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For easy access with equipment into your tunnel, consider installing scissor doors — a viable, low-cost option for your end walls. These would replace the standard door frame and end wall. These instructions list materials enough for 2 sets of scissor doors — one for each end of the tunnel — an apply to standard high tunnels, Gothic-style tunnels, or any tunnel of similar size..

Materials:

- Drill with 1/4" bit
- 4 sections of 1 3/8" top rail
- 4 brace bands
- (4) 1/4"-20 x 1 3/4" carriage bolt and 1/4" nuts
- Tech screws
- Greenhouse film
- Poly latch wire and channel
- 20 Snap clamps
- 3/8" x 5" hex or carriage bolt with jam nut and wing nut

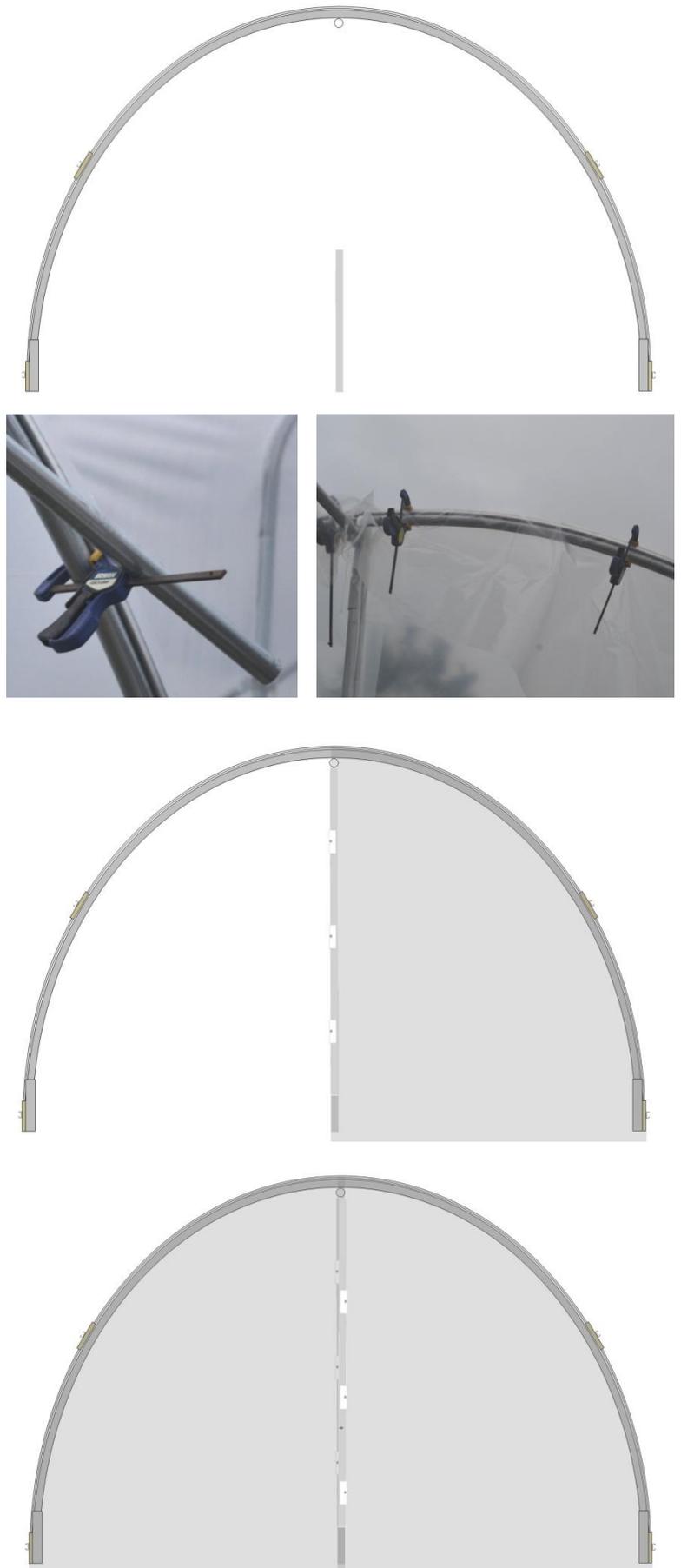


INSTALLATION:

1. When installing the ridge pole, leave a 4-inch portion extending beyond the outside of the end wall on each end of the tunnel.
2. Cut 2 pieces of 1 3/8-inch top rail to a length that is about 1 foot less than the distance between the ridge pole and the ground at the end of the tunnel. Then, predrill a section with a 1/4-inch hole about 3/4 inch from the end. Make 4 of these.
3. Position a brace band inside the predrilled end of one of the scissor door rails. Slide a 1/4"-20 x 1 3/4" carriage bolt through the predrilled holes and the brace band. Secure with a 1/4" nut and tighten. Repeat for the other 3 rails. Slide the brace band on the end of one of the rails over the protruding ridge pole on the end-wall side of the tunnel. Add another rail in the same fashion. They should hang freely and be able to rotate out to the sides of the tunnel easily. Drive a tech screw into the top of the ridge pole just outside the brace band of the second rail that was installed. This will keep them from slipping off the ridge pole. Repeat for the opposite end of the tunnel.
4. Pull out 15 feet of greenhouse film and cut it down the middle. This can be done at the same time as shown to the right by holding a utility knife near the roll while pulling it off the spool.



5. Cut it to length, then cross-cut each of those still folded pieces in half. This should give you 4 pieces that are each 7½ feet x 12 feet if you have 24-foot wide plastic, or 7½ feet x 14 feet if you have 28-foot wide plastic.
6. Drive a 5-foot section of 1⅜-inch top rail about 1½ feet into the ground, directly beneath the cross-connector at the peak of the end wall of the tunnel.
7. Clamp one scissor door rail to the center post. Clamp the other to the end bow so that it is up and out of the way. Ensure the clamp holding the vertical scissor door rail to the ground post does not loosen or release during any part of steps 7–11.
8. Lay a piece of cut plastic over the end wall opening opposite of the scissor door pipe that was clamped up and out of the way with one 7½-foot side parallel to the ground. The corner of the opposite end should be just over the peak, with any excess on the ground. Add some clamps on the bow to temporarily hold the sheet of plastic in place.
9. Wrap the plastic around the vertical scissor door pipe evenly and secure with 5 Snap Clamps on each rail.
10. Starting at the peak and working down, Poly Latch this sheet of plastic over the end-wall bow.
11. Adjust Snap Clamps as necessary to remove any wrinkles in the door plastic.
12. Install self-drilling tech screws (either Phillips or hex head) through the Snap Clamps.
13. Release the clamp keeping the other scissor door pipe out of the way and let it hang vertically near the other one.
14. Lay a piece of cut plastic over the opposite side now and wrap it around the vertical scissor door pipe evenly. Secure in place with Snap Clamps every foot or so, but align them so that they are in between the Snap Clamps on the other pipe.
15. Clamp both pipes together and to the ground post.



16. Poly Latch the other side of the plastic sheet to the end bow.
17. Adjust Snap Clamps as necessary to remove any wrinkles in the plastic.
18. Install self-drilling tech screws through the Snap Clamps.
19. Trim off any excess plastic. You'll note that the Poly Latch Channel makes a convenient guide for trimming plastic on the inside of the tunnel. The plastic on the scissor doors should reach the ground and extend outward at least a foot so that sand bags or other weights may be used to seal the end walls of the tunnel in cold weather.
20. Repeat steps 7–19. for the opposite end of the tunnel.
21. Scissor doors may be held in place by installing a fully threaded $\frac{3}{8}$ " x 5" hex or carriage bolt through both scissor door pipes and the ground post that is secured with a jam nut and wing nut (shown to right) for when a tunnel is closed for longer periods, like in winter. Or, you can simply use a spring clamp to keep them shut when venting frequently (spring and fall).



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