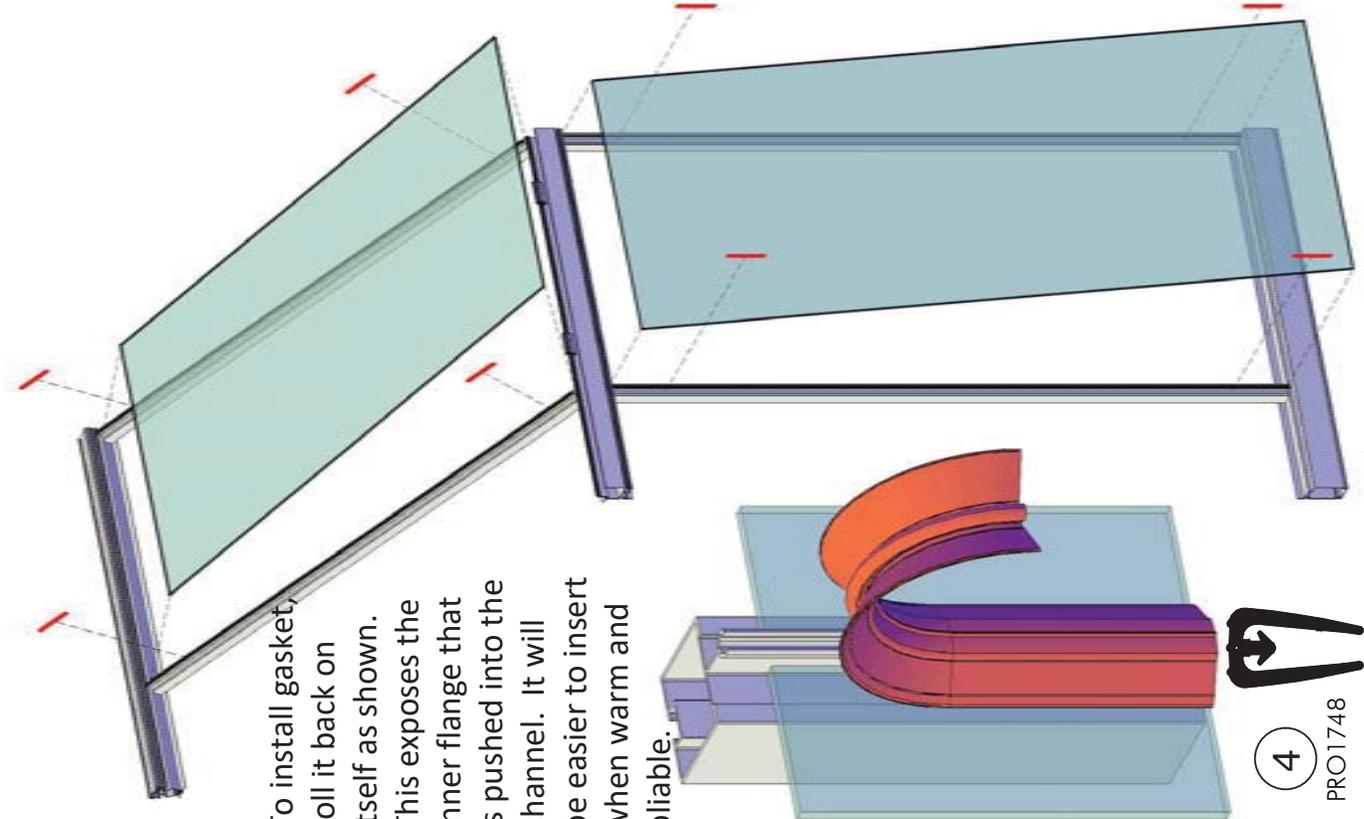
Glazing supports slide onto the gutter profile, space them 100mm or 4 inches from each roof profile.

Standard width panes, use 2 per piece

730
28 3/4"
2 PCS



14 1/4"
Narrow glass panes
1 PC

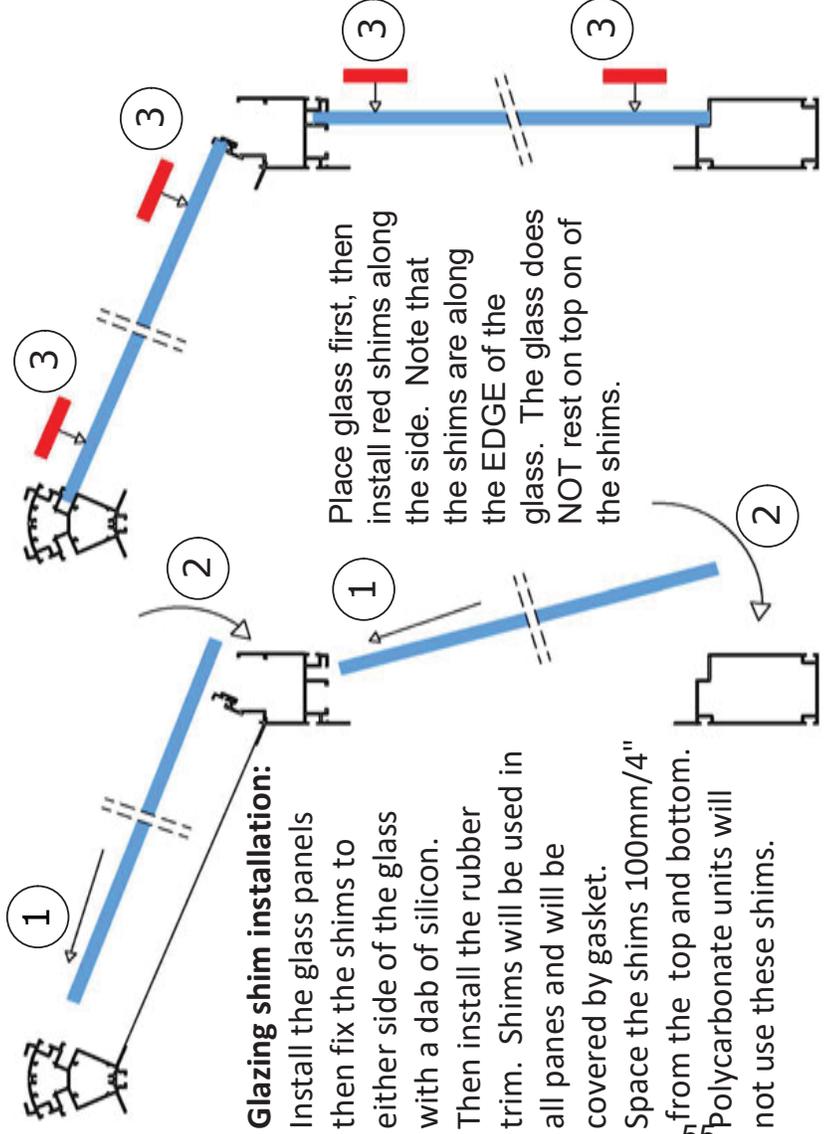


To install gasket, roll it back on itself as shown. This exposes the inner flange that is pushed into the channel. It will be easier to insert when warm and pliable.



4

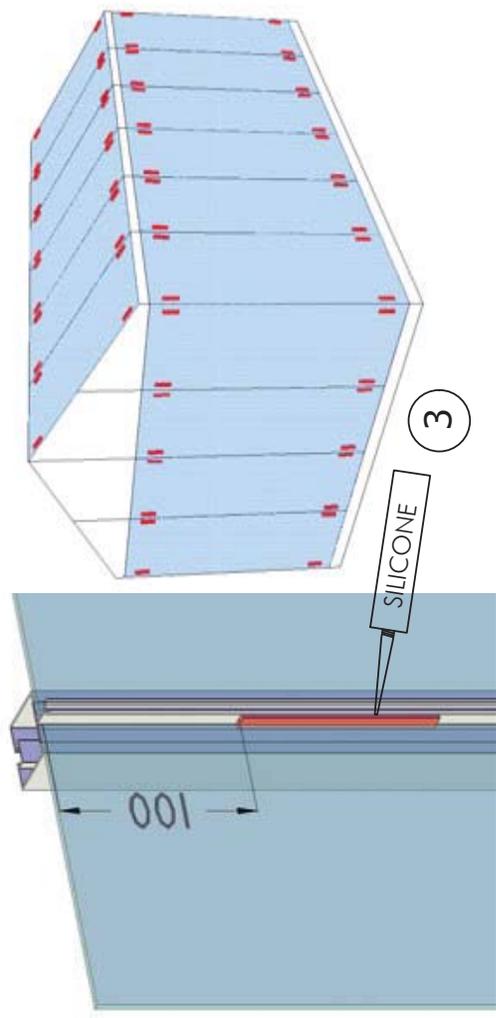
PRO1748



Glazing shim installation:

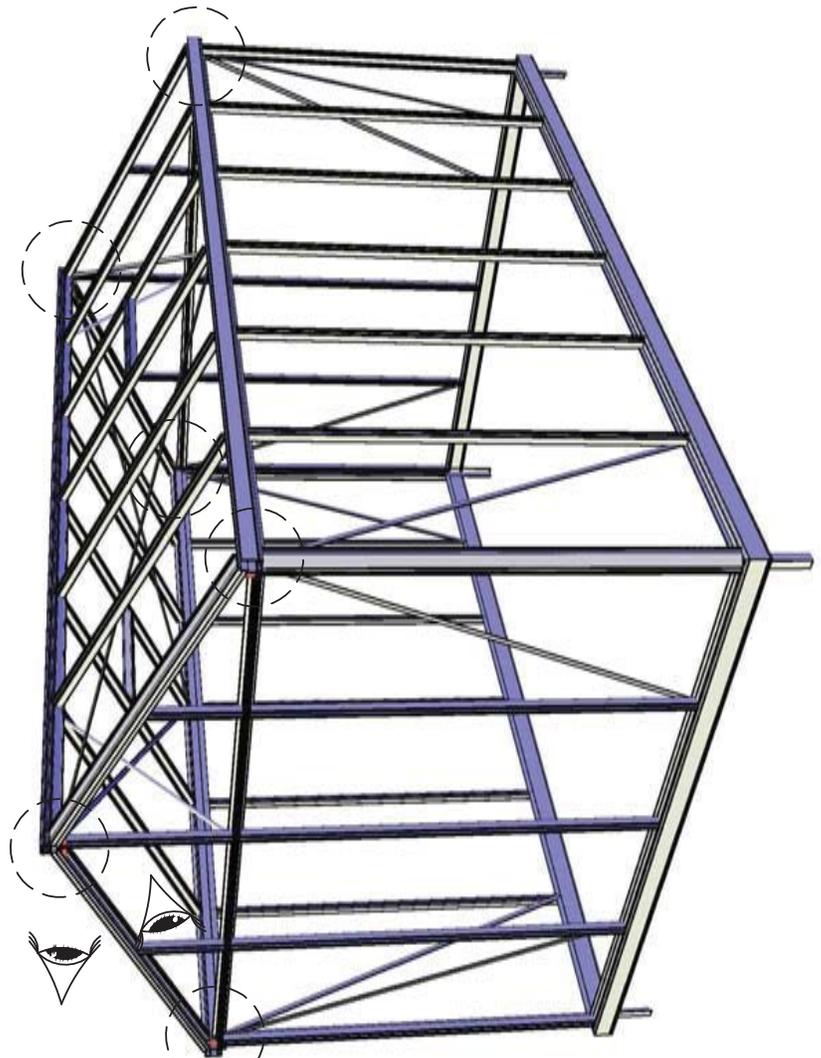
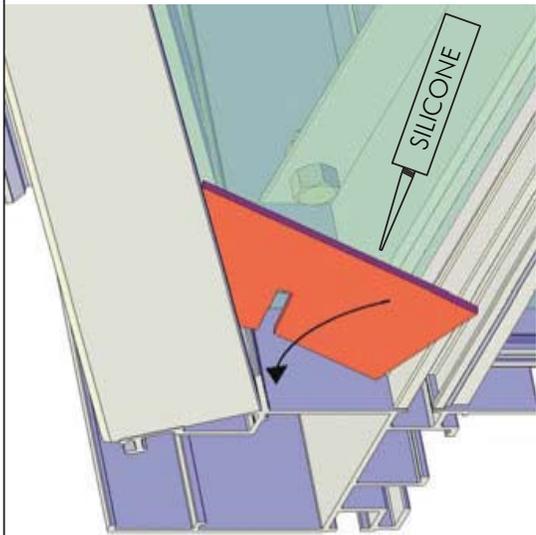
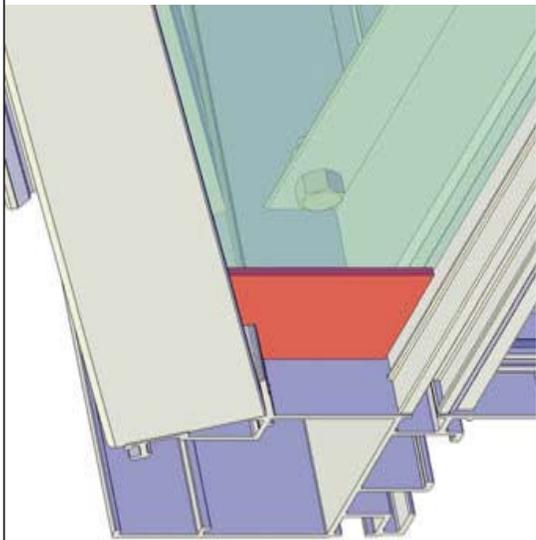
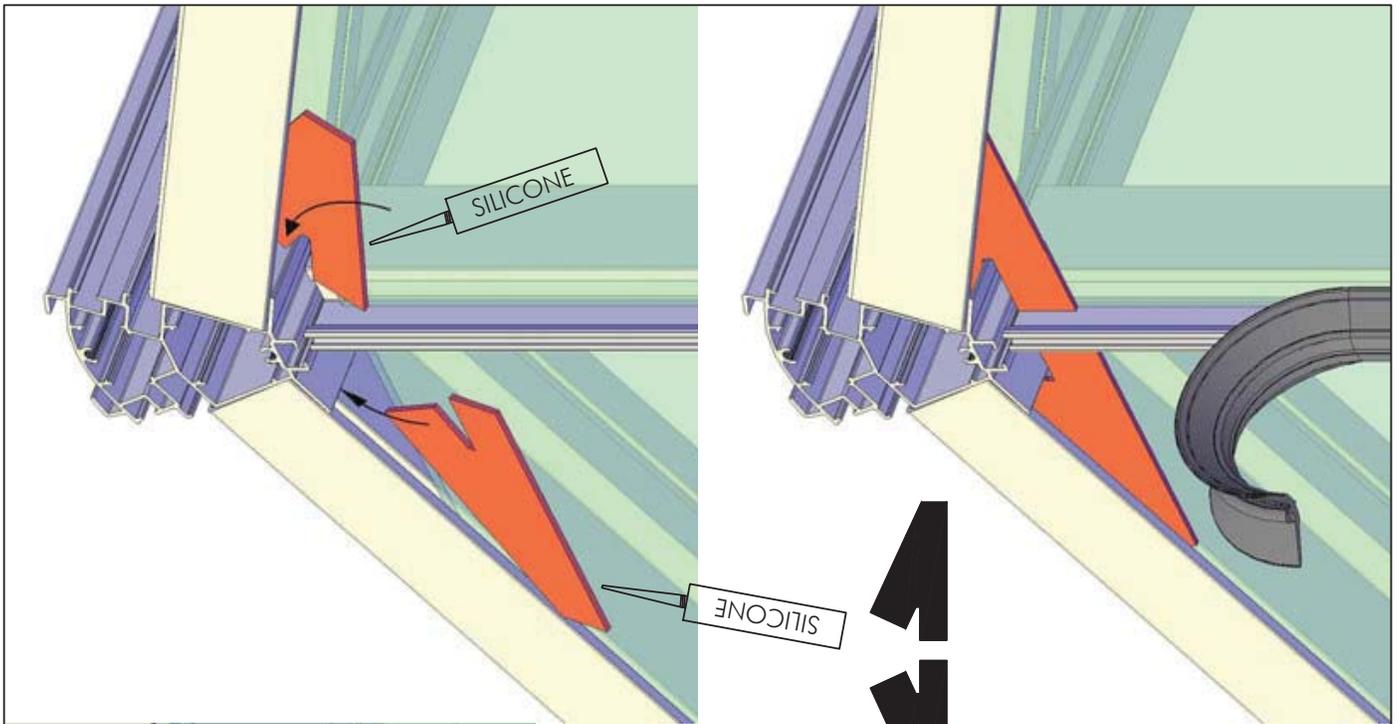
Install the glass panels then fix the shims to either side of the glass with a dab of silicon. Then install the rubber trim. Shims will be used in all panes and will be covered by gasket. Space the shims 100mm/4" from the top and bottom. Polycarbonate units will not use these shims.

Place glass first, then install red shims along the side. Note that the shims are along the EDGE of the glass. The glass does NOT rest on top on of the shims.



SILICONE

3



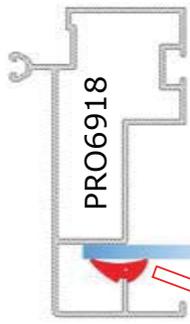


Crescent seal is only installed in the eaves and roof.



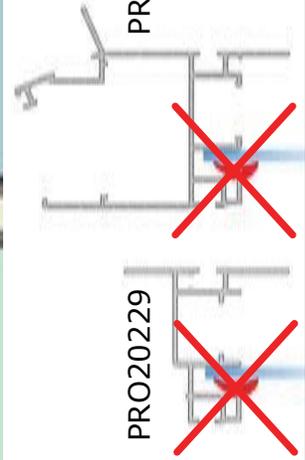
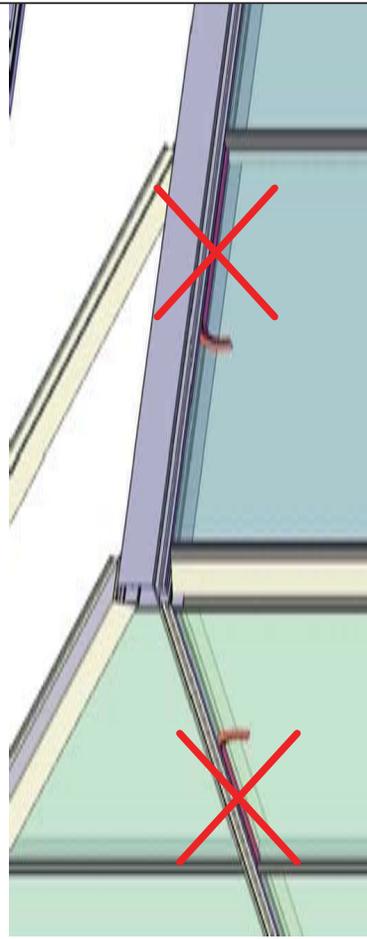
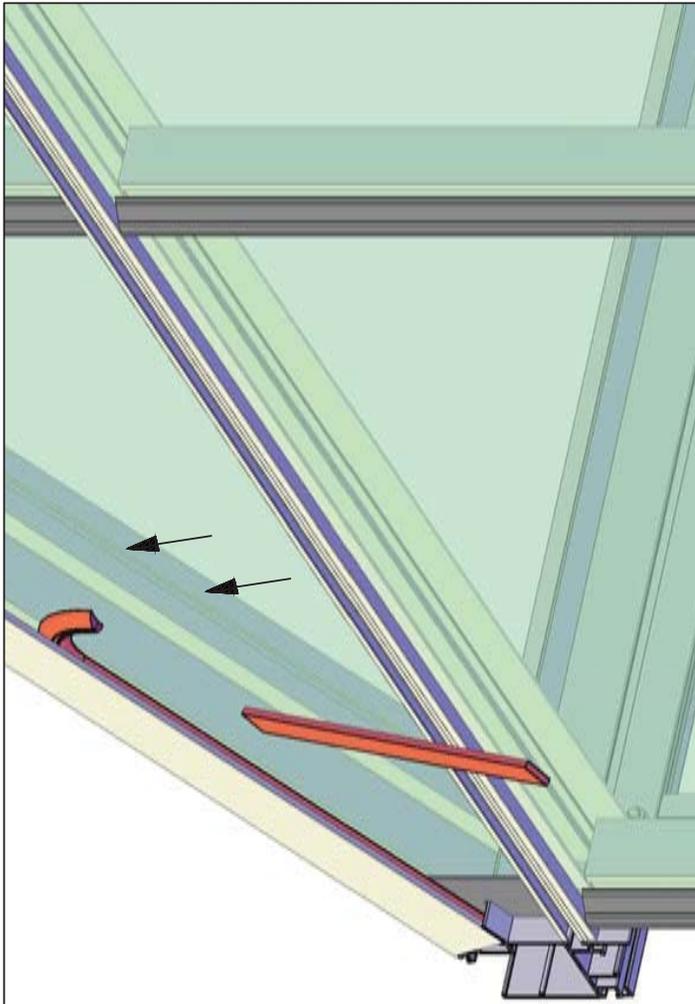
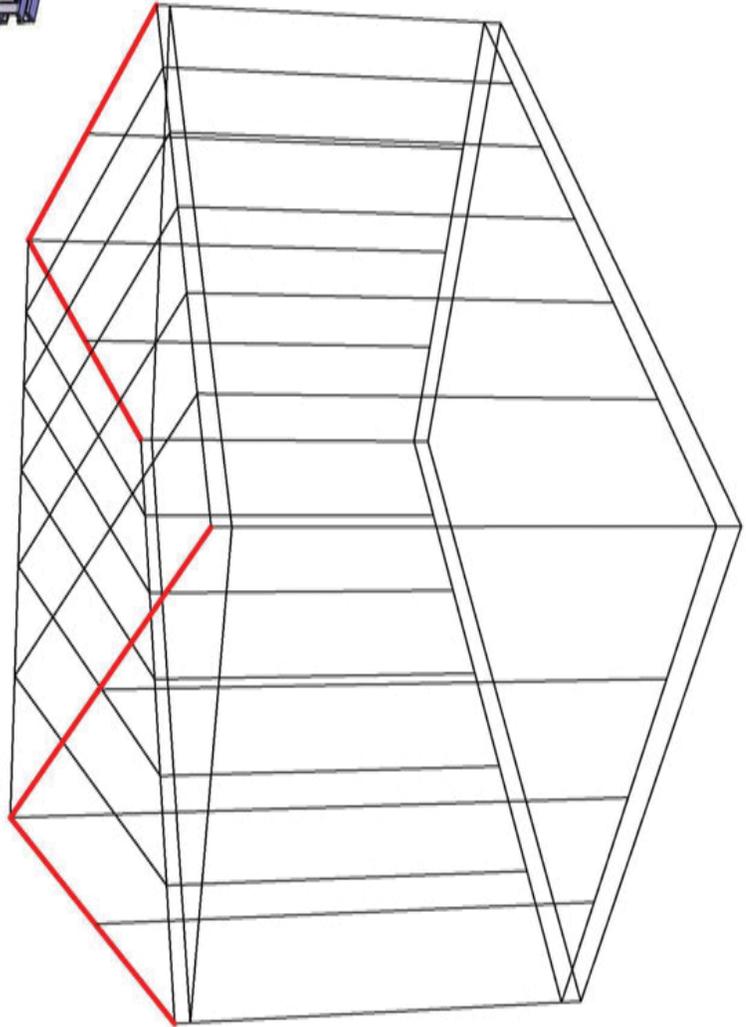
E400330

Not along side walls.



PRO6918

It helps to use a tool to push the gasket up under the eaves. Note that it inserts under the second flange further up.

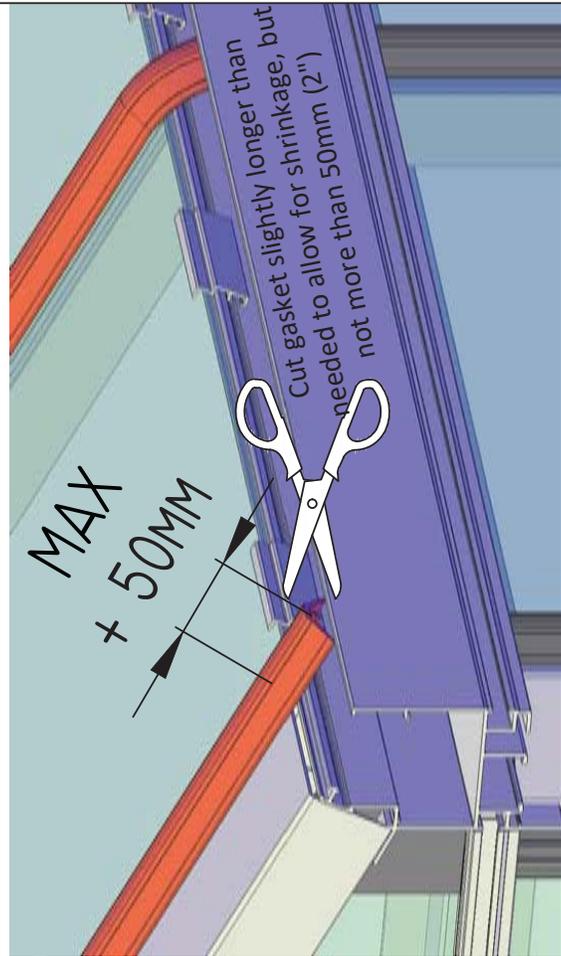
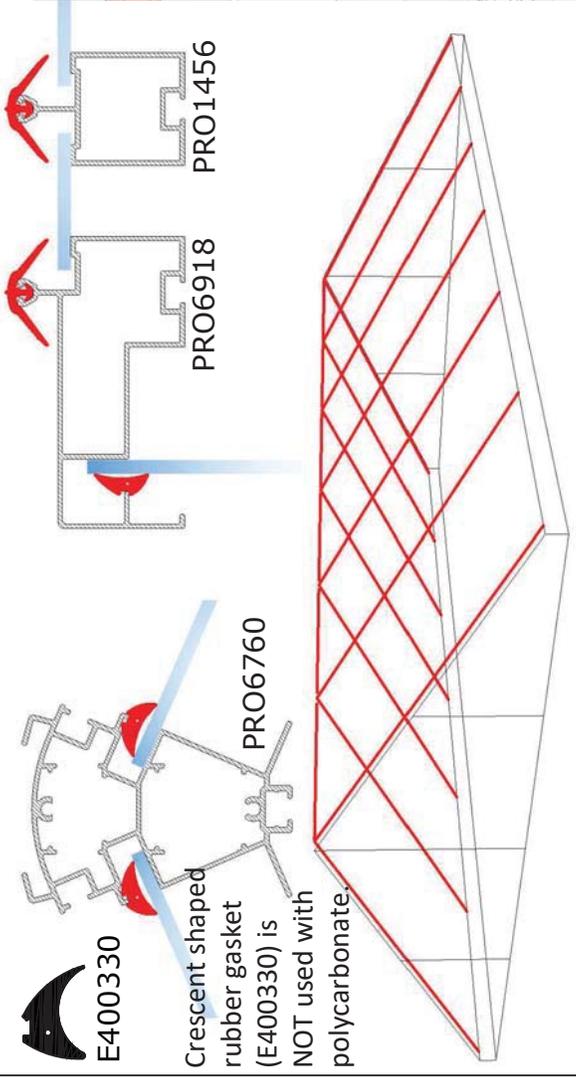
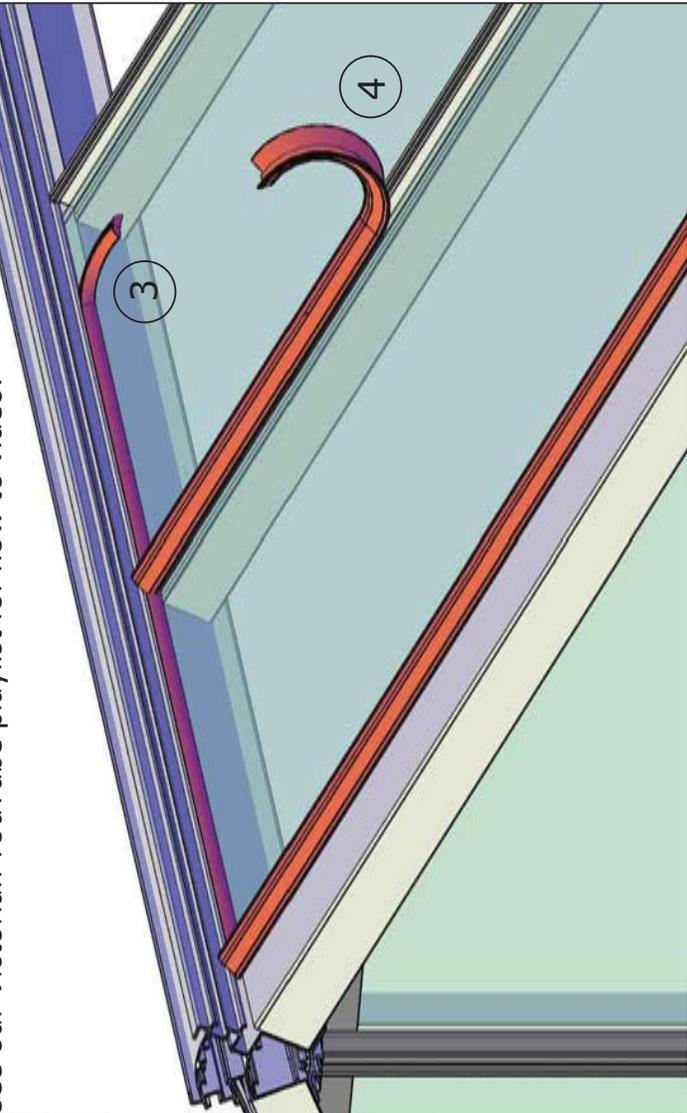
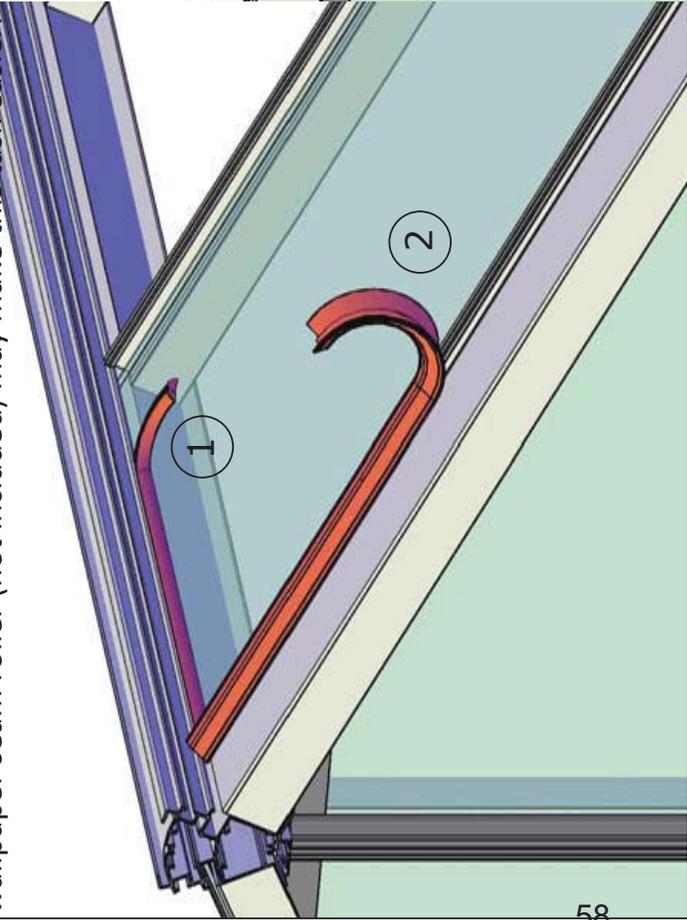
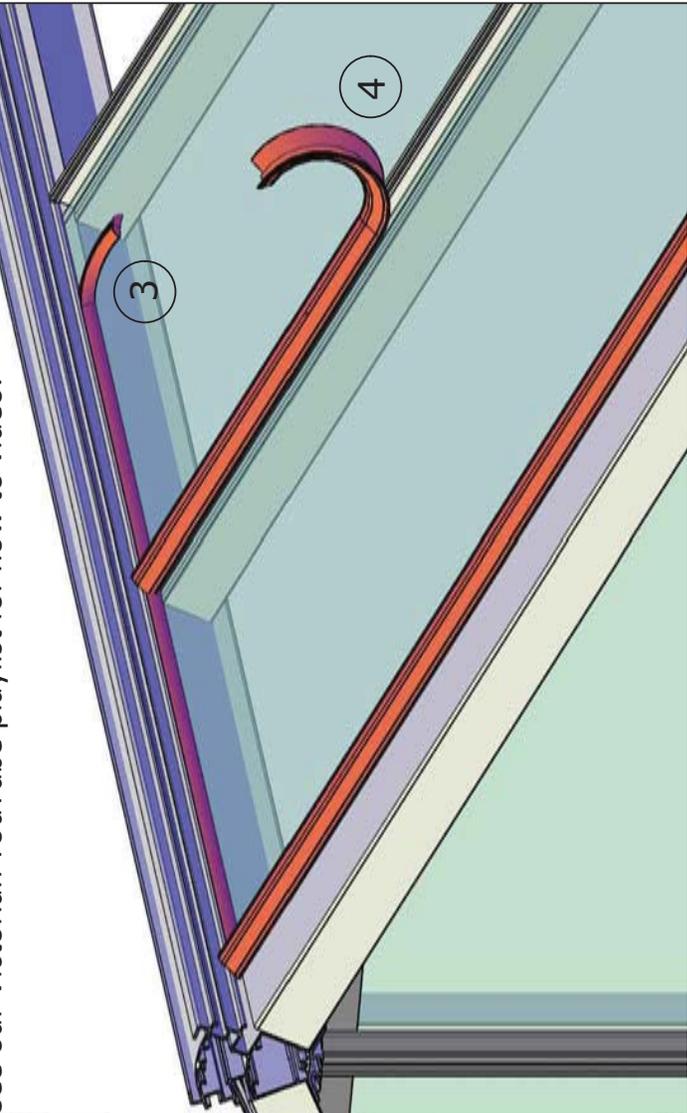
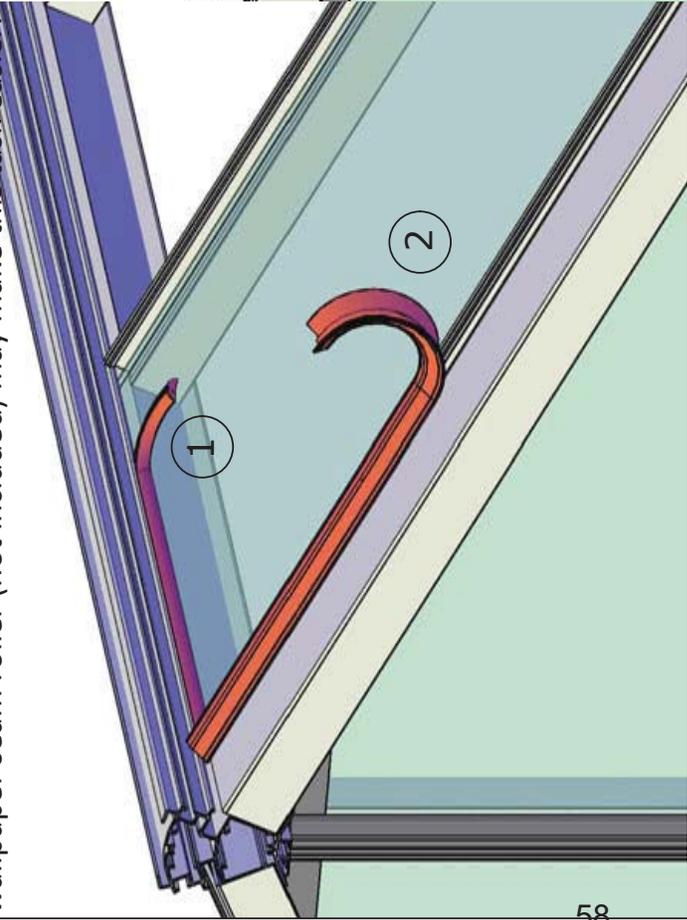


Crescent seal is only installed in the eaves and roof. Not along side walls.

PRO20229

PRO20227

To install heavy gasket, it is easiest to roll it back on itself as shown. This exposes the inner flange that is pushed into the channel. It will be easier to insert when warm and pliable (Hint: place in the sun). Install the roof glazing pane by pane, inserting gaskets after each. A wallpaper seam roller (not included) may make this task easier. See our Victorian YouTube playlist for how to video.



ACCESSORIES

This section contains many of the optional accessories.

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

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

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

It will be immensely helpful!

Doors for Your Greenhouse - Please read carefully

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

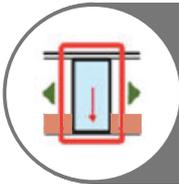
Sliding Door Low Threshold Kit - the manufacturer is transitioning from a low threshold kit with a four sided frame (KSD) to one with only the threshold piece (SDL). You should see one of these letter combinations on your packages to indicate which version you have. Assembly for KSD begins on page 62, SDL begins on page 64.

