

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).

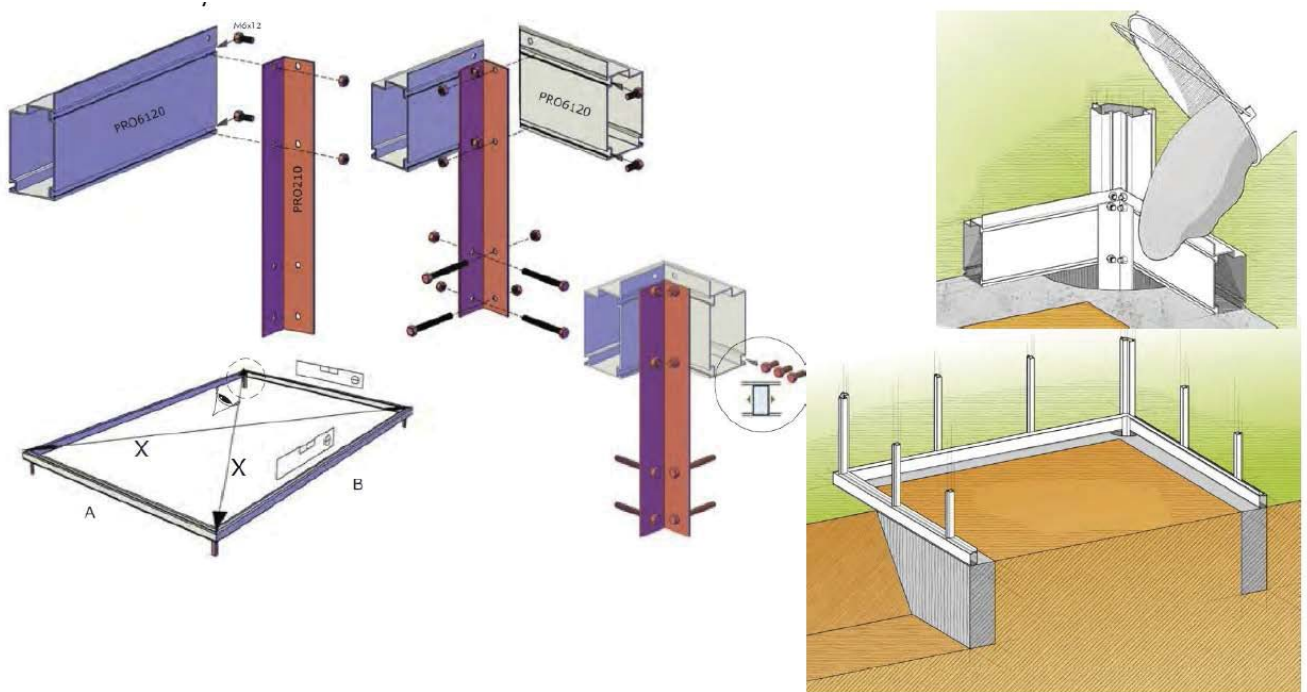
If a permit is needed in your area, we do have structural certification letters and permit sets for most of our greenhouses. They are Texas stamped. We may be able to obtain other state stamped documents, however if you need them specific to your state, we do not cover this expense. Your local

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

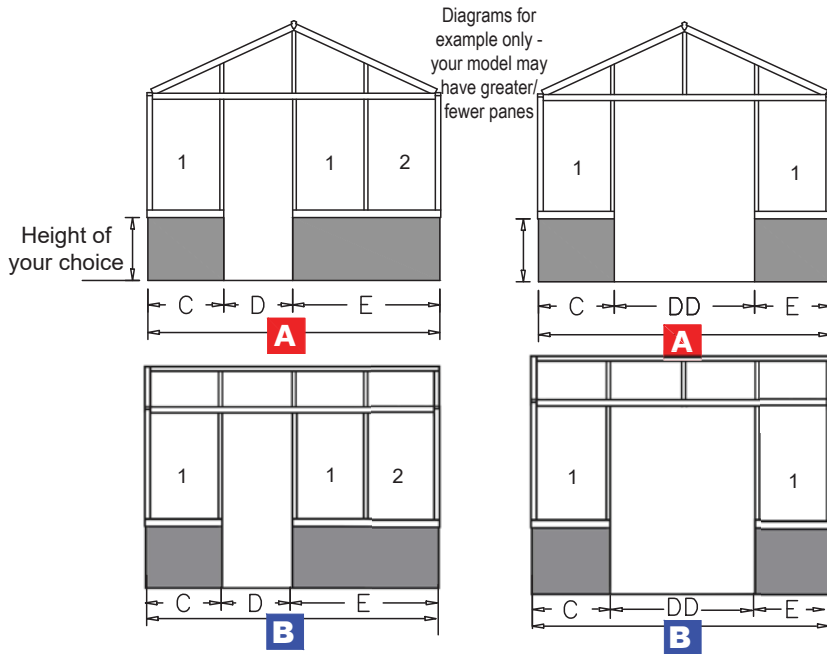
VIDEO: <https://youtu.be/3W62iOgLVG4?t=59> (may be found at minute 0:59 in the Exaco animated assembly video).

