



GrowSpan[™] Lean-To Cold Frame



Photo may show a different but similar model.

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WARNING: Cancer and Reproductive Toxicity - P65Warnings.ca.gov

STK#	DIMENSIONS
103975	8' W x 10' L
103976	8' W x 20' L
103977	8' W x 30' L
103978	8' W x 40' L
103979	8' W x 50' L
103980	8' W x 60' L

Revision date: 12.10.09



YOU MUST READ THIS DOCUMENT BEFORE YOU BEGIN TO ASSEMBLE THE SHELTER.

Thank you for purchasing this GrowSpan[™] Cold Frame. When properly assembled and maintained, this product will provide years of reliable service. These instructions include helpful hints and important information needed to safely assemble and properly maintain the cold frame. Please read these instructions **before** you begin.

If you have any questions during the assembly, contact Customer Service for assistance.

SAFETY PRECAUTIONS

- Wear eye protection.
- Wear head protection.
- Wear gloves when handling metal parts.
- Use a portable GFCI (Ground Fault Circuit Interrupter) when working with power tools and cords.
- Do not climb on the frame during or after construction.
- Do not occupy the structure during high winds, tornadoes, or hurricanes.
- Provide adequate ventilation if the structure is enclosed.
- Do not store hazardous materials in the structure.
- Provide proper ingress and egress to prevent entrapment.

LOCATION

Choosing the proper location is an important step before you begin to assemble the structure.

The following suggestions and precautions will help you determine whether your selected location is the best location.

- Never erect the structure under power lines.
- Identify whether underground cables and pipes are present *before* preparing the site or anchoring the structure.
- Location should be away from structures that could cause snow to drift on or around the building.
- Do not position the structure where large loads such as snow and ice, large tree branches, or other overhead obstacles could fall.

SITE

After choosing a location, proper preparation of the site is essential. Follow the information below.

- *A level site is required.* The site must be level to properly and safely erect and anchor the structure.
- **Drainage:** Water draining off the structure and from areas surrounding the site should drain away from the site to prevent damage to the site, the structure, and contents of the structure.

⚠️ WARNING: The individuals assembling this structure are responsible for designing and furnishing all temporary bracing, shoring and support needed during the assembly process. For safety reasons, those who are not familiar with recognized construction methods and techniques must seek the help of a qualified contractor.

ASSEMBLY PROCEDURE

Following the instructions as presented will help ensure the proper assembly of your structure. Failing to follow these steps may result in an improperly assembled and anchored structure and will void all warranty and protection the owner is entitled to.

The steps outlining the assembly process are as follows:

1. Verify that all parts are included in the shipment. Notify Customer Service for questions or concerns.
2. Read these instructions, and all additional documentation included with the shipment **before** you begin assembling the structure.
3. Gather the tools, bracing, ladders (or lifts), and assistance needed to assemble the structure.
4. Check the weather **before** you install the roof cover and any panels (if equipped). Do not install covers or panels on a windy or stormy day.
5. Re-evaluate the location and site based on the information and precautions presented in the documentation included with the shipment.
6. Prepare the site (if applicable).
7. Assemble the frame components in the order they are presented in these instructions.
8. Assemble the frame struts (if equipped).
9. Consult the MUST READ document and properly anchor the assembled frame.
10. Install, tighten, and secure the end panel and main cover (if equipped). This applies to covers that stretch over the frame assembly. Your shelter may include roof panels or side panels or both.
11. Read the care and maintenance information at the end of these instructions.
12. Complete and return all warranty information as instructed.

LIST OF WORDS AND PHRASES

Before you begin, it is important to become familiar with the words and phrases used in this instruction manual.

These words and phrases are common to most GrowSpan™ shelters and identify the different parts of the shelter. (Some are used in this document. Others may not apply to this particular shelter.) These terms describe the shipped parts and can also be found on the materials list/spec sheets included with the shipment. To aid in the assembly, read through the following definitions before you begin to assemble your shelter.

- **Conduit:** An assembly of pipes used to secure the main cover and end panels (if equipped). Purlins and some strut assemblies also consist of connected pipes to form a conduit. Each pipe joint of a conduit assembly is secured with a self-tapping Tek screw.
- **Coupler or Fitting:** A part of the frame assembly where legs, purlins and rafter pipes are inserted and secured. In most instances, 3-way and 4-way couplers are used. In some larger applications, couplers are used to secure the joints of the different rafter sections during the assembly of the rafters. Some shelters do not use couplers.
- **Foot or Rafter Foot:** The part attached to and found at the base of the rafter or leg of the shelter. Depending on the shelter, the foot is an optional purchase. Some shelters do not offer an optional foot. Some use 1-way connectors or ground posts.
- **Must Read Document:** This document includes building and shelter anchoring instructions, steps for end wall reinforcement, safety precautions, and notices and warnings. The Must Read document is sent with all shelters and buildings. If you did not receive a Must Read document, contact Customer Service to request one.
- **On-Center:** Term used to describe a measurement taken from the vertical center of the rafter or frame member to the vertical center of another.
- **Purlin:** The pipe assembly that runs perpendicular to the rafters or framework that supports the main cover. Purlins are found on the sides and roof areas of the assembled frame, are evenly spaced, and typically run from the front to the back of the shelter.
- **Plain or Straight Pipe:** A term used to describe a pipe that has the same diameter or width throughout its entire length.
- **Strut:** A strut is usually a length of pipe with two flattened ends and is used for diagonal bracing of the shelter frame. A strut is typically secured to the frame work by special brackets and bolts.
- **Swaged End or Swaged Pipe:** The term "swaged" refers to the tapered end of the pipe or tube. Swaged ends of a pipe can be inserted into couplers and the straight ends of other pipes.
- **Tek Screw:** A self-tapping fastener used to secure pipe joints and to fasten brackets to rafters.

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REQUIRED TOOLS

The following list identifies the main tools needed to assemble the shelter. Additional tools and supports may be needed depending on the structure, location, and application.

- Tape measure or measuring device
- Variable speed drill and impact driver (cordless with extra batteries works best)
- Hex Key (Allen) Wrench
- Hammers and gloves
- Metal file
- Duct tape (supplied by customer)
- Scissors or utility knife
- Ladders, work platforms, and other machinery for lifting designed to work safely at the height of the frame



Space below is reserved for customer notes.

UNPACK AND IDENTIFY PARTS

The following steps will ensure that you have all the necessary parts before you begin to assemble the shelter frame.

1. Unpack the contents of the shipment and place where you can easily inventory the parts. Refer to the Bill of Materials/Spec Sheets.
2. Verify that all parts listed on the Bill of Materials/Spec Sheets are present. If anything is missing or you have questions, consult the Pictorial Parts Guide and all diagrams for clarification, or contact Customer Service.

NOTE: At this time, you do not need to open the plastic bags containing smaller parts such as fasteners or washers (if equipped).

QUICK START GUIDE

For an overview of this shelter and to see the main connection details, consult the diagrams in the Quick Start Guide located at the back of these instructions.

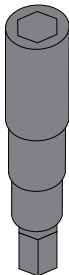


greenhouse structures

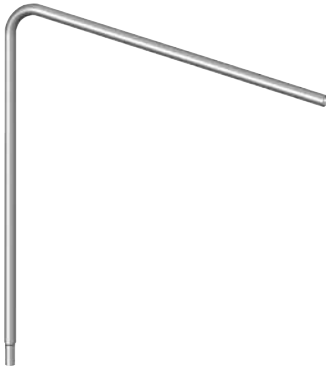
The following graphics and photos will help you identify the different parts. (Some parts are not shown.)