Sliding Doors - the manufacturer is transitioning to a similar style sliding door with a few new features such as an additional insert for the top of the doorway, different bottom door guides, and a special latch plate for the door lock. You will be able to identify which kit you have by whether or not you have an extrusion PRO39796 for the bottom door guide (see p.70)

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

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

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



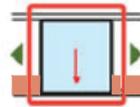
OPTION: Greenhouse on a stem/knee wall

SD_MUR

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

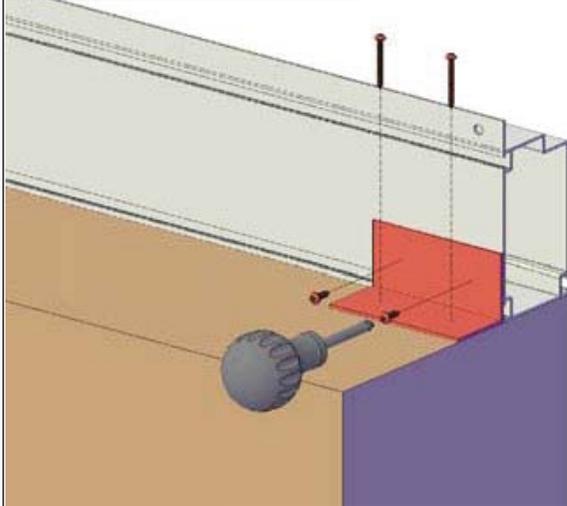
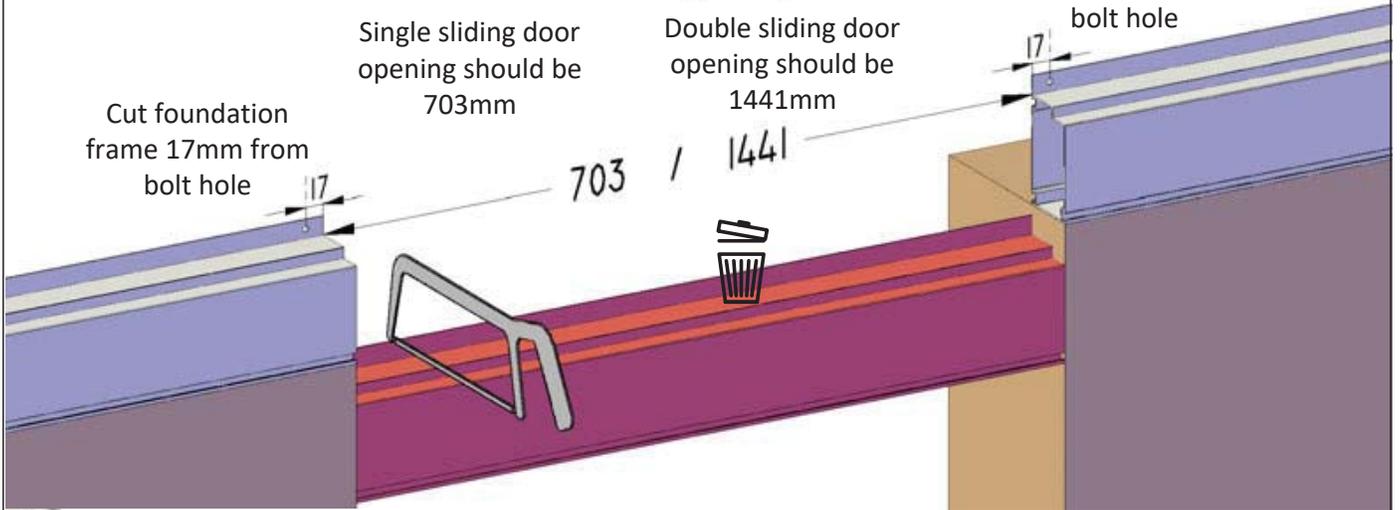


KSD_70
Single sliding door opening should be 703mm

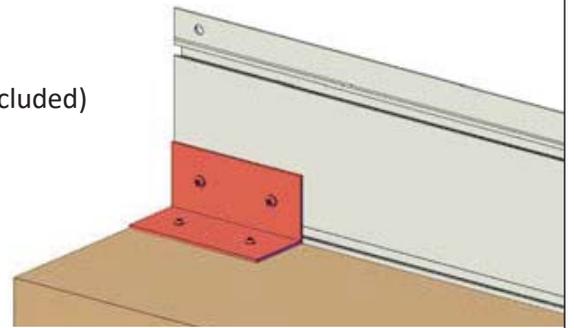


KSD_144
Double sliding door opening should be 1441mm

Cut foundation frame 17mm from bolt hole

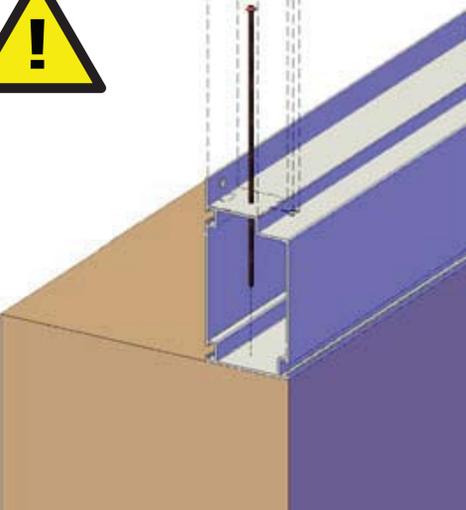


(hardware not included)

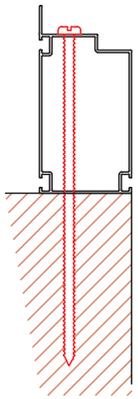


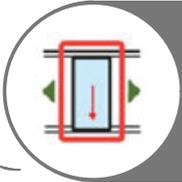


ALTERNATIVE



(hardware not included)

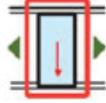




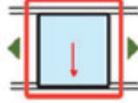
OPTIONAL UPGRADE: Low Threshold for Sliding Door/s

KSD

KSD_70



Single sliding door opening
should be 703mm



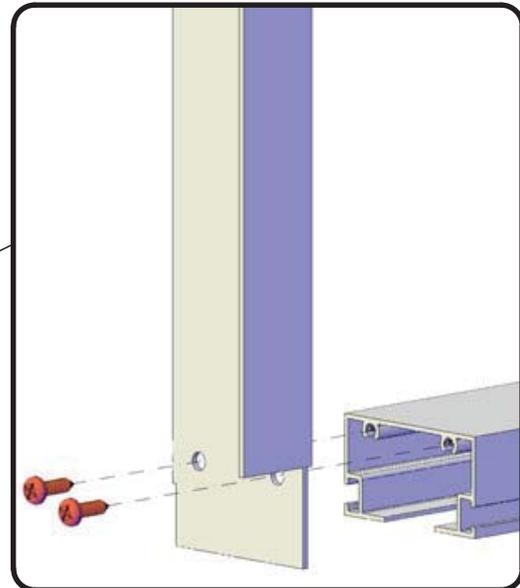
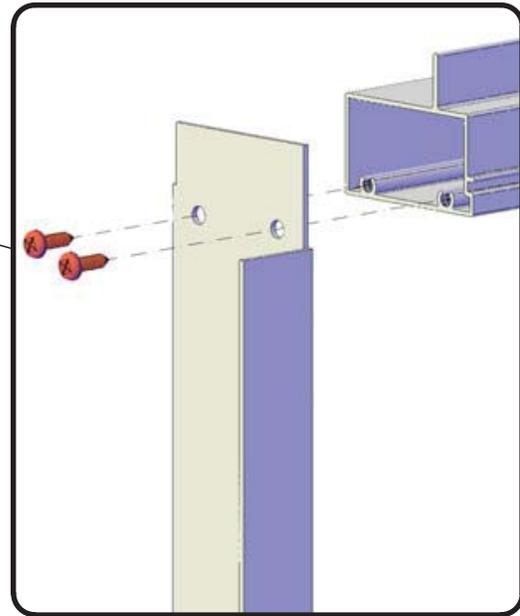
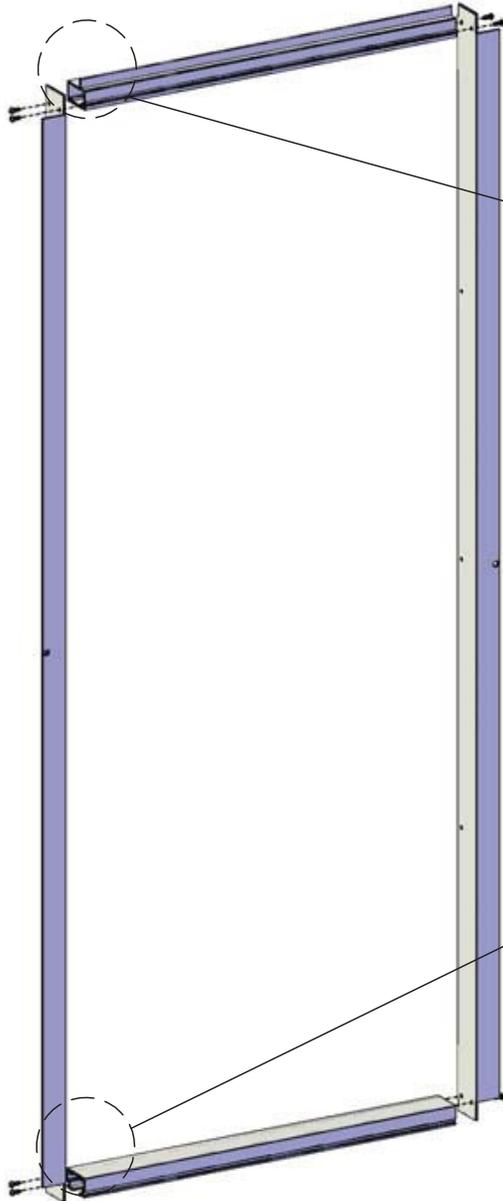
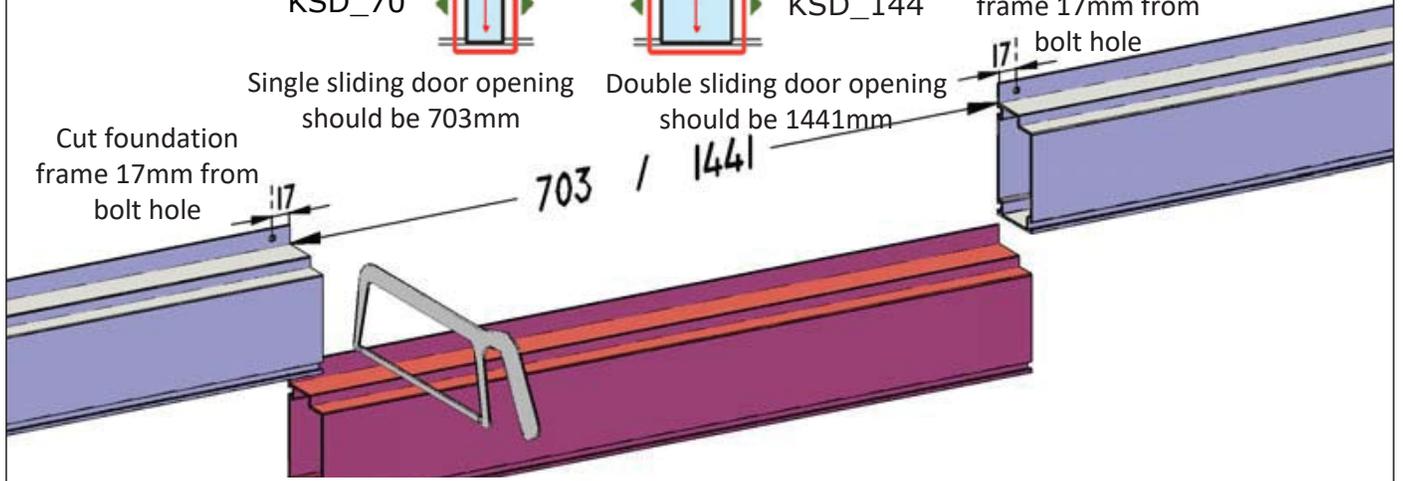
KSD_144

Double sliding door opening
should be 1441mm

Cut foundation
frame 17mm from
bolt hole

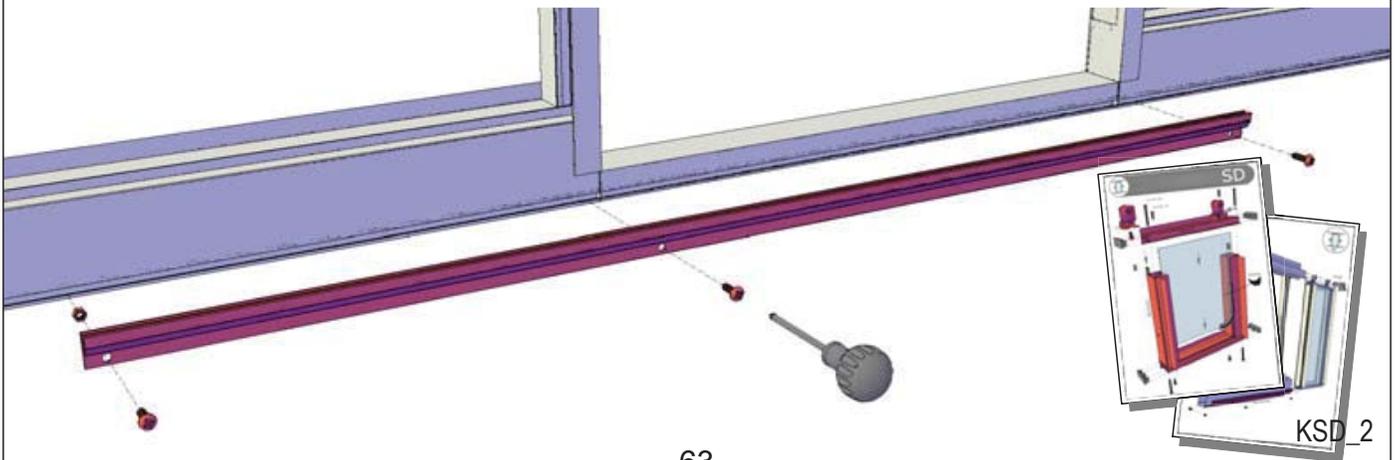
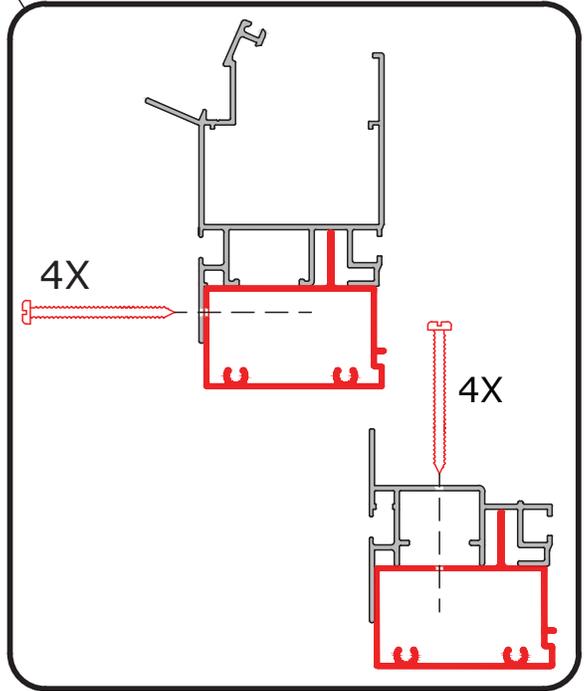
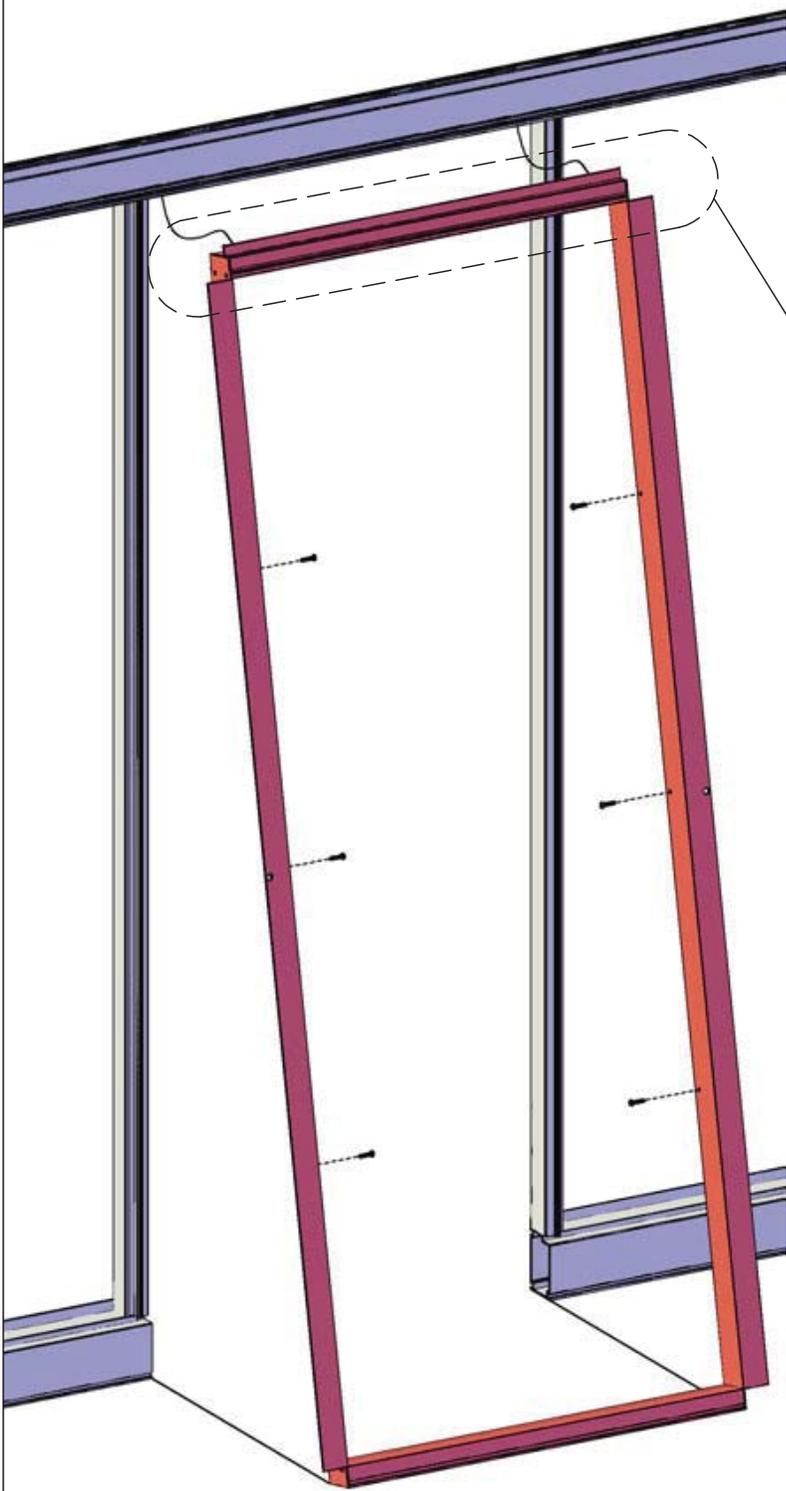
Cut foundation
frame 17mm from
bolt hole

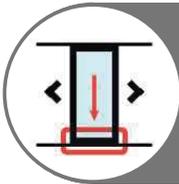
703 / 1441



KSD_1

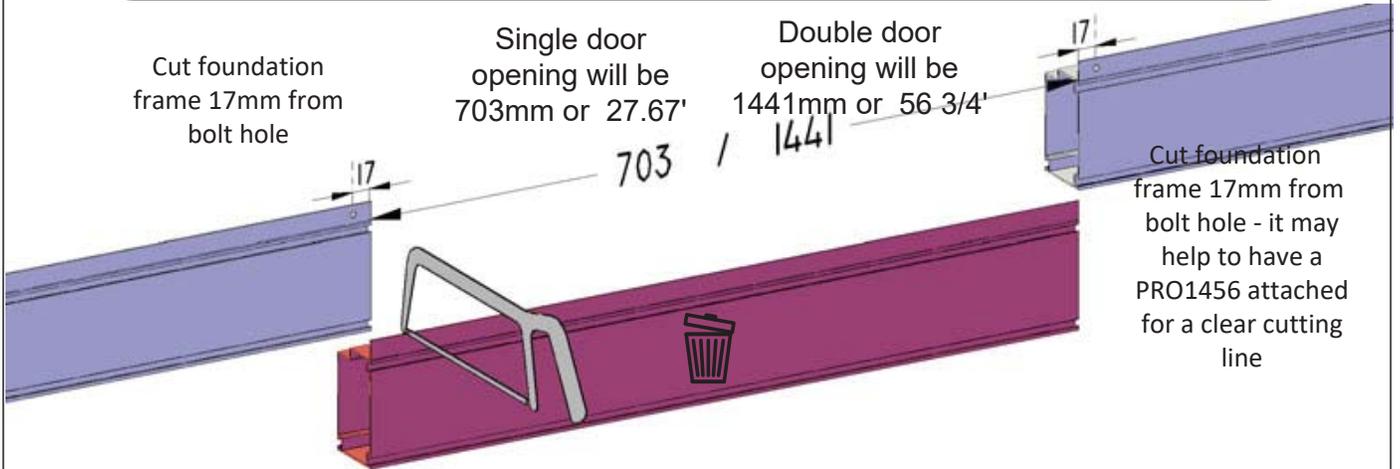
OPTIONAL UPGRADE: Low
Threshold for Sliding Door/s



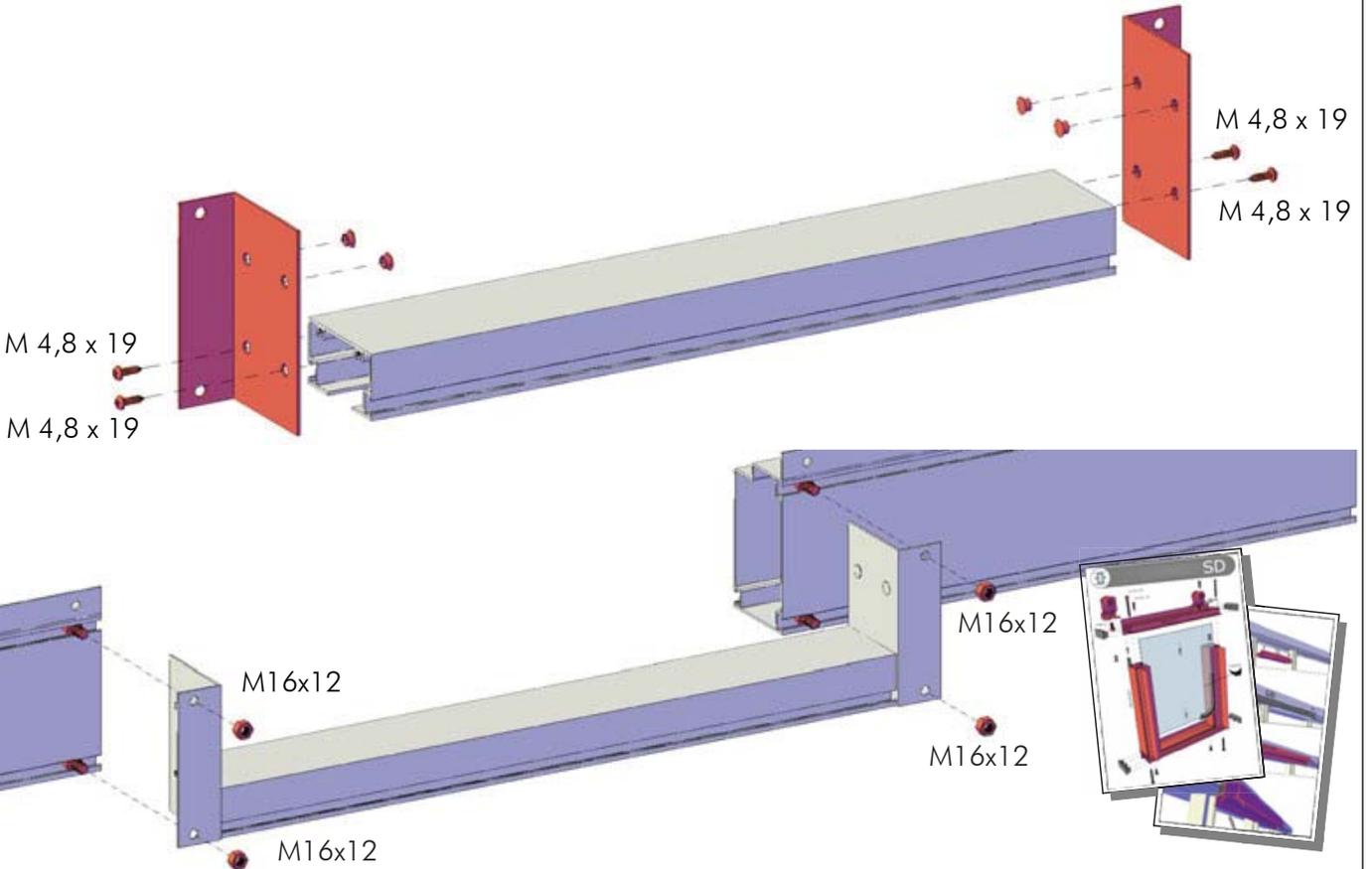
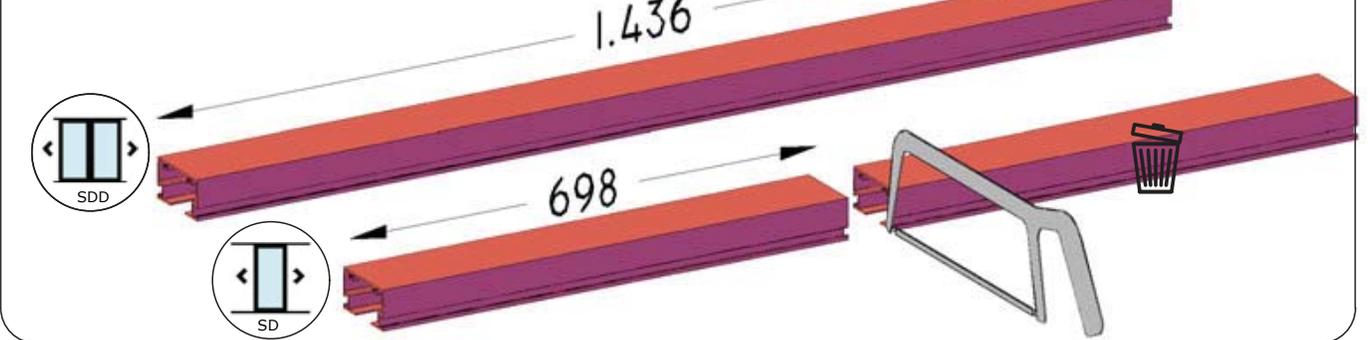


OPTIONAL UPGRADE: late 2024 low threshold kit

SDL



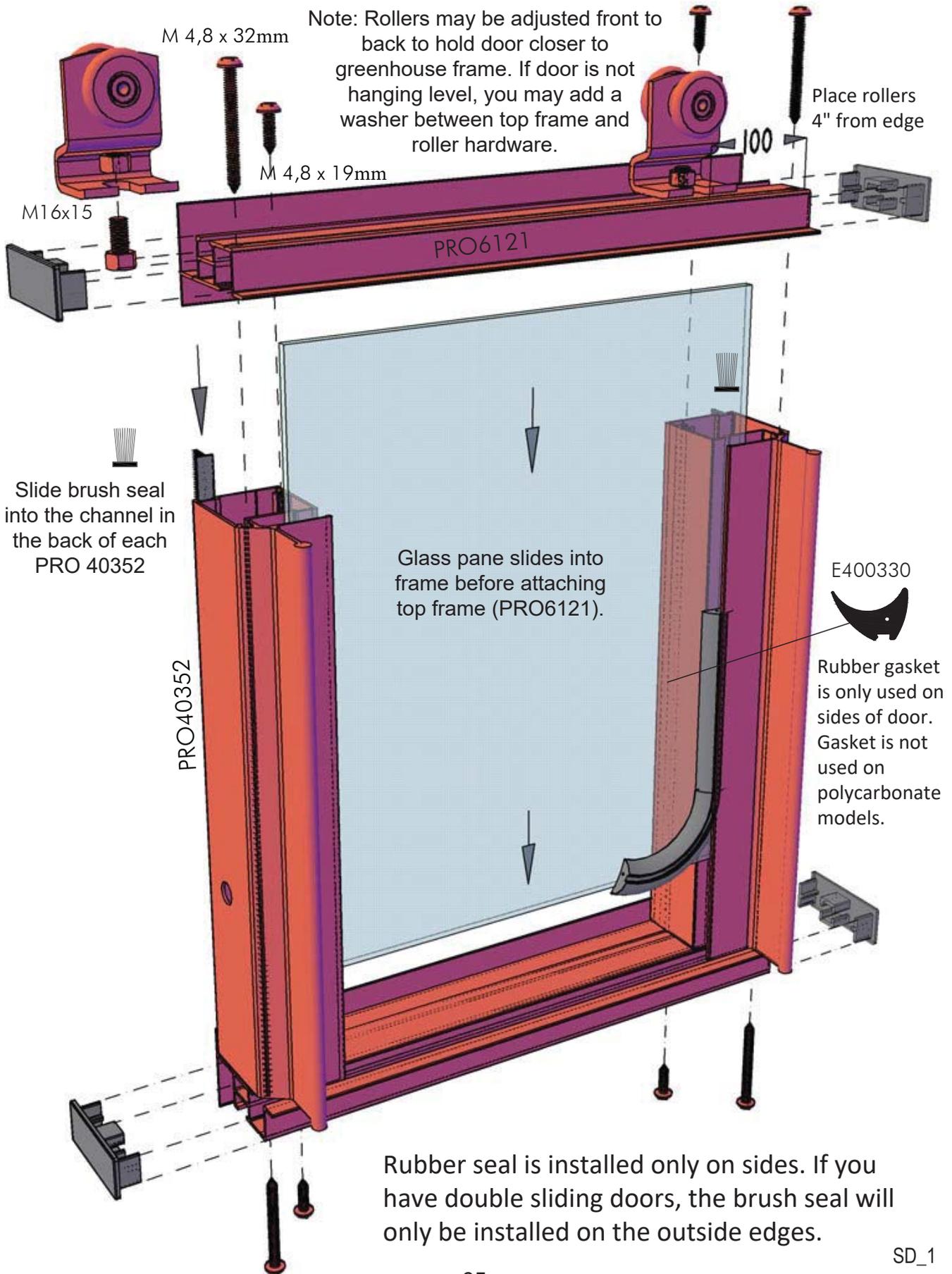
If you have a double door opening, you may use as is. For a single door, you will need to cut your threshold piece to 698mm or 27.5"





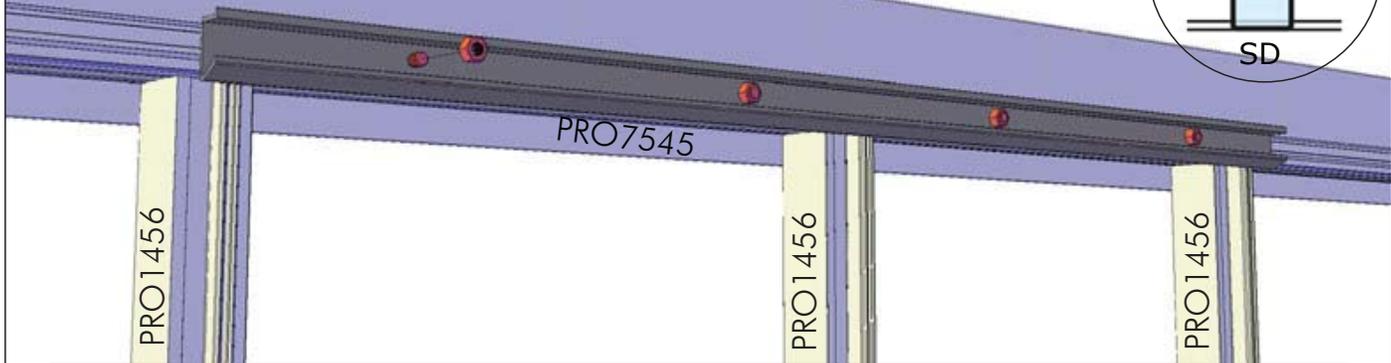
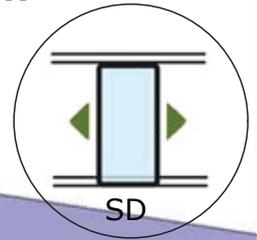
Sliding Door - Basic assembly of any sliding door.
 VI36 and VI46 have double doors, some VI34 models may include double doors. More doors may be added.

SD



Version 1: Single and/or Double Door Hanger installation

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

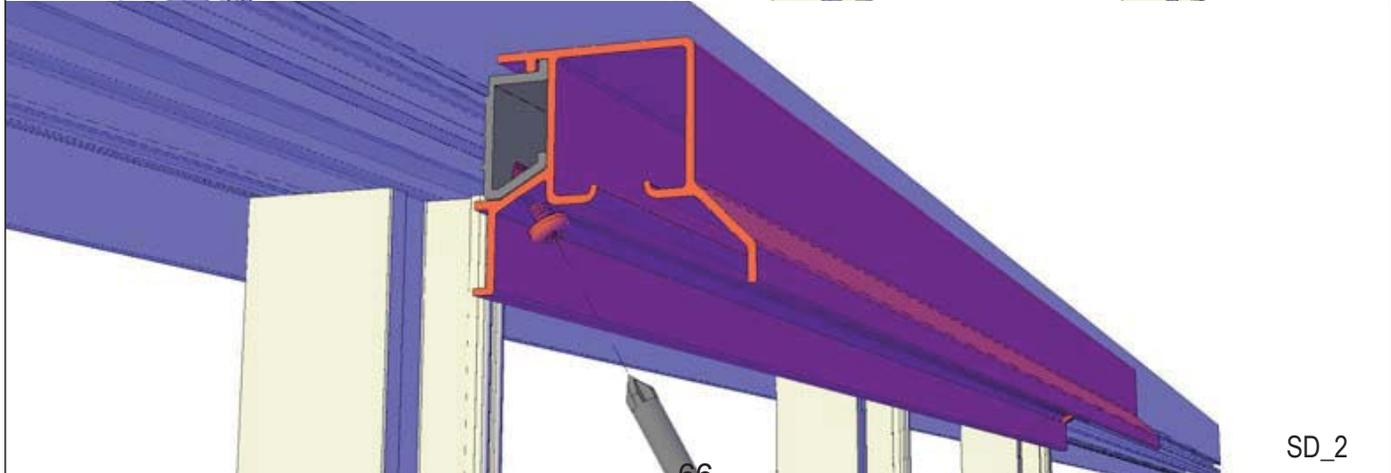
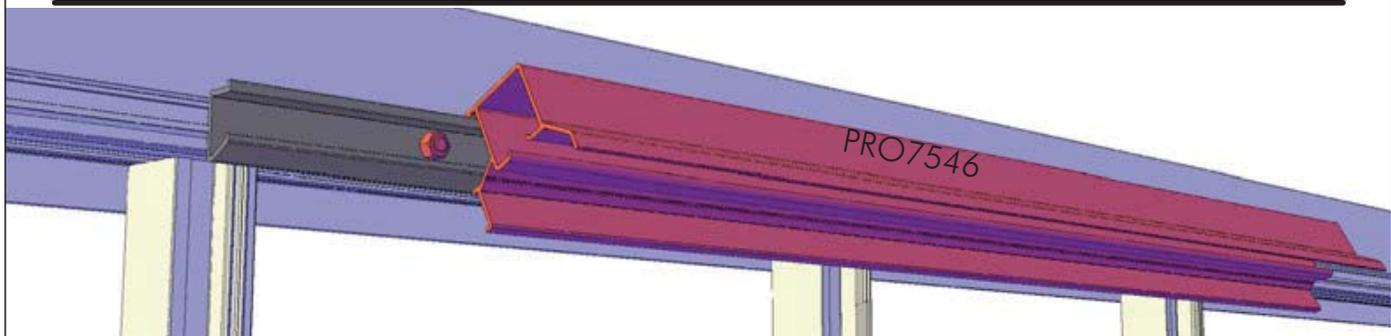


! IMPORTANT for Double Sliding Door Opening!! Cut one PRO7545 in half. Place long PRO7545 in center (to support double opening) and the half PRO7545 on either side. Do not cut PRO7545 if you have a stem wall (See p. 19).