#### 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: Building a stem wall for your greenhouse

(Door extension kit is required)

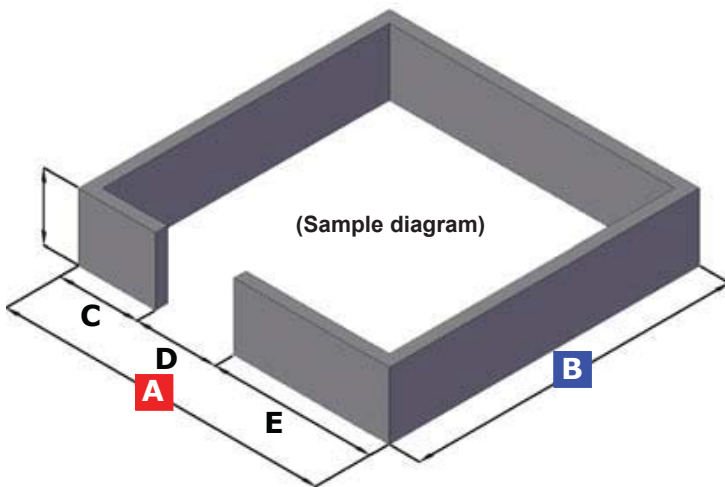


- A** = Gable end length if placing door on gable
- B** = Side length if placing door on long side
- C** = Measurement to left of door based on # of glass panes - see diagrams in intro for your greenhouse if unsure
- D** = Rough opening for SINGLE door
- DD** = Rough opening for DOUBLE door
- E** = Measurement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

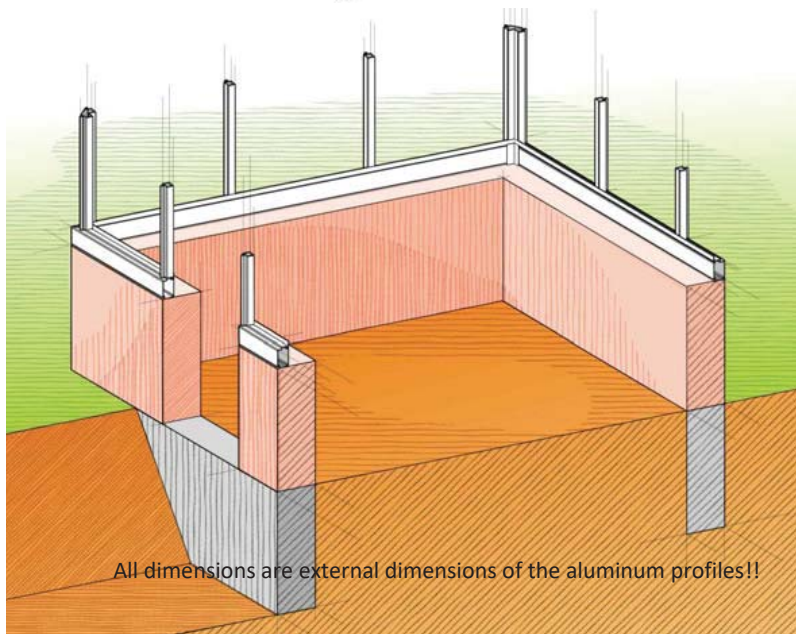
**A OR B = C + D(OR DD) + E!!!!**



<b>A</b>	(gable) = 2360   3098   3836
<b>B</b>	(side) = 2360   3098   3836 4574   5312   6050
<b>C</b>	= 1 pane = 829 2 panes = 1567 3 panes = 2305 4 panes = 3043
<b>D</b>	= 703 ( <b>DD</b> = 1441)
<b>E</b>	= 1 pane = 829 2 panes = 1567 3 panes = 2305 4 panes = 3043
<b>A OR B = C + D(D) + E !!!</b>	