FA4482B
Tek Screw



100441
Nut Setter



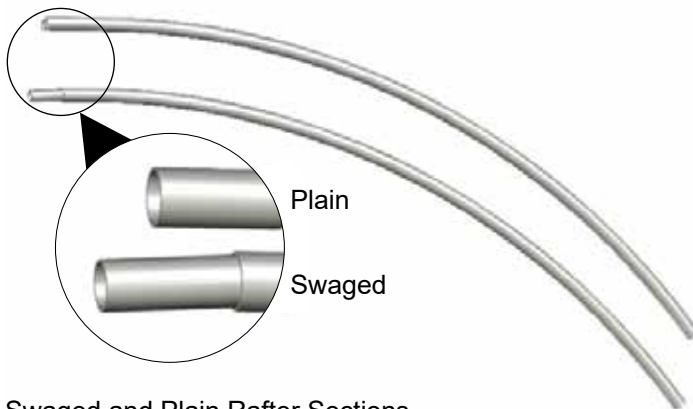
08LT1601
Rafter Pipe



08LT1602
Rafter Pipe



10016107
Combo Socket Tee



Swaged and Plain Rafter Sections

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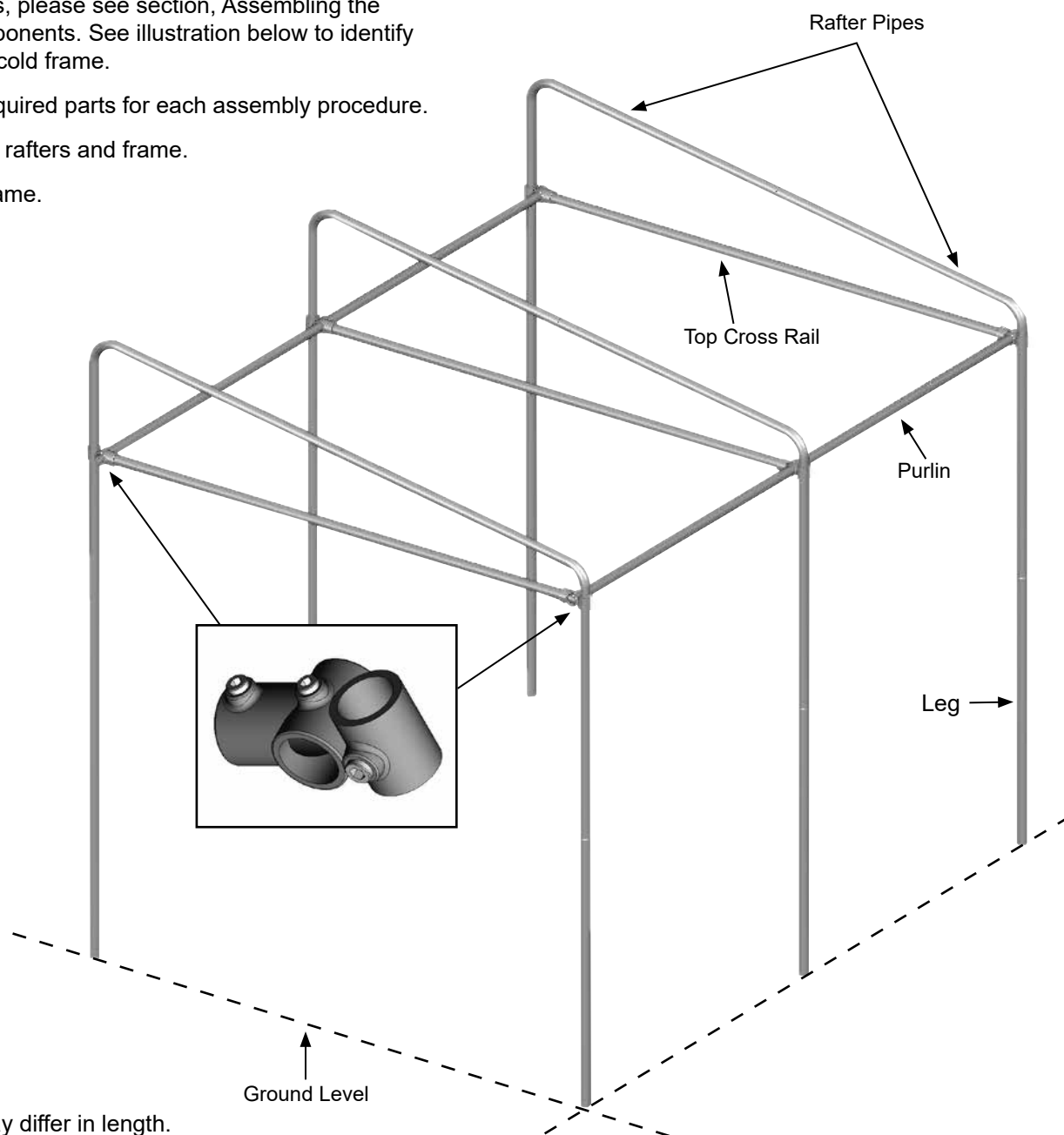


GrowSpan™ Lean-To Cold Frame

OVERVIEW

This section describes assembling your Lean-To Cold Frame. For details, please see section, Assembling the Cold Frame Components. See illustration below to identify main parts of the cold frame.

1. Locate the required parts for each assembly procedure.
2. Assemble the rafters and frame.
3. Anchor the frame.



Actual frame may differ in length.

LAY OUT THE BUILDING SITE

After the site is prepared, identify the location of the shelter corners to help square the frame after it is assembled.

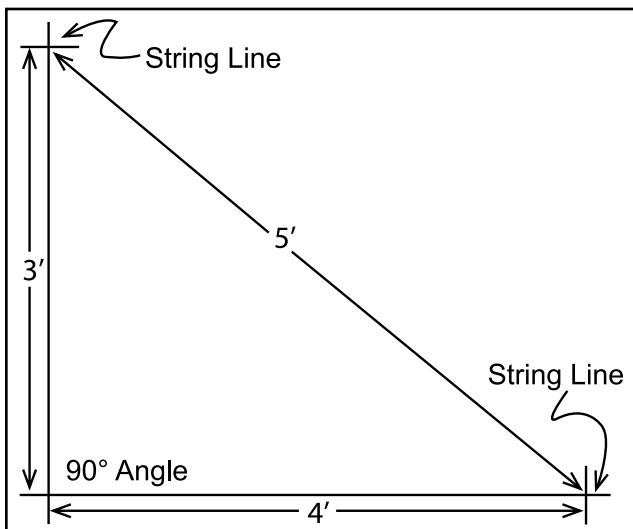
Taking these steps *before* assembling the shelter saves time and ensures that the structure is positioned as desired. The following procedure is a suggested method. Its use depends on the size of the shelter, shelter application, the footings, and the method used to anchor the shelter.

SQUARE THE SITE

1. Identify a corner where a building rafter will be positioned, drive in a stake, and string a line the exact width of the building and stake in place.
2. String a line at least as long as the building from the first stake at 90°.