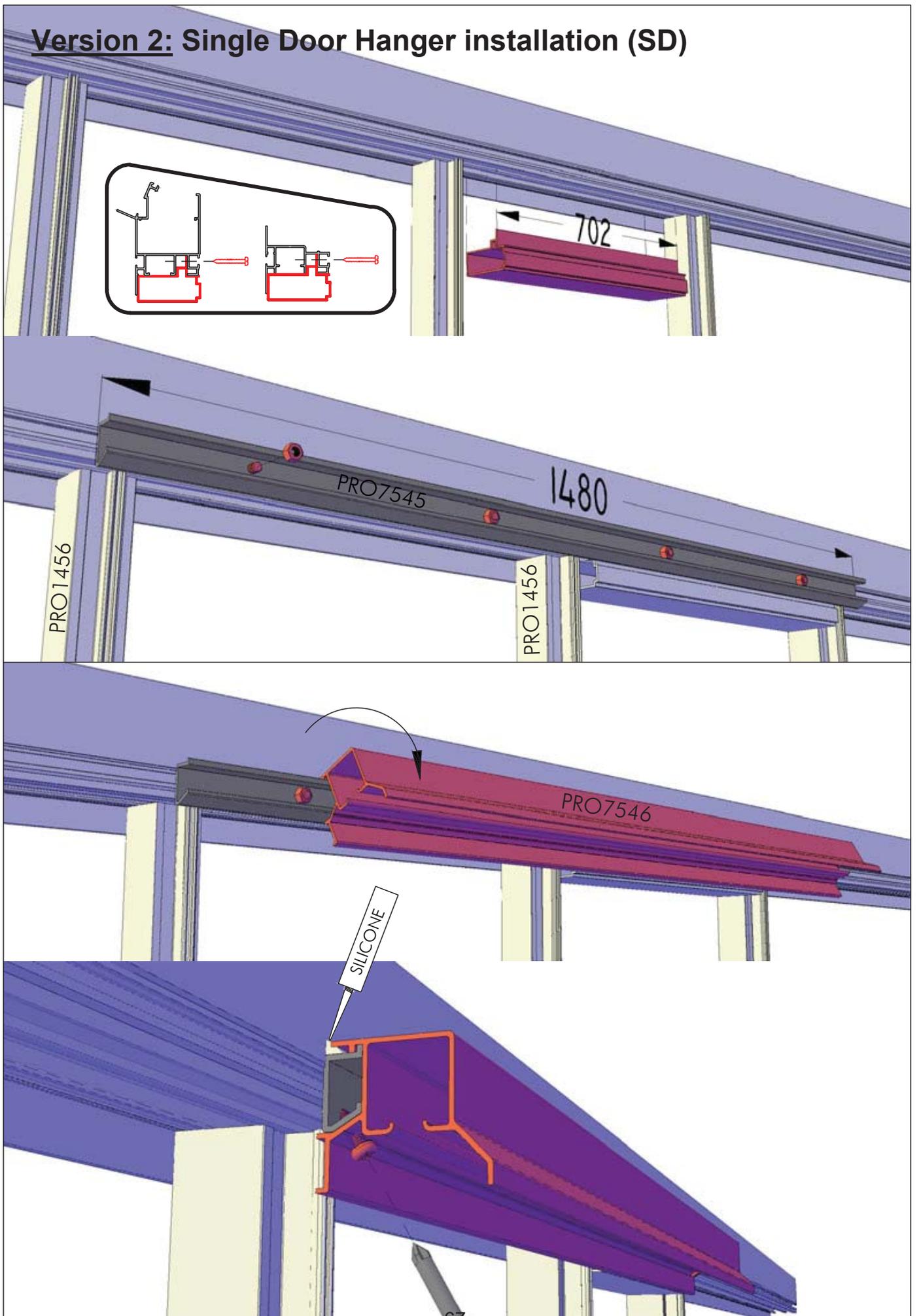
1/2 1/2

leave 1/2" space between ends of PRO7545

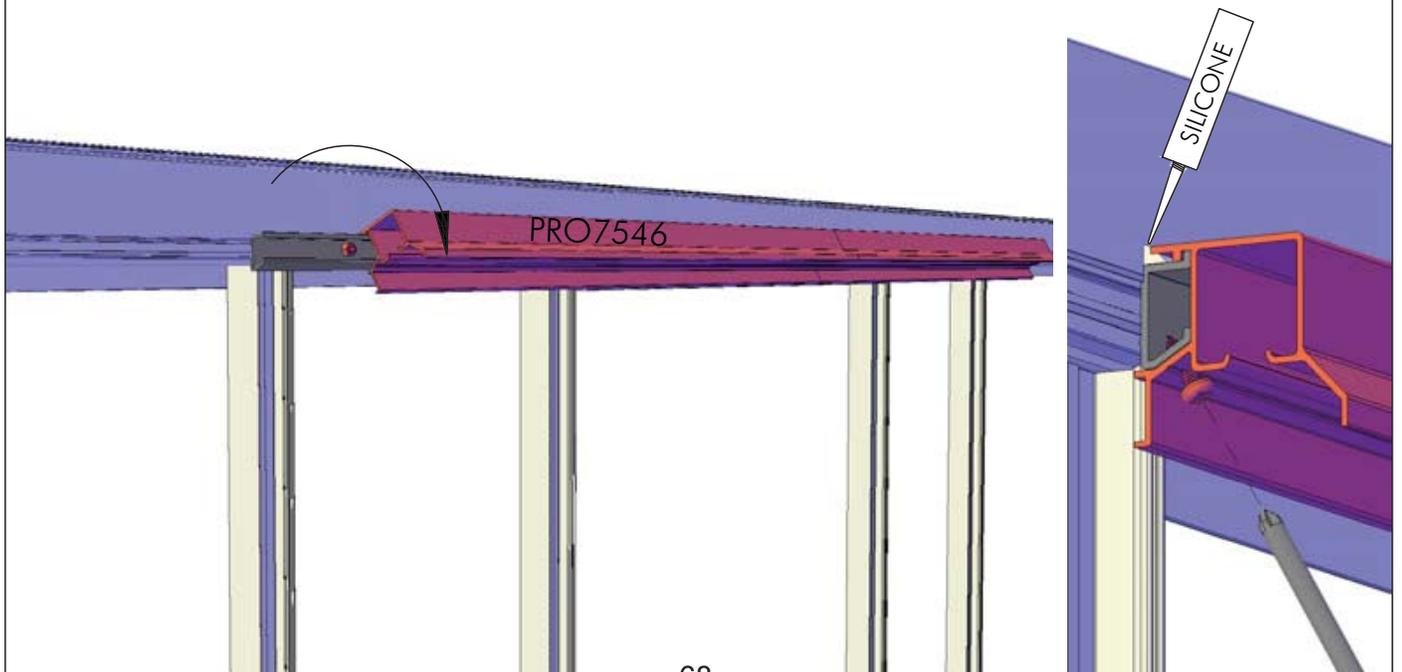
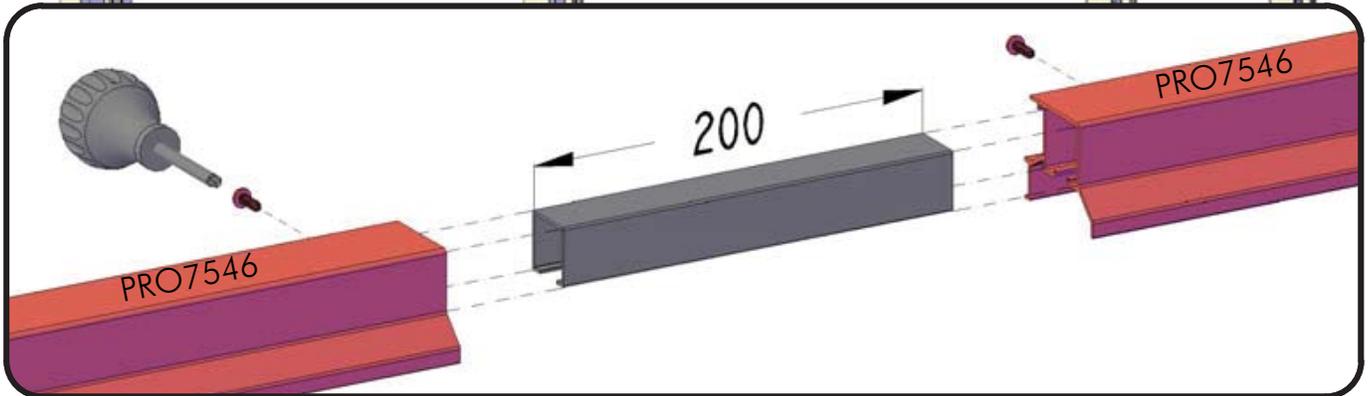
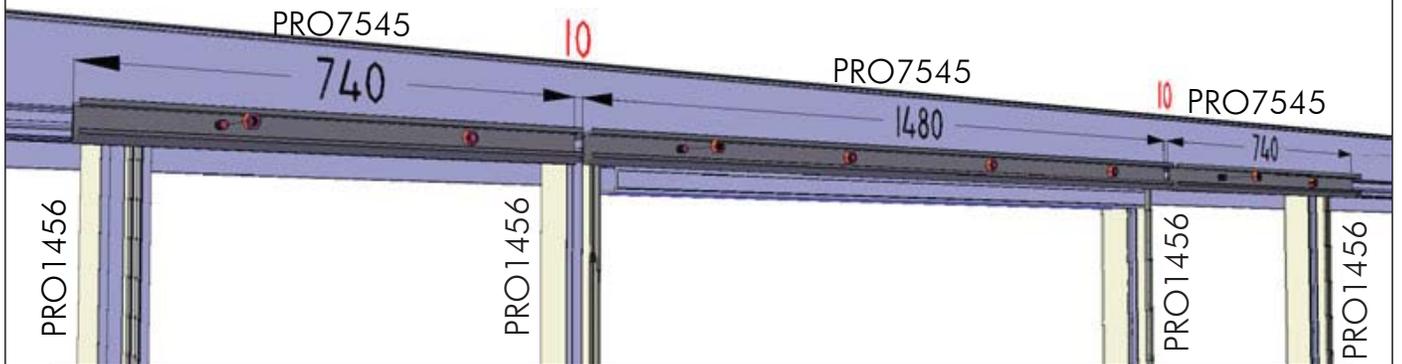
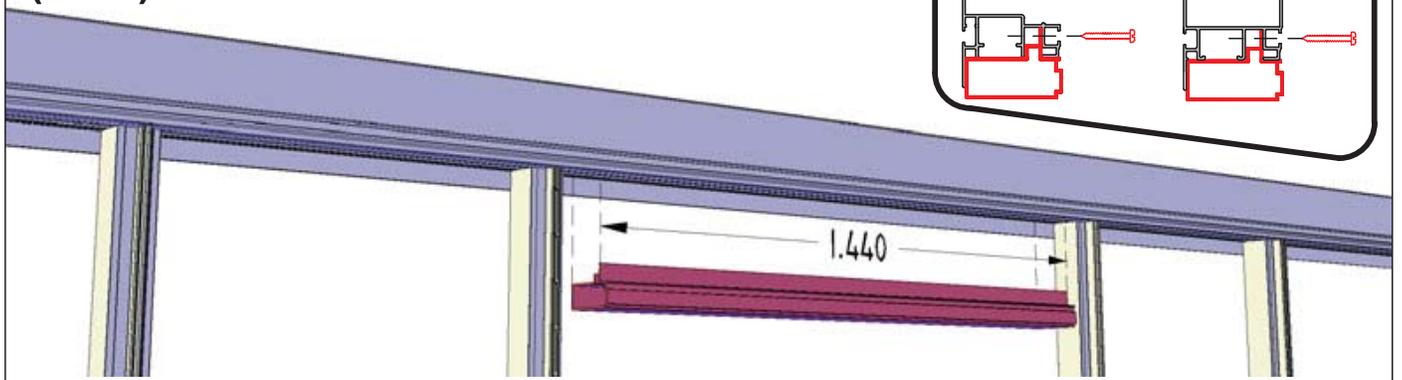
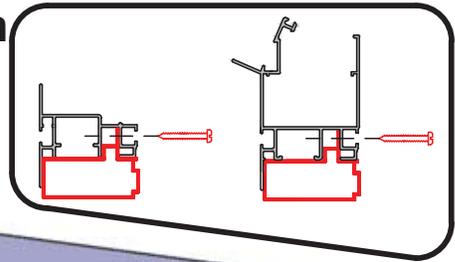
(Double door opening with no center post)



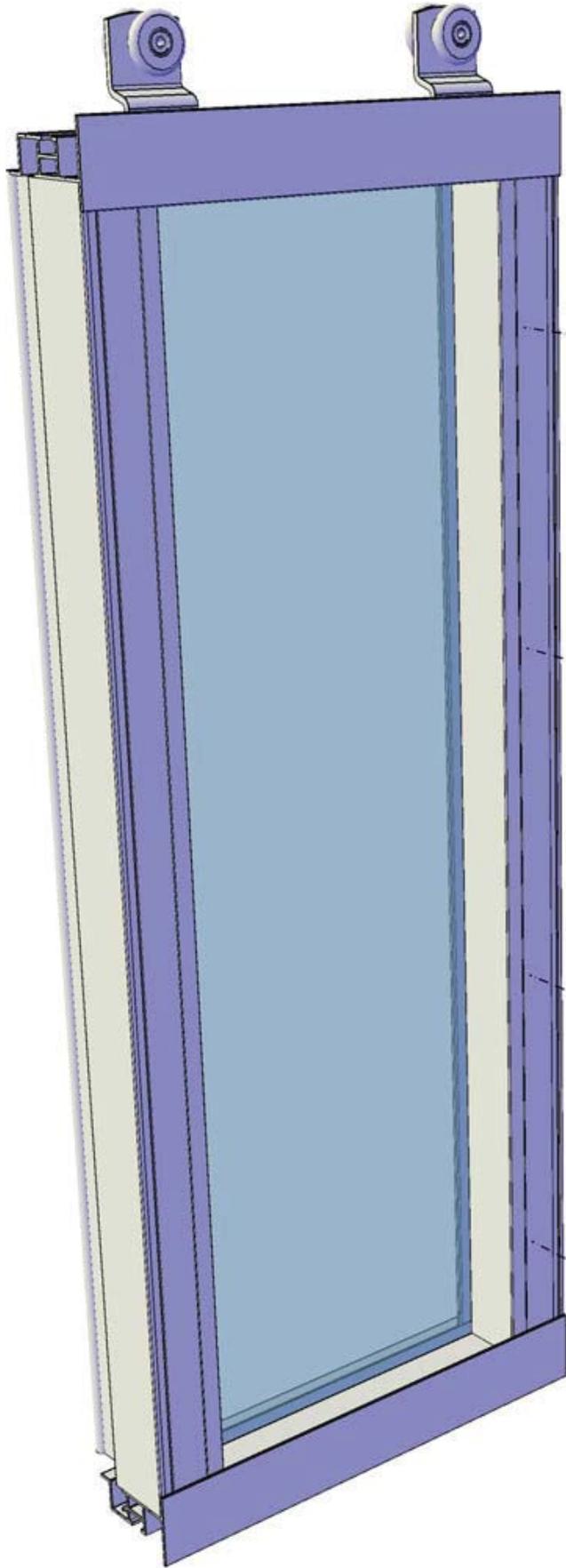
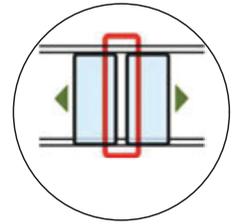
Version 2: Single Door Hanger installation (SD)



Version 2: Double Door Hanger installation (SDD)

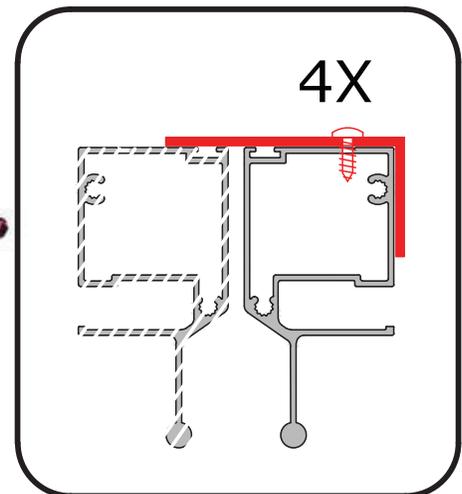


OPTION: Double Sliding Door (Applies to Version 1 and 2)



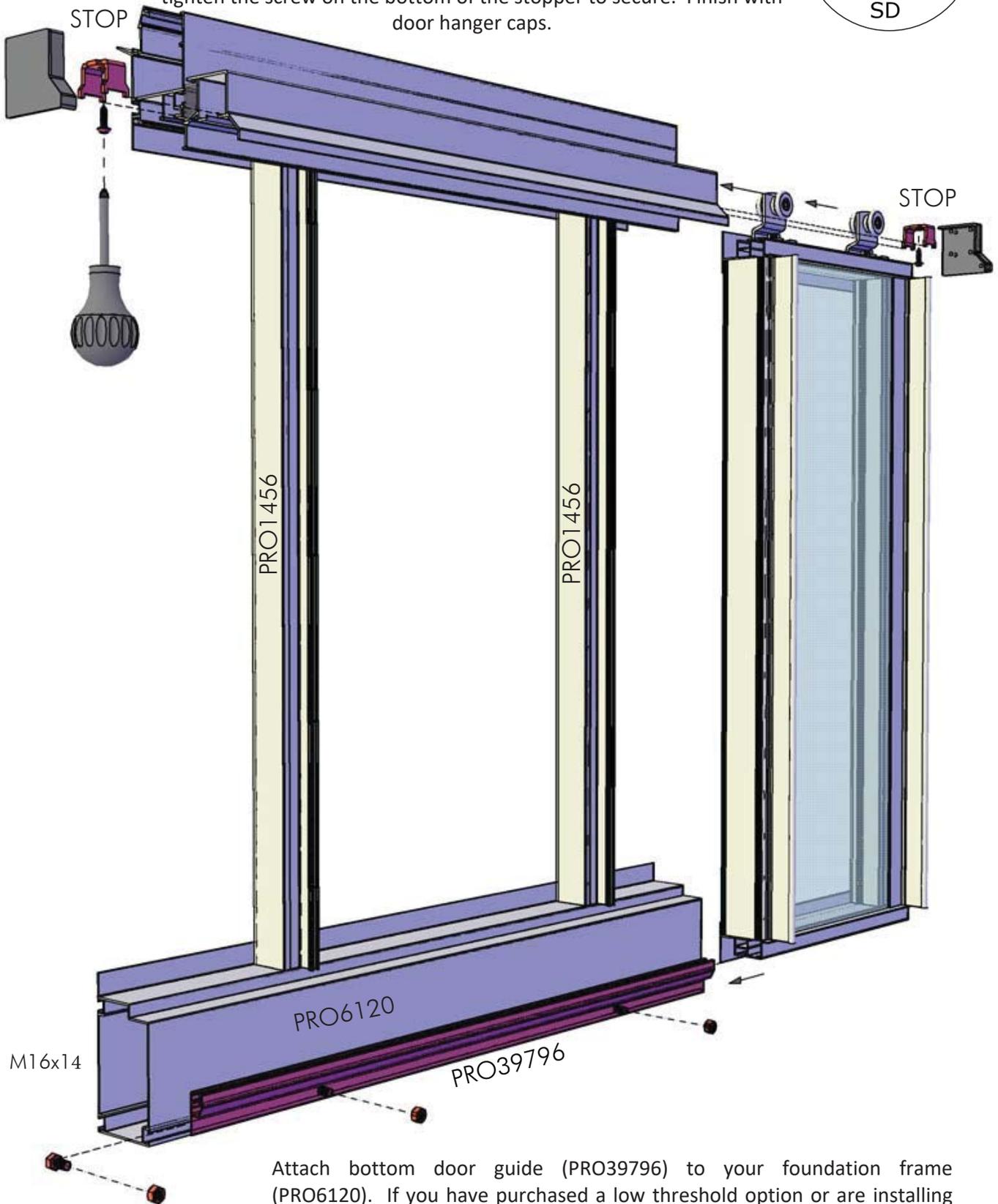
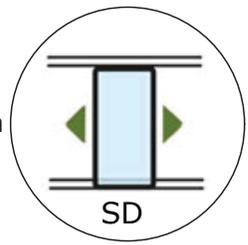
As needed, use washer underneath door hanger to level the door/s .

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



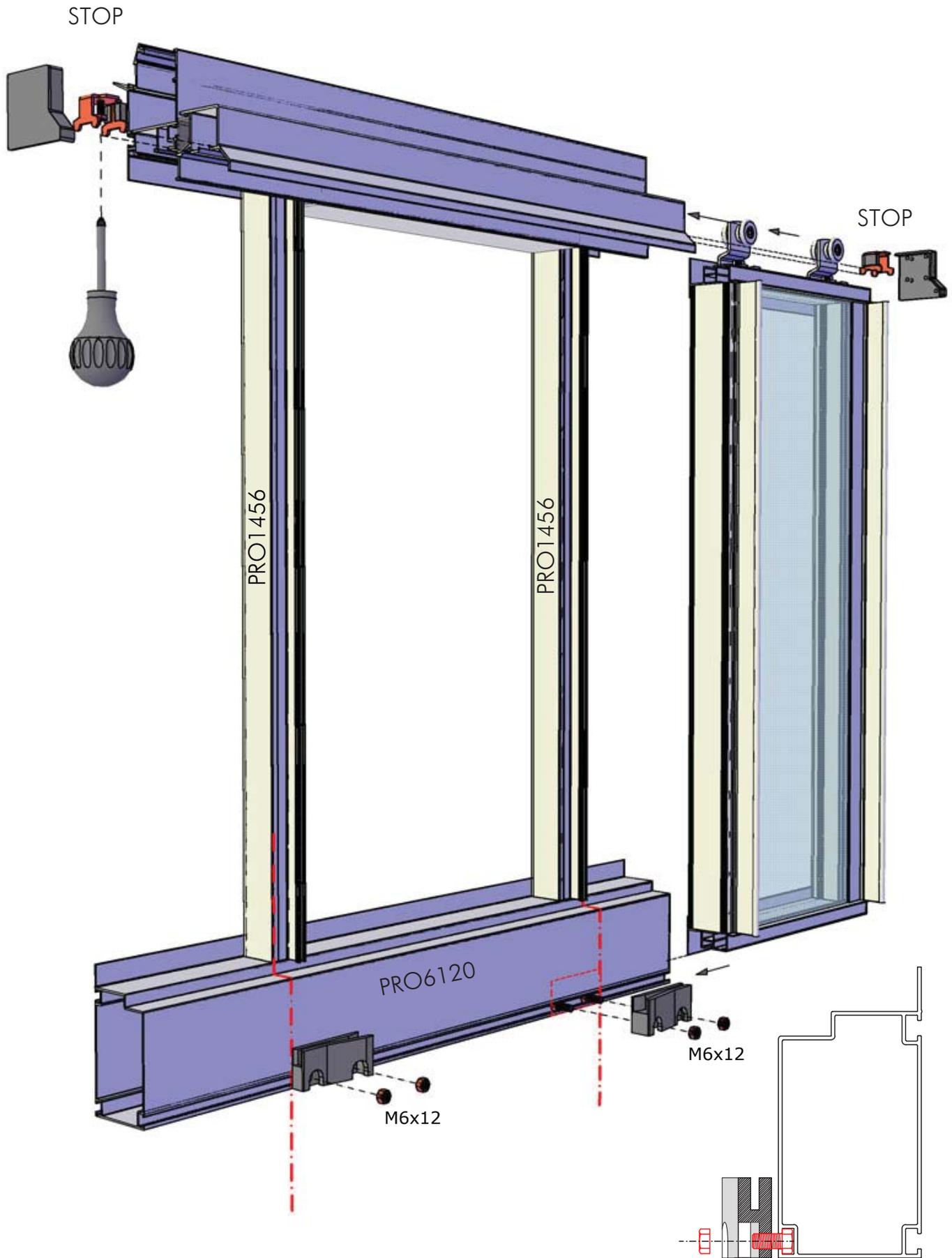
Version 1: Door installation

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

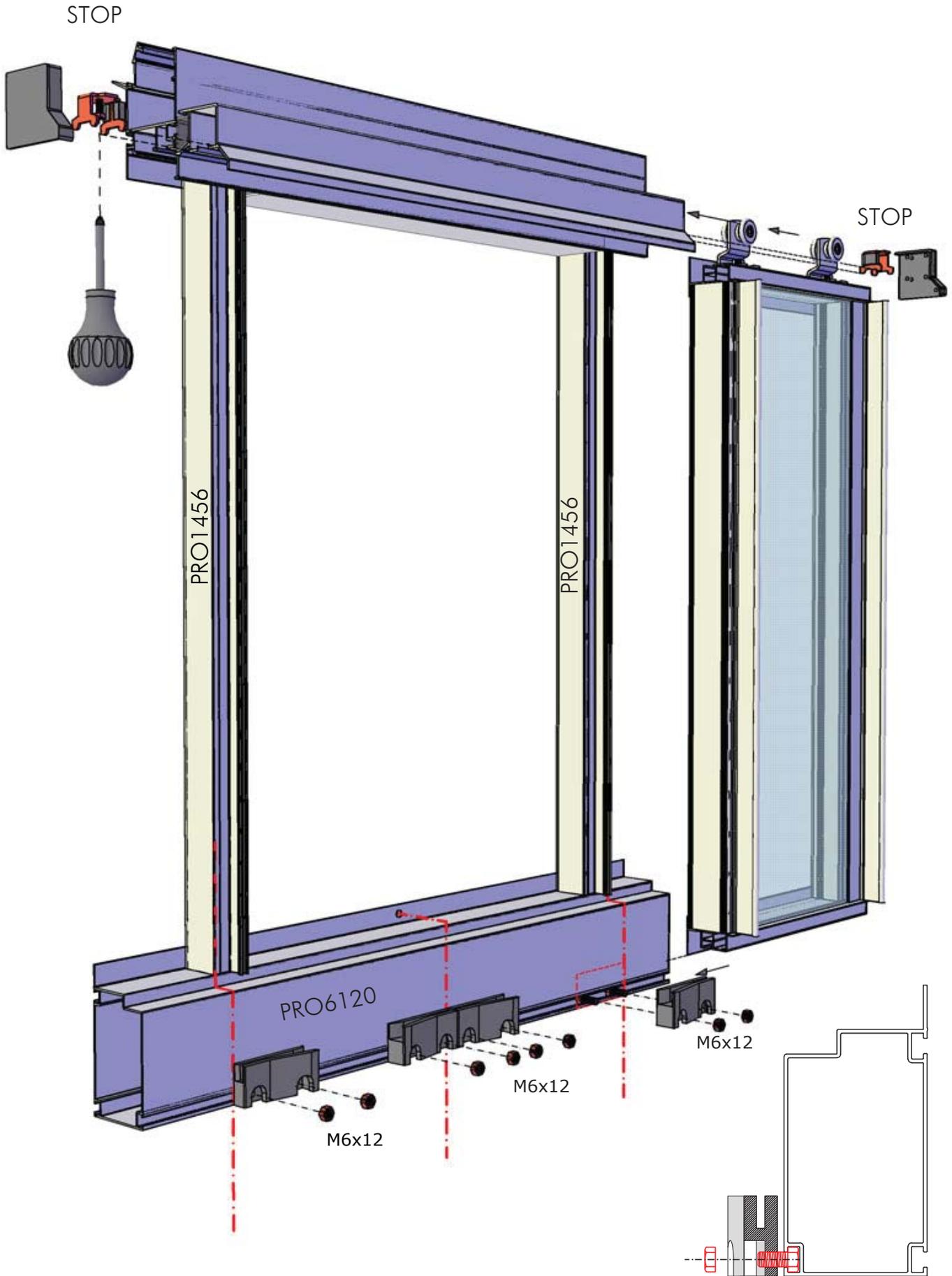


Attach bottom door guide (PRO39796) to your foundation frame (PRO6120). If you have purchased a low threshold option or are installing your greenhouse on a wall, please refer to the following pages marked SD_MUR for stem wall and KSD for low threshold kit before installing door, bottom door guide, and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

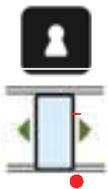
Version 2: Single Door installation



Version 2: Double Door installation (SDD)

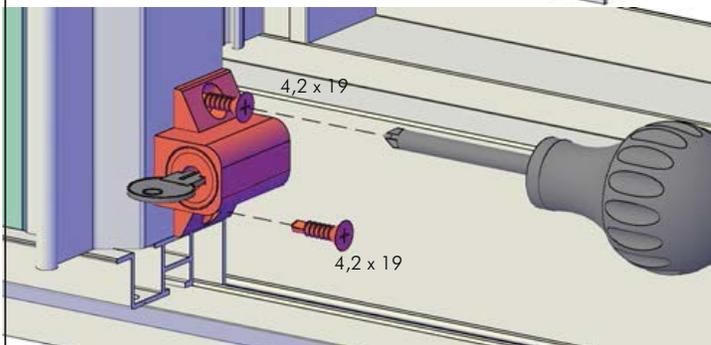
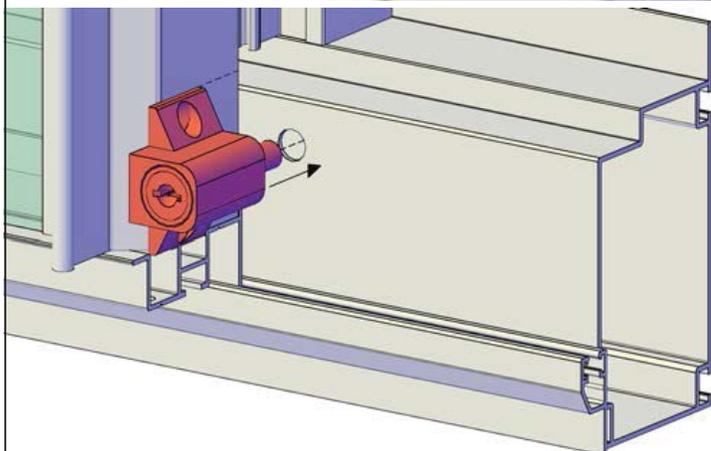
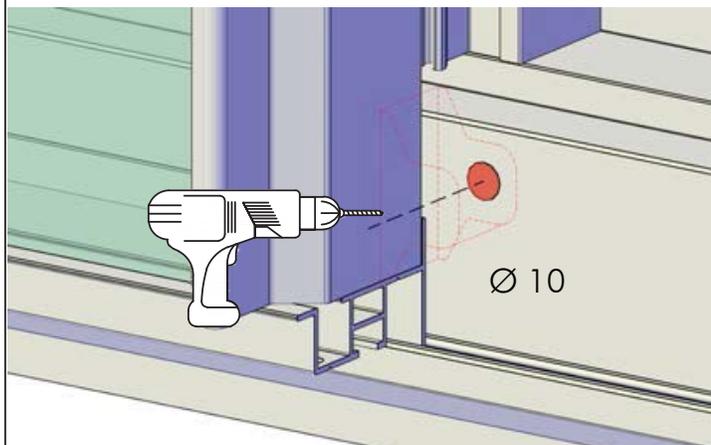


Version 1: Sliding Door Lock Installation w/o Low Threshold

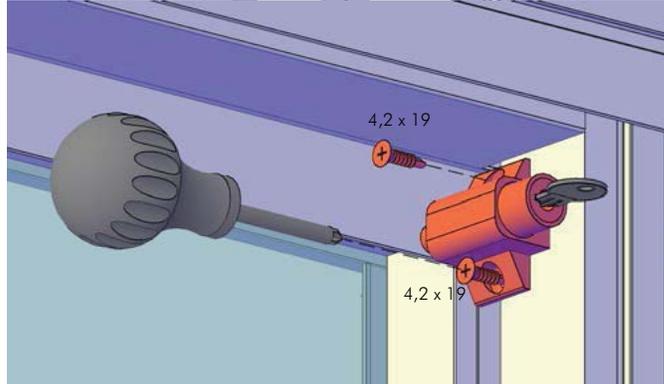
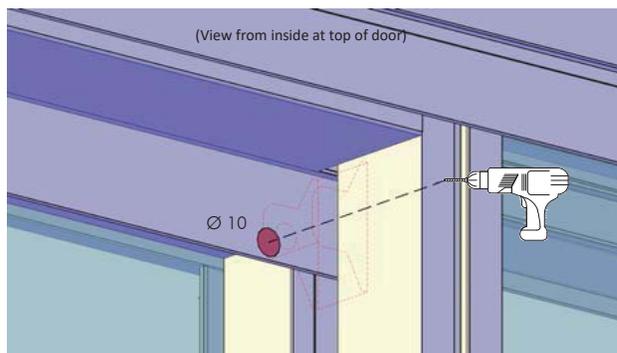


- Install lock at bottom of a:
- single sliding door
 - first door of double sliding doors
 - both of your double sliding doors

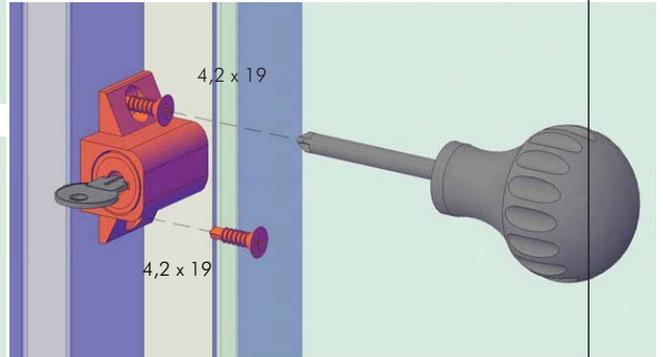
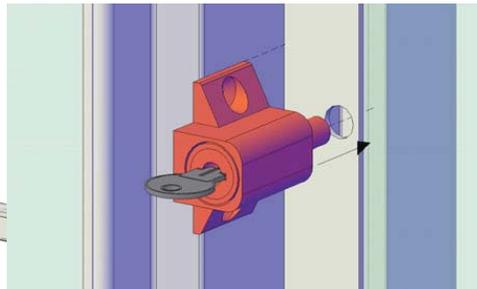
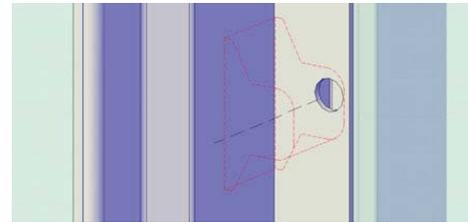
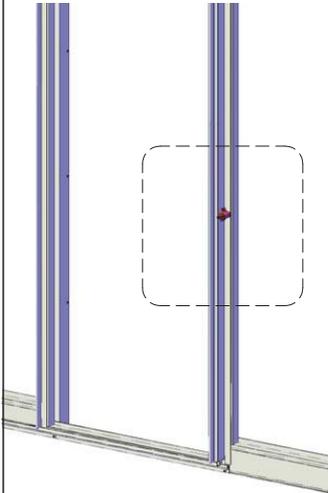
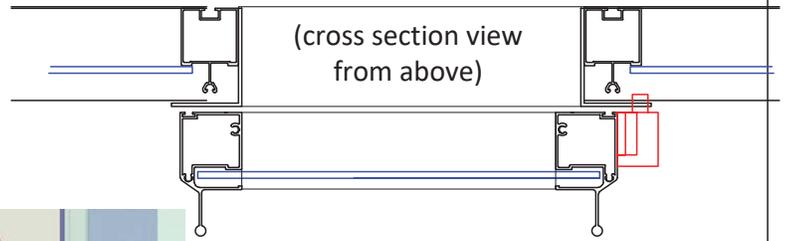
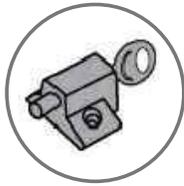
(View from outside at bottom of door)



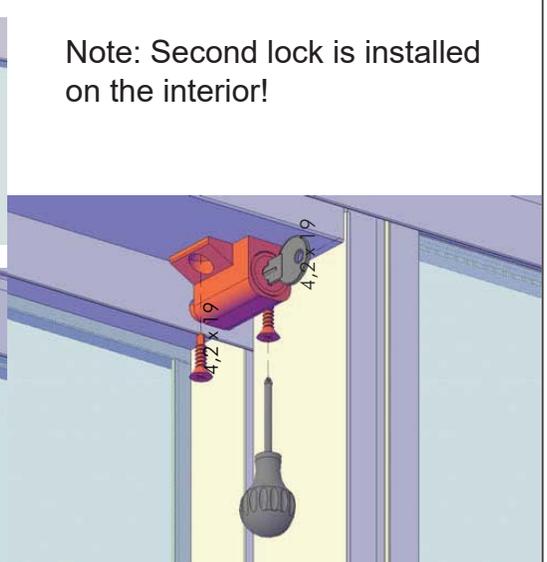
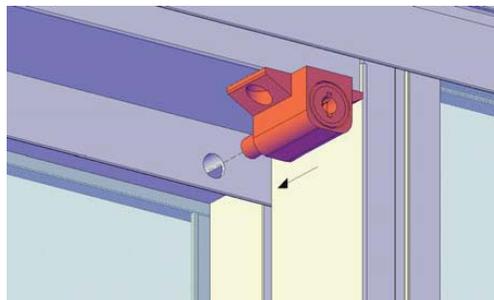
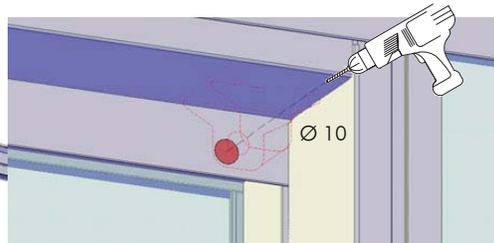
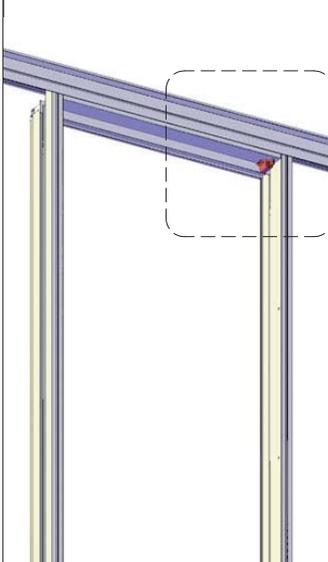
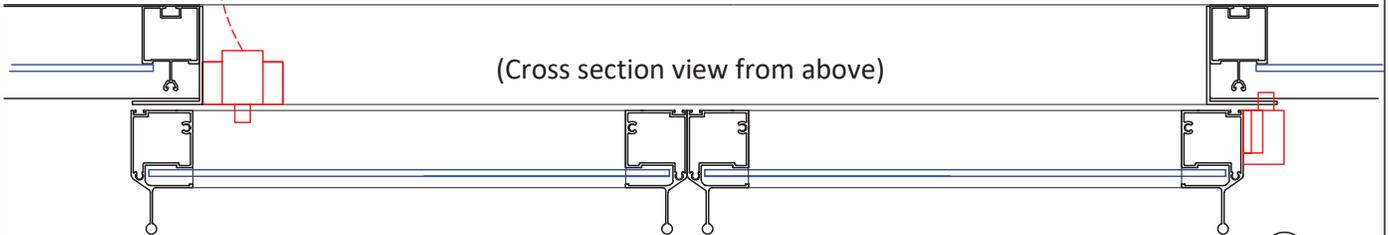
If you have a double sliding door, you may install one lock on the inside of your greenhouse as shown



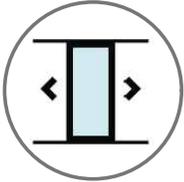
Optional Upgrade: Lock install with KSD - 4 Frame Low Threshold Kit (Single/First door)



