Moo-Tel™
Calf Nurseries

Photo may show a different but similar model.

<table>
<thead>
<tr>
<th>STK#</th>
<th>DIMENSIONS</th>
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</thead>
<tbody>
<tr>
<td>PB02700R4</td>
<td>18’ W x 20’ L</td>
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<tr>
<td>PB02702R4</td>
<td>18’ W x 24’ L</td>
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<tr>
<td>PB02704R4</td>
<td>18’ W x 28’ L</td>
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<td>PB02706R4</td>
<td>18’ W x 36’ L</td>
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<tr>
<td>PB02708R4</td>
<td>18’ W x 40’ L</td>
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</tbody>
</table>
YOU MUST READ THIS DOCUMENT BEFORE YOU BEGIN TO ASSEMBLE THE SHELTER.

Thank you for purchasing this ClearSpan™ shelter. 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 shelter. 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 tubes.
- Use a portable GFCI (Ground Fault Circuit Interrupter) when working with power tools and cords.
- Do not climb on the shelter or framing during or after construction.
- Do not occupy the shelter during high winds, tornadoes, or hurricanes.
- Provide adequate ventilation if the structure is enclosed.
- Do not store hazardous materials in the shelter.
- Provide proper ingress and egress to prevent entrapment.

ANCHORING INSTRUCTIONS

Prior to assembling this shelter, please read the MUST READ document included with the shipment.

WARNING: The anchor assembly is an integral part of the shelter construction. Improper anchoring may cause shelter instability and failure of the structure. Failing to anchor the shelter properly will void the manufacturer’s warranty and may cause serious injury and damage.

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 shelter 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 shelter. Failing to follow these steps may result in an improperly assembled and anchored shelter and will void all warranty and protection the owner is entitled.

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, the Must Read document, and all additional documentation included with the shipment before you begin assembling the shelter.
3. Gather the tools, bracing, ladders (and lifts), and assistance needed to assemble the shelter.
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 including the struts (if equipped).
9. Consult the MUST READ document and properly anchor the assembled frame.
10. Install, tighten, and secure the main cover and panels (if equipped). This applies to fabric 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 ClearSpan™ 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; other use 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.
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)
- Wrenches or ratchet and socket set (recommended)
- Two ropes long enough to reach over the shelter (The use of rope depends on the height of the shelter. Other main cover installation methods may not use rope.)
- Hammers, gloves, and eye protection
- Duct tape (supplied by customer)
- Box cutter or utility knife
- Ladders, work platforms, and other machinery for lifting designed to work safely at the height of the shelter

UNPACK AND IDENTIFY PARTS
The following steps will ensure that you have all the necessary parts before you begin to assemble the shelter.

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 shelter 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.

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.

ALTERNATIVE ASSEMBLY INFORMATION
These instructions describe assembling the frame in sections. For short shelters or when plenty of assistance is available, assembling the entire roof section first is an alternative assembly method. (This method is not shown.)

To assemble the entire roof section first, then lift and add legs, read these instructions first and adapt the steps as needed. Consult all diagrams and the Quick Start section of this manual to better understand how the frame is assembled before you begin. Install the main cover as a single unit after the frame is assembled and anchored.
The following graphics and photos will help you identify the different parts. (Some parts are not shown.)
There can be two types of couplers used during the assembly of the shelter: those that include an installed locking eyebolt and those that do not. See above.

If the couplers included with your shelter do not have an installed lock bolt, use a self-tapping Tek screw to secure the different pipes to the couplers during the assembly process. The self-tapping Tek screws are included with the shipment.

**ATTENTION:** Tek screws are sent with all shelters of this type. For couplers with locking eyebolts, install the Tek screws at each pipe connection for additional security if desired.

**WARNING:** To prevent personal injury and damage to the shelter, fasten and tighten a Tek screw at each pipe and coupler joint.

To prevent cover damage, install the Tek screw so that it does not touch the main cover or any optional side or end panels once these are installed.
Moo-Tel™
Calf Nurseries

Actual frame may differ in length than frame shown.
LAY OUT THE BUILDING SITE

After the site is prepared, lay out the building site.

Taking these steps before assembling the shelter saves time and ensures that the structure is positioned as desired.

**Ground posts must be driven to the proper depth. Width of the shelter is measured from the center of one ground post to the center of the remaining ground post.**

SQUARE THE SITE

Gather the parts:
- Ground posts
- Post driver

1. Identify a corner where a ground post will be positioned and drive the first corner ground post into the ground.

**NOTE:** Insert the ground post driver into the top of the ground post to protect the post and drive the post into the ground. The top of the post will be one (1) foot above the finished grade when properly driven.

