Instructions for Real Good Toys'

16" Miniatures Showcase

Kit #MS-400
©04/10

Measure, identify, and label the parts

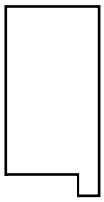
Parts: (Measurements are approximate and are for identification purposes only)

2	Side	1/4Milled	29 1/16	10	grooved
1	Back	1/4	29 1/16	16 7/16	grooved
1	AtticBack	1/4	17 1/8	10 1/2	grooved angled
3	Floor	1/4	16 1/8	10 3/16	notched
1	Top Floor	1/4	17 15/16	10 3/8	Electrification Slot
1	Rooftop	1/4	11 1/4	10 3/8	
2	Roof	1/4	11 1/8	10	beveled
2	Foundation	3/8	16 1/8	2 1/2	
3	Foundation	3/8	9 5/16	2 1/2	(1 drilled)
1	Attic Plexiglass		9 15/16	15 9/16	drilled angled
3	Front Plexiglass		8 15/16	14 7/8	drilled
2	Side Frame		1/2 x 1	29 1/16	
pr	Attic SideFrame		1/2 x 1	10 7/16	angled dado
3	Floor Frame		1/2 x 1	14 15/16	grooved dados
1	TopFloor Frame		1/2 x 1	18 9/16	grooved miters
pr	TopFloor SideFrame			10 3/4	grooved miters
1	Rooftop Frame		1/2 x 1	11 15/16	grooved miters
pr	Rooftop SideFrame			10 3/4	grooved miters
4	Stripwood	3/32 x 9/16		29 1/16	
4	Light Support	5/16 x 1/2	triangle	15	
1	(400) Shingles	#SWO			
5	Bead 3/8				
1	1/8Dowel - 13/16				

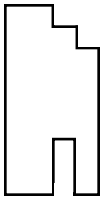
Roof's bevel

Molding cross sections

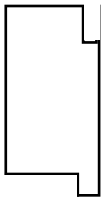
Light Support



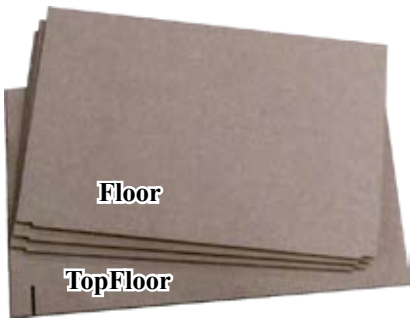
Side Frame
Attic SideFrame

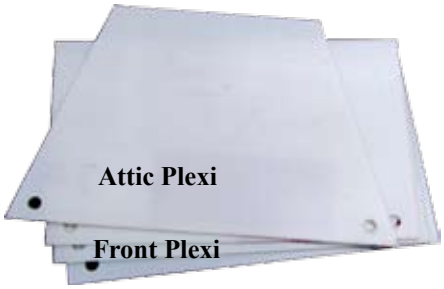


Floor Frame
TopFloor Frame



Rooftop Frame
Rooftop SideFrame



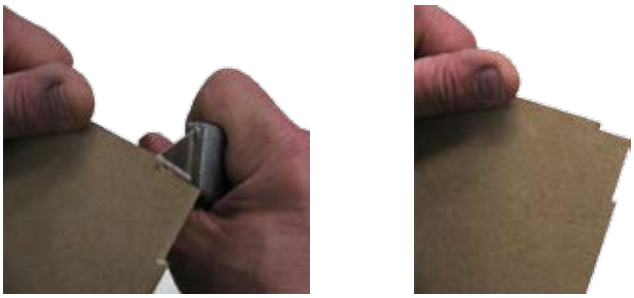


The pointing hand calls attention to something critical

Real Good Toys ☆ 10 Quarry St ☆ Barre, VT 05641 ☆ 802-479-2217 ☆ www.realgoodtoys.com

Plan ahead for the sequence of painting, wiring, and assembly. I like to "first coat" and sand the parts before assembly for ease of sanding, but your plan may be different. If you "first-coat" before assembly, take care to not get paint in the grooves or on the edges, and to sand thoroughly enough to have plenty of wood exposed for gluing - glue doesn't stick to paint

Prepare the parts and test steps 1 - 10 without glue so you can proceed quickly when the time comes to use glue... you must finish this entire section quickly enough to adjust the fit of the parts while the glue is still soft.