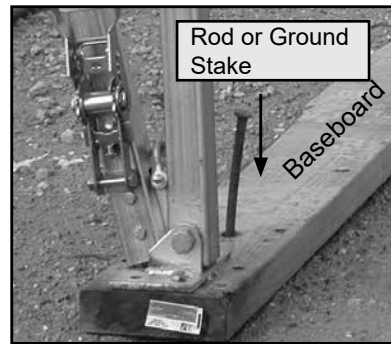
NOTE: A transit can be used to ensure an accurate 90° angle, or the 3-4-5 rule can be used. Refer to diagram. Using multiples of 3-4-5 such as 6-8-10 or 12-16-20 helps to maintain an accurate 90° angle.

3. After squaring the position of the building and placing a stake at all corners, string a line between the stakes to mark the base of the building.



4. Next, paint or mark a line on the ground using the strings between the stakes as guides.

NOTE: Setting *customer-supplied* baseboards on the site in the correct positions is another way to prepare for the frame assembly.



Actual rafter is not shown.

NOTE: If a baseboard is used, drill holes through the board at evenly-spaced intervals along the length of the board. Drive a rod through each hole and into the site to prevent the boards from shifting and to maintain the on-center width of the building.

The baseboards can be "pinned" in place using rods driven into the site through evenly-spaced holes drilled in the baseboard. This prevents the baseboards from shifting during assembly.



Building width is measured on-center.

5. After marking the outline of the building, continue with the assembly instructions.

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ASSEMBLE THE COLD FRAME COMPONENTS

NOTE: Assistance is required to assemble the cold frame.

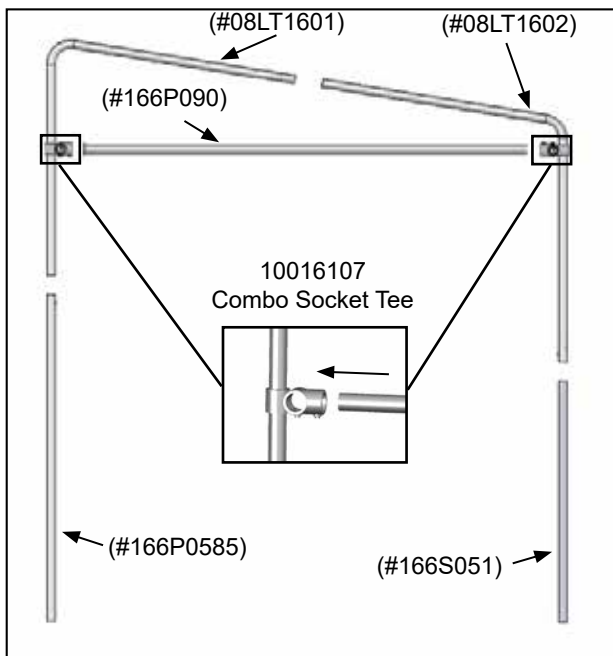
RAFTER ASSEMBLY

Gather the parts:

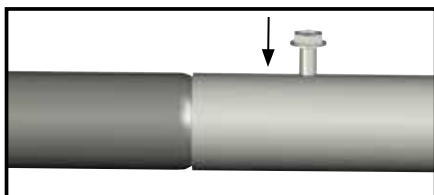
- Rafter pipes (#08LT1601) and (#08LT1602)
- Rafter pipe (#166P090)
- Rafter pipe (#166P0585)
- Rafter pipe (#166S051)
- Combo socket tee (#10016107)
- Tek screws and nut setter
- Hex key (Allen) wrench

Rafter Assembly Procedure

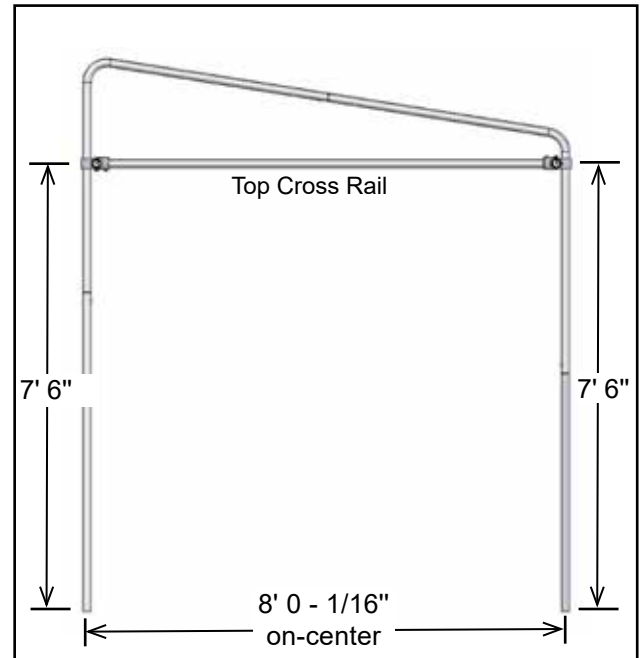
1. Connect the pipes as shown in the drawing below.
2. Use combo socket tee connectors to secure a horizontal top cross rail across each rafter as shown below.



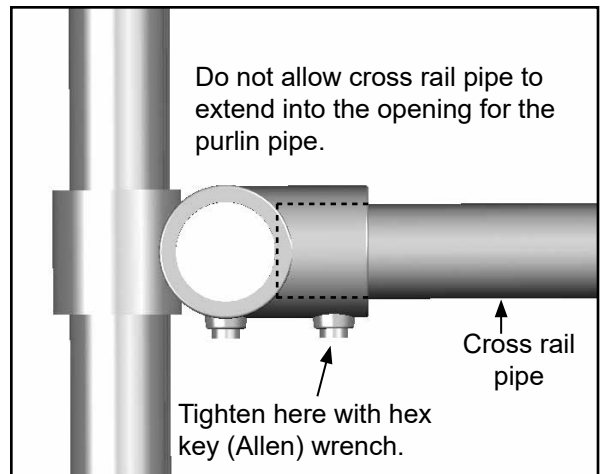
3. Use Tek screws to secure each pipe joint. Tape over the Tek screws using duct tape (customer-supplied) to protect the main cover, if installed.



4. Position the combo socket tees and top cross rail so the center of the top cross rail is 7'-6" above the end of the rafter leg.
5. Assure the on-center width of the rafter is 8' 0".



6. Tighten the hex socket screws in the combo socket tees.



7. Repeat for the remaining rafters.

NOTE: The length of the shelter determines the number of rafters required. Refer to the Quick Start Guide for the correct number of rafters.

8. Continue with the frame assembly steps that follow.

FRAME ASSEMBLY

Assemble the frame.

Gather the parts:

- Assembled rafters
- Pipe 1.66" x 99" Swaged (#166S099)
- Pipe 1.66" x XX" Plain (#166P0XX)
- Hex key (Allen) wrench
- Tek screws (#FA4482B)
- Marker and Tape Measure

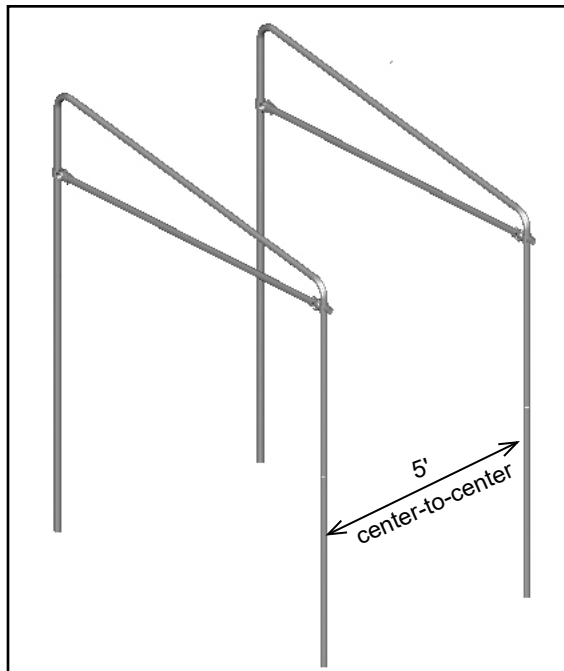
NOTE: The purlins are part of the assembled frame and run perpendicular to the rafter assemblies. Each purlin consists of 1.66" x 99" (#166S099) swaged pipes (number is determined by shelter length) and one (1) 1.66" x XX" (#166P0XX) plain pipe.