2. After the first corner ground post is in place, string a line the width of the building (18' center-to-center) and drive the second corner ground post into the ground just enough to hold it in place.

3. Use a transit or line level to drive the second corner ground post to the same depth as the first ground post.

4. String a line at least as long as the building 90° from the line between the first and second corner ground posts.

**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.

5. After squaring the position of the building, measure the length and drive the third corner ground post.

6. Repeat the same step for the last corner ground post.

**NOTE:** The distance measured diagonally between corner ground posts must be equal for the building to be square.

7. Check all dimensions (and adjust if needed) before driving the remaining posts to the required height.

8. After all four corner posts are accurately installed, tie a string line between the tops of the corner ground posts on the same side of the shelter. The string is used to identify the tops of all remaining ground posts. The string must remain tight and level.

9. Use a tape measure to mark the 48" on-center locations of the remaining ground posts.

10. Drive the remaining ground posts into the ground at the required 48" on-center width and the height identified by the string.

**NOTE:** Verify that the holes in the ground posts are in the proper position and that each post is plumb and driven to the correct depth.

11. Continue with the Rafter Assembly steps that follow.
ASSEMBLING THE CALF NURSERY COMPONENTS

NOTE: Assistance is required to assemble the frame.

RAFTER ASSEMBLY

Gather the parts:
- Rafter pipe swaged (#166P0771D)
- Rafter pipe swaged (#166S099)
- Rafter pipe plain (#166P024)
- 7’ Strut (QH1308)
- 3-Way couplers (#102193)
- 4-Way couplers (#102194)
- Band clamp (#QH1402)
- Tek screws

End Rafter Assembly Procedure

Each rafter assembly consists of three (3) couplers and six (6) rafter pipes: two (2) plain pipe sections (#166P077D) (drilled for ground posts), two (2) swaged pipe sections (#166S099) and two (2) plain pipe section (#166P024).

1. Select the pipes and couplers needed to assemble a rafter and arrange these on a flat surface as shown below for assembly.

2. Slide the swaged portion of the 166S099 pipes each into the plain end of the 166P024 pipes as shown.

3. With the rafter pipes seated, secure the joints with a self-tapping Tek screw.

4. Slide a band clamp onto both assembled rafter pipes and assemble the end rafter using 3-Way couplers as shown below.

5. Tighten the lock bolts of the 3-Way couplers. If no lock bolts are included with the couplers, attach each rafter pipe using a Tek screw.

6. Using the band clamps, attach a QH1308 strut across the rafter. Verify that the strut is level and tighten the band clamps.

7. On the inside of the rafter, install a Tek screw through the band clamps and into the rafter pipe to prevent the clamps from sliding.

8. Repeat for the other end rafter.

INTERIOR RAFTER ASSEMBLY

The interior rafter assemblies will be the same as the end rafters, except 4-Way couplers will be used instead of 3-Way couplers. Assemble interior rafters now.

NOTE: Install the screws so they will not touch the cover once it is installed. This is typically on the backside of the rafter, which will be the surface visible from the inside of the shelter once the frame is assembled.
FRAME ASSEMBLY

Gather the parts:

- All rafter assemblies
- Pipe 1.66" x 46" plain purlin (#166P046)
- Band Clamp (#QH1402)
- 5/16" x 2-1/2" machine bolts and 5/16" nuts
- Lifts, ladders, and assistants as needed

Frame Assembly Procedure

1. Slide a band clamp onto each leg of an *end rafter*. Using the proper lifts and with assistance, carefully stand the first end rafter assembly and place the leg pipes into the first set of ground posts. Verify that the nuts and Tek screws are facing the inside.

2. Align the top hole in the ground post with the hole in the rafter and insert a 5/16" x 2-1/2" machine bolt with the head to the outside of the shelter. Install the nut. **ATTENTION:** You may need to loosen the rafter leg to align the drilled holes with the holes in the ground posts. Retighten the lock bolts after the legs are secure.

3. Attach a 46" purlin pipe (#166P046) into each of the 3-Way couplers and tighten the lock bolts. **IMPORTANT:** Brace the first rafter in position as needed to keep it from moving. Bracing is removed after additional rafters are installed and secured to the other rafters.

4. Slide a band clamp onto each leg of the *first interior rafter*. Place the interior rafter assembly into the second set of ground posts and secure the rafters to the ground posts as previously described.

5. Verify that both rafters are plumb and properly spaced (4' on center).

6. Tighten the lock bolts in the 4-Way couplers on the interior rafter to secure the purlin pipes.

7. Continue adding rafters and purlin pipes until the frame is assembled. **IMPORTANT:** Verify that you have slipped a band clamp onto each leg of the end rafters and the first interior rafters at each end.