Clean the notches in the Foors

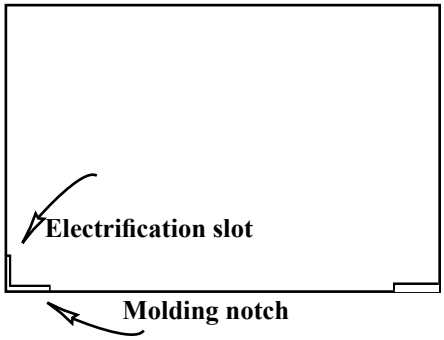
Clean the notches in the Floors with a utility knife or file

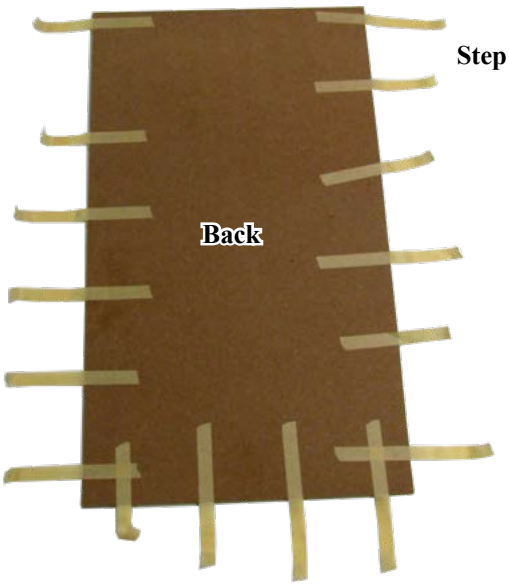
☐ 1. Lay the Back on the workbench with the grooved down. Stick flaps of tape along each side for taping the Back to the Sides, and at the base for taping to the base floor (the base is grooved, the top is not). Turn the Back over.

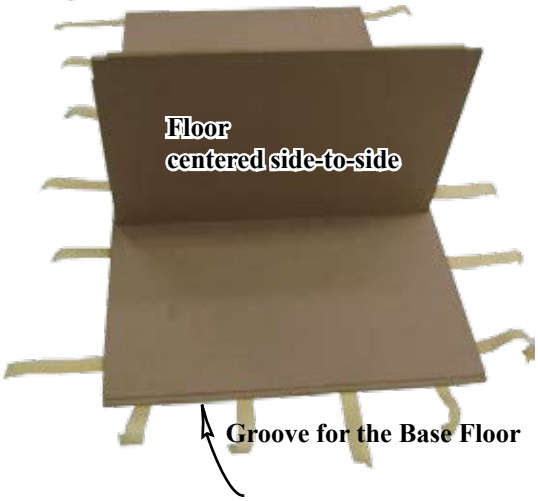
☐ 2. Spread glue in the grooves of the Back.

☐ 3. Set a Floor in a middle groove, centered side-to-side.

Floors:
The Molding Notch faces out, and the Electrification Slots must line up with each other from floor-to-floor (in this instruction it will be on the left side)

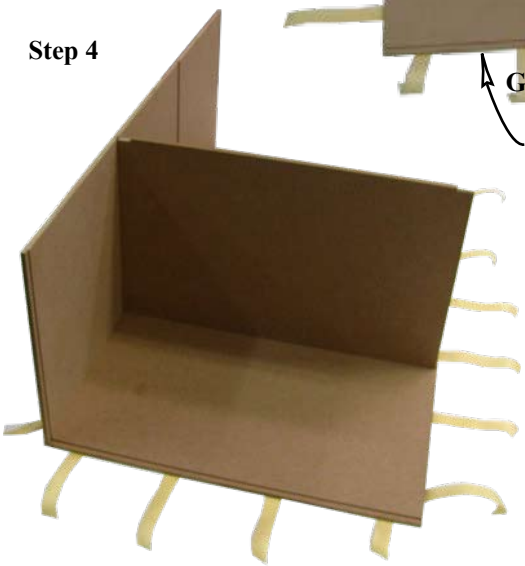


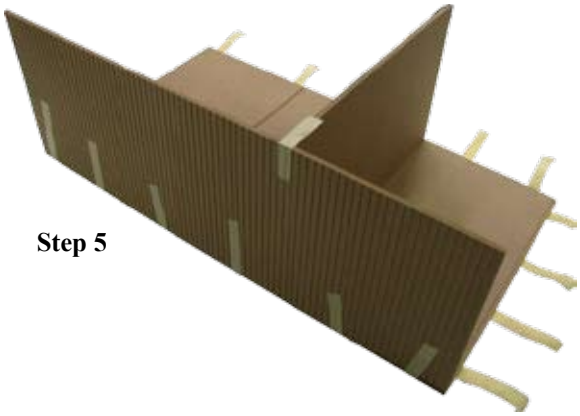




☐ 4. Spread glue in the grooves and along the back edge of one Side. Set the Side on the Back at the edge, with the Floor in its groove