ATTENTION: The XX" represents the remaining length required to reach the end of the shelter. Consult the Spec Sheet and Side Profile diagrams for the part identification.

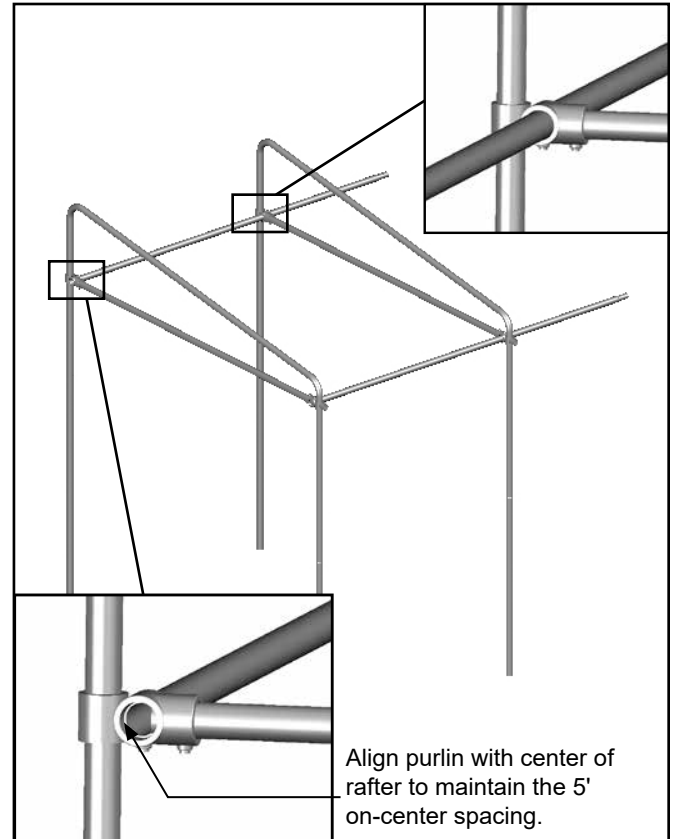
Frame Assembly Procedure

NOTE: Assistance is required to assemble the frame.

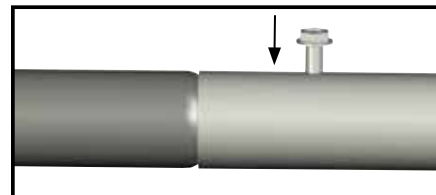
1. Stand one rafter in place. (Additional assistants are required to hold the rafter in position.)
2. Check that the rafter is standing straight (plumb) and brace it in place.
3. Using the 5' on-center, rafter-to-rafter spacing, set an inside rafter in position. (Additional assistants are required to hold the inside rafter in position.)



4. Locate the pipes required for a purlin. Refer to the Side Profile drawings in the Quick Start Guide at the back of the instructions for the correct pipes.
5. Insert a (#166S099) pipe through each combo socket tee as shown below. Align the ends of the purlin pipes with the center of the end rafters to maintain the 5' on-center spacing.



6. Using 5' on-center rafter-to-rafter spacing, continue adding rafters and purlins until the frame is nearly complete.
7. Finish each purlin with the (#166P0XX) pipe that matches the building length (see Side Profile) and use the final rafter to complete the assembly.
8. Use Tek screws to secure each purlin pipe joint. Tape over the Tek screws using duct tape (customer-supplied) to protect the main cover, if installed.



9. Adjust the rafters so they are vertical. Verify rafter spacing is 5' center-to-center and the overall length of the shelter is correct. (See Side Profile.)
10. Tighten all socket head screws in the combo socket tees using a Hex key (Allen) wrench.

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ANCHOR THE ASSEMBLED FRAME

At this point, anchor the frame. Consult the MUST READ document for anchoring information and suggestions. Please call customer service at 1-800-245-9881 for additional anchoring information.

⚠ CAUTION: The anchor assembly is an integral part of the cold frame construction. Improper anchoring may cause instability and failure of the structure to perform as designed. Failing to anchor the shelter properly will void the manufacturer's warranty and may cause serious injury and damage.

OPTIONAL COVER INSTALLATION (Cover is not included with standard cold frame. *Additional purchase is required if installing a cover and/or side panels.*)

Additional parts and supplies must be purchased to complete the cover installation. *These are not included with the basic cold frame components.*

Contact Customer Service if you want to purchase a cover for your cold frame and to determine which cover and additional components are best suited for the application.

SHELTER CARE AND MAINTENANCE

Proper care and maintenance of your shelter is important. Check the following items periodically to properly maintain your shelter:

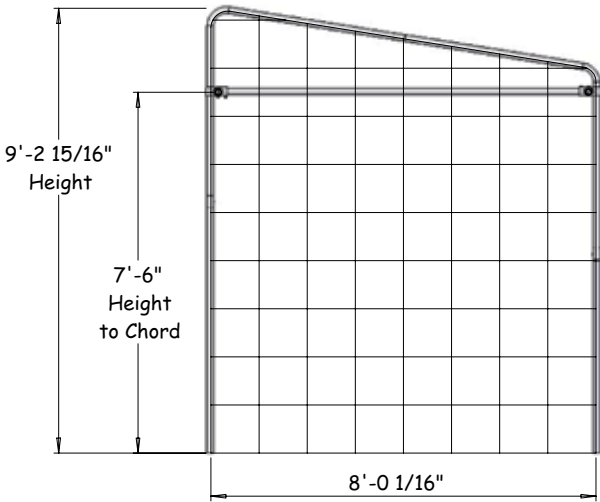
- Regularly check the main cover and panels (if equipped) to see that these remain tight and in proper repair.
- Check connections and all fasteners to verify that they remain tight.
- Do not climb or stand on the shelter at anytime.
- Remove debris and objects that may accumulate on the shelter. Use tools that will not damage the cover (if equipped) when removing debris.
- Remove snow to prevent excess accumulation. Use tools that will not damage the cover (if equipped) when removing snow.
- Check the contents of the shelter to verify that nothing is touching the cover or the side panels (if equipped) that could cause damage.
- Check the anchoring system to ensure that all components are tight and in good repair.
- If the shelter is moved, inspect all parts and connections before reassembling.
- For replacement or missing parts, call 1-800-245-9881 for assistance.

NOTE: With the exception of Truss Arch buildings, GrowSpan™ shelters and greenhouses do not have any tested loading criteria.