8. Once all rafters are set and the purlin pipes are in place and secured, return to each coupler to verify each has been tightened.

9. Continue with baseboard and side strut installation.
SIDE STRUT INSTALLATION

There are four (4) side struts (#QH1304) for the shelter. These struts are positioned across the first rafter space at each end.

Complete these steps to install the four (4) side struts:

1. Locate one strut and secure to the previously attached band clamps as shown below.

2. Repeat the above step to attach the remaining side struts to the shelter.

3. After securing the struts, verify that all clamps are secured with a Tek screw to the rafters.

4. Continue the next procedure to anchor the assembled frame.

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.
INSTALL MAIN COVER

Gather the parts:

- Ratchets (1" 4000lb)
- Pipe 1.315" (See chart below.)
- Cover
- Plain strap (#103620B)
- Ropes long enough to reach over the frame (supplied by customer)
- Tek screws
- Duct tape (supplied by customer)

**WARNING:** To prevent damage to the cover and to prevent serious personal injury, DO NOT attempt to install the cover on windy days.

1. Locate the pipes for two (2) main cover conduits. Each cover conduit consists of the following pipes. See chart below.

<table>
<thead>
<tr>
<th>Cover Conduit Lengths</th>
<th>Pipes</th>
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<tbody>
<tr>
<td>20'</td>
<td>(3) 75&quot; &amp; (1) 25.5&quot;</td>
</tr>
<tr>
<td>24'</td>
<td>(3) 75&quot; &amp; (1) 73.5&quot;</td>
</tr>
<tr>
<td>28'</td>
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</tr>
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</tr>
<tr>
<td>40'</td>
<td>(6) 75&quot; &amp; (1) 49.5&quot;</td>
</tr>
</tbody>
</table>

2. Connect these pipes by inserting the swaged ends of the pipes into the plain ends until each conduit is assembled. Secure each pipe joint with a Tek screw and wrap the joint with duct tape.

3. After assembling the cover conduits, locate the cover and unfold it on a clean, smooth surface near the frame.

**NOTE:** When handling the cover and setting it in position, do not pull on the end straps. They will pull out of the cover. Unfold the cover with the inside surface facing up.
INSTALL COVER (CONTINUED)

NOTE: Shelter shown above may differ in length from the actual model.

4. Locate the cover ends with strapping and align cover with the front and back of the shelter.

5. Insert a conduit into each cover conduit pocket of the main cover. Do not install the roll-up conduits at this time.

6. To pull the cover over the frame, attach ropes to both ends of the cover conduit. Wrap the rope around the conduit a few times to prevent it from slipping off.

NOTE: Depending on the length of the cover it may be necessary to attach additional ropes to the cover conduit between the end ropes by cutting a small opening in the cover pocket and tying the rope around the conduit. DO NOT cut through the cover. Cut through the conduit pocket only.

7. With all ropes attached to the conduit, lift the conduit and carry the cover toward the base of the frame.

8. Toss the ropes over the frame and pull the cover into position. One person is required at each rope.

NOTE: Do not pull on the black straps in the end pockets of the cover. These straps will pull out.

9. Center the cover end-to-end and side-to-side.

10. Move to the side ratchets and secure the sides of the main cover by installing the straps as shown. Cut a slit in the cover pocket (Fig. 1) or remove the pocket material as shown (Fig. 2) to install the strap.

NOTE: Do not fully tighten the side straps at this time. Tighten enough to hold the main cover on the frame.

11. Beginning at one end of the main cover, determine the height of the roll-up side and remove the hem area. For example, if you want a 48" sidewall opening when the sidewall is rolled up, remove 48" of the main cover hem. Maximum height of roll-up side is 60".
INSTALL ROLL-UP ASSEMBLY

Gather the parts:
- Pipe 1.315” (See chart below.)
- Pipe 1.315” x 12” (#131P012)
- Spin handle (#103395)
- Universal joint (#103396)
- Fabric clips (#CC6212) (Use half for each side.)

Assembly Procedure

1. Locate the pipes for two (2) roll-up conduits. Each roll-up conduit consists of the following pipes. See chart below.

<table>
<thead>
<tr>
<th>Length</th>
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<tr>
<td>20’</td>
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</tr>
<tr>
<td>40’</td>
<td>(6) 75” &amp; (1) 73.5”</td>
</tr>
</tbody>
</table>

2. Connect these pipes by inserting the swaged ends of the pipes into the plain ends until each conduit is assembled. Secure each pipe joint with a Tek screw and wrap the joint with duct tape.

3. Align the roll-up conduit with the edge of the roll-up side. Wrap the panel around the conduit as shown below and attach using fabric clips and Tek screws. Position the conduit in the pocket as shown so that a few inches extends beyond the panel at the end where the crank will be attached.