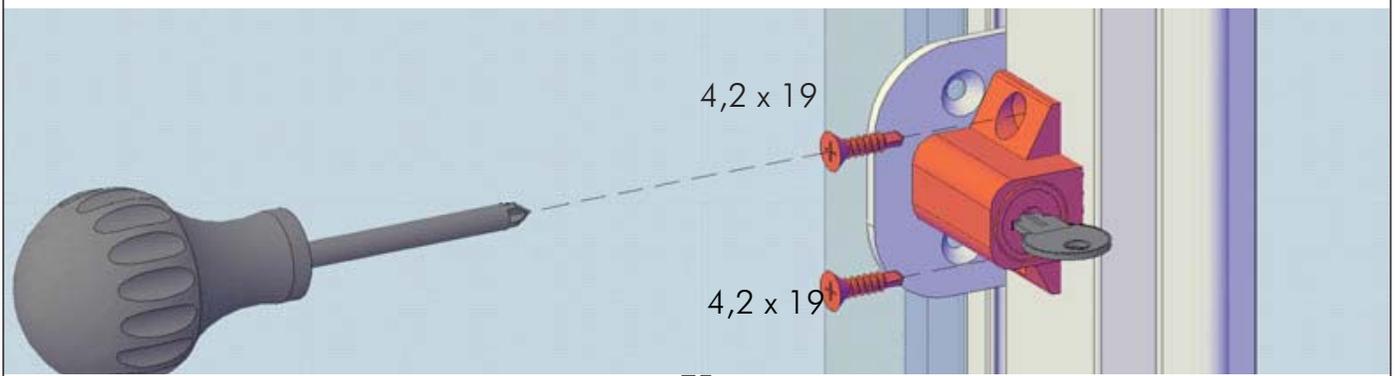
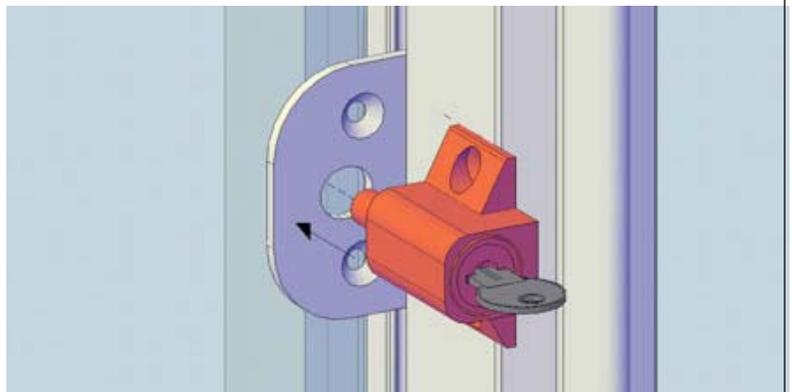
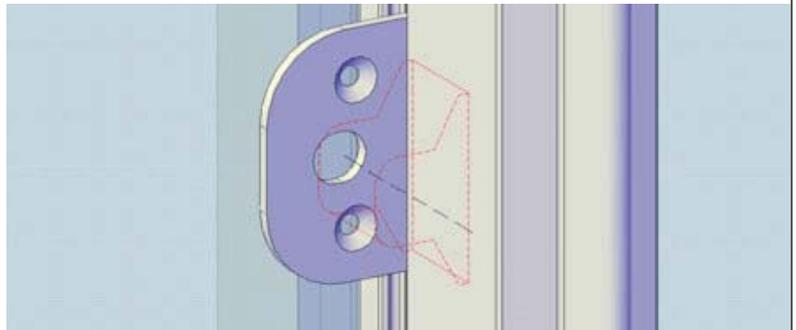
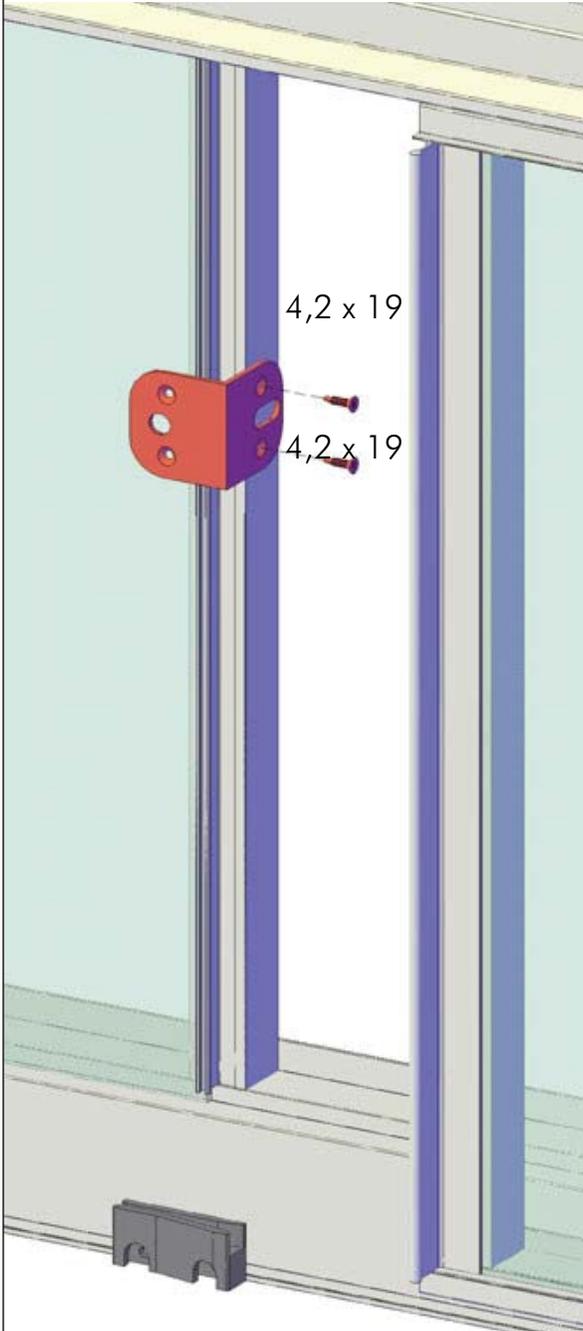
Lock installation on Double/Second Door Using Low Threshold Kit



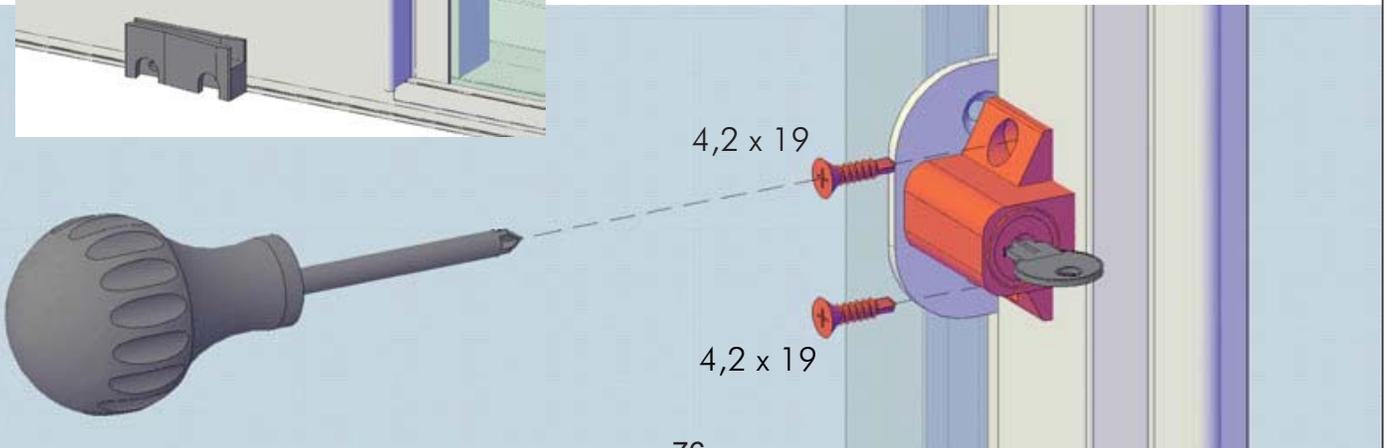
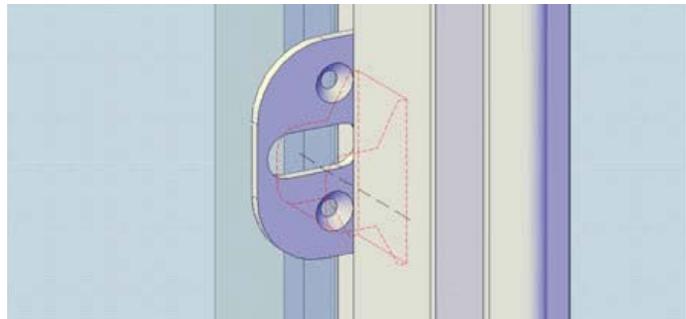
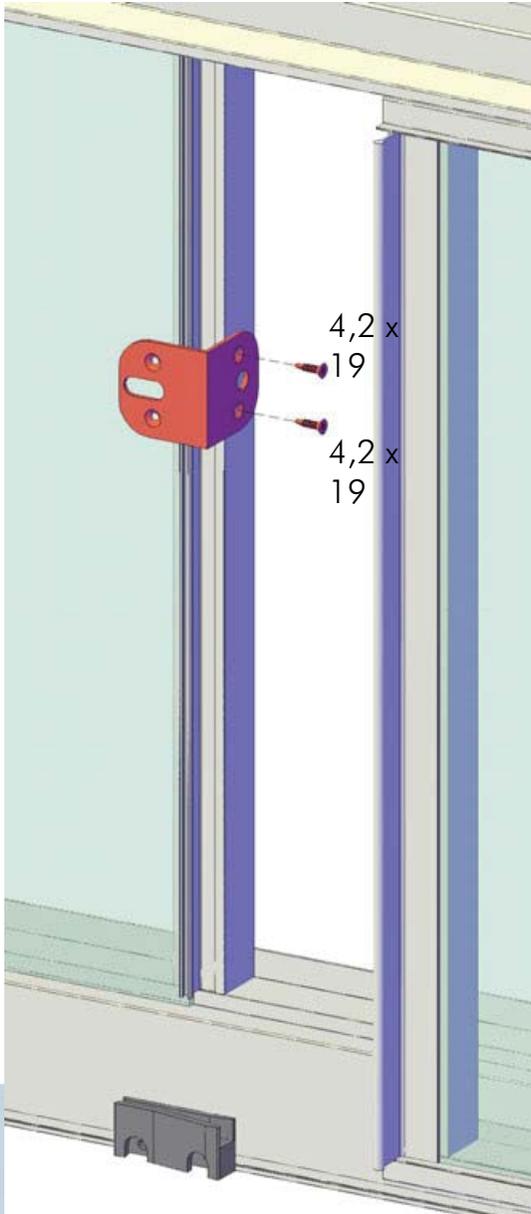
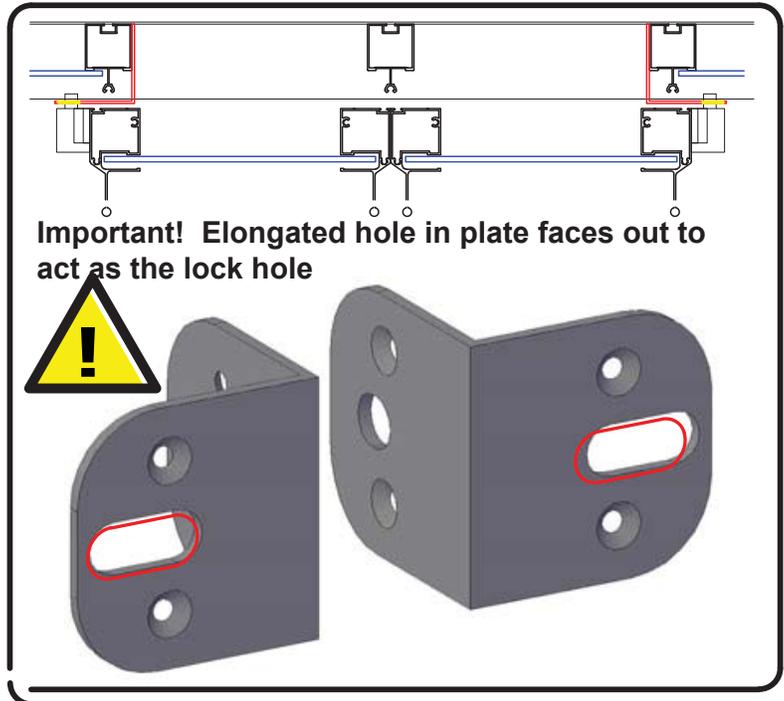
Version 2: Door Lock Installation - Single door

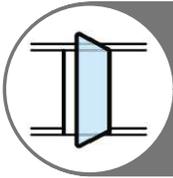


Important! Circular hole in plate faces out to act as the lock hole



Version 2: Door Lock Installation - Double door



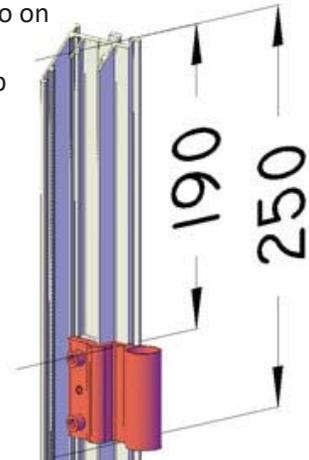
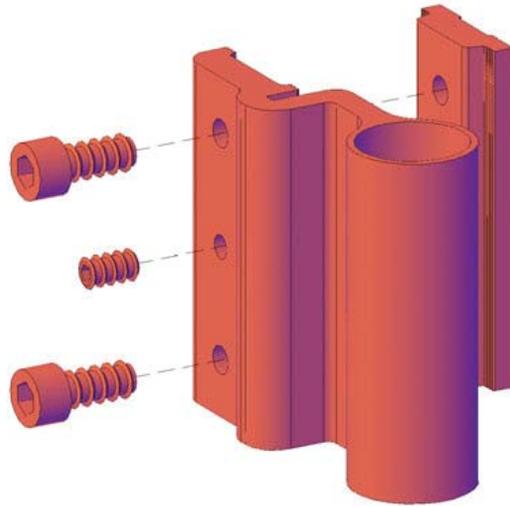


OPTIONAL UPGRADE: Hinged Door

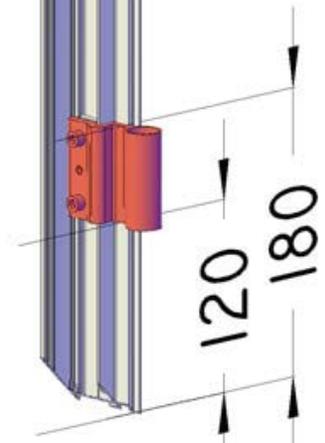
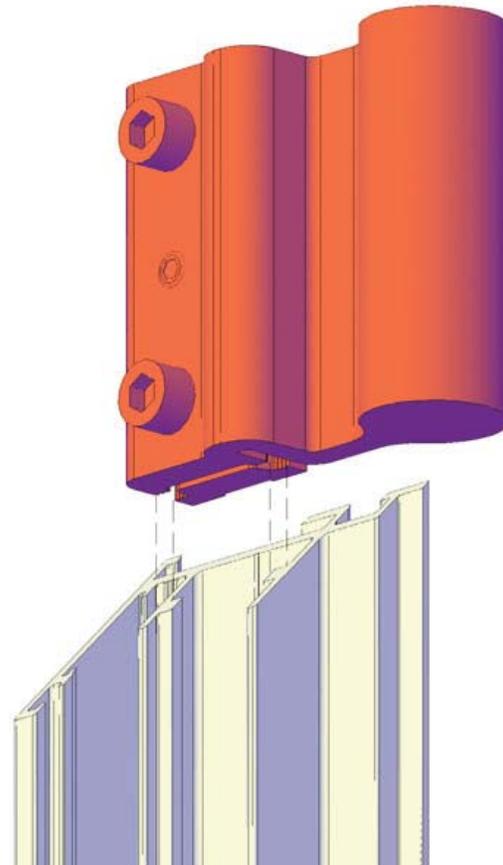
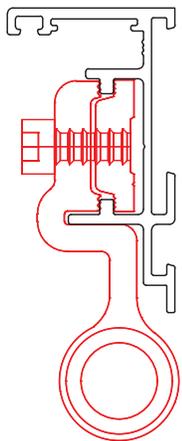
HD



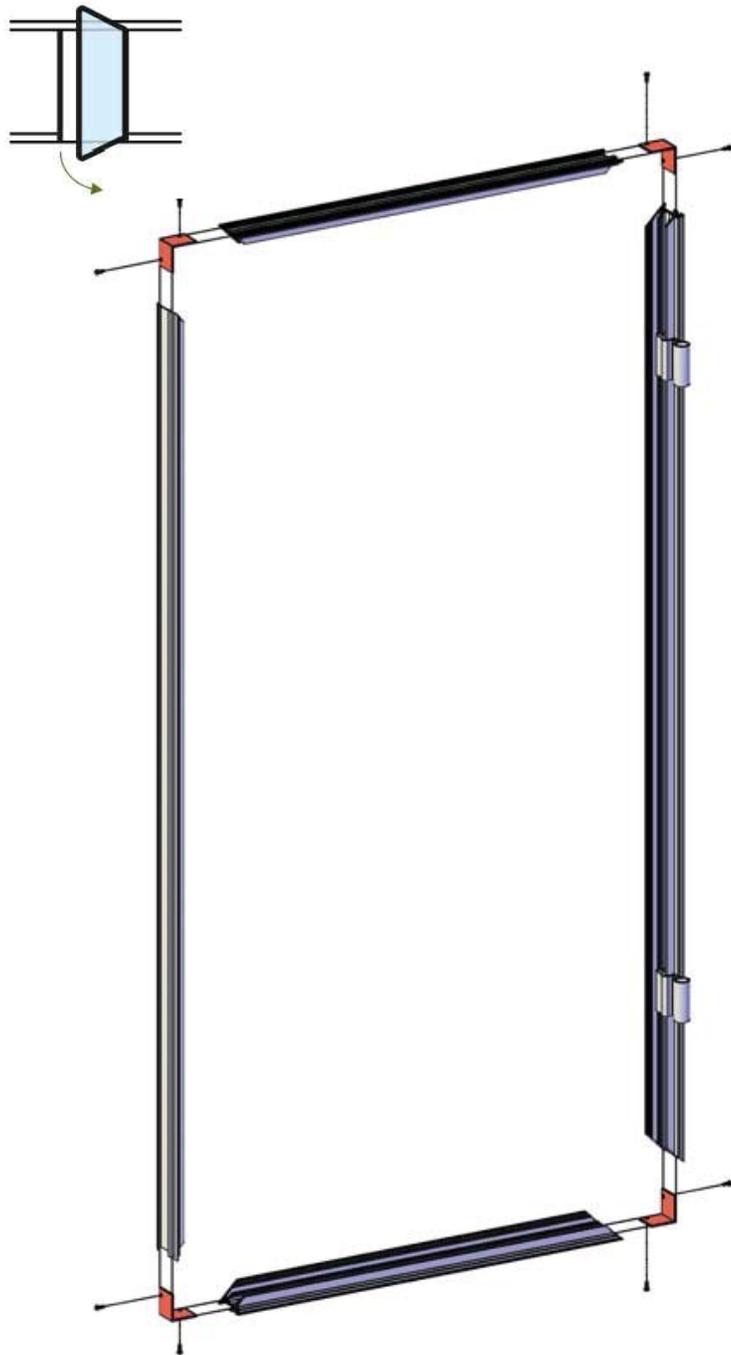
IMPORTANT: Find Janssens Accessory installation video on our site here:
<https://www.exaco.com/greenhouse-victorian.php>

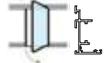
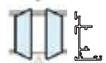


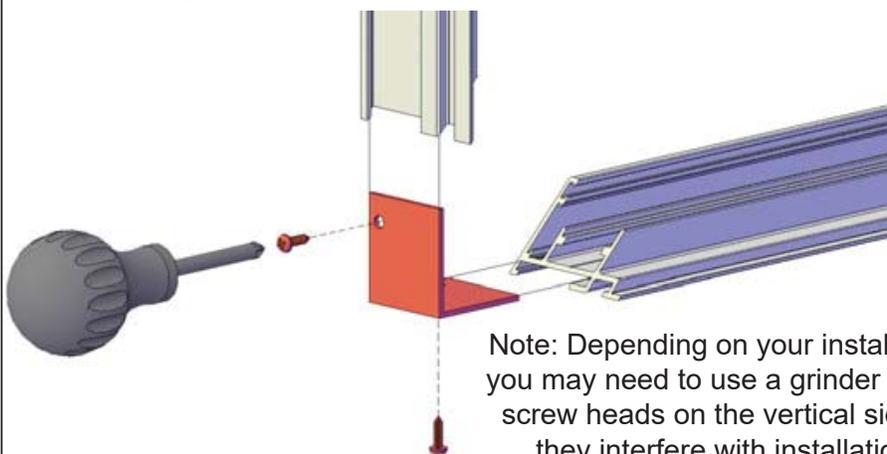
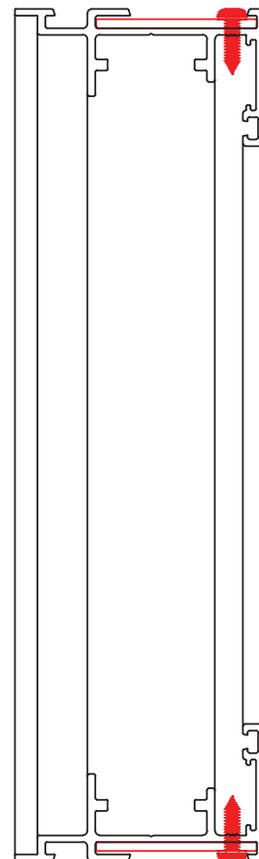
Hinges in door jamb will need to be adjusted.
Distances are in millimeters.



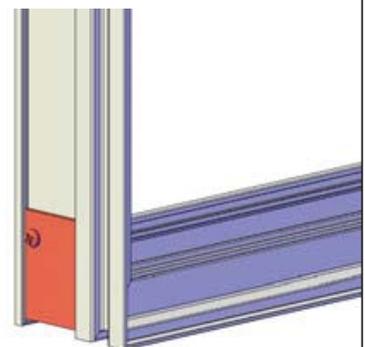
HD 1



	ITEM	PC.	L
	L 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	

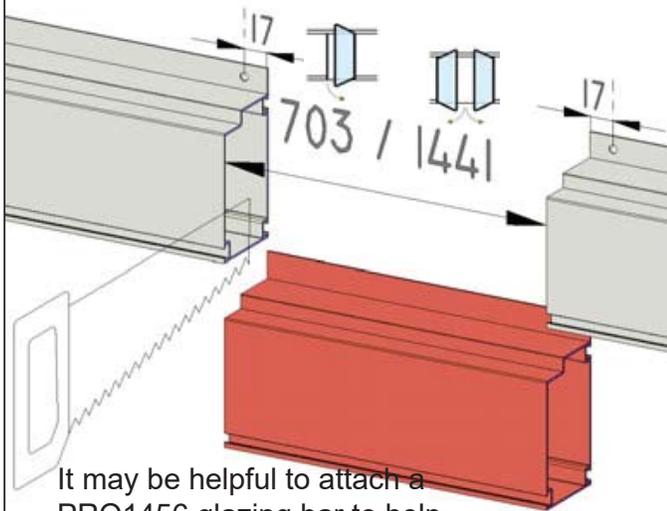


Note: Depending on your installation, you may need to use a grinder on the screw heads on the vertical sides if they interfere with installation.

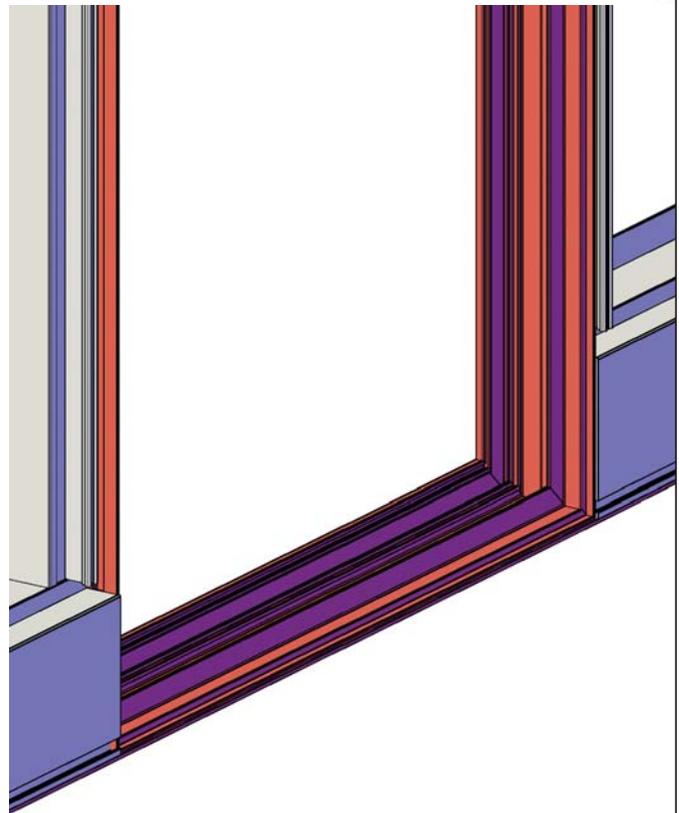
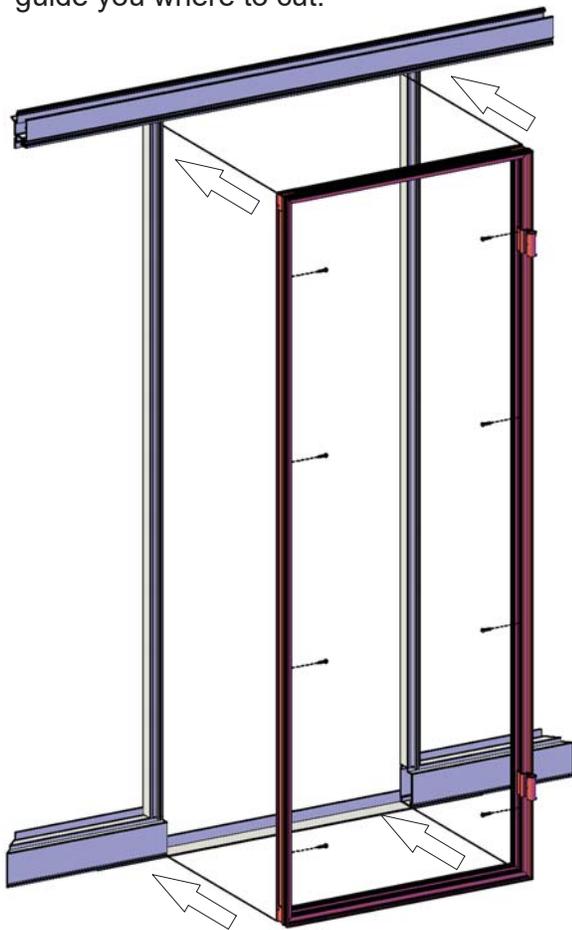
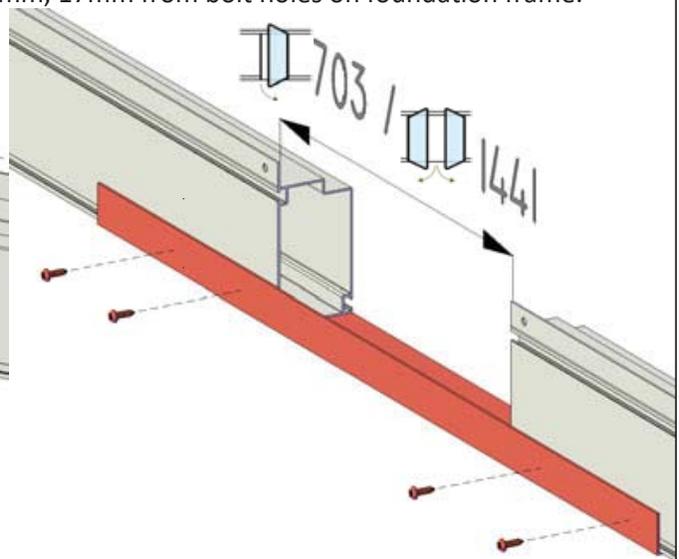


HD 2

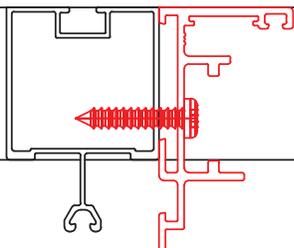
Double Hinged door will need opening of 1441mm, 17mm from bolt holes on foundation frame.



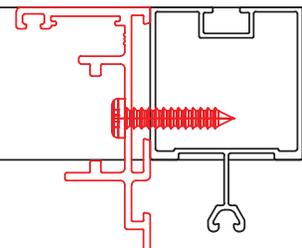
It may be helpful to attach a PRO1456 glazing bar to help guide you where to cut.



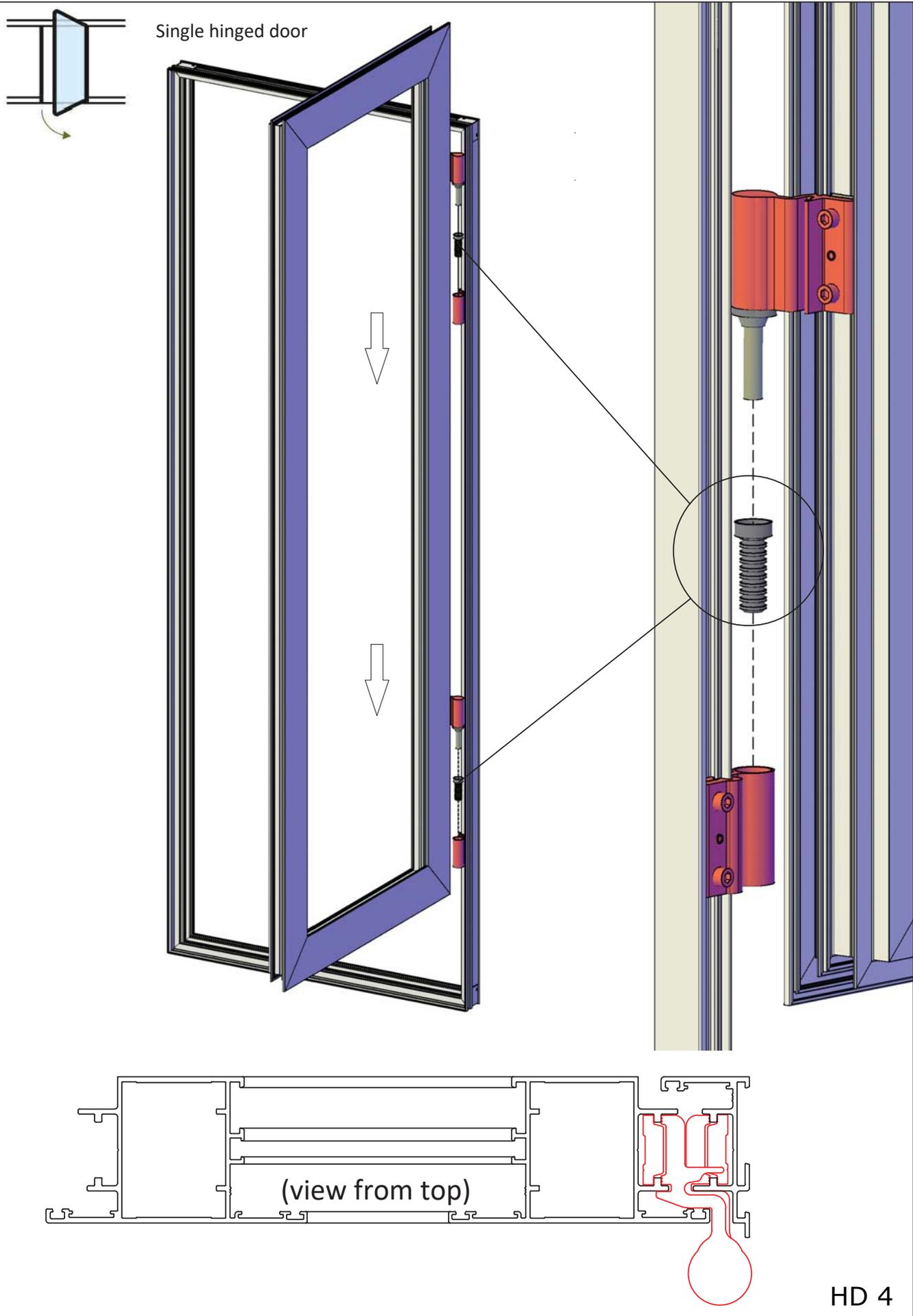
(Single door shown, double door jamb installation will be identical)

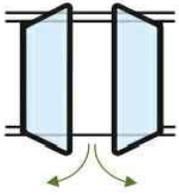


(view from top)

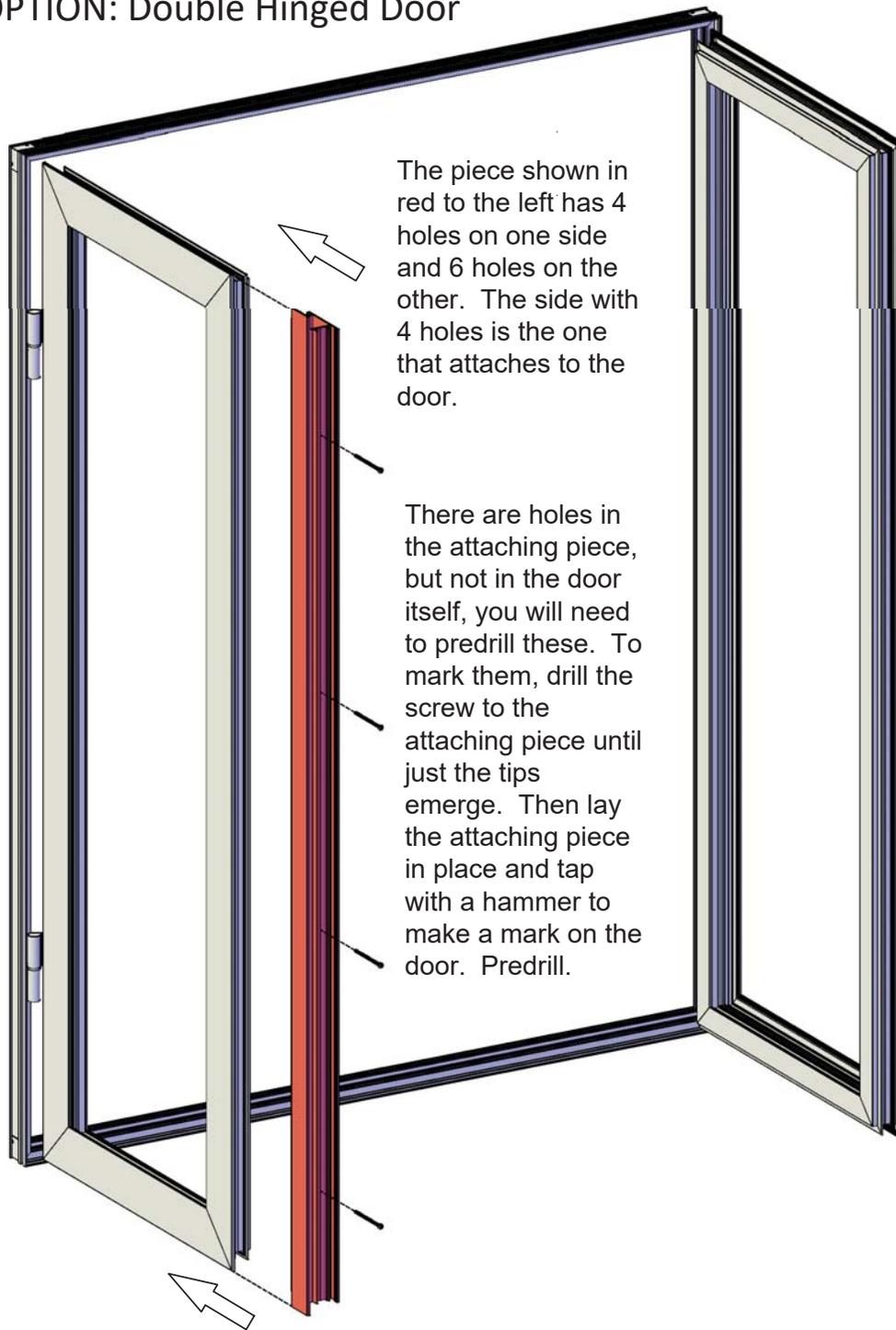


HD 3



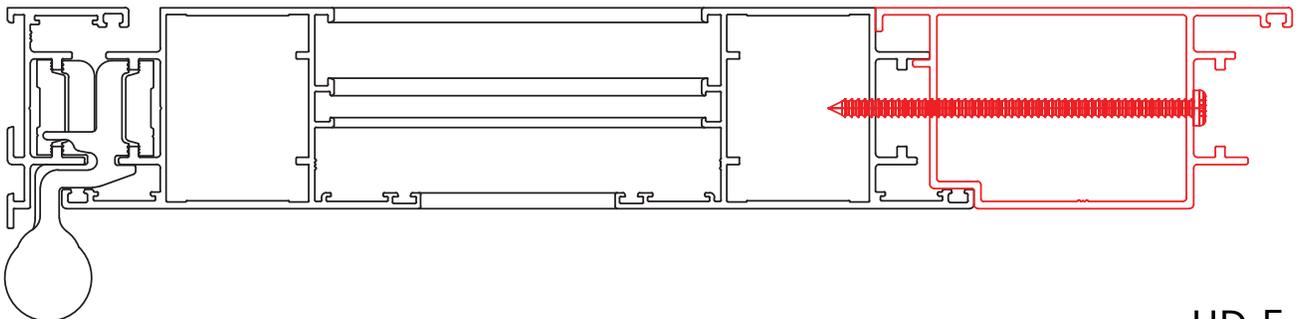


OPTION: Double Hinged Door

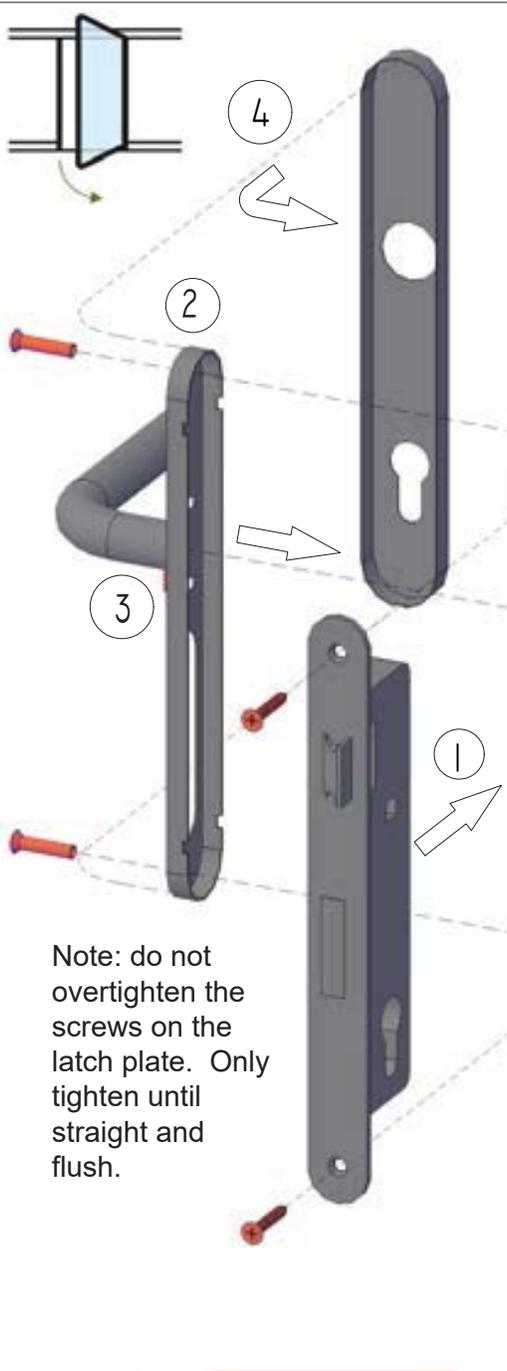


The piece shown in red to the left has 4 holes on one side and 6 holes on the other. The side with 4 holes is the one that attaches to the door.