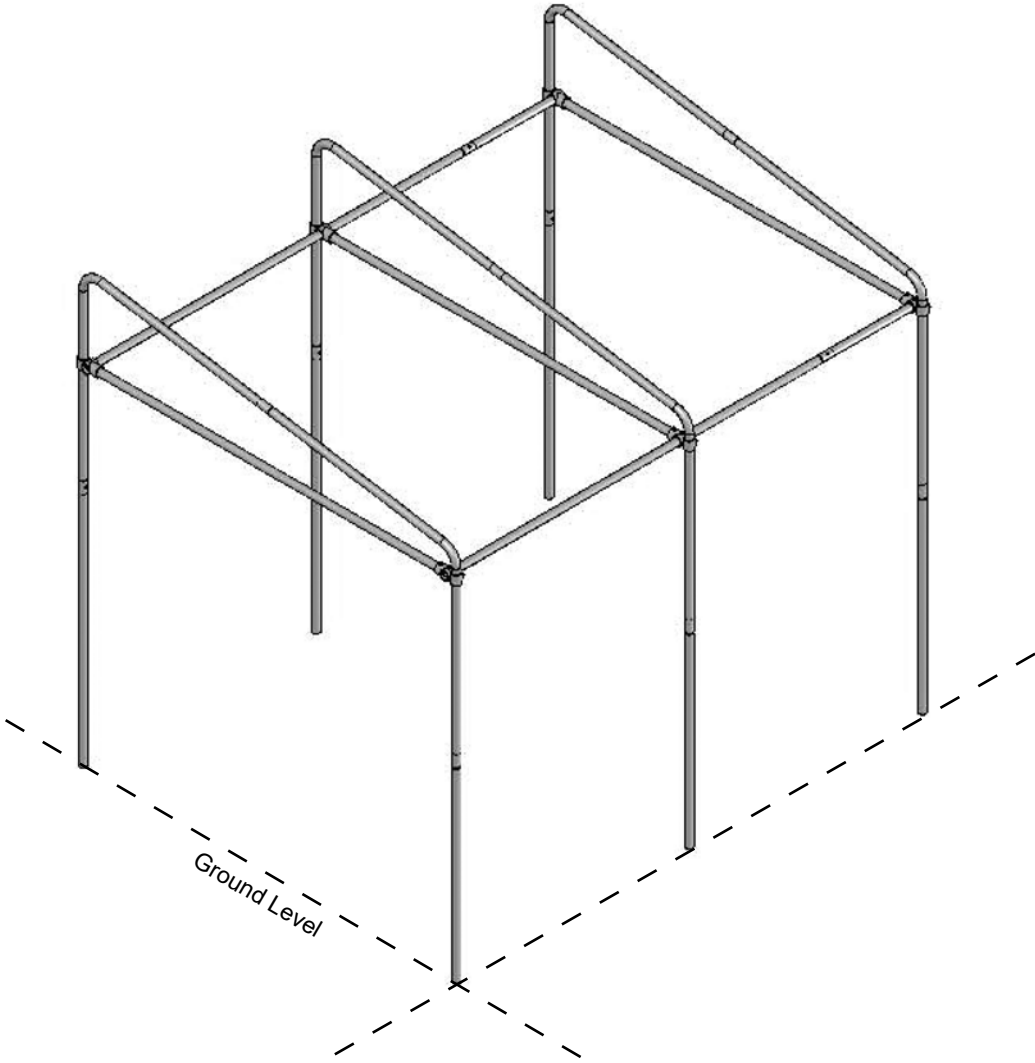


QUICK START GUIDE

8' Wide Lean-to Cold Frame

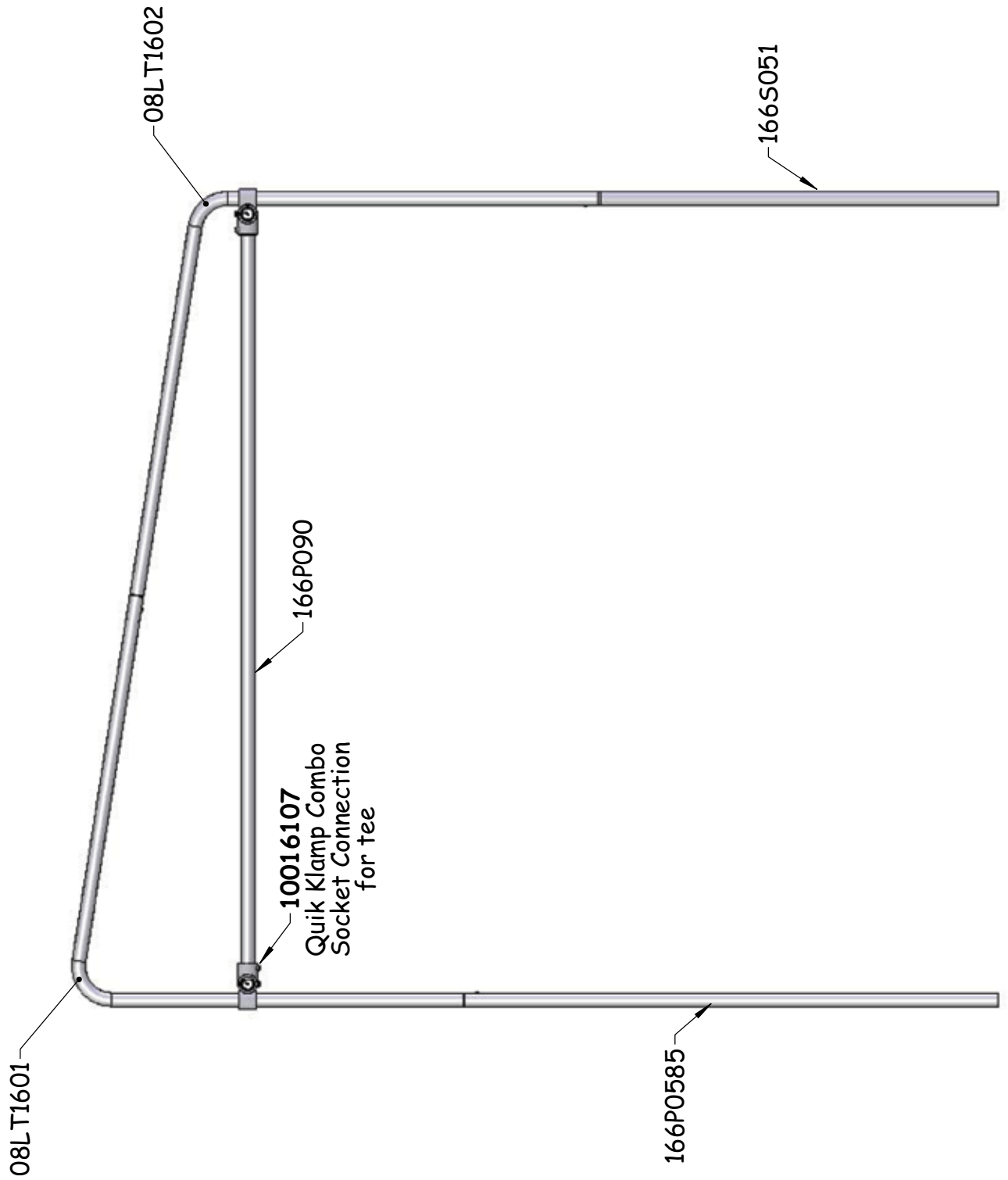