ATTENTION: A few inches of the conduit should extend beyond the edge of the cover. See diagram above.

INSTALL COVER (CONTINUED)

12. Repeat the steps to remove the hem from the remaining corners of the main cover as previously described.

13. With additional help, snug the cover into position by simultaneously pulling on the bonnet straps to seat the cover on the frame and over the end rafters.

14. Feed the pre-installed bonnet straps of the cover into the ratchets attached at the corners of the frame and tighten enough to hold the cover in place. Do not tighten completely at this time. Remove excess strap as needed to prevent binding in the ratchet.

15. Move to the inside of the shelter and evenly tighten the ratchets until the cover is tight.

NOTE: If the strap binds up in the ratchet, loosen the ratchet by opening it all the way, then cut some of the strap off. Re-tighten the ratchet.

16. Move to the ratchets on the outside of the end rafters and tighten them evenly to pull the cover tight lengthwise. Continue with the roll-up assembly.
**INSTALL ROLL-UP ASSEMBLY (CONTINUED)**

4. Evenly space the fabric clips to secure the main cover to the roll-up conduit.

5. Attach the universal joint to the conduit in the pocket using a Tek screw to secure the connection.

6. Secure one (1) 12" plain pipe to the remaining end of the universal joint using a Tek screw.

**NOTE:** This extension pipe can be trimmed to the desired length.

7. Add the spin handle to the extension pole and secure the connection with a Tek screw.

8. Repeat the steps to secure the remaining roll-up conduit to the main cover.

9. With the crank assembly properly attached, test the operation of the crank assembly.

10. Continue by installing the anti-billow rope.

**INSTALL ANTI-BILLOW ROPES**

Gather the parts:

- Anti-billow rope (#CC5310)
- 3/8" Eye bolts (#FA2083) and 3/8" nuts and washers

Anti-billow ropes secure the roll-up sides when they are in the down position. Complete the following steps to install the ropes.

1. Roll up the sidewall so that it is a few inches above the ground.

2. Drill a 3/8" hole through the baseboard (if equipped) and the end rafter. Insert an eye bolt and washer through the hole and secure the eye bolt with a nut and washer.

3. Move up the same end rafter and drill a 3/8" hole in the cover conduit a few inches from the end rafter. Align the upper eye bolt with the eye bolt at the bottom.

4. Insert an eye bolt and washer through the hole and secure the eye bolt with a nut and washer.

**NOTE:** When installing eye bolts, do not drill through the rafter.
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 when removing debris.
- Remove snow to prevent excess accumulation. Use tools that will not damage the cover when removing snow.
- Check the contents of the shelter to verify that nothing is touching the cover or the side panels 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, ClearSpan™ shelters and greenhouses do not have any tested loading criteria.

INSTALL ANTI-BILLOW ROPE (CONTINUED)

5. Repeat Steps 2-4 using the following photo as a pattern guide.

6. Once all eye bolts are installed in the proper locations, take the end of the black rope and thread it through the eye bolts as shown above.

7. Tie one end to the eye bolt at the bottom of one end rafter.

8. Roll up the side cover to its highest position.

9. With the cover rolled to its highest position, pull the anti-billow rope tight to remove excess slack.

10. Cut and tie the rope to the eye bolt at the base of the remaining end rafter.

11. Lower the roll-up side to check the operation.

12. Repeat all of the above procedures for the remaining roll-up side for the building.

13. Continue by reading the Shelter Care and Maintenance section that follows.
QUICK START GUIDE
18' Wide Calf Nurseries

Grid Represents 12" Squares

Actual frame may differ in length from frame shown.
FRONT PROFILE
Ratchet locations labeled with "R". Ratchets are attached to the inside of the rafter.
SIDE PROFILE - PB02702R4

Ratchet locations labeled with "R". Ratchets are attached to the inside of the rafter.

(3) 131S075 & (1) 131P0735

(3) 131S075 & (1) 131P0975
Ratchet locations labeled with "R". Ratchets are attached to the inside of the rafter.
Ratchet locations labeled with “R”. Ratchets are attached to the inside of the rafter.
SIDE PROFILE - PB02708R4

Rafter
Spacing
On-Center
4'-0"

40'-0" Length
Center-to-Center

Ground Level

4'-0" Rafter
On-Center Spacing

(6) 131S075 & (1) 131P0495

Ratchet locations labeled with "R". Ratches are attached to the inside of the rafter.

(6) 131S075 & (1) 131P0735

Cover Conduit

Roll-up Conduit
CONNECTION - DETAILS

View 1
End Rafter - Purlin Connection

View 2
Mid Rafter - Purlin Connection

View 3
Rafter - Strut Connection