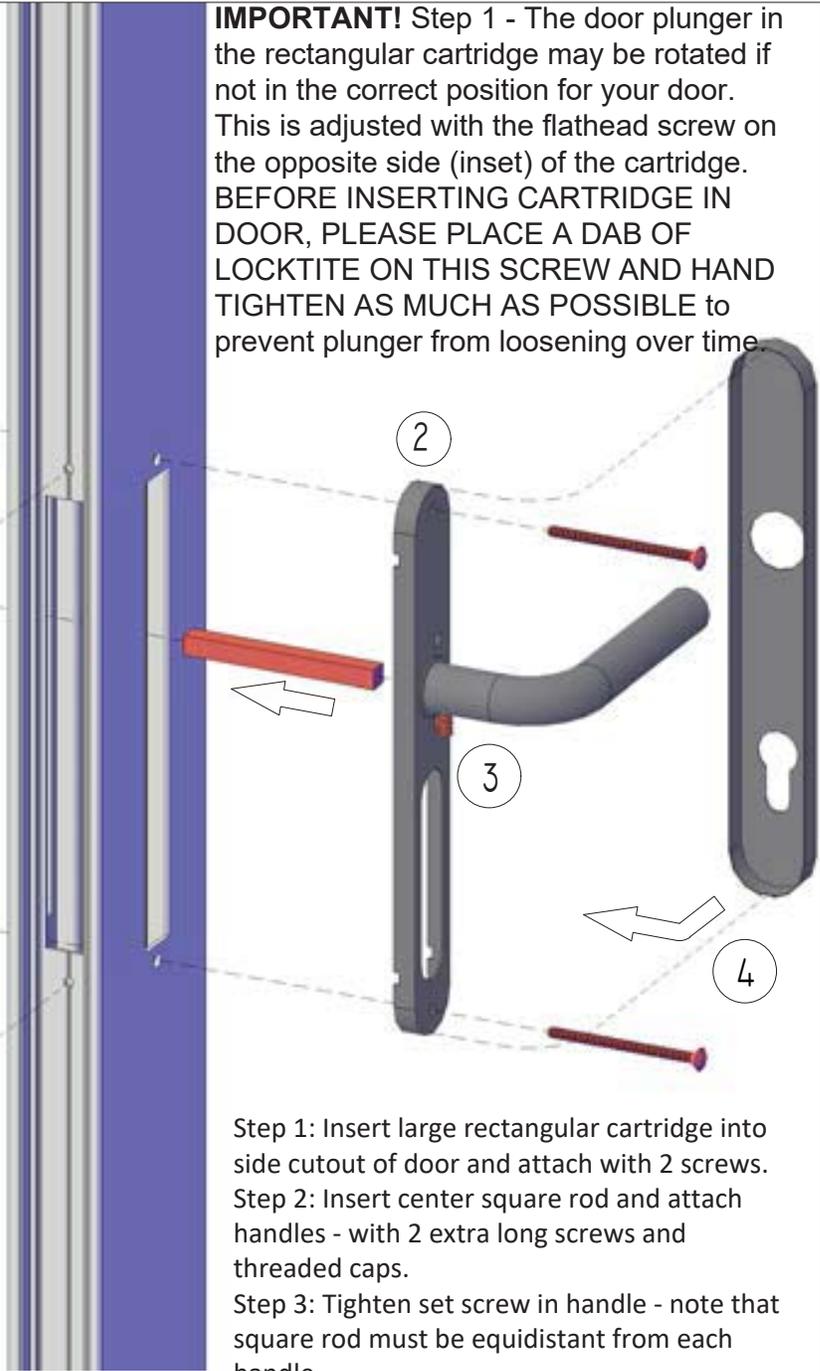
There are holes in the attaching piece, but not in the door itself, you will need to predrill these. To mark them, drill the screw to the attaching piece until just the tips emerge. Then lay the attaching piece in place and tap with a hammer to make a mark on the door. Predrill.



HD 5



IMPORTANT! Step 1 - The door plunger in the rectangular cartridge may be rotated if not in the correct position for your door. This is adjusted with the flathead screw on the opposite side (inset) of the cartridge. **BEFORE INSERTING CARTRIDGE IN DOOR, PLEASE PLACE A DAB OF LOCKTITE ON THIS SCREW AND HAND TIGHTEN AS MUCH AS POSSIBLE** to prevent plunger from loosening over time.

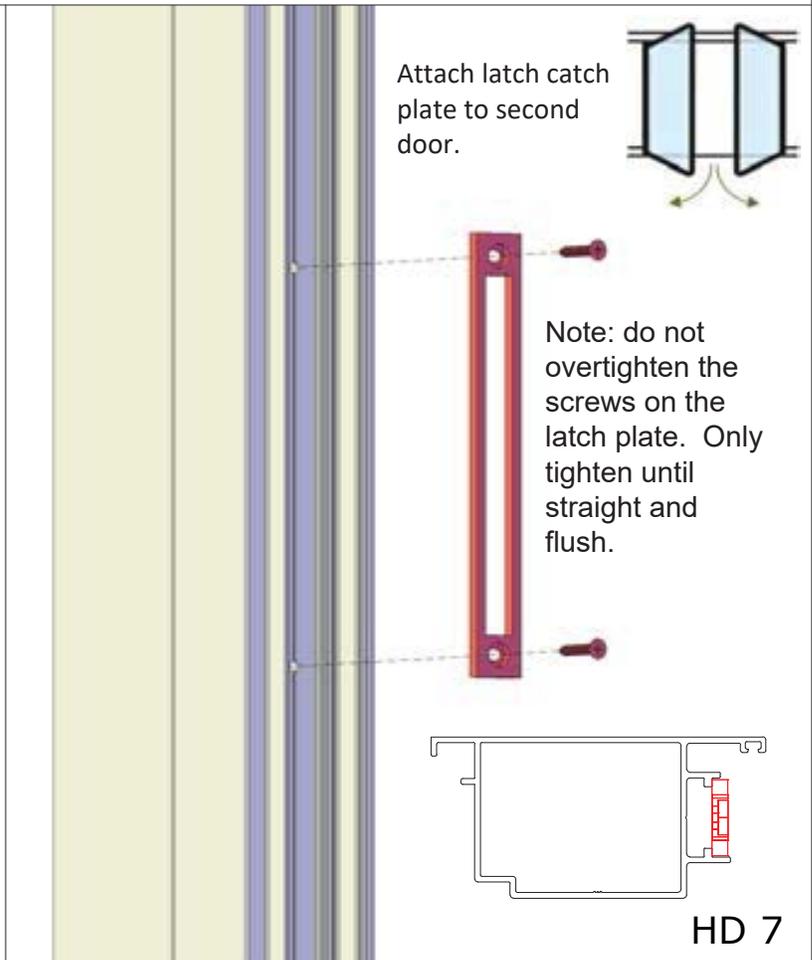
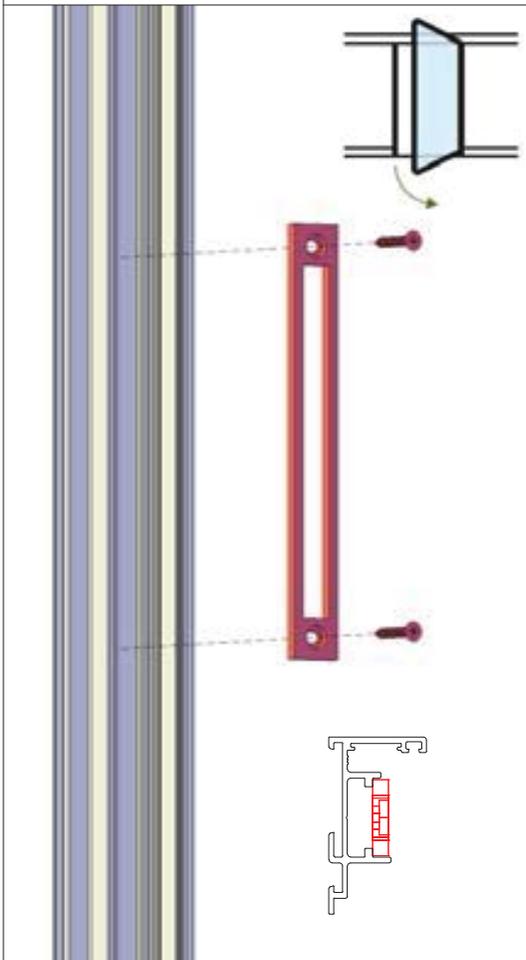
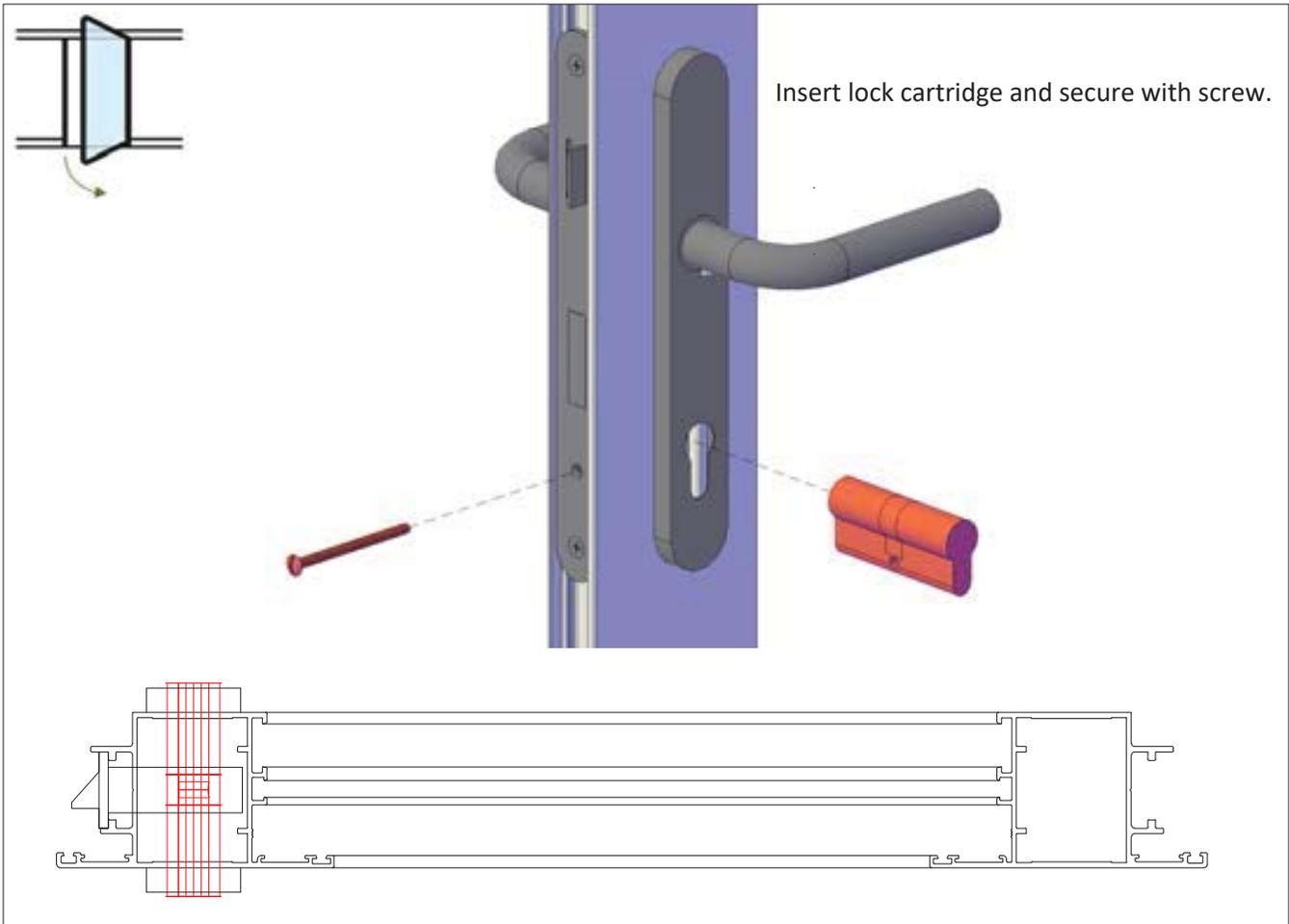


- Step 1: Insert large rectangular cartridge into side cutout of door and attach with 2 screws.
- Step 2: Insert center square rod and attach handles - with 2 extra long screws and threaded caps.
- Step 3: Tighten set screw in handle - note that square rod must be equidistant from each handle.
- Step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



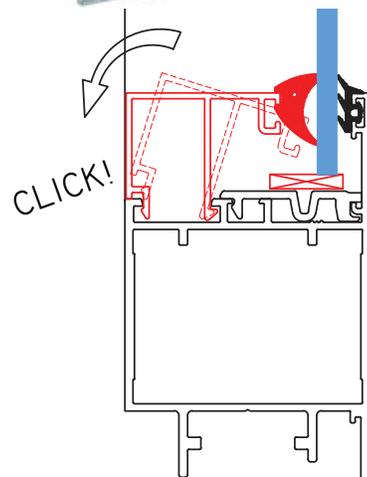
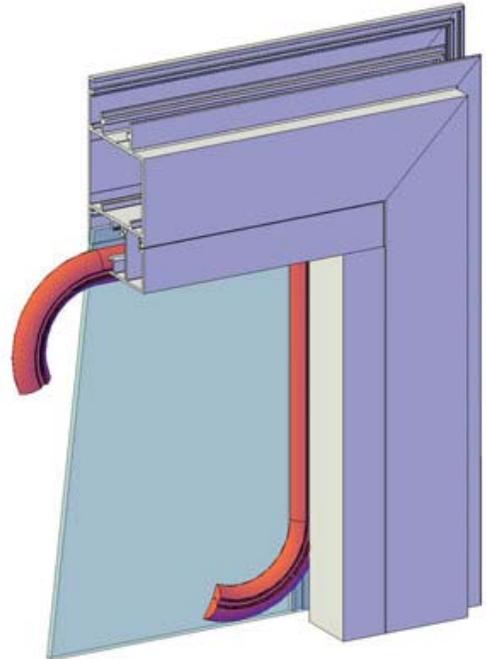
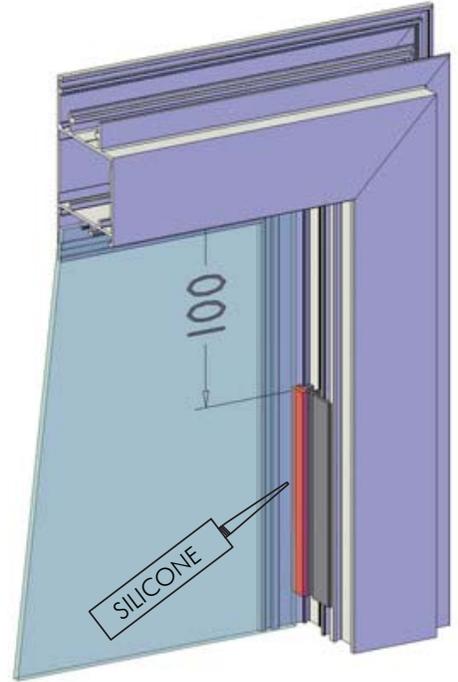
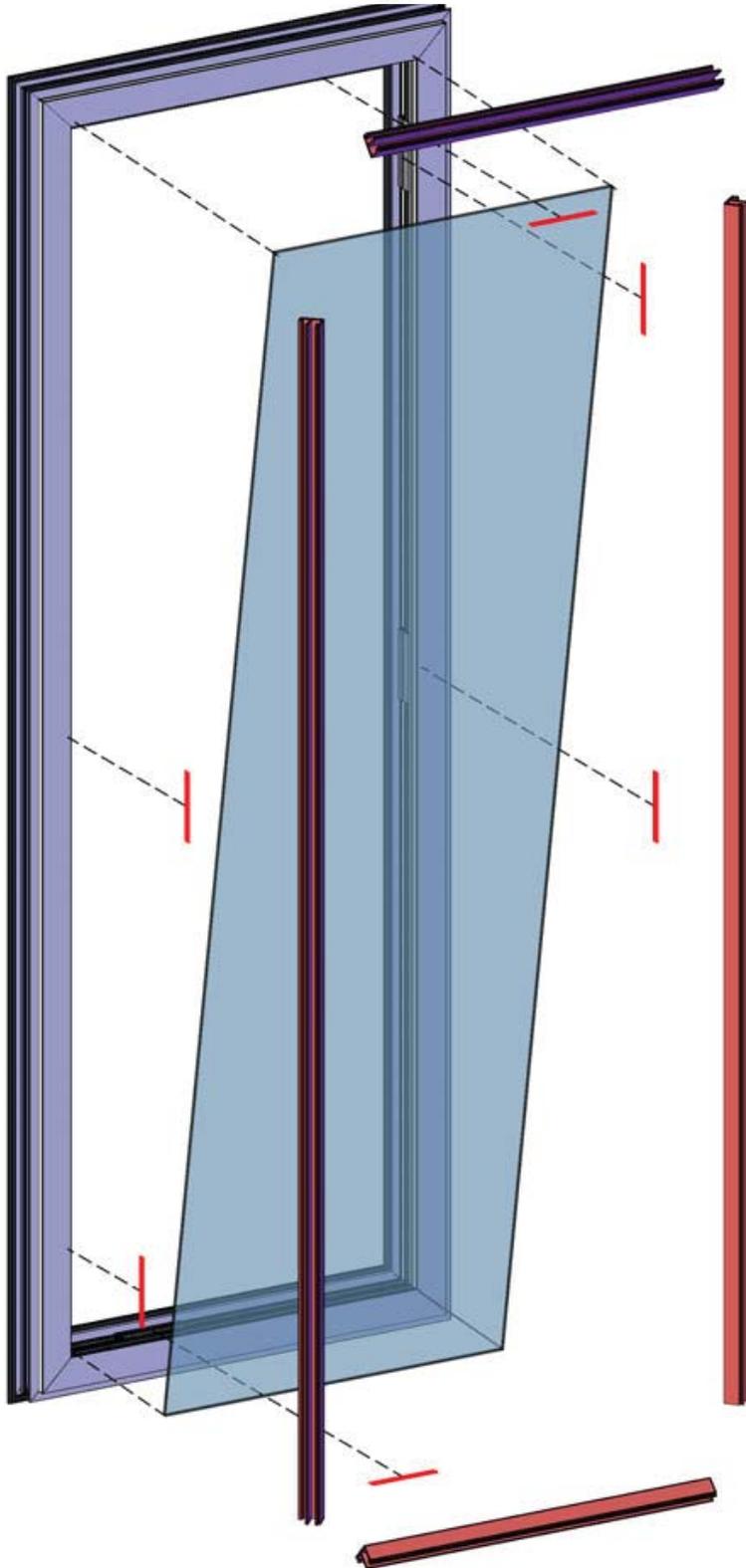
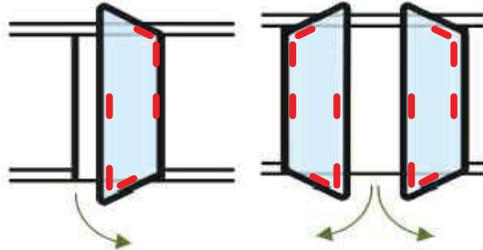
IMPORTANT: Find Janssens Accessory installation video on our site here: <https://www.exaco.com/greenhouse-victorian.php>

HD 6



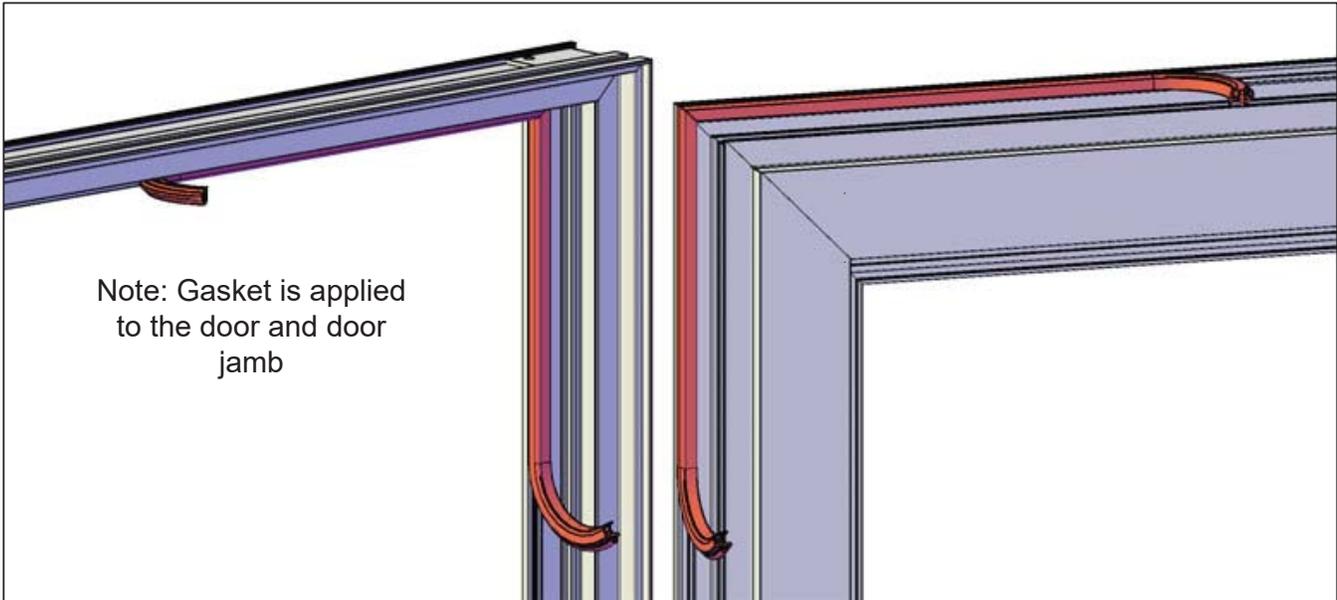
HD 7

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

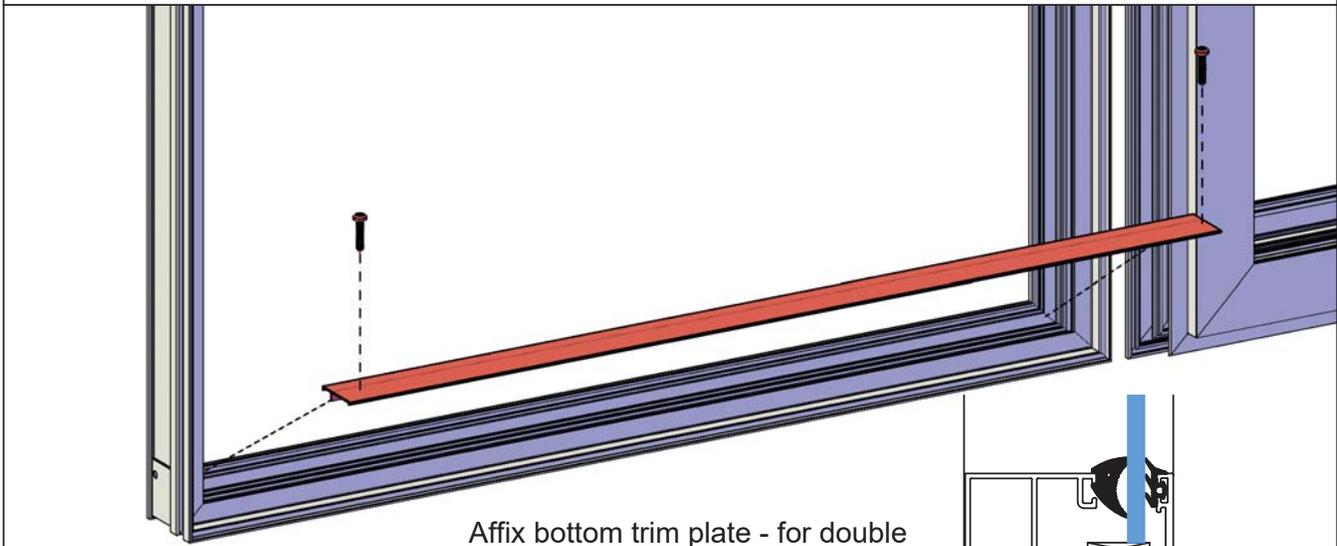
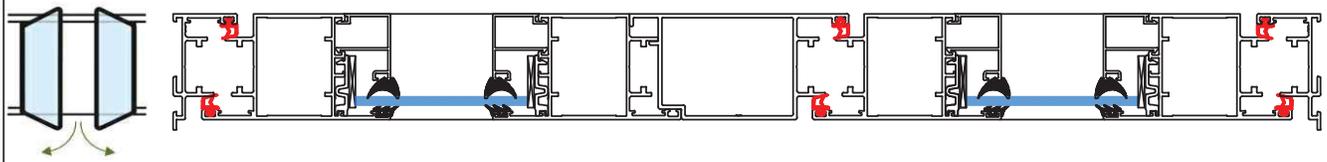
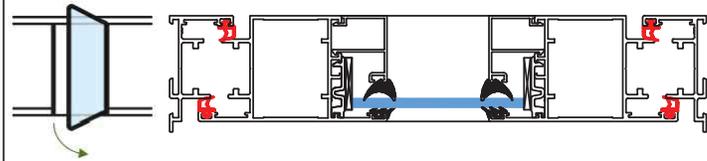


NOTE: the horizontal glazing strips shown in red above may be slightly long. Please measure and trim to fit your door using a hacksaw, hand file, angle grinder or similar tool!

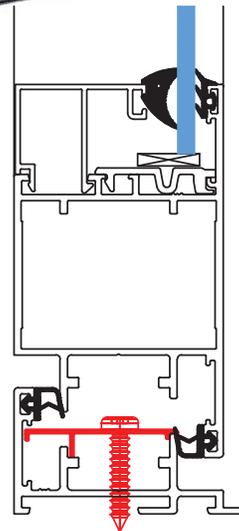
HD 8



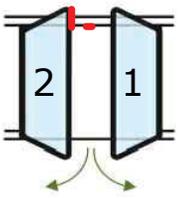
Note: Gasket is applied to the door and door jamb



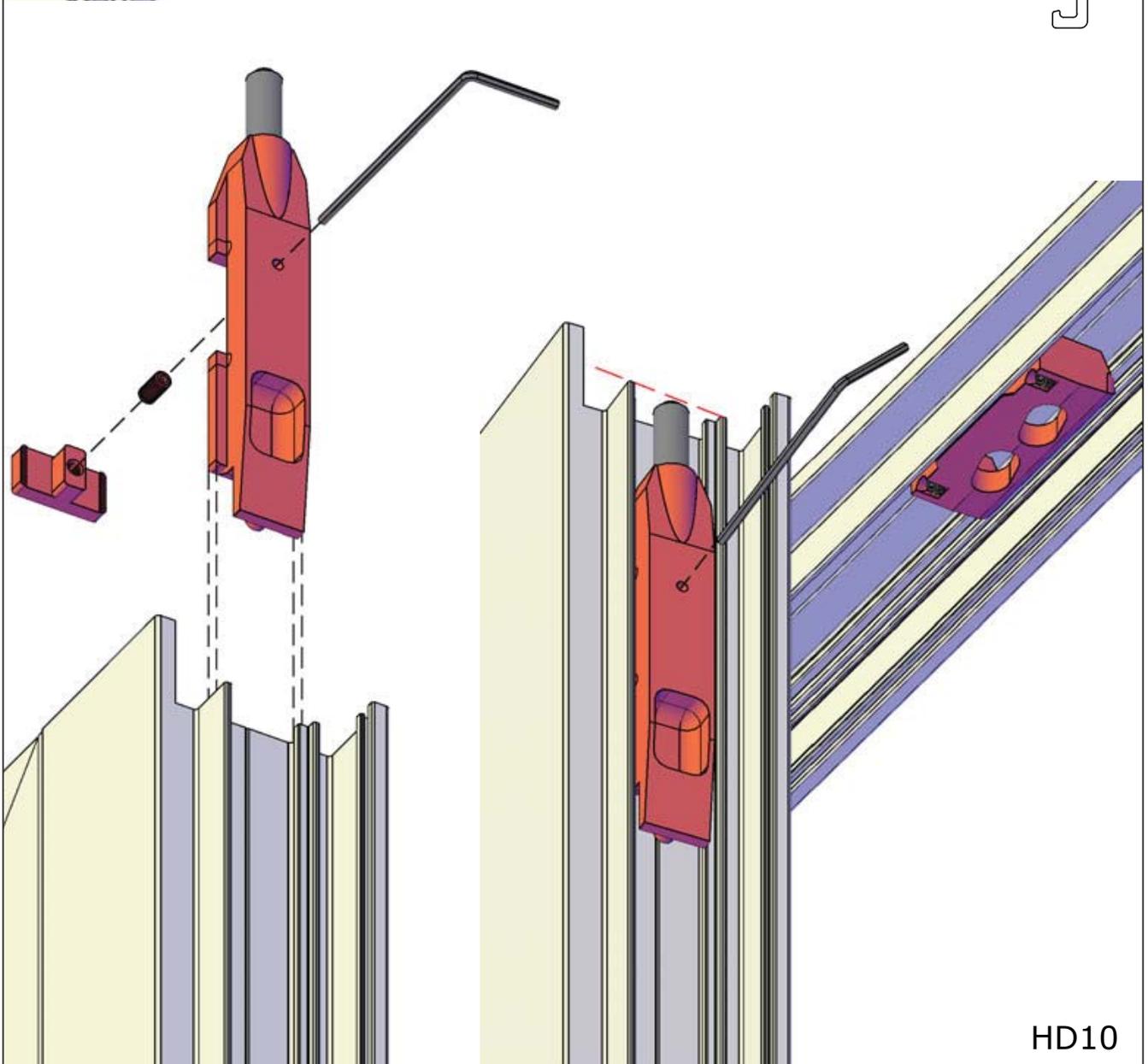
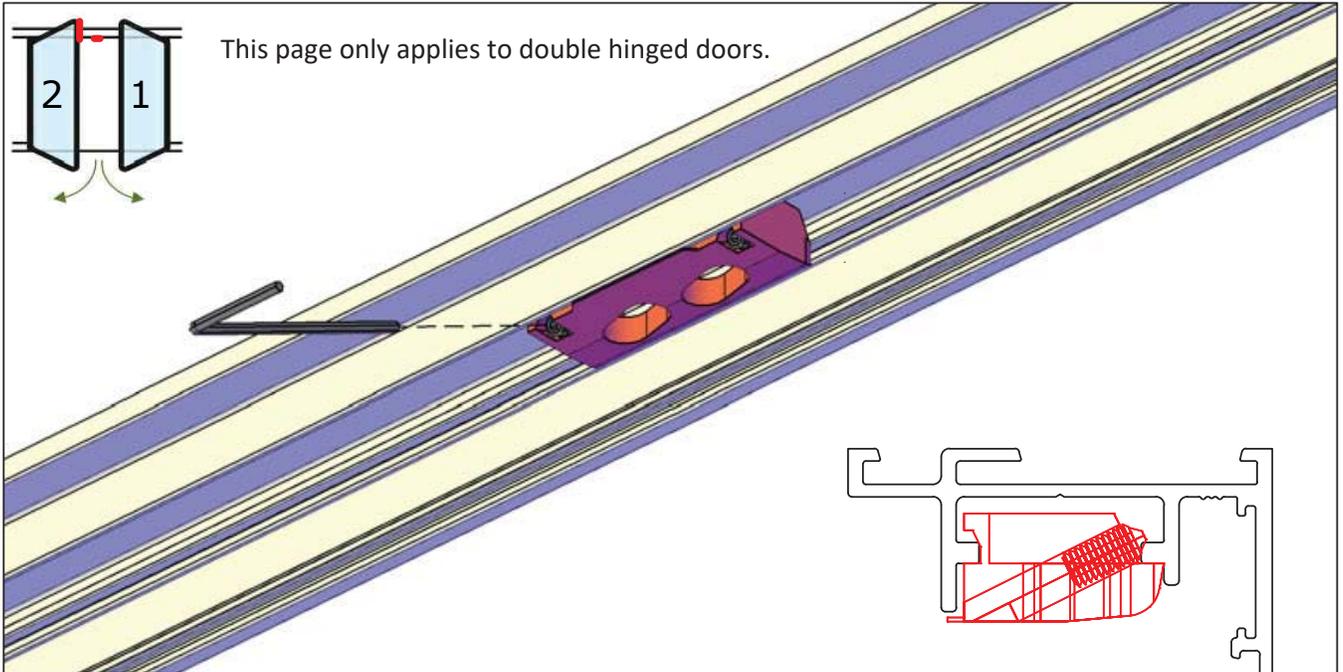
Affix bottom trim plate - for double doors see next page.



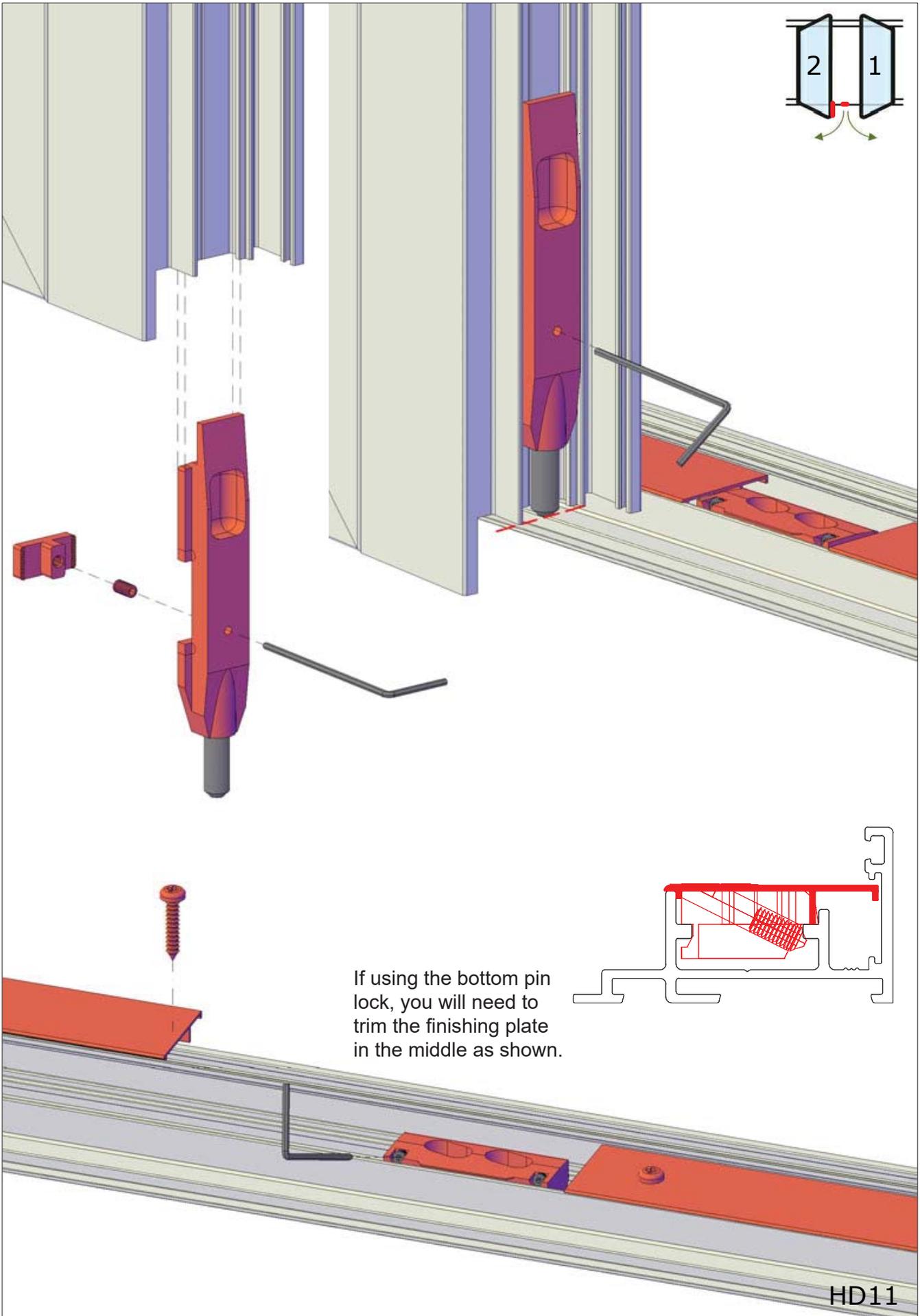
HD 9



This page only applies to double hinged doors.