FRONT
Grid Represents 12" Squares

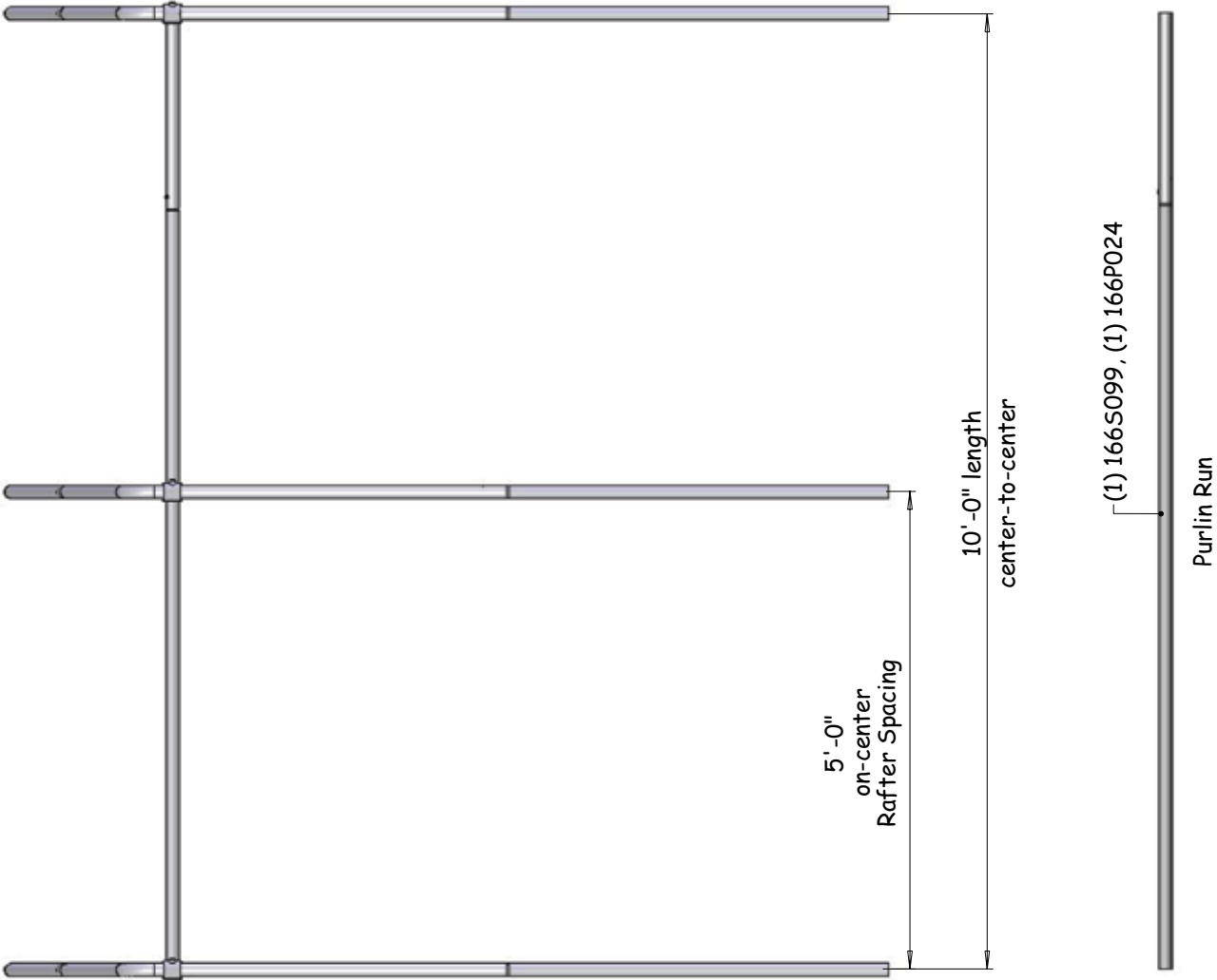


Frame shown may differ in length from actual frame.