☐ 5. Tightly tape the Back to the Side

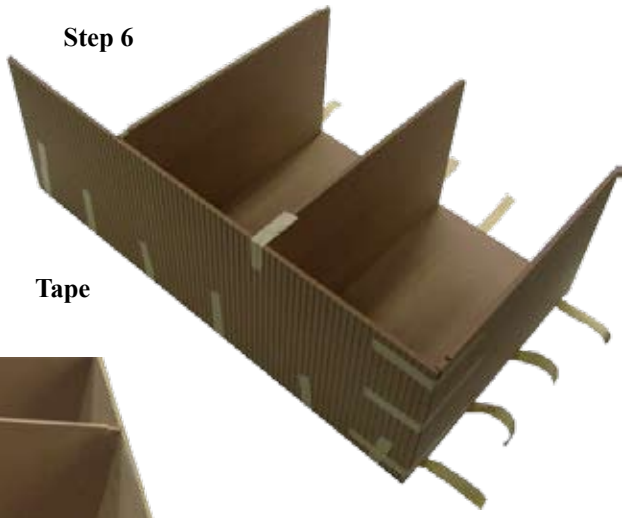




Don't stop yet!

☐ 6. Set the other Floors into the grooves. Tape the Side to the base Floor, but ***do not tape the Back to the Floor yet.***

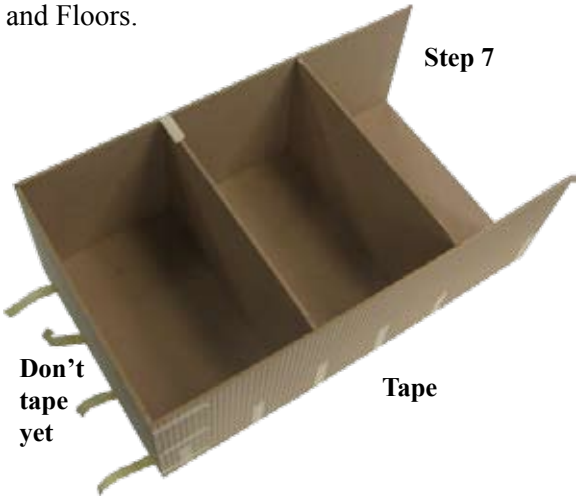
Step 6



Tape

☐ 7. Glue and tape the other Side to the Back and Floors.

Step 7



Don't tape yet

Tape

Step 8
Center, then tape

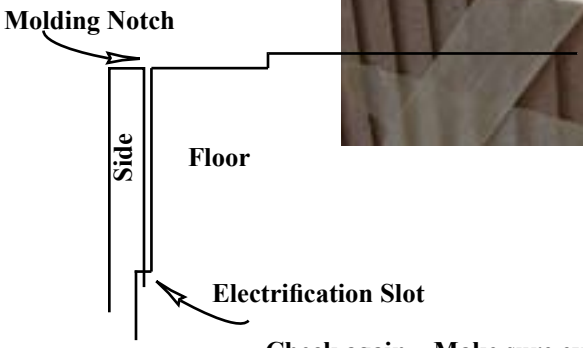
☐ 8. Push on the Sides to confirm that they are centered on the Back. Make sure the Base Floor is tight to the top of its groove; tightly tape the Back to the Base Floor

☐ 9. Check and adjust the centering of the Sides and Back at each floor from the base to the top. Line up the Sides with the Back at the top; tape across the top.

Step 9
Center, then tape

Tape across the top

☐ 10. Lay the display on it's back on a FLAT surface. Put the TopFloor and other panels across the fronts of the Floors, and weight them as the glue dries. Make sure the Molding Notches line up the the front edges of the Sides as the glue dries.