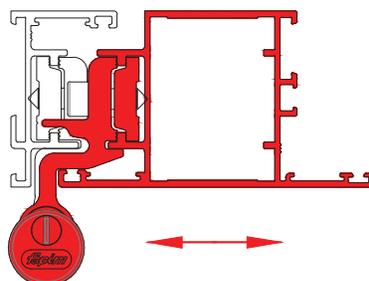
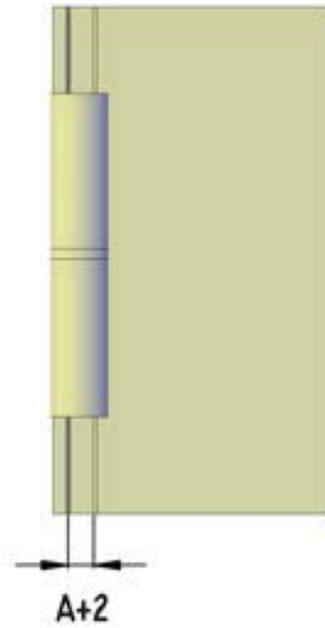
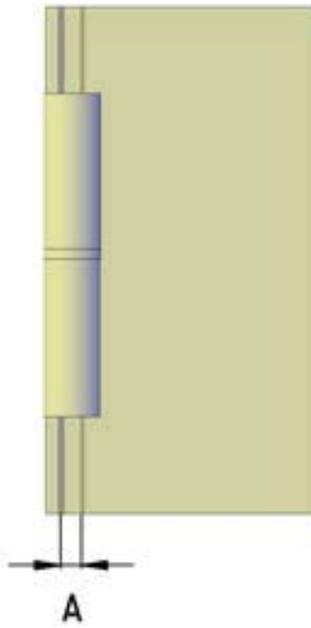
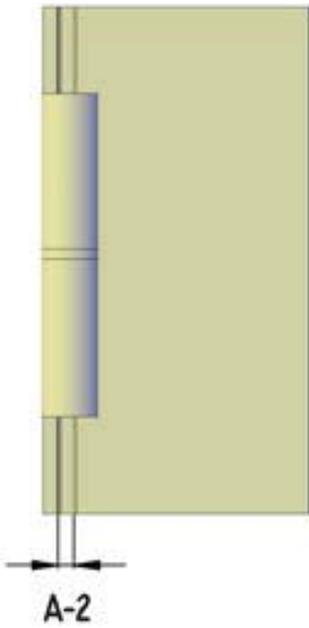
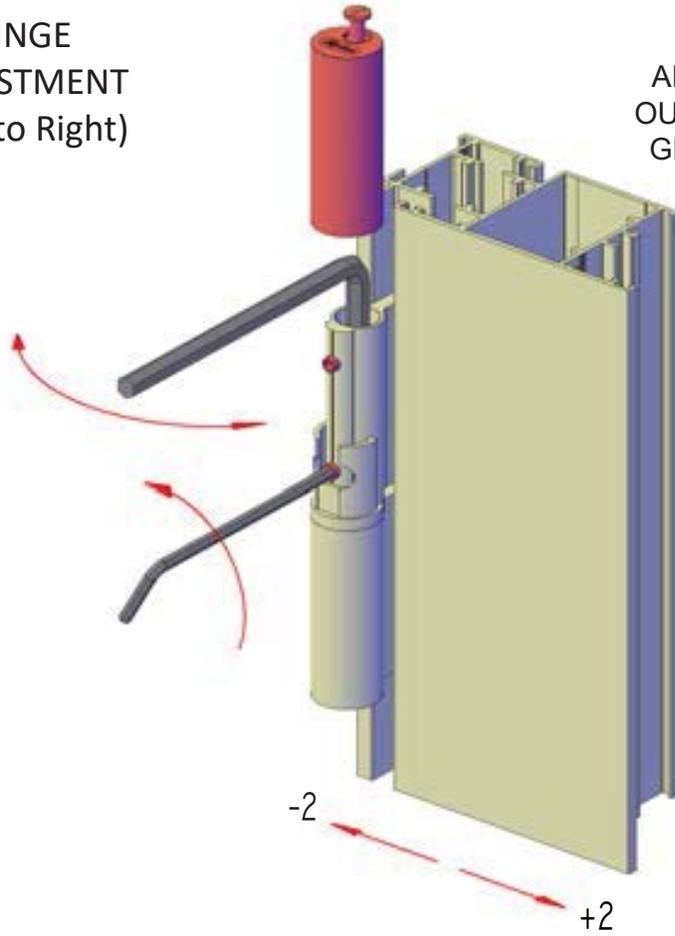
HD10





HINGE
ADJUSTMENT
(Left to Right)

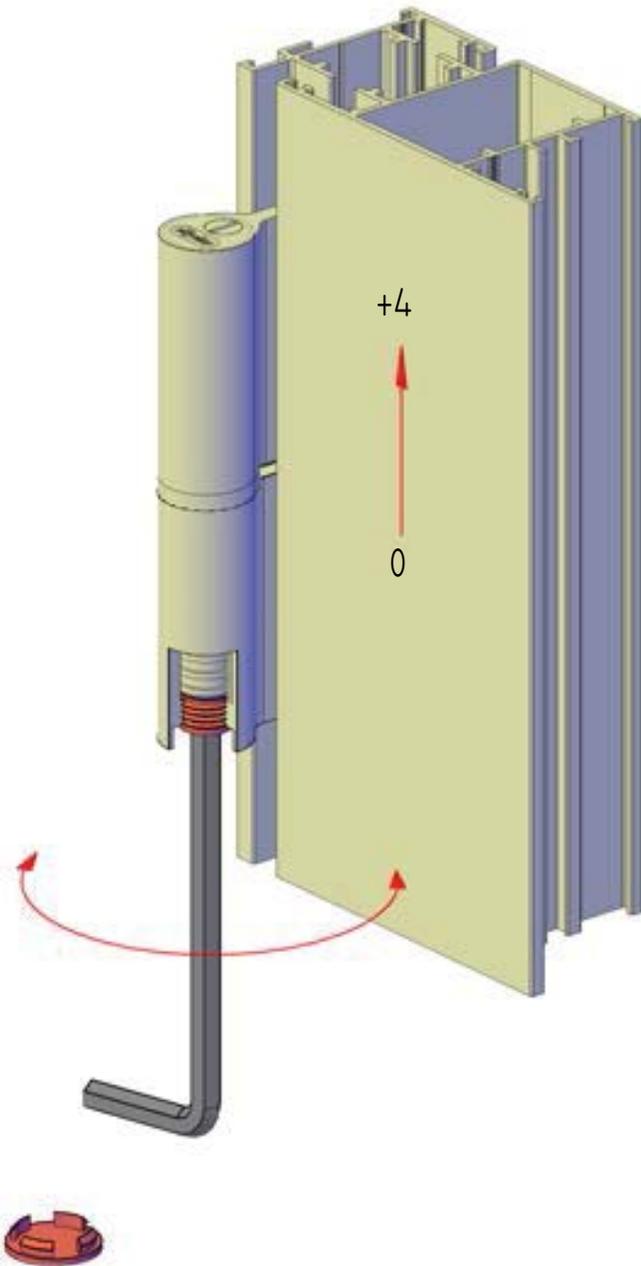
LOOK FOR HINGE
ADJUSTMENT VIDEO ON
OUR YOUTUBE VICTORIAN
GREENHOUSE PLAYLIST



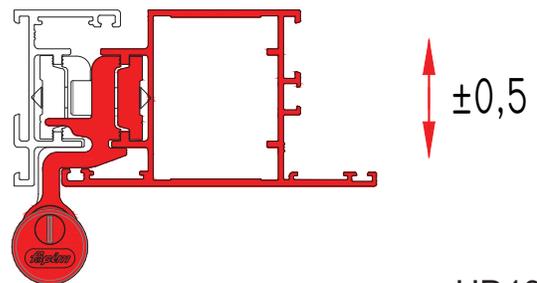
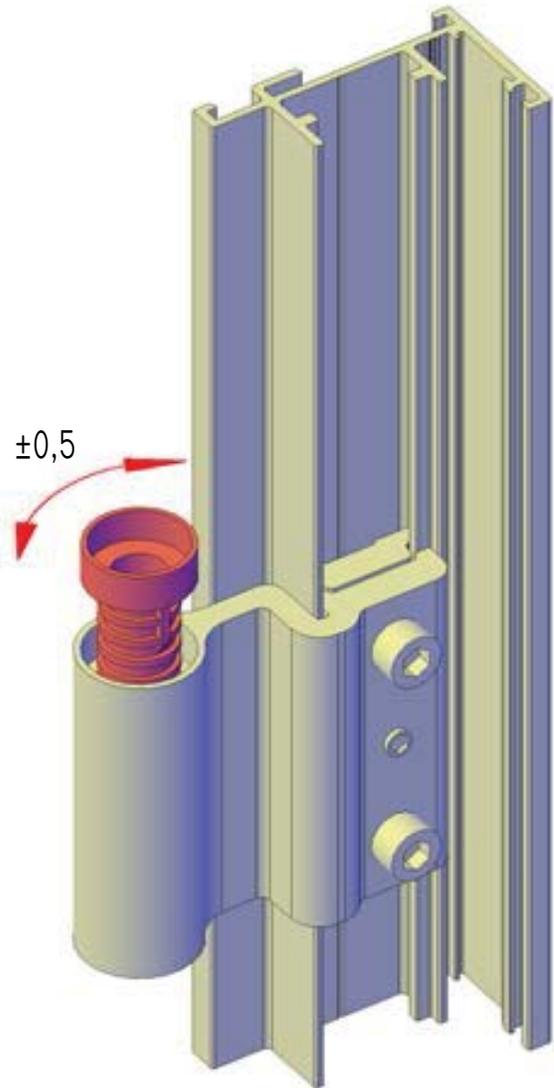
HD12



HINGE
ADJUSTMENT
(Up)



HINGE
ADJUSTMENT
(Front/Back)



HD13

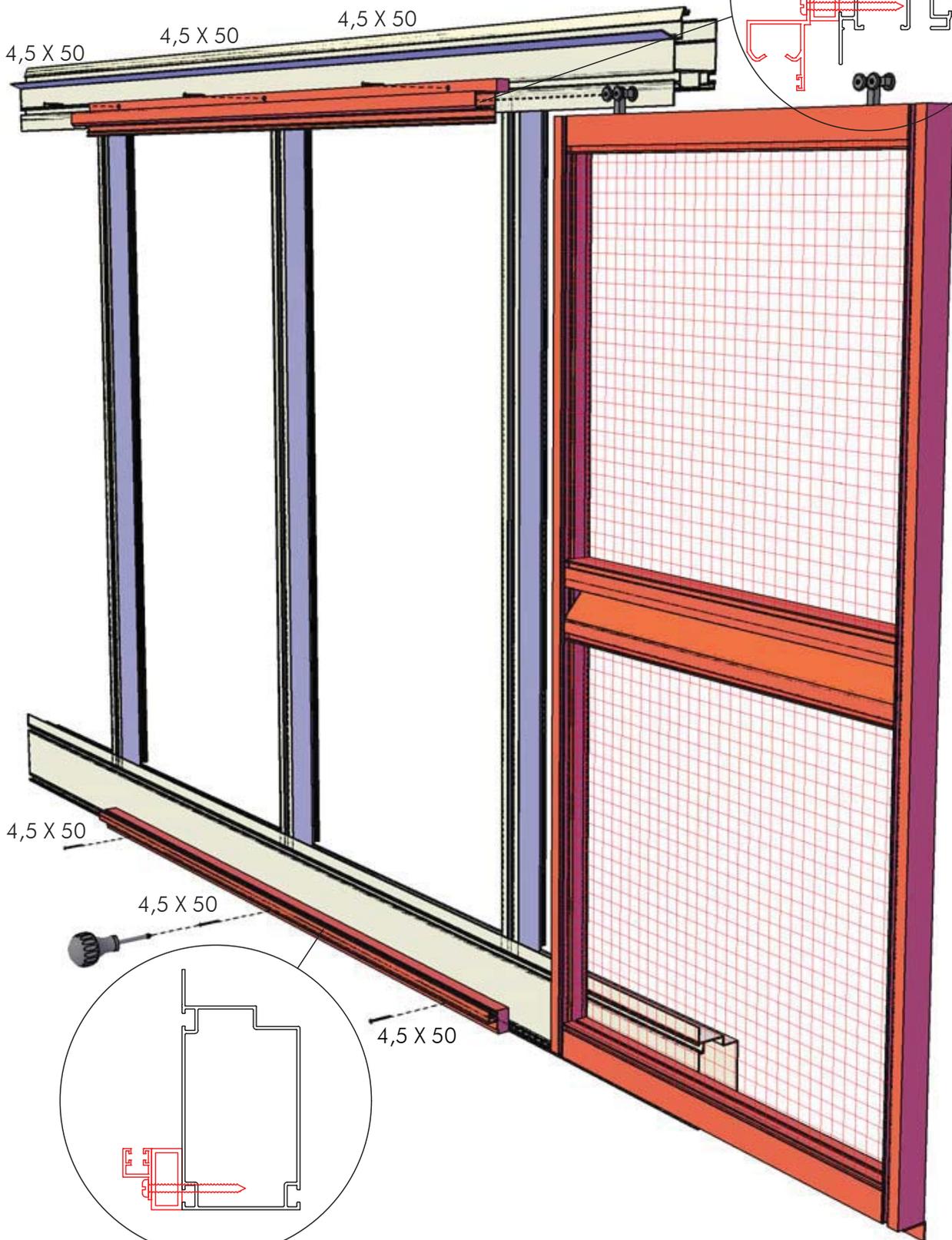


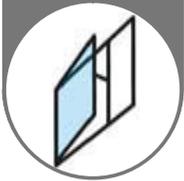
Optional Upgrade: Door Fly Screen

(while supplies last - limited availability)

FD

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

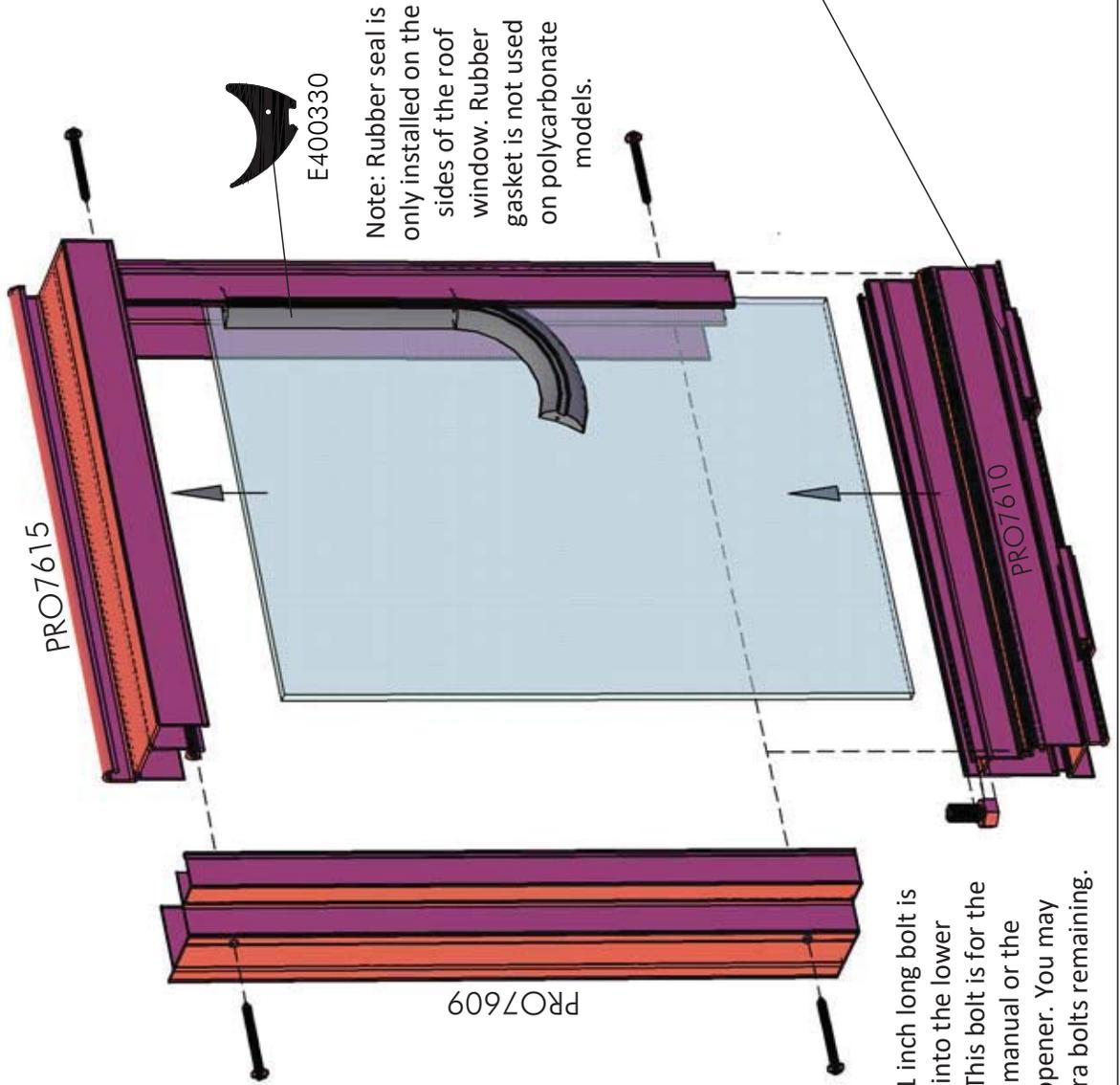




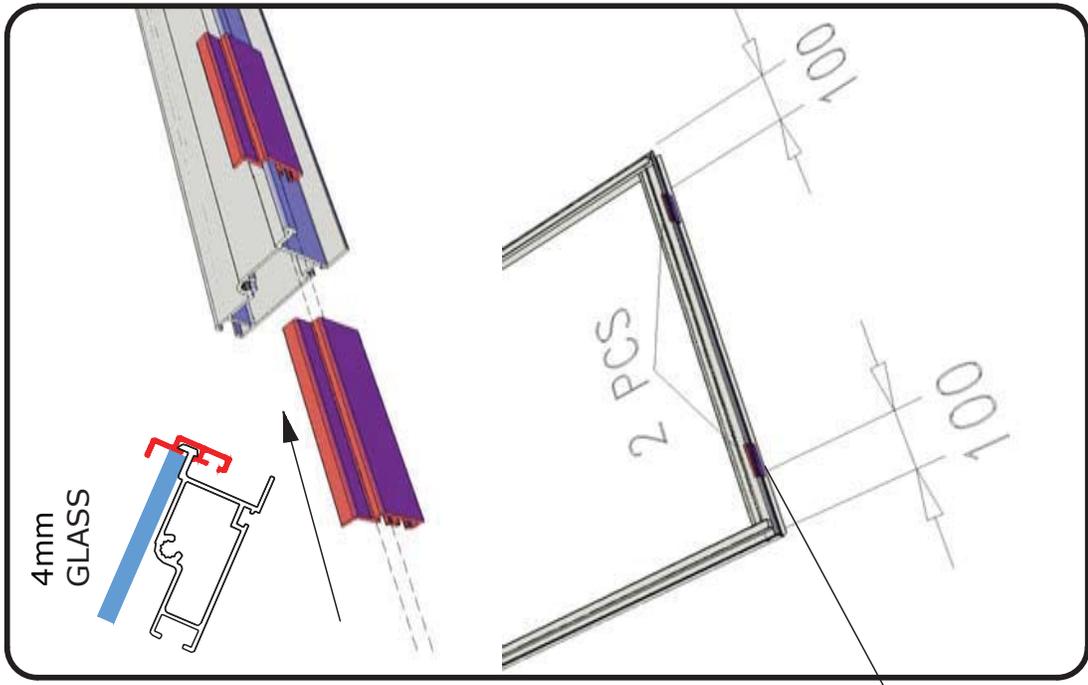
Roof Window /Vent -

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

RW

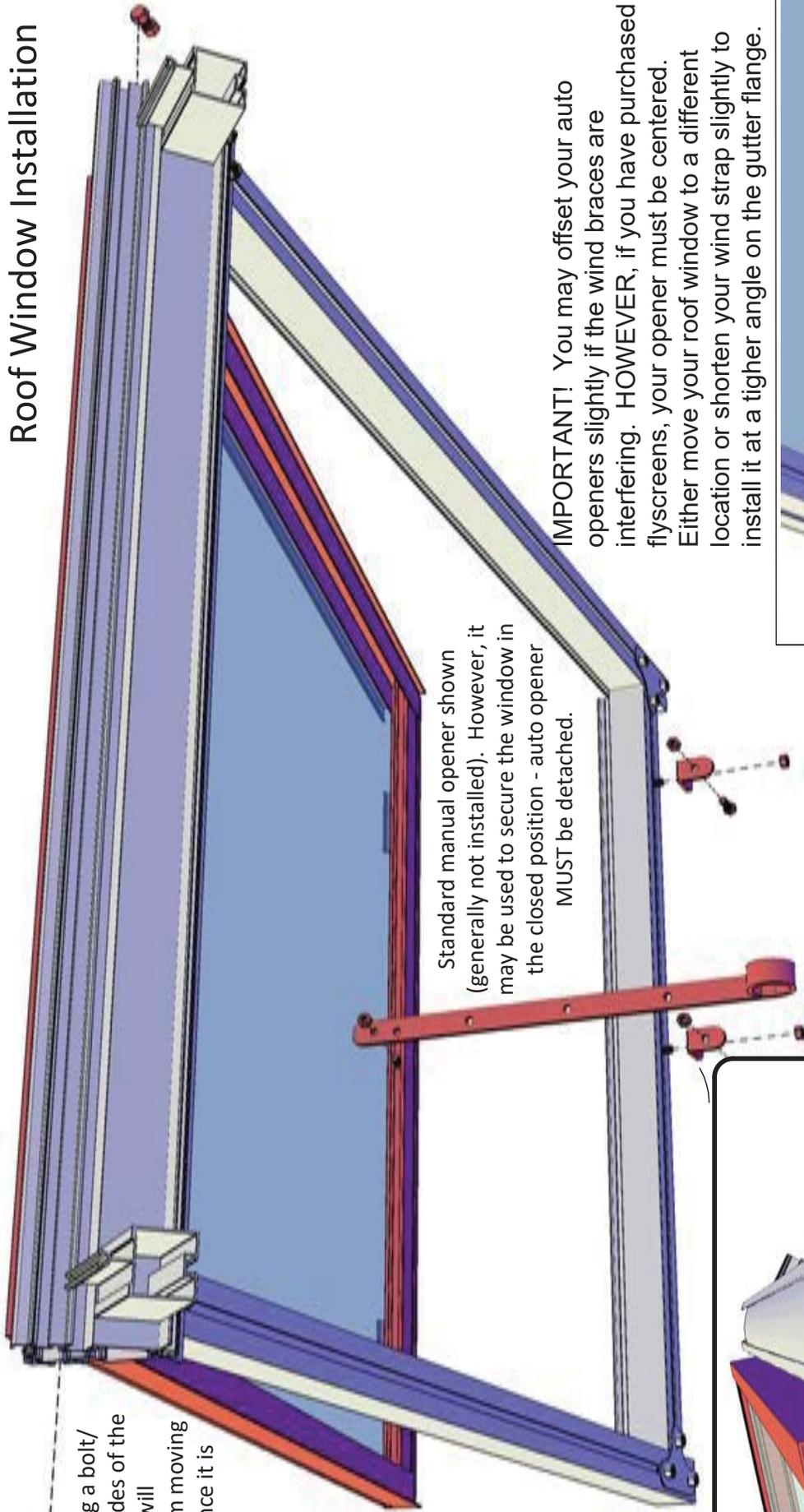


Note: A 1 inch long bolt is inserted into the lower profile. This bolt is for the optional manual or the spindle opener. You may have extra bolts remaining.



Roof Window Installation

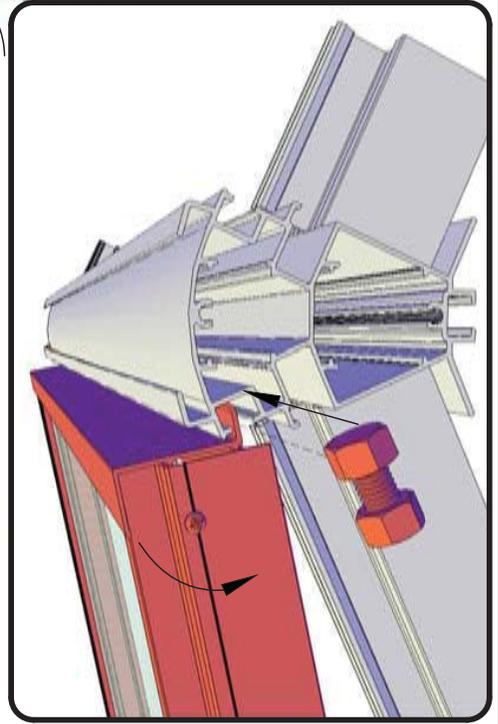
Note: Inserting a bolt/nut on both sides of the roof window will prevent it from moving side to side once it is in place.



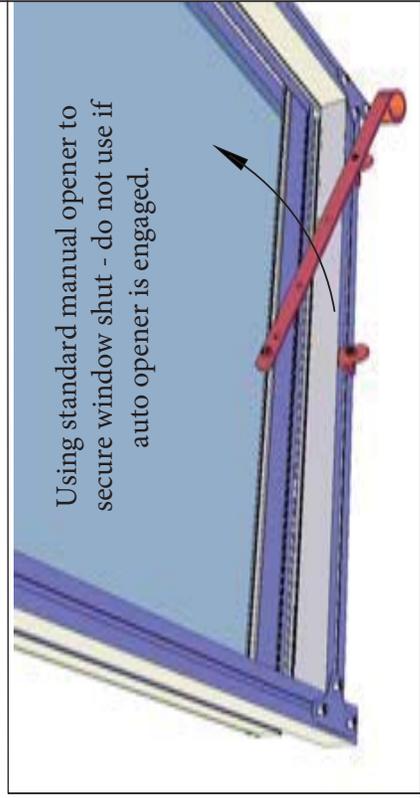
Standard manual opener shown (generally not installed). However, it may be used to secure the window in the closed position - auto opener **MUST** be detached.

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

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

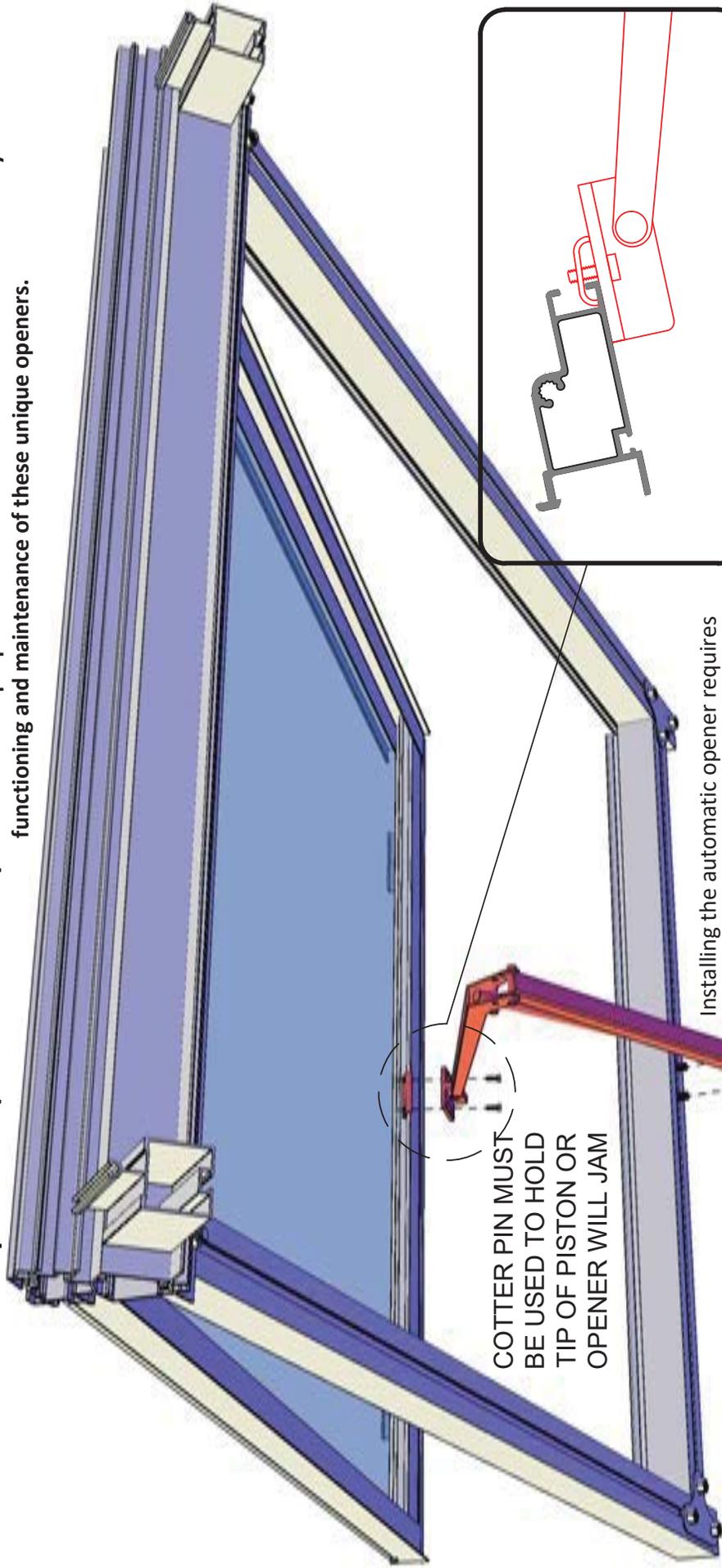


Using standard manual opener to secure window shut - do not use if auto opener is engaged.



OPTION: Auto Opener (Ventomax)

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



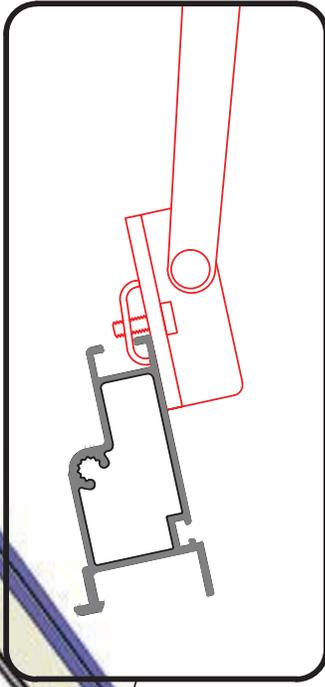
COTTER PIN MUST BE USED TO HOLD TIP OF PISTON OR OPENER WILL JAM

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

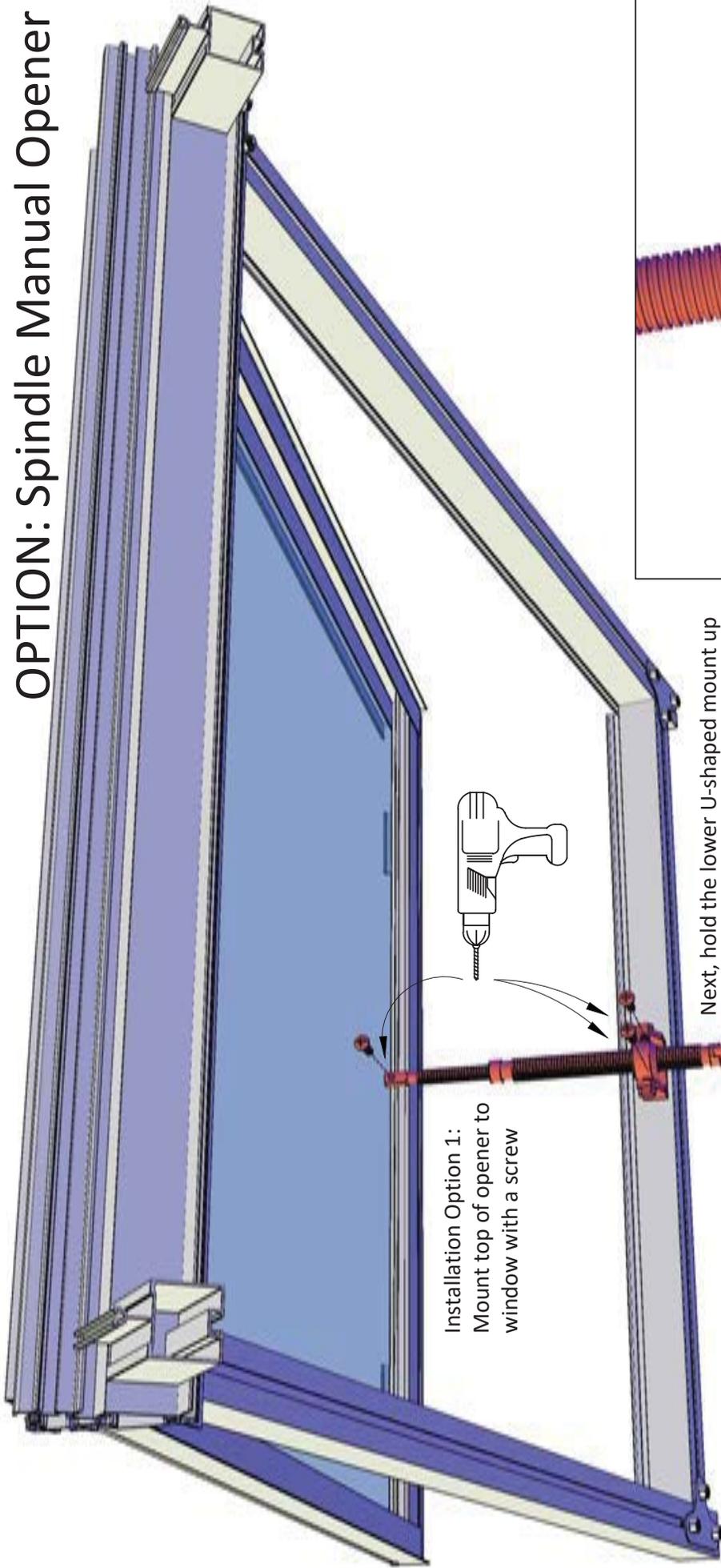
If you are struggling to install your piston and it is above 70 degrees, place the piston in cold water/ fridge for 10 minutes so the rod can retract.

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

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)



OPTION: Spindle Manual Opener

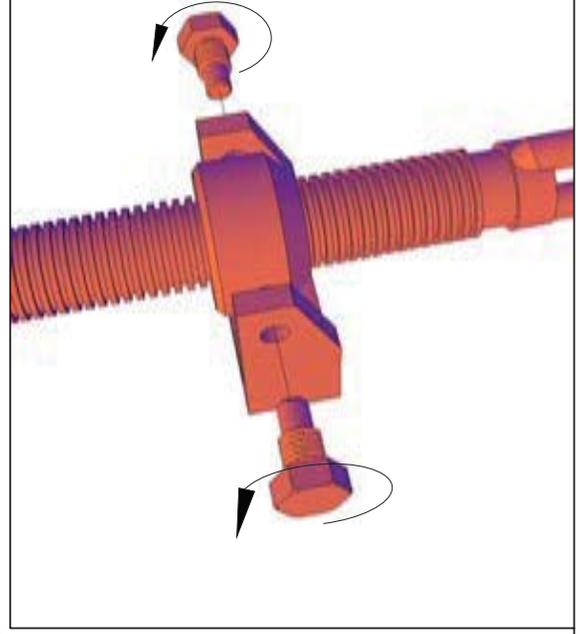


Installation Option 1:
Mount top of opener to
window with a screw

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.