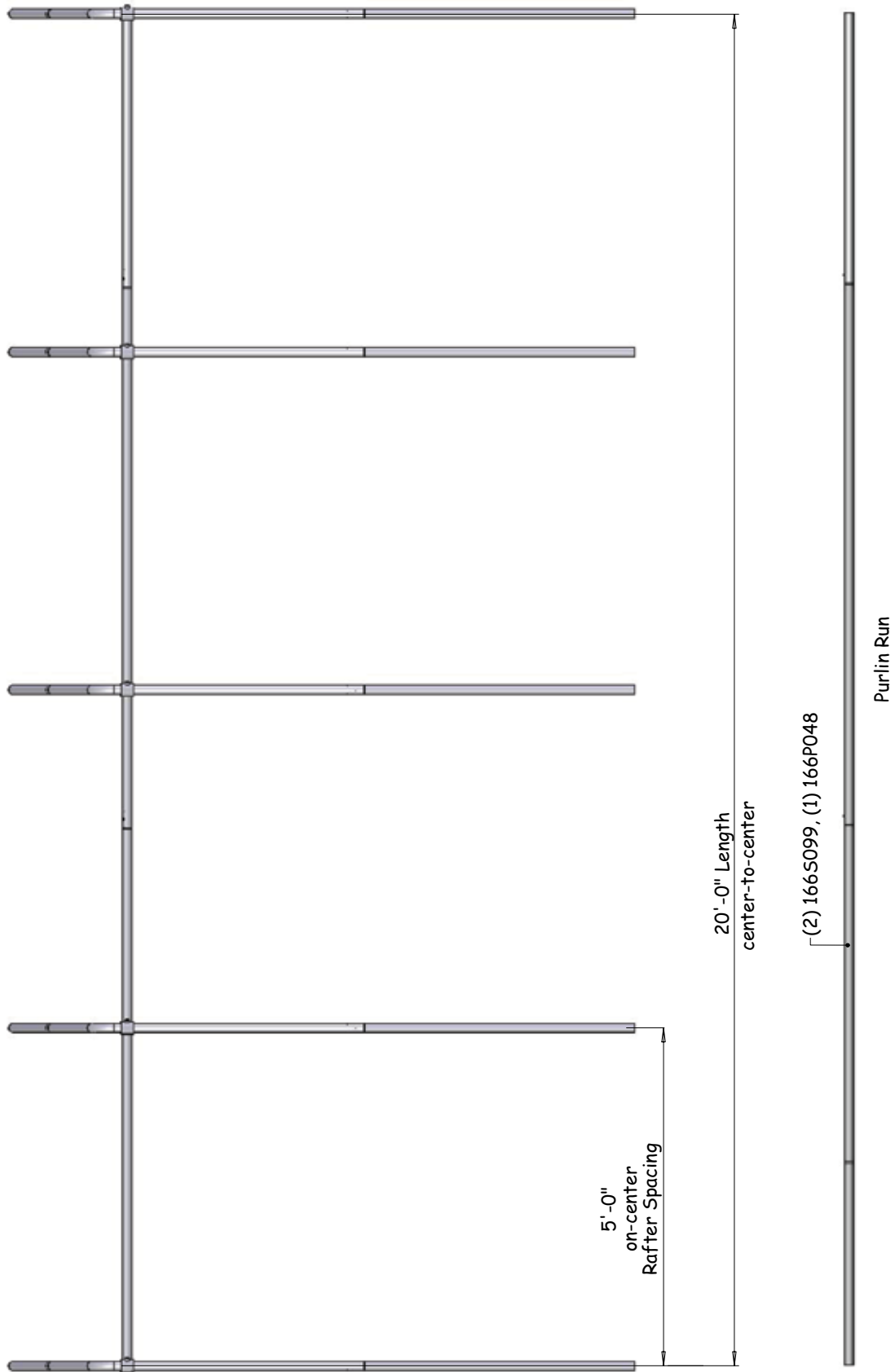
FRONT PROFILE



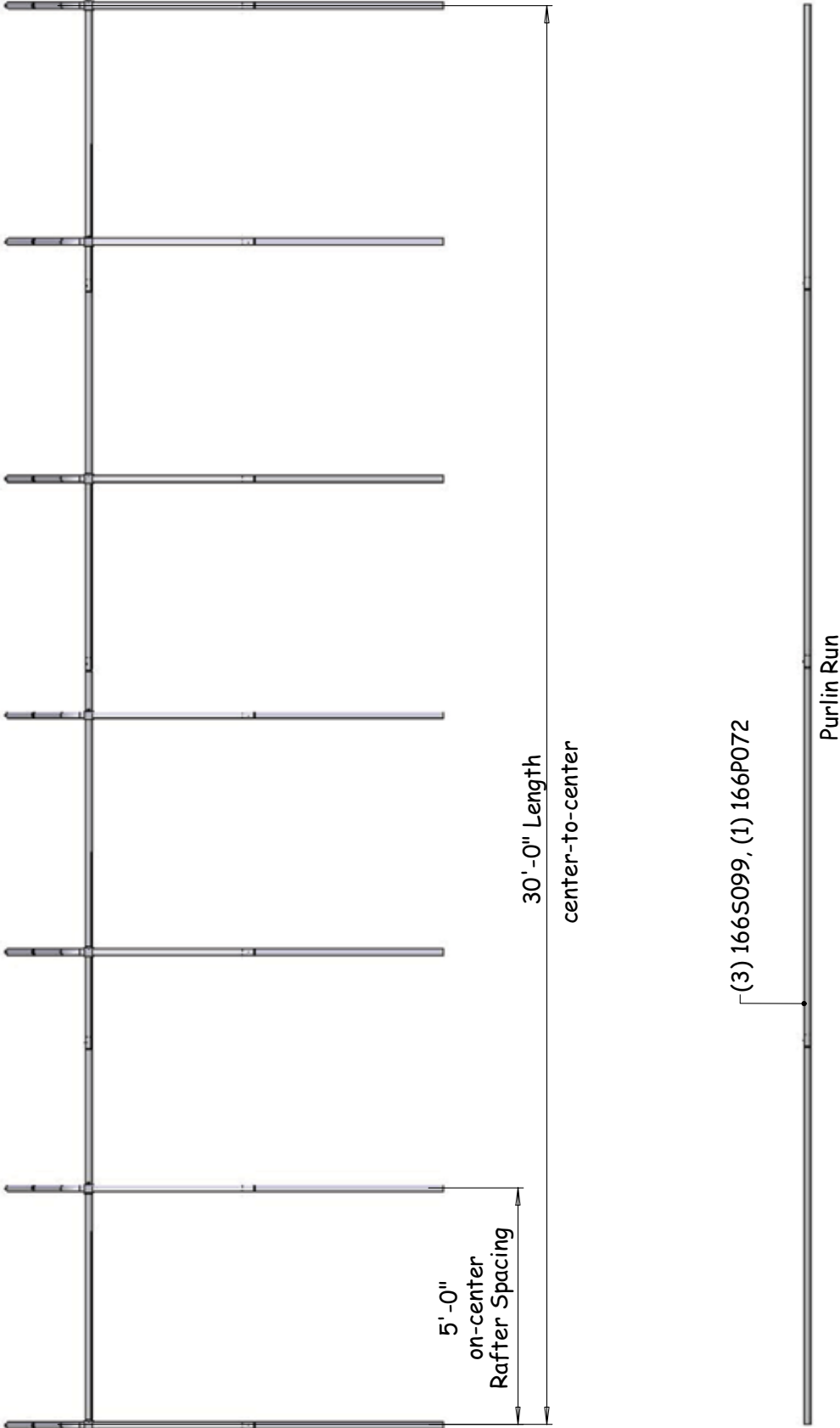
SIDE PROFILE - 103975



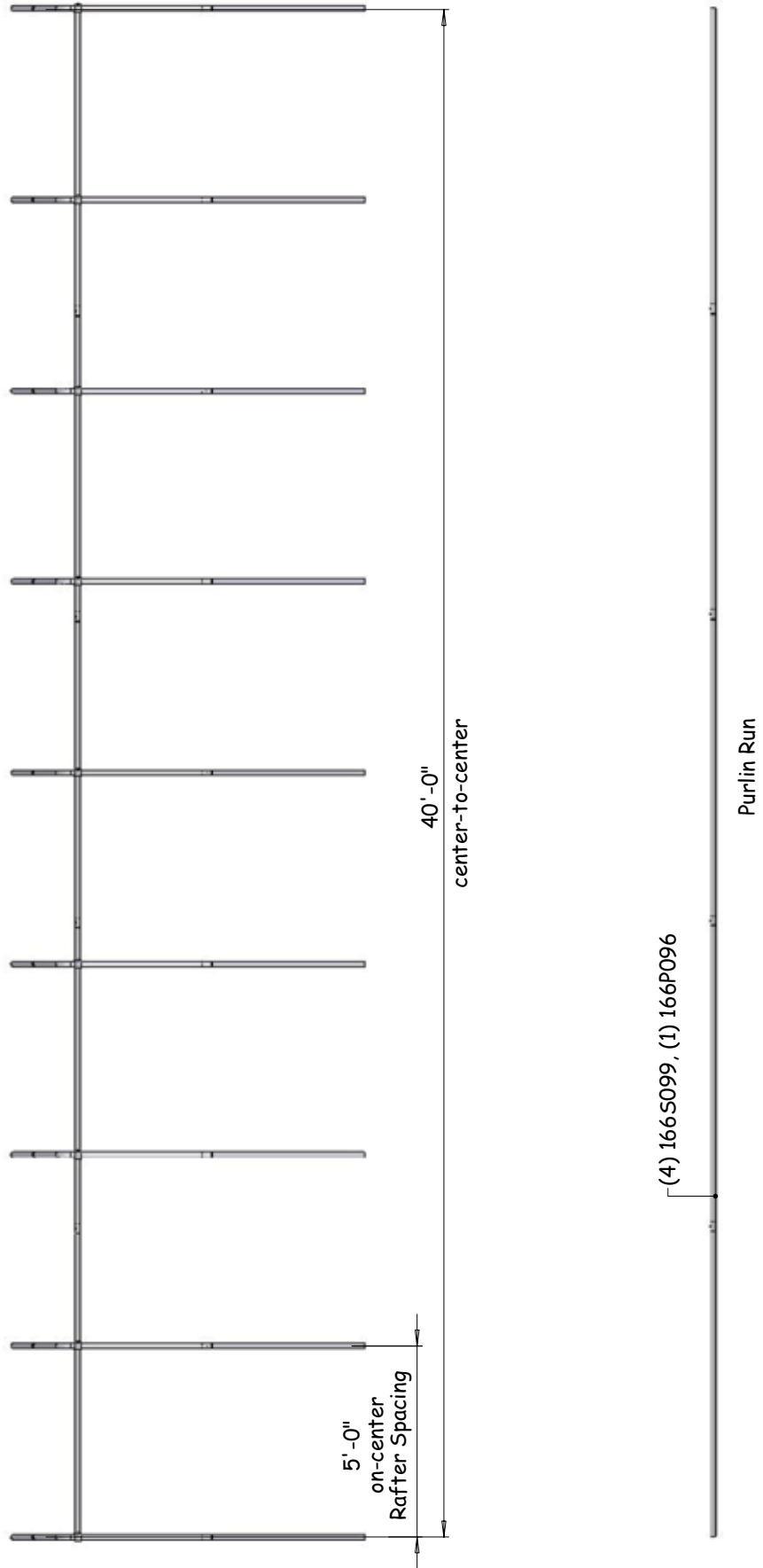
SIDE PROFILE - 103976