### Notes about stem walls:

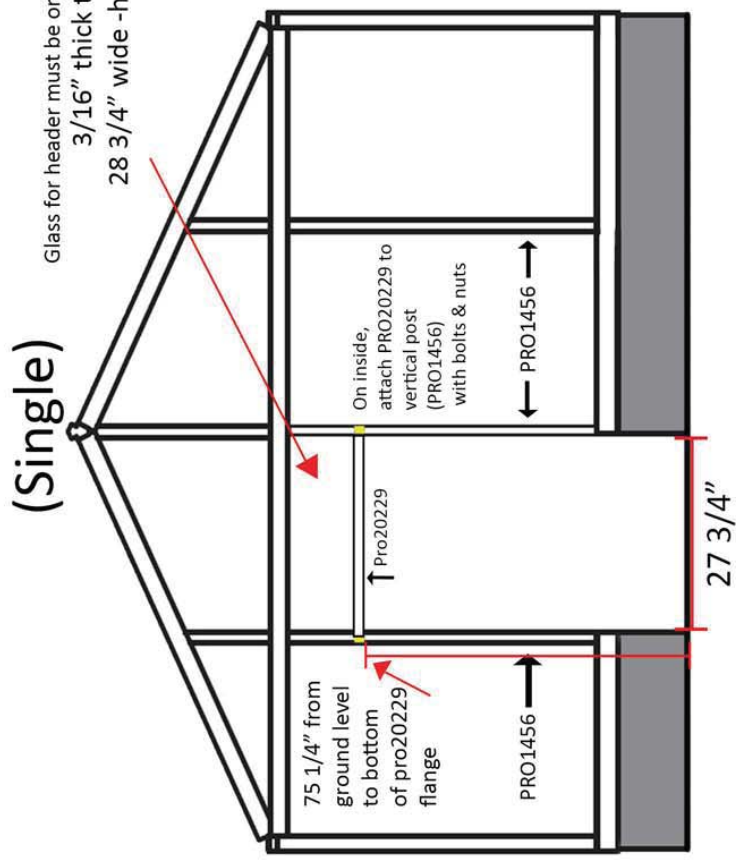
- Read notes on previous and following pages to understand anchoring options, and measurements of frame for thickness of your wall.
- Please also see additional notes under "Drop Door Kits for building on a knee stem wall" in the introductory section.
- Your doorway may be placed on the gable end or 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

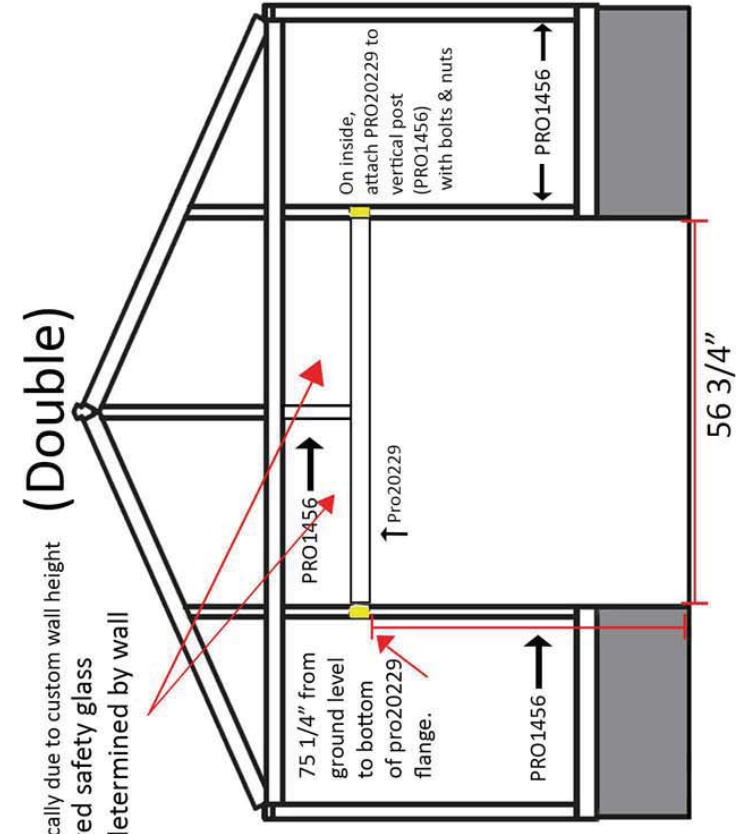
Can be installed on long or short gable end of greenhouse



-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