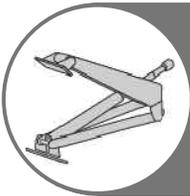


Next, hold the lower U-shaped mount up to the crossbar and mark the center of one hole. Using a 1/8" drill bit, drill the first hole, then screw the bracket on, check for level - then mark and drill the second hole. Slide the brass part of the opener over the bolt in the window channel. Use the supplied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

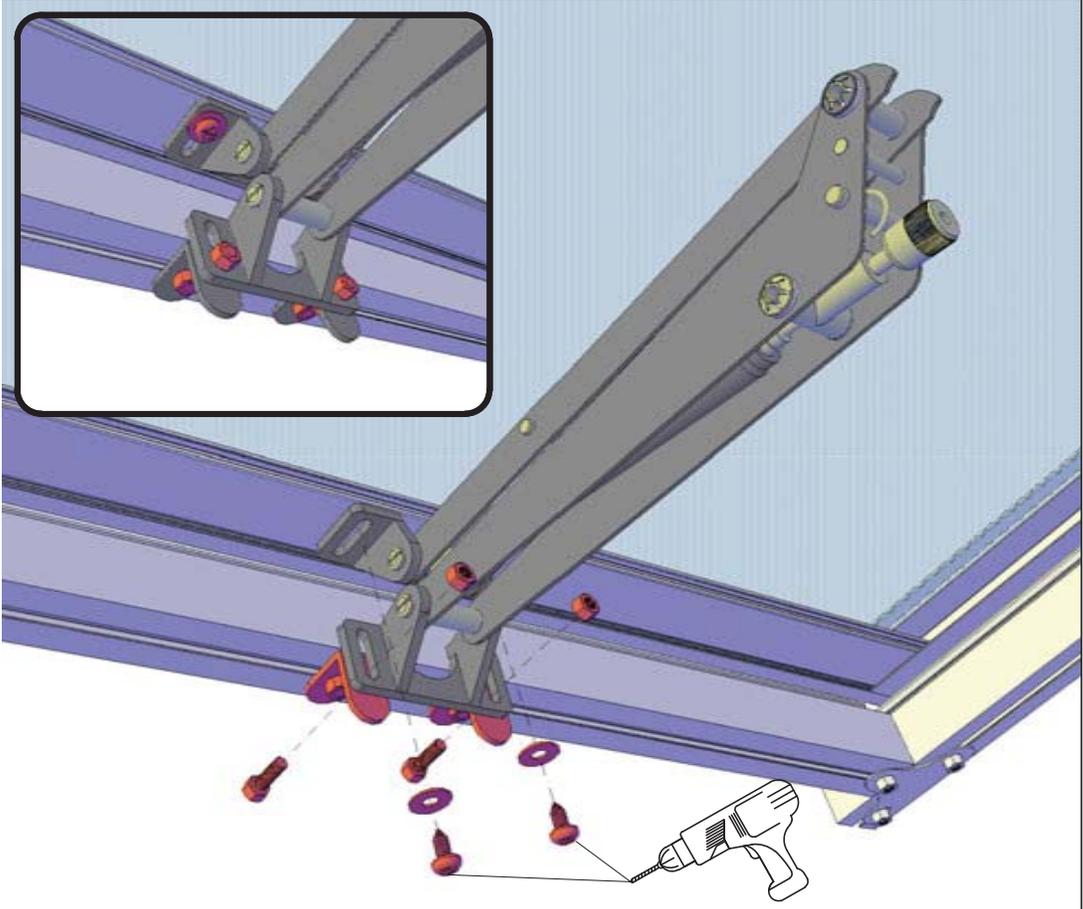
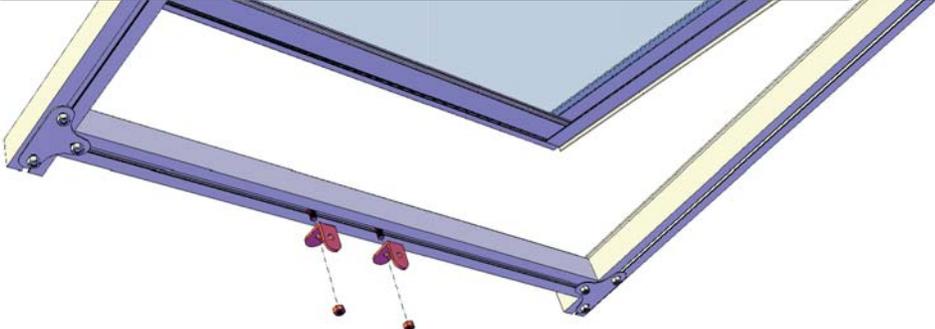


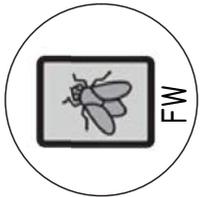
Optional Upgrade: High Wind Auto Opener

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

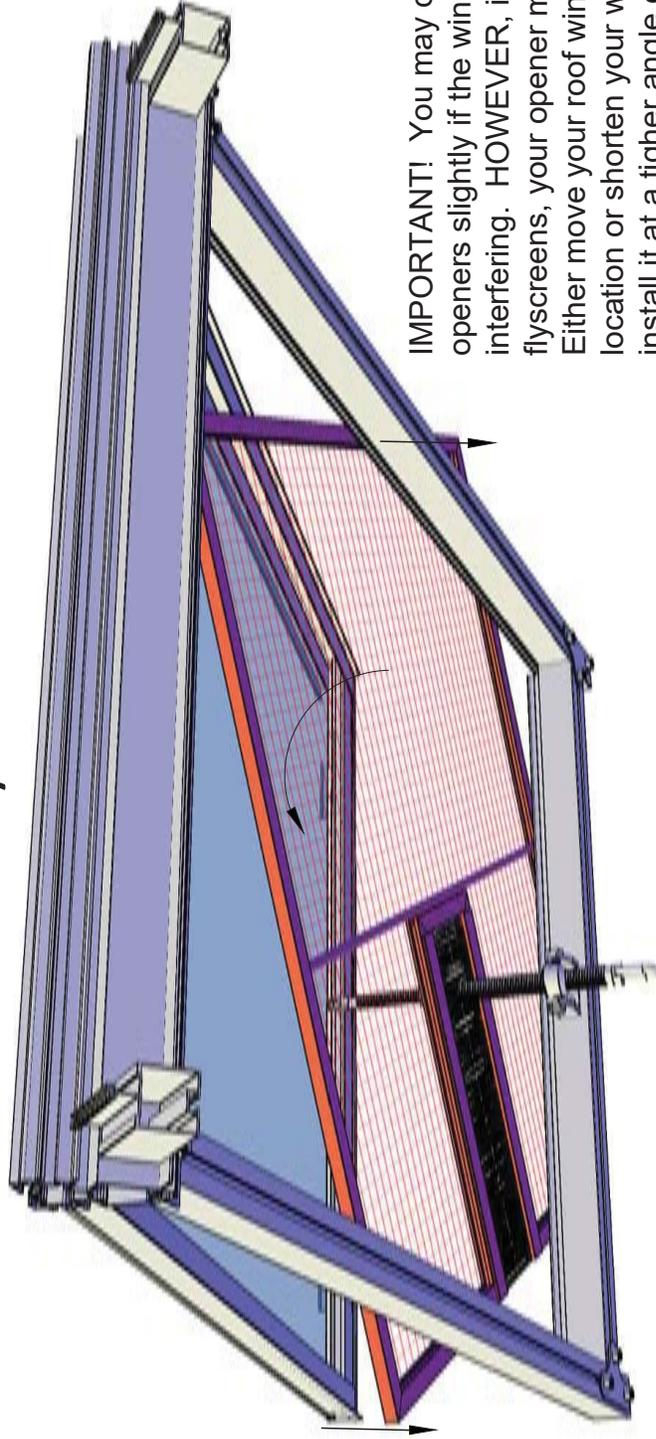


AO

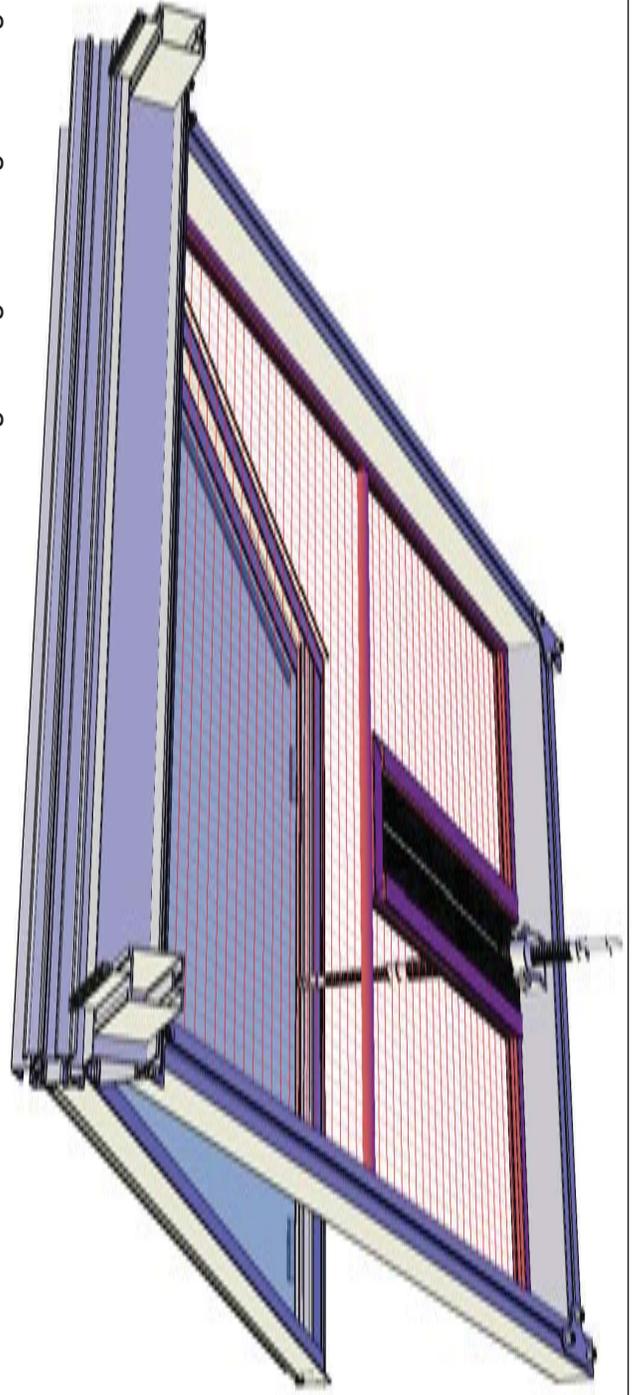




OPTIONAL UPGRADE: Fly screen for roof vent



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





Louvre Window - All Standard Royal models include one louvred window

LV

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

Numbers below refer to steps in the following pages

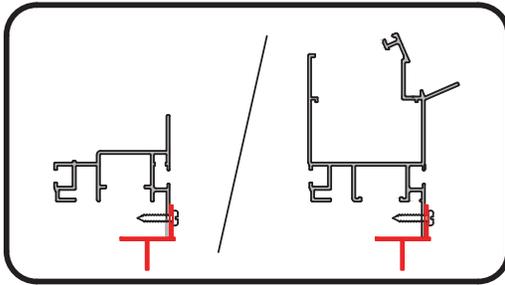


It is likely that your kit include an automatic opener (SESAM LIBERTY) for the louvre vent. Please refer to the Installation and Care manual packaged with the Sesam Liberty opener. You will need to remove the manual opener following the directions.

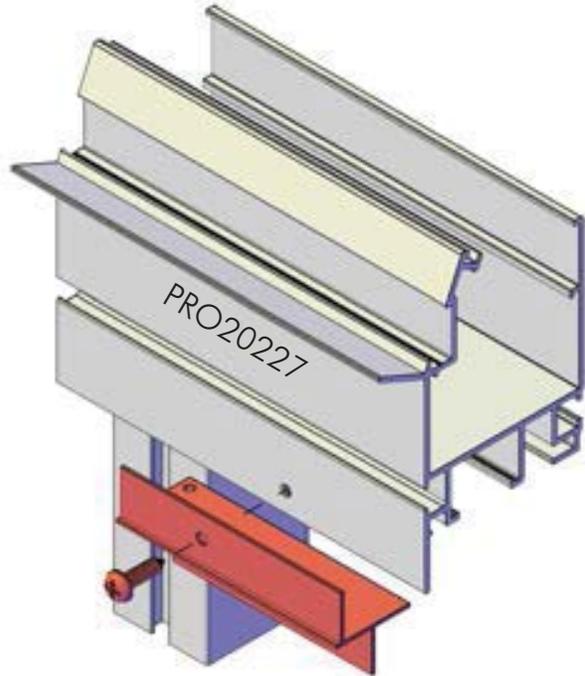
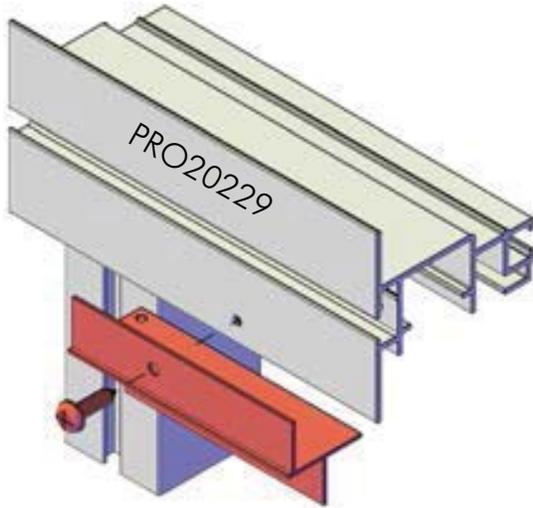
NOTE: Once the manual opener is removed, it can only be reattached with a bolt/nut - KEEP ALL PARTS.

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

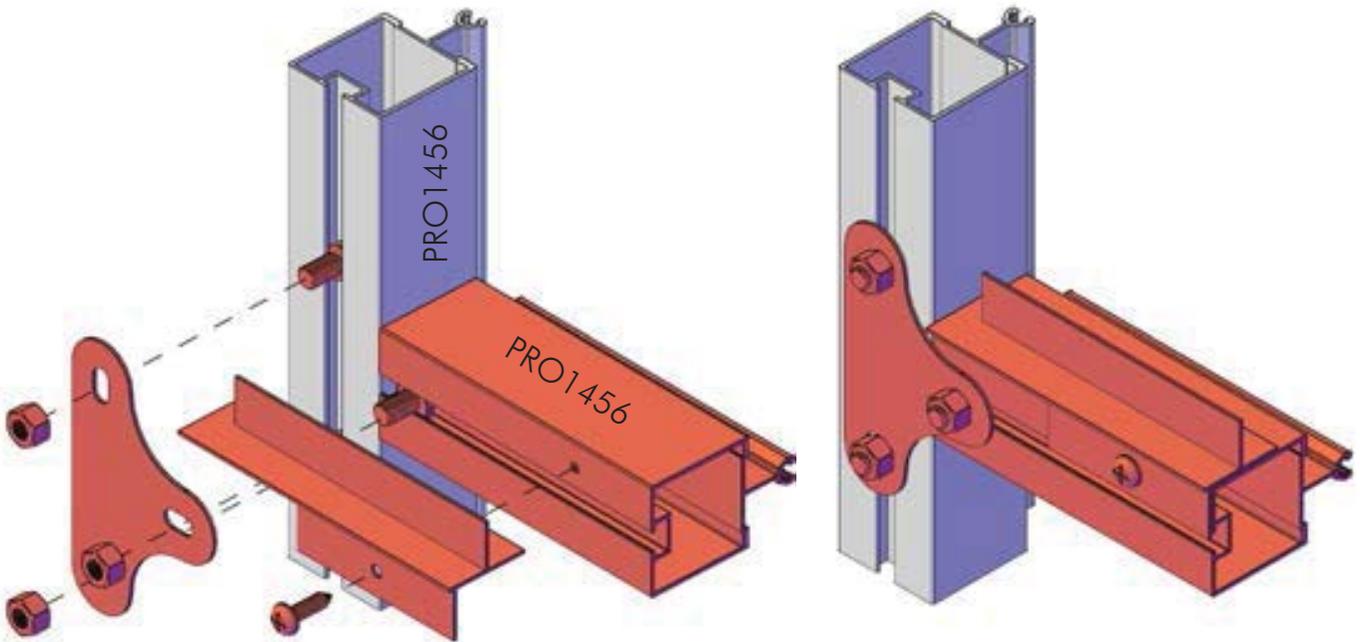
1



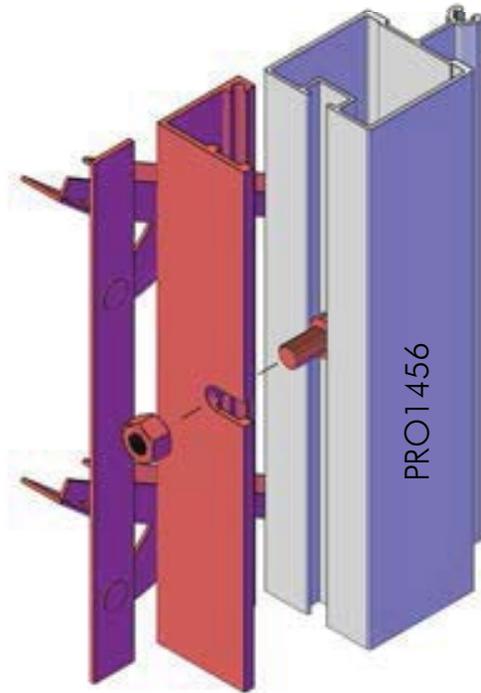
Louved window may be installed on sidewall (under gutter profile (PRO20227)) or on gable end (under horizontal gable profile (PRO20229)). Both are shown to the left and below. Two may be placed side by side but they must keep manual openers.



2



3

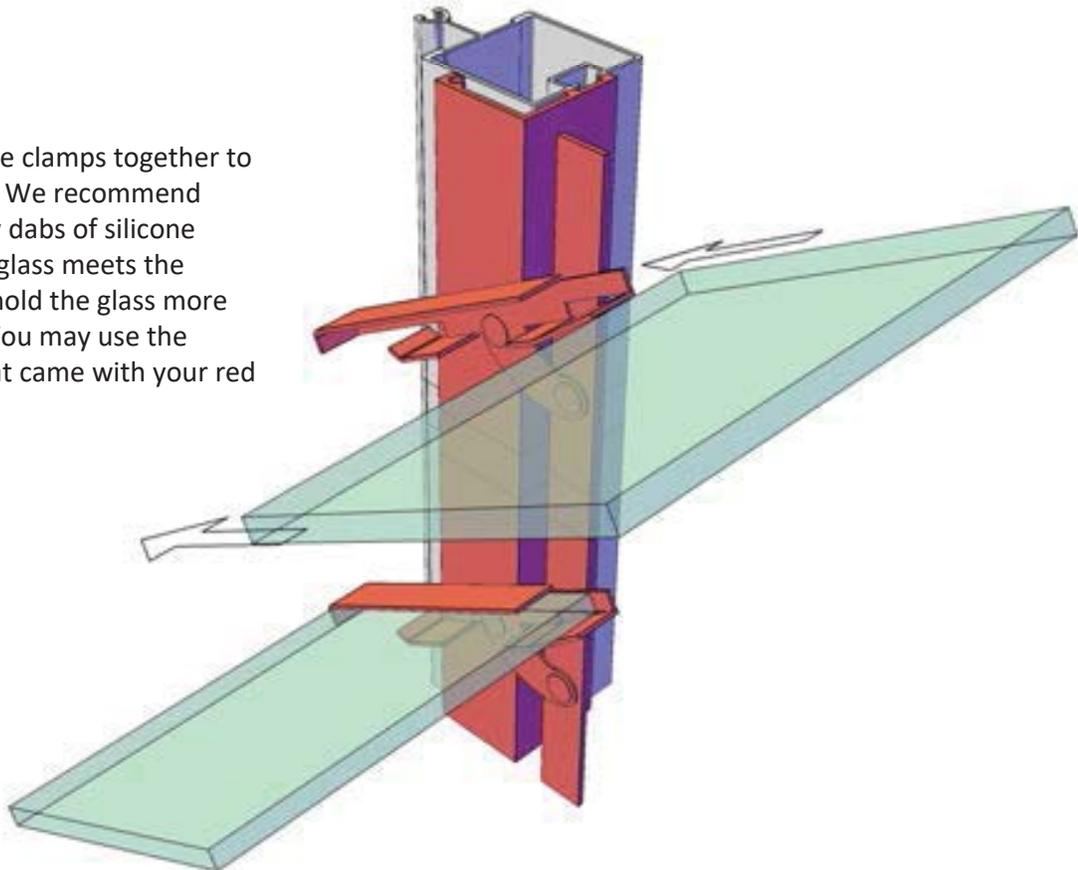


Insert a washer (not included) between black louvre frame and the greenhouse profile at all four bolt locations.

4X

4

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



Louver Window Cover

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

To install the Lexan panel:

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

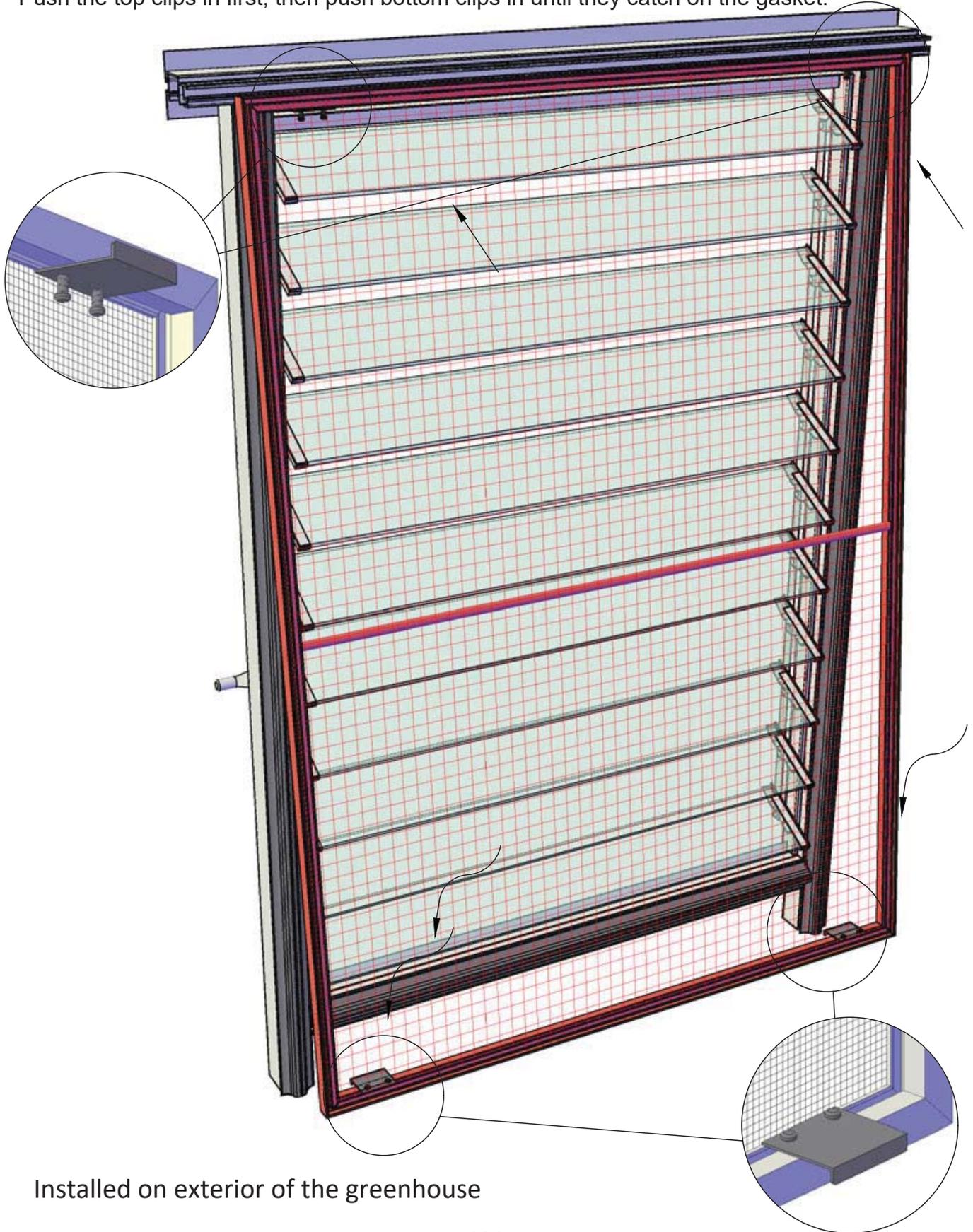




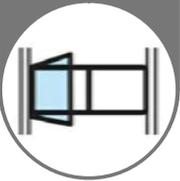
OPTIONAL UPGRADE: Louvered Window Fly Screen

FLV

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

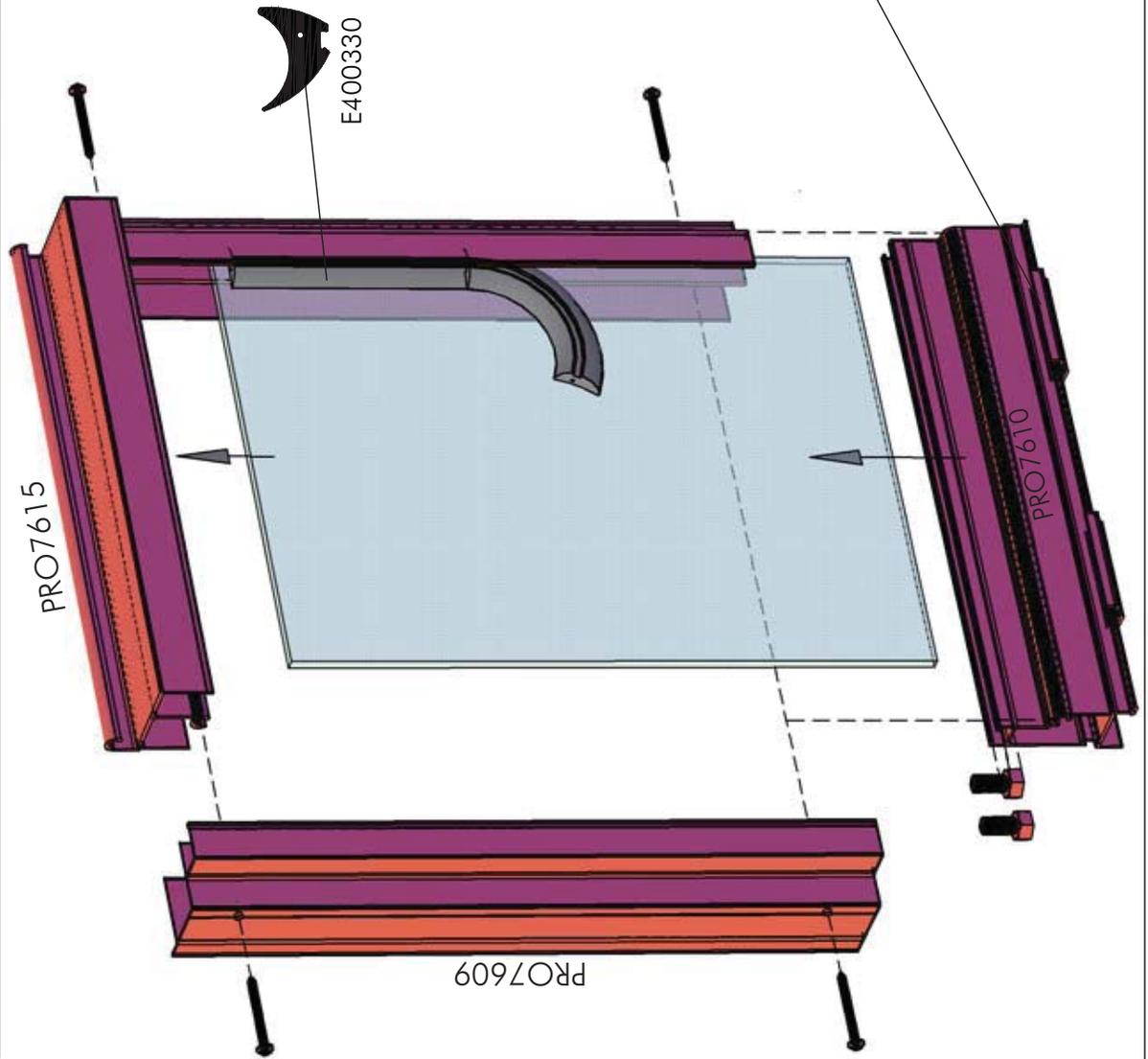
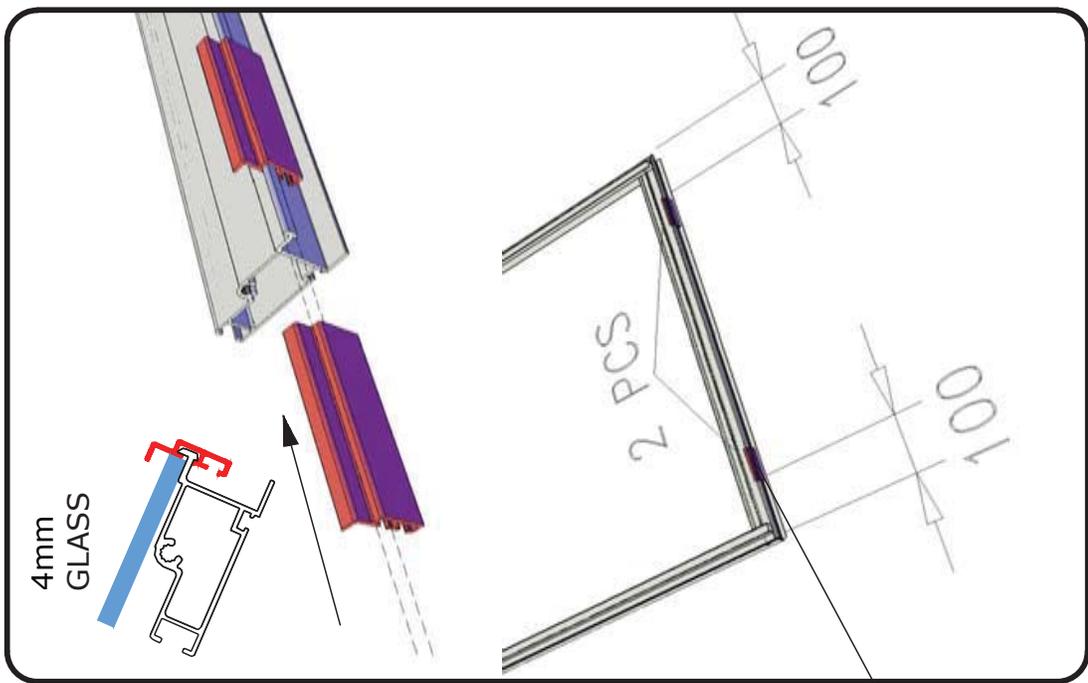


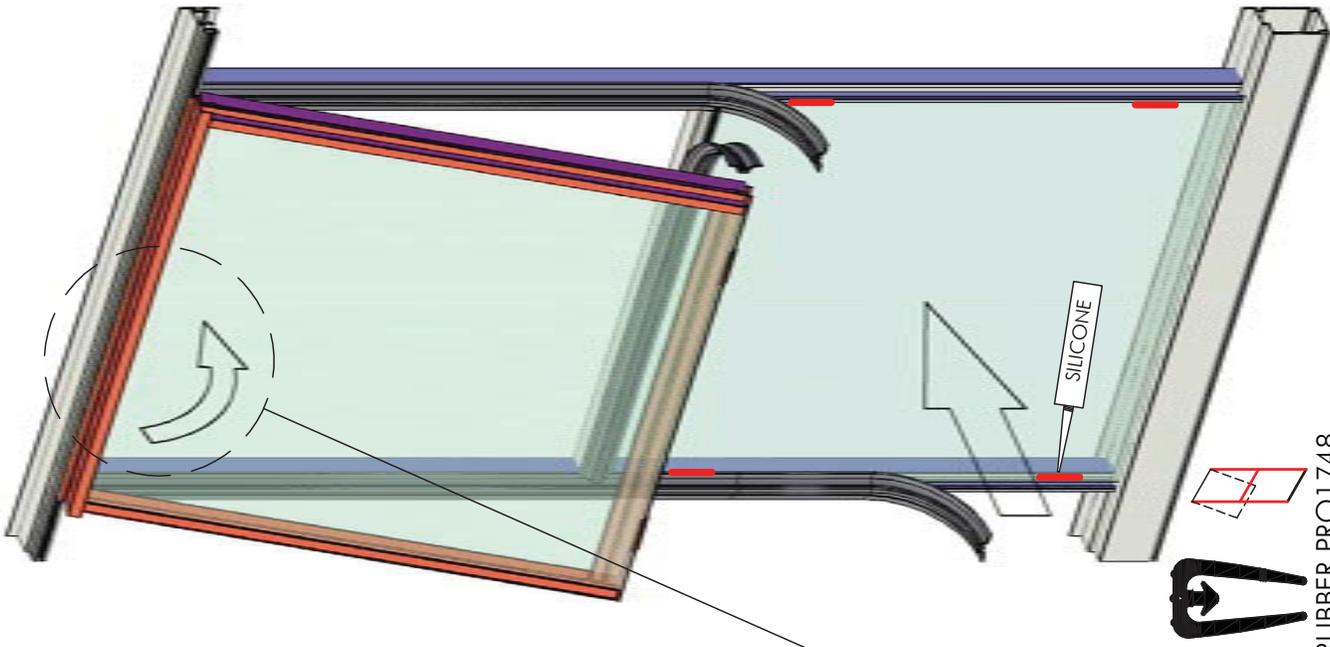
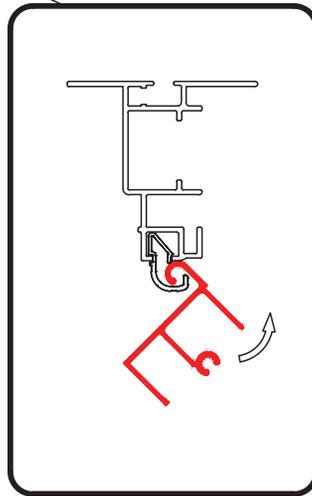
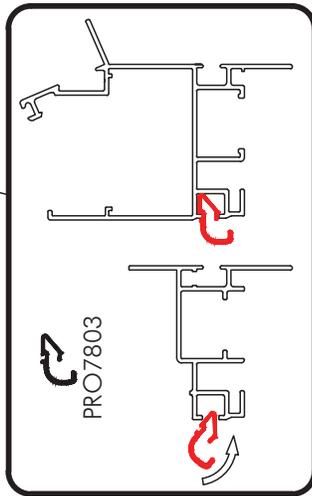
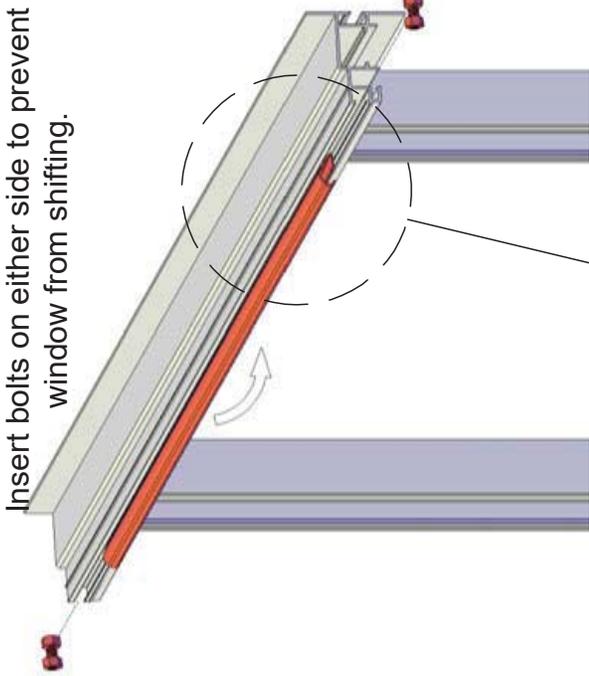
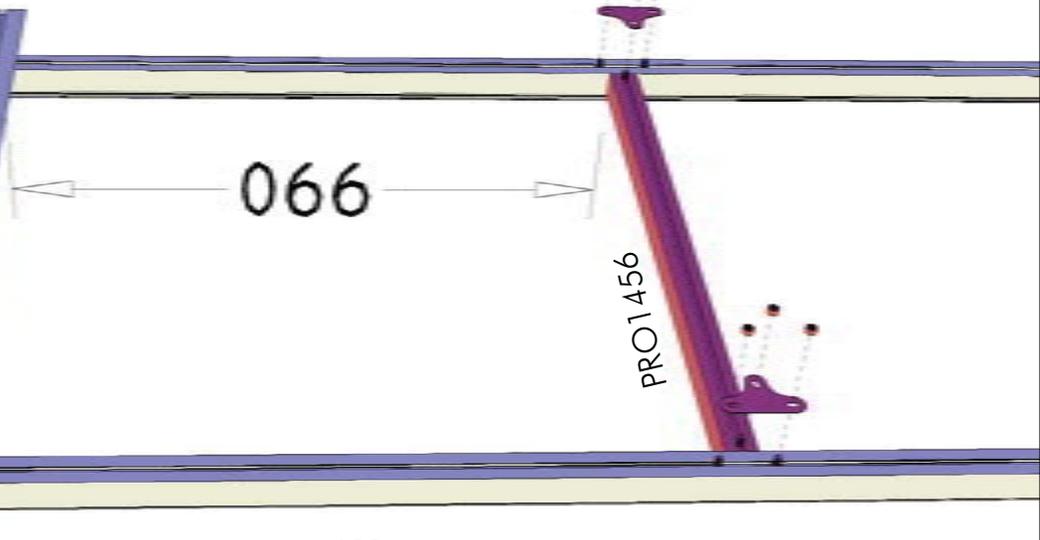
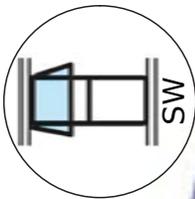
Installed on exterior of the greenhouse



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

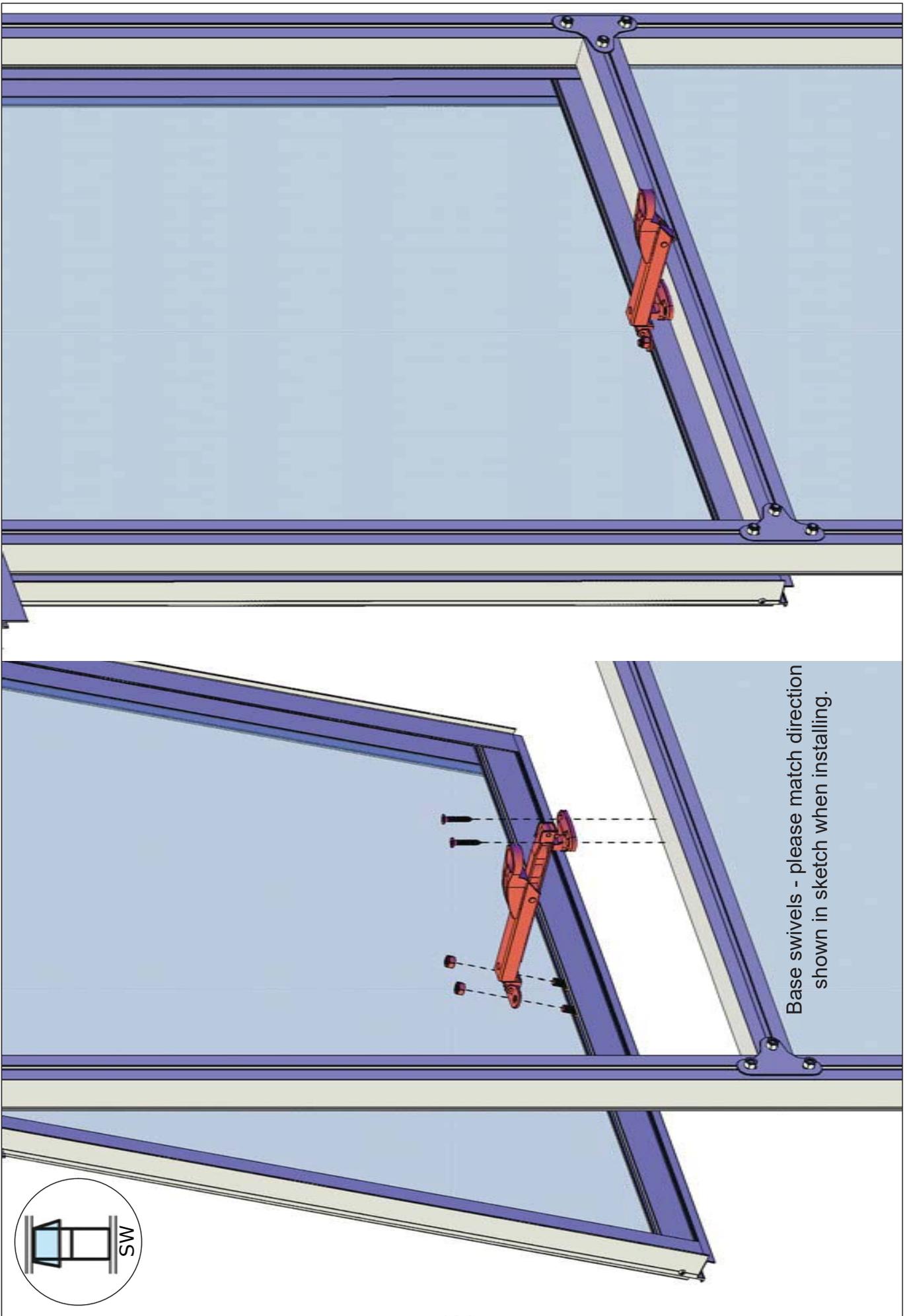
SW



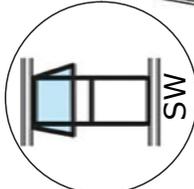


Slide window from end of PRO7803 to install

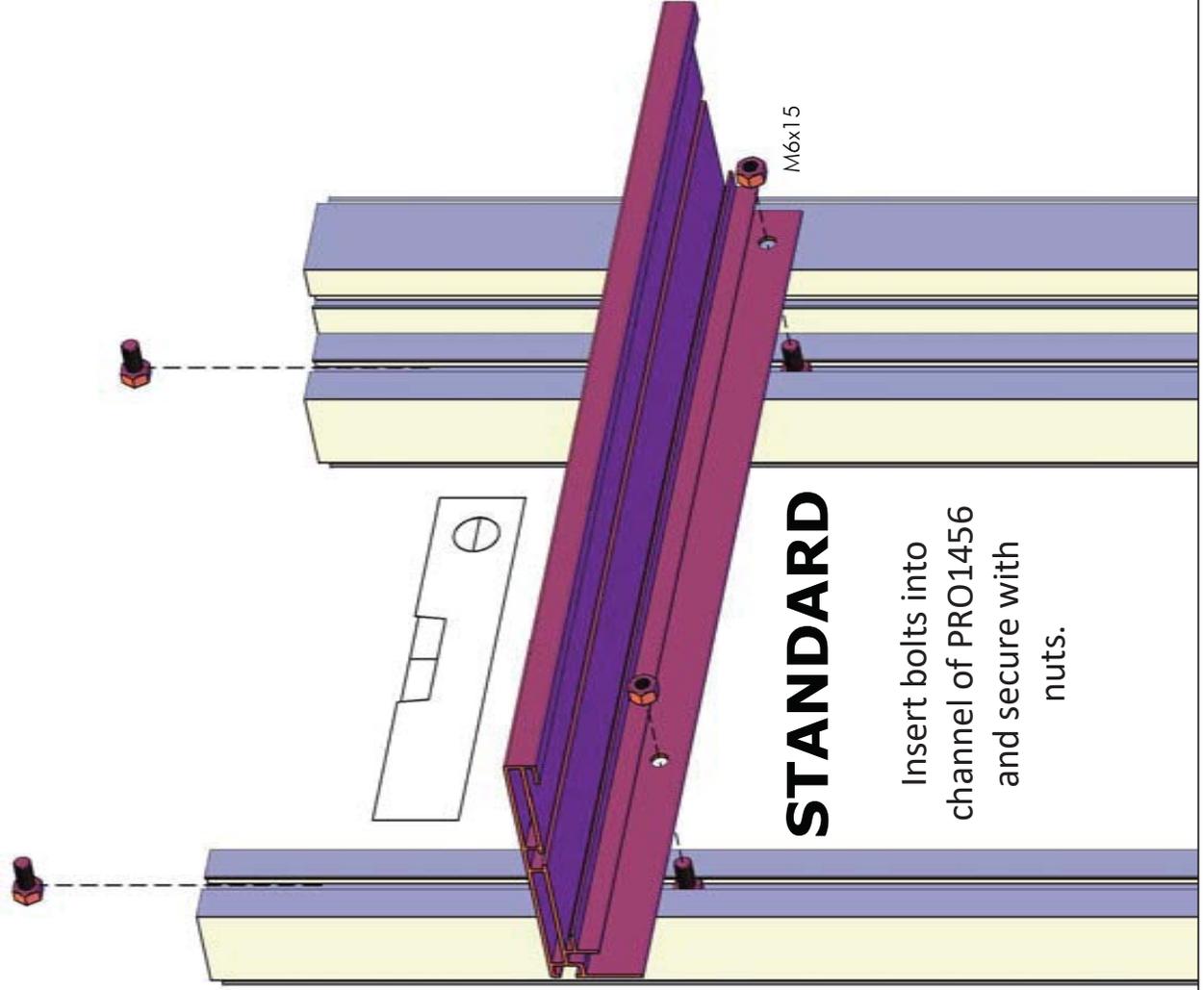
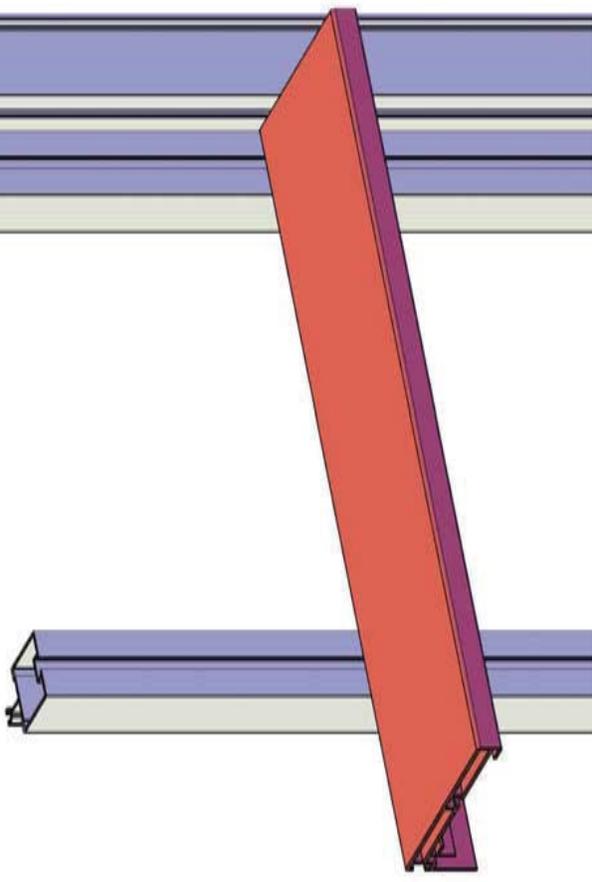
RUBBER PRO1748



Base swivels - please match direction shown in sketch when installing.