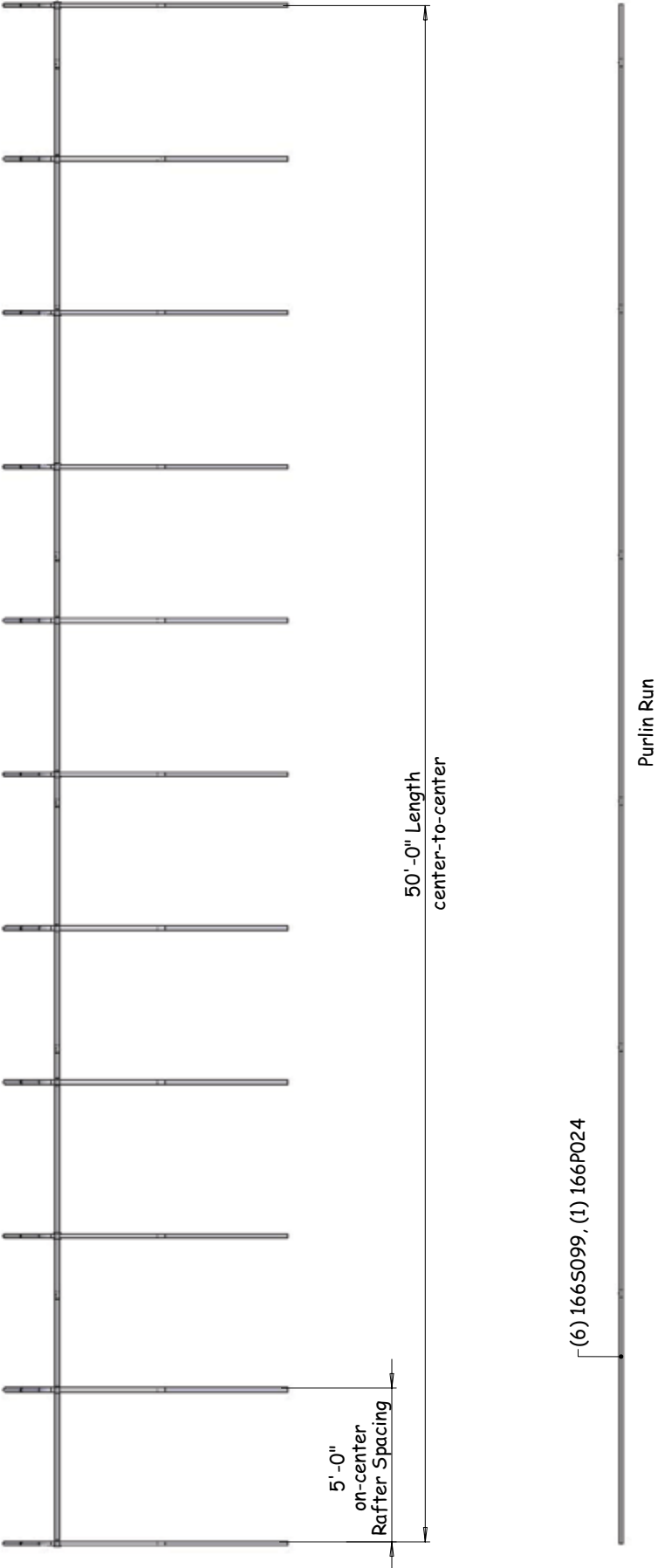
SIDE PROFILE - 103977



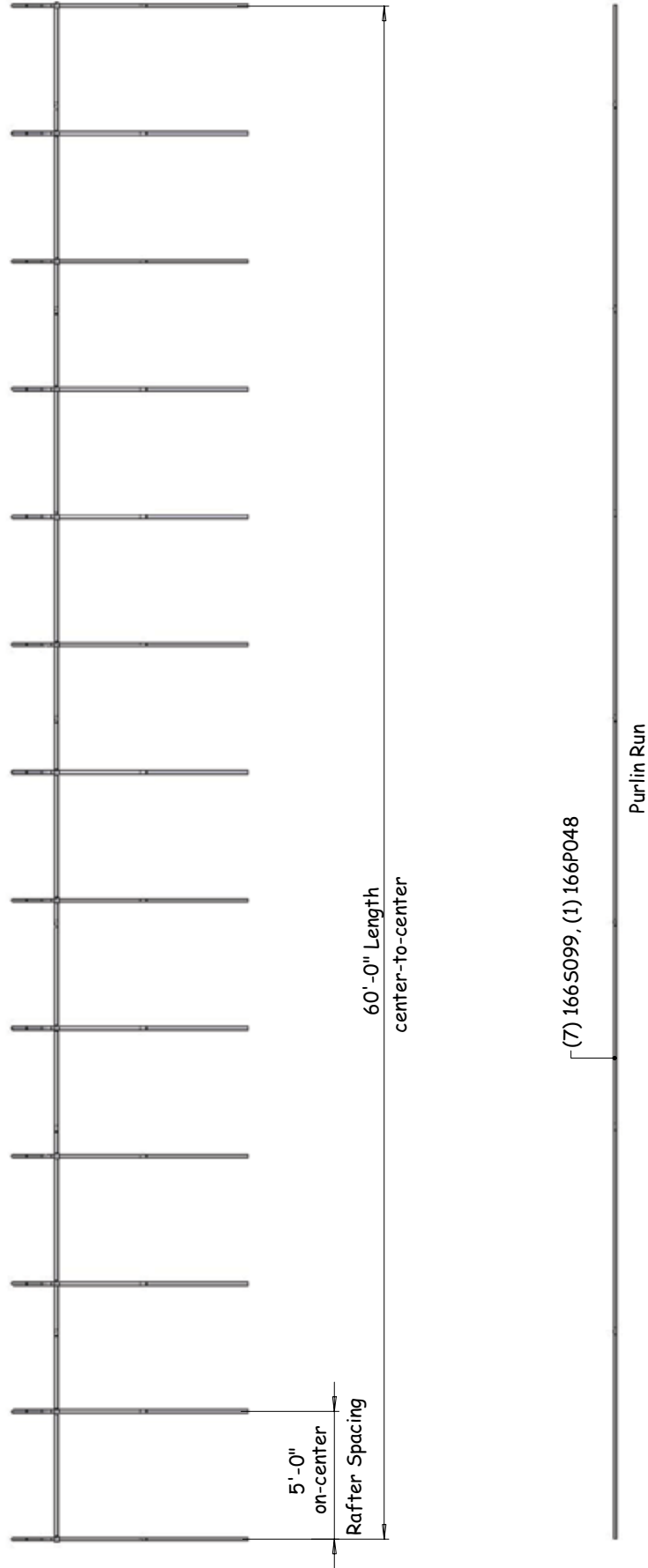
SIDE PROFILE - 103978



SIDE PROFILE - 103979



SIDE PROFILE - 103980



CONNECTIONS AND DETAILS