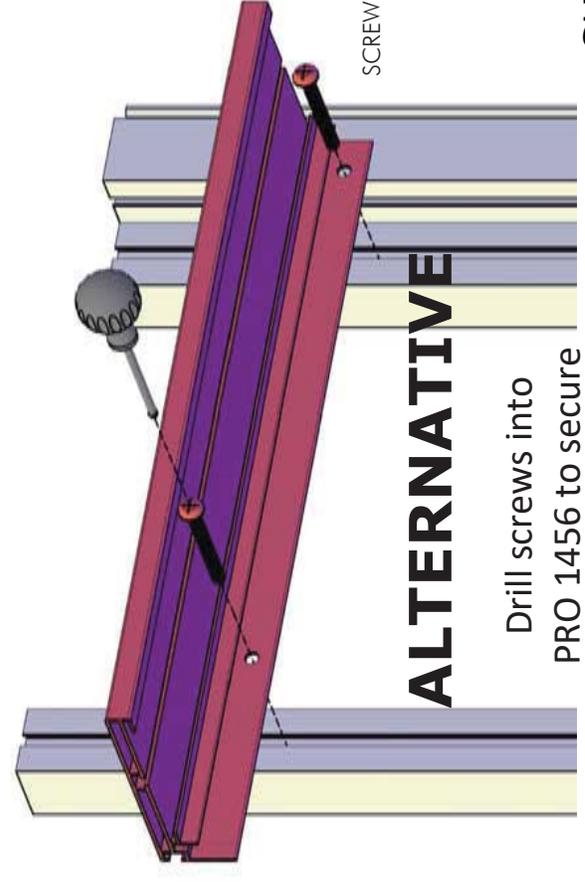


OPTION: Narrow Top Shelf - please check your order to see if this is included



STANDARD

Insert bolts into channel of PRO1456 and secure with nuts.

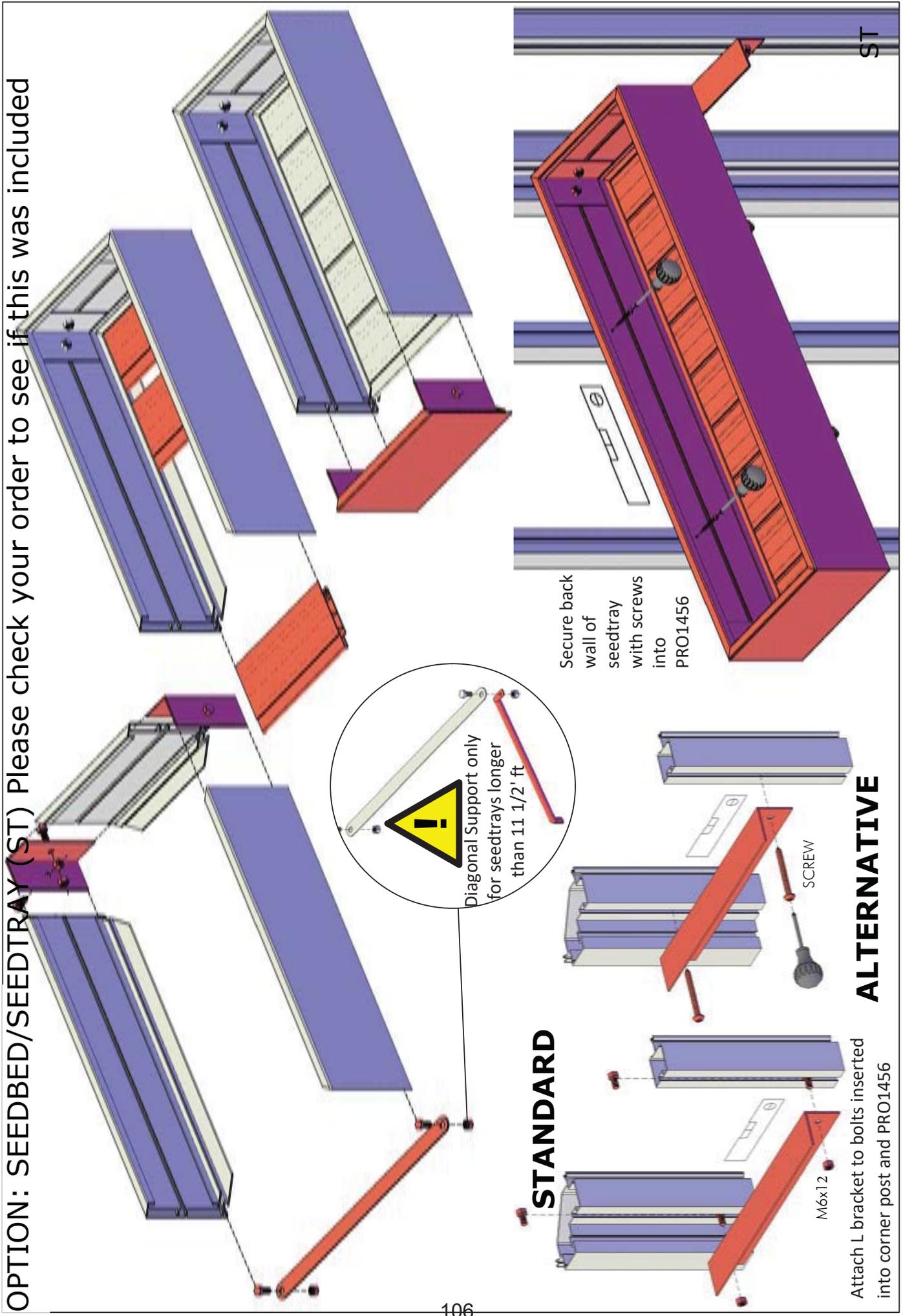


ALTERNATIVE

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

ALTERNATIVE

Secure back wall of seedtray with screws into PRO1456

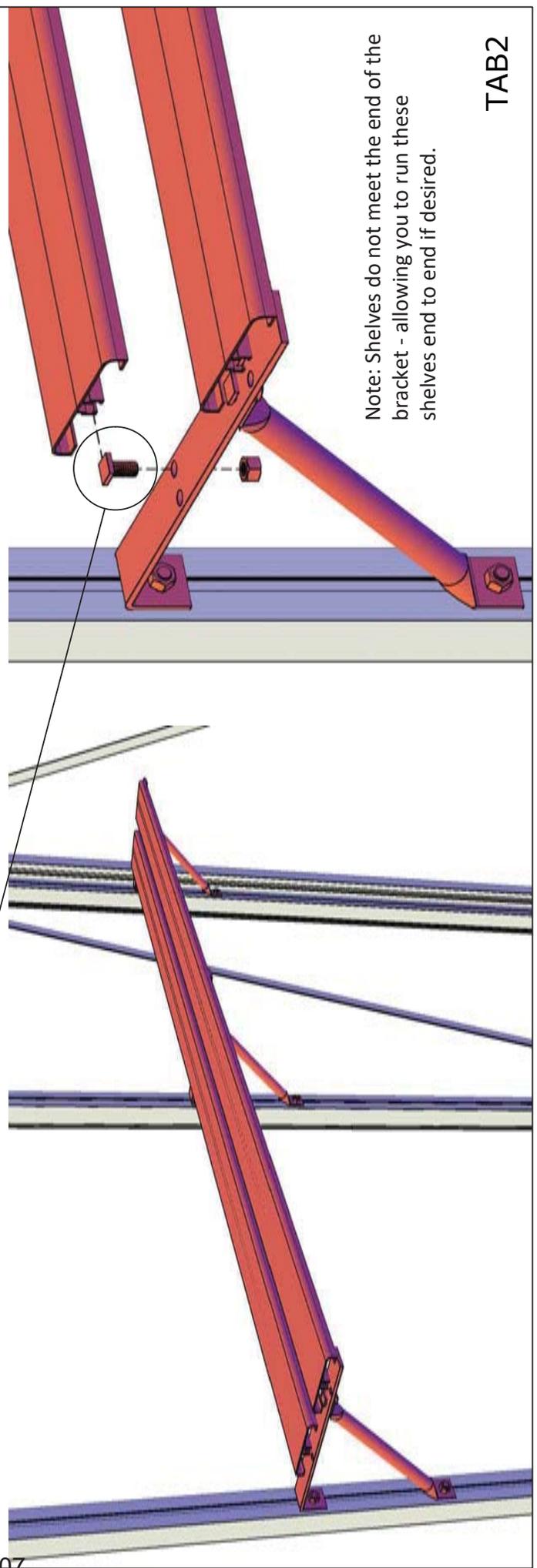
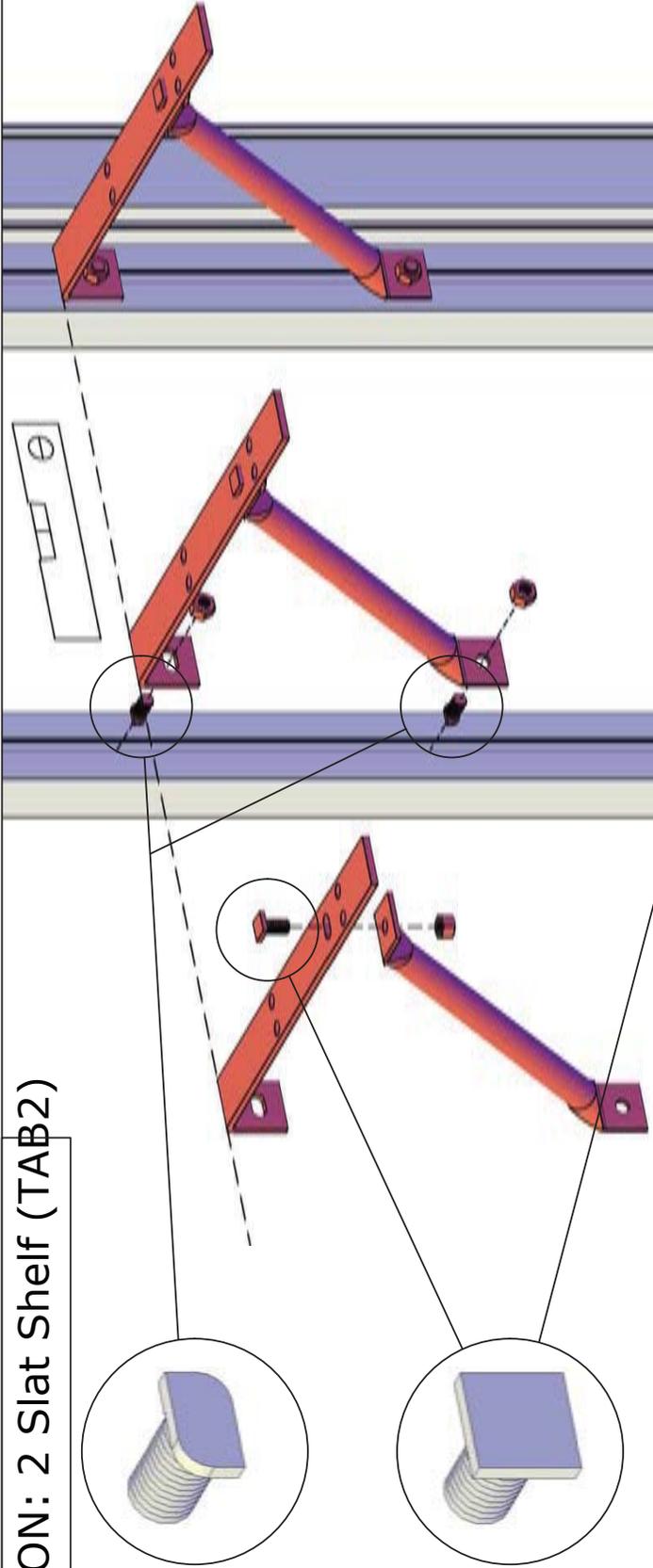
Attach L bracket to bolts inserted into corner post and PRO1456

SCREW

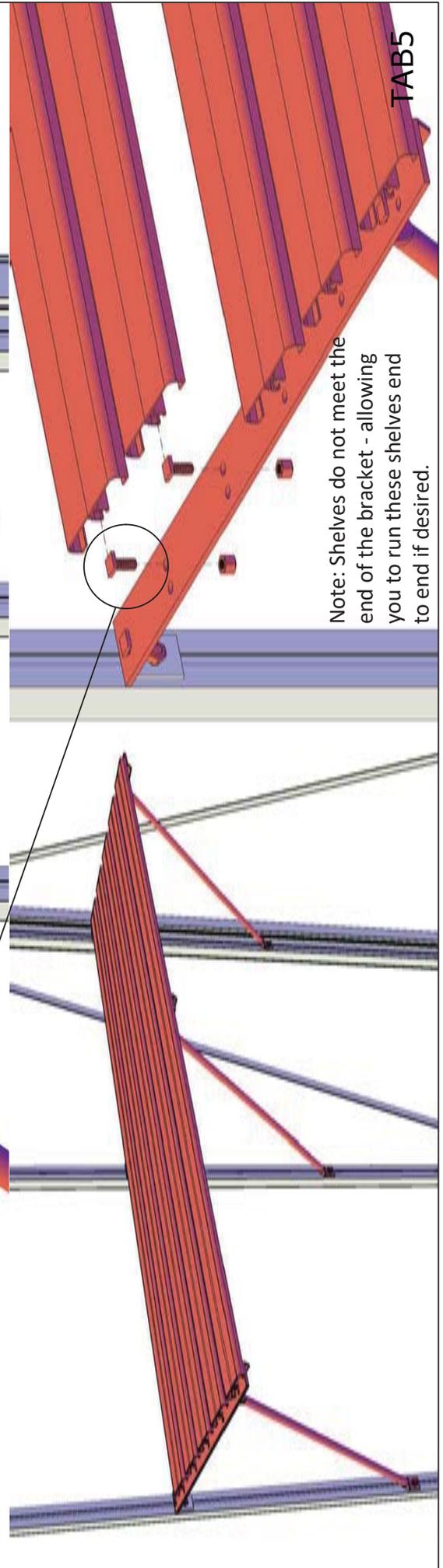
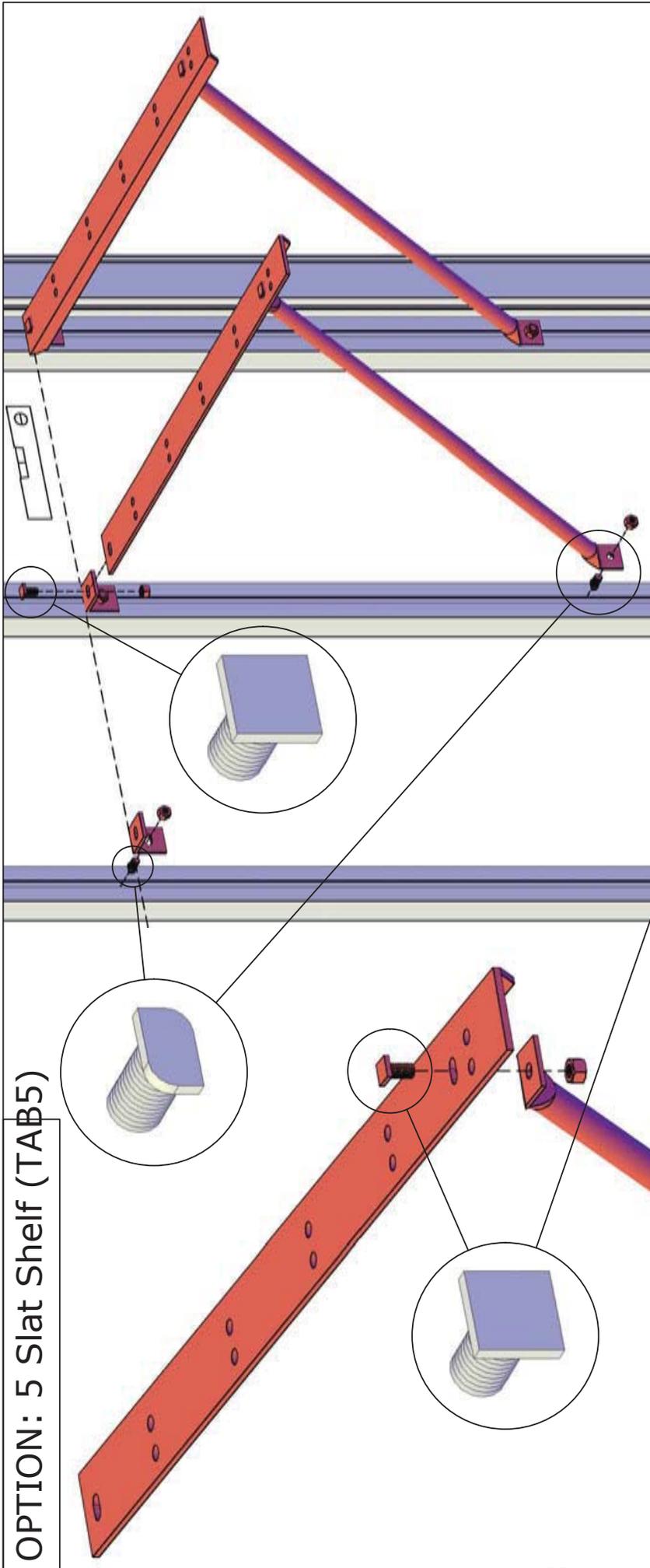
M6x12

ST

OPTION: 2 Slat Shelf (TAB2)



OPTION: 5 Slat Shelf (TAB5)



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

TAB5

OPTIONAL ACCESSORY: SHADECLOTH (2 additional pages to follow)

Inserting the curlicue hooks into the curtain: The curlicue hooks that insert into the curtain will go in every 6th loop in the white ribbon— look at the picture diagram to ensure you are inserting them in the correct direction so the curtain hangs well. Your curtains will have one looped ribbon running across the center (for the ridge) and 3 white looped ribbons on either side. If you have a VI23 you will use the ribbons closest to the center, the VI34 and 36 as well as the Royal Orangerie use the center ribbons. The VI46 will use the ribbons closest to the edge. Please note in the 10 ft long curtains there are 2” gaps located about 30” in from each edge along the center ridge ribbon, this is not a defect. These gaps are intentional to allow for misting system support hooks (as needed) and diagonal supports (VI 34/36/46). **Please note: if you have forgotten to insert any items during assembly, you may “notch” the channel with a ½” drill bit in an inconspicuous place. We can send a touch up paint pen if you need one.**

VI 23 (7’9” x 10’2”) - One shadecloth section (SUN236-300). The misting system is best hung from one bolt/hook at one end of the shadecloth and through the intentional gap at the other side. This allows for the curtain to be gathered around one of the hooks when not needed. Insert the following in this order:

- In ridge profile:
 - 1 bolt (for L bracket that connects at gable end)
 - Twist lock (optional)
 - 30 Sliding Eye Hooks
 - Twist lock (optional)
 - 1 bolt (for L bracket that connects at gable end)
- In each gutter profile:
 - 1 Twist lock (optional)
 - 30 Sliding Eye Hooks
 - 1 Twist lock

VI 34 (10’2” x 15’) - Has three separate curtains – (2) SUN310-73 (these smaller sections fit between each gable end and the diagonal support) and (1) SUN310-300 (placed in the longer middle section). The misting system is best hung from 2 bolts/hooks placed next to each diagonal support so the larger curtain moves freely in the middle. Insert the following in this order:

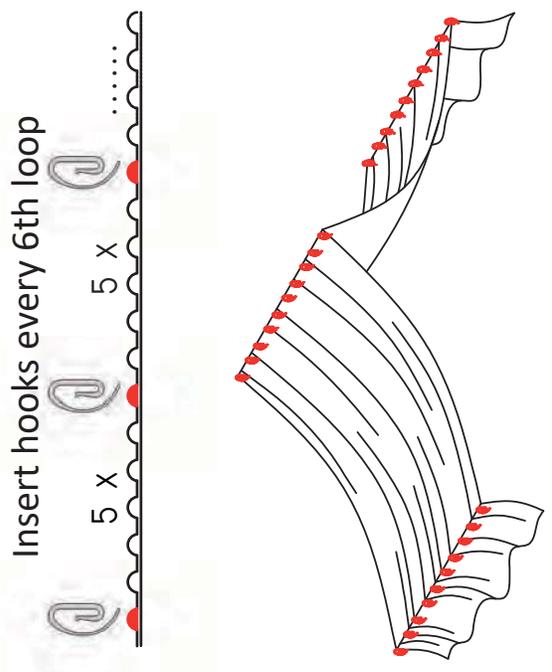
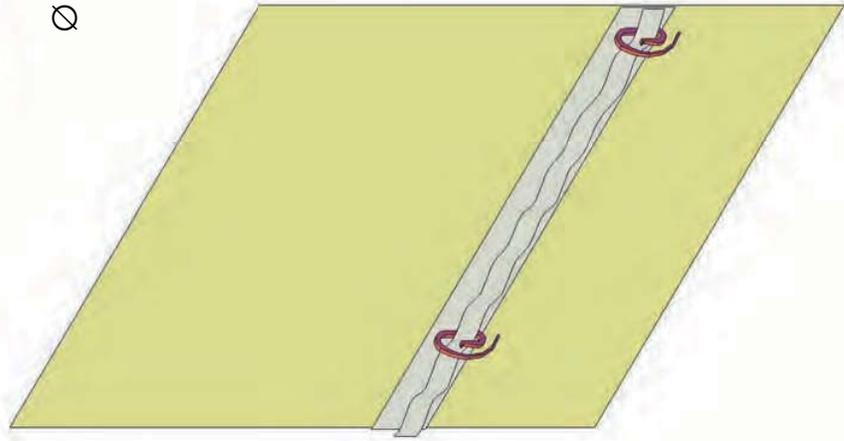
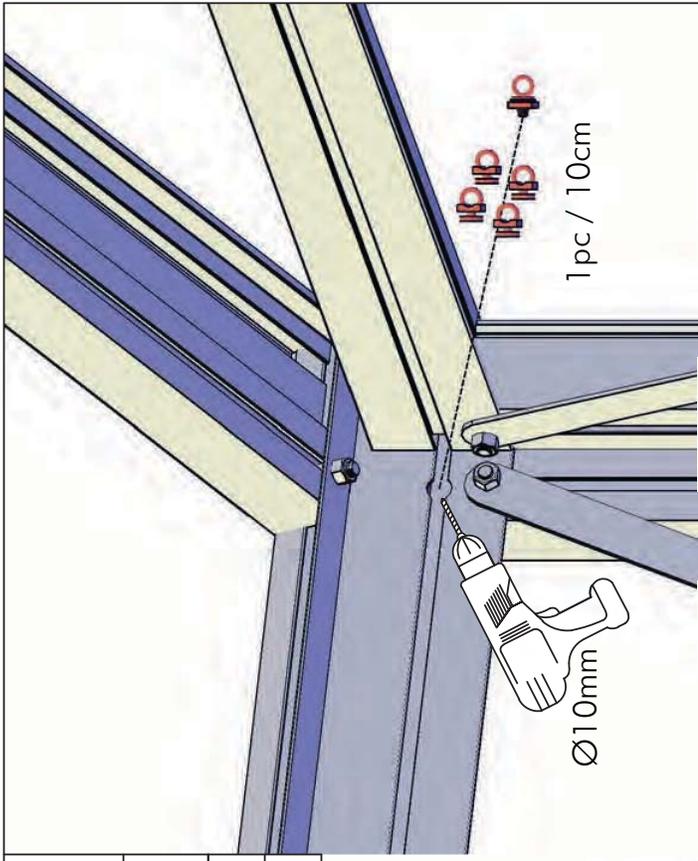
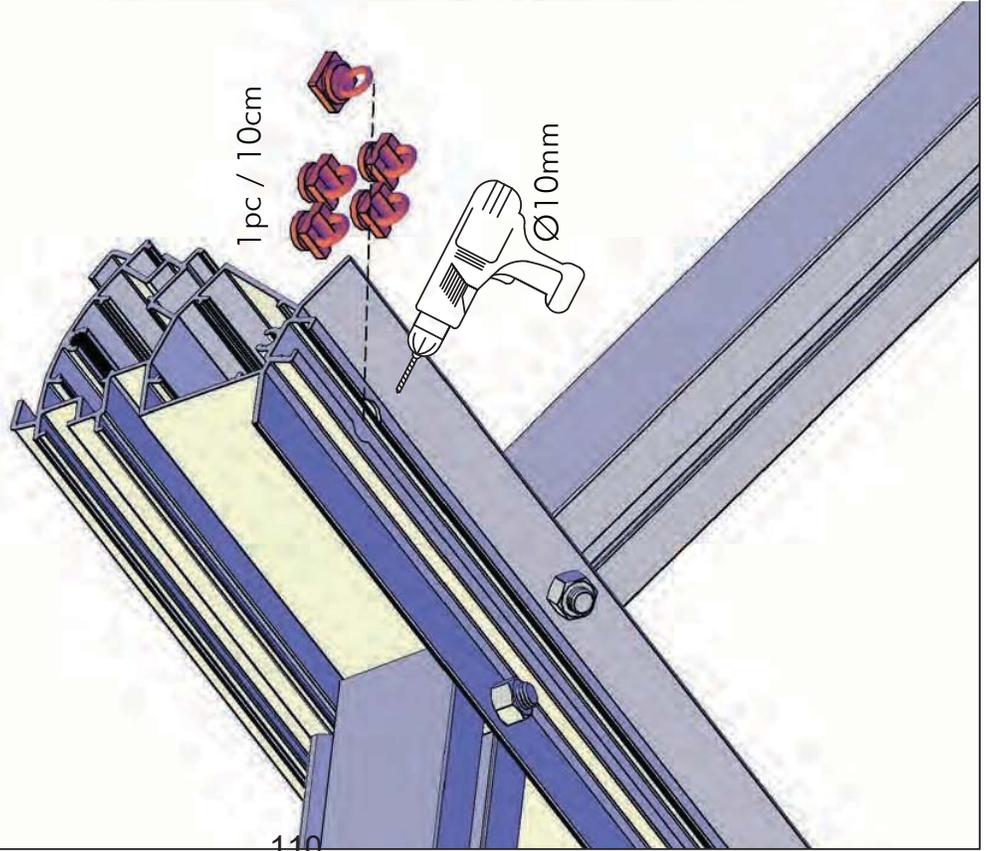
- In ridge profile:
 - 1 bolt (for L bracket that connects at gable end)
 - 9 Sliding Eye Hooks
 - 1 bolt for diagonal support
 - 1 bolt for hook for misting system
 - Twist lock (optional)
 - 30 Sliding Eye Hooks
 - Twist lock (optional)
 - 1 bolt for hook for misting system
 - 1 bolt for diagonal support
 - 9 Sliding Eye Hooks
 - 1 bolt (for L bracket that connects at gable end)
- In each gutter profile:
 - 1 Twist lock (optional)
 - 48 Sliding Eye Hooks
 - 1 Twist lock

VI 36 (10’2” x 19’11”) and VI 46 (12’7” x 19’11”) -Shade cloths are (2) SUN310-300. The diagonal supports at the gable ends will be inserted through the intentional gaps in the shadecloth. The misting system is best supported by (3) bolts/hooks: one by each of the diagonal supports and one in the center. The VI 36 and VI 46 have additional “scroll” supports that are placed across the gutter and ridge profiles in the middle of the greenhouse – there is no hardware inserted in these profiles for the supports, but they will be mentioned. Insert the following in this order:

- In ridge profile:
 - 1 bolt (for L bracket that connects at gable end)
 - 9 Sliding Eye Hooks
 - 1 bolt for diagonal support
 - 1 bolt for hook for misting system
 - 20 Sliding Eye Hooks
 - Twist lock (optional)
 - 1 bolt for hook for misting system
 - Space for “scroll” support
 - 1 Twist lock (optional)
 - 20 Sliding Eye Hooks
 - 1 bolt for hook for misting system
 - 1 bolt for diagonal support
 - 9 Sliding Eye Hooks
 - 1 bolt (for L bracket that connects at gable end)
- In each gutter profile:
 - 1 Twist lock (optional)
 - 30 Sliding Eye Hooks
 - Space for “scroll” support
 - 30 Sliding Eye Hooks
 - 1 Twist lock (optional)

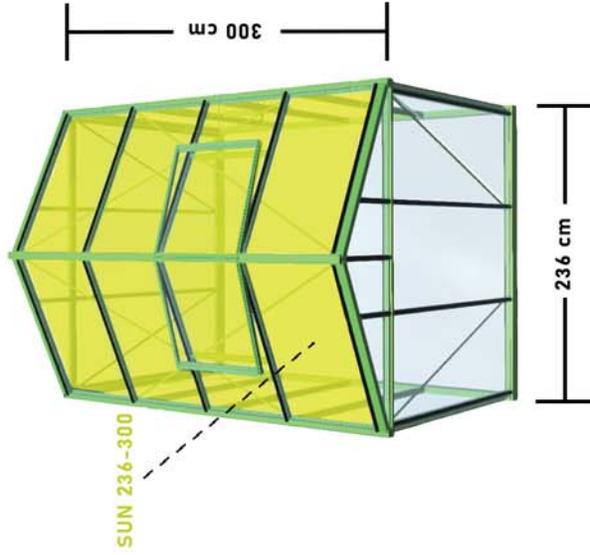
OPTION: Shadecloth (please see next page as well)

TYPE	SUN236_73	SUN310_73	SUN236_300	SUN310_300
	24 pcs	24 pcs	93 pcs	93 pcs
	24 pcs	24 pcs	93 pcs	93 pcs

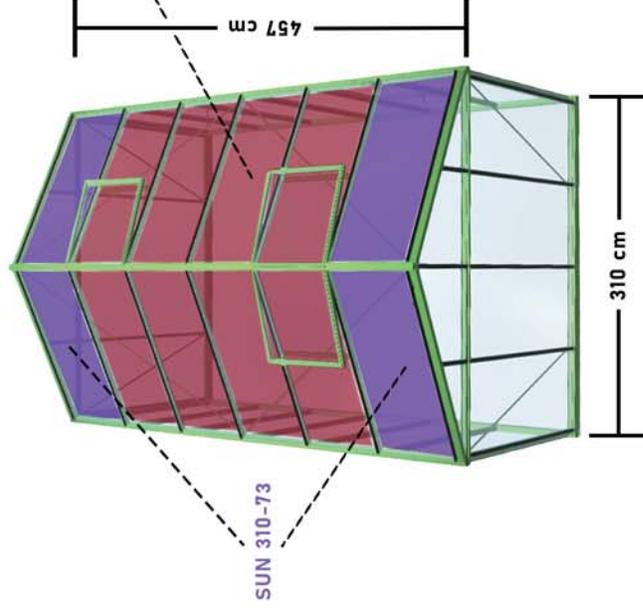


VICTORIAN CURTAIN GUIDE

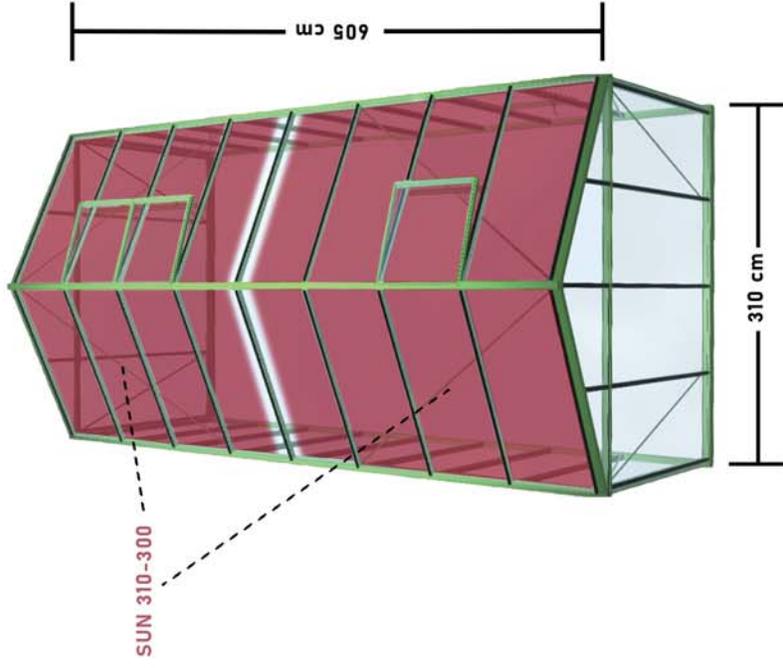
VI 23



VI 34



VI 36/46



VI 23: Is one shaded cloth section of **SUN236-300**

VI 34: Is one shaded cloth section of **SUN310-300** and two shaded cloth sections of **SUN310-73**

VI 36/46: Is two shaded cloth sections of **SUN310-300**

Misting System (If Equipped)

Vi23 Vi34/36
TYPE 310 458

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



Note: If curtains are going to be installed, the misting system should be hung with bolts as shown to the left. The hangers will need top be bent into position.
 If there are no curtains it can be hung by drilling holes and hooking the hangers through them.
 (Shown below)



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



INSTALLING AN EXHAUST FAN IN A VICTORIAN GREENHOUSE

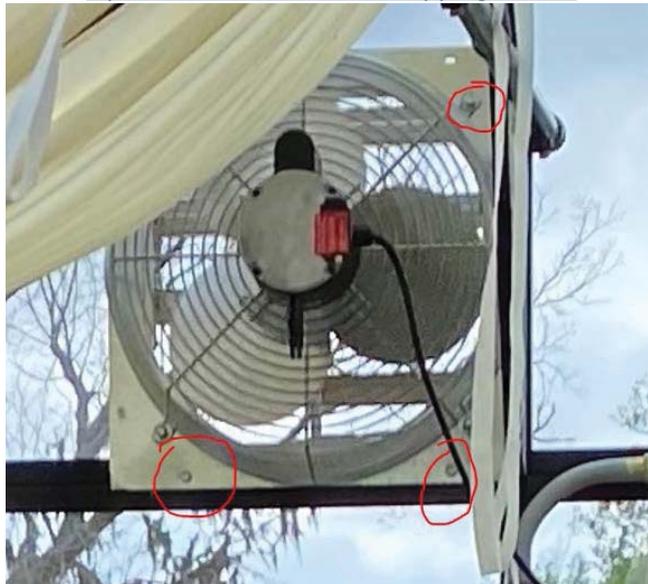
The exhaust fan in a Victorian Greenhouse should be installed up high in one of the gable ends of the greenhouse. If you happen to have polycarbonate walls on your Victorian, you may cut an opening in the polycarbonate to accommodate the fan. If you have glass glazing, we recommend replacing one of your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

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



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

Option 2: Attach with self-tapping screws



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

Additional Useful Accessories for Victorian Greenhouses:



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



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



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

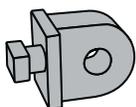


Metal Plant Hooks - Stainless Steel with a 2 3/4" J hook. They install in the channels with a T bolt. Come in a pack of 5.



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

TWIST_EYE



x50

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

Notes:



Customer Service or
Assembly Questions?

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

*Please watch our animated assembly
video on our Exaco Trading Co
YouTube Channel.
Find the link at www.exaco.com*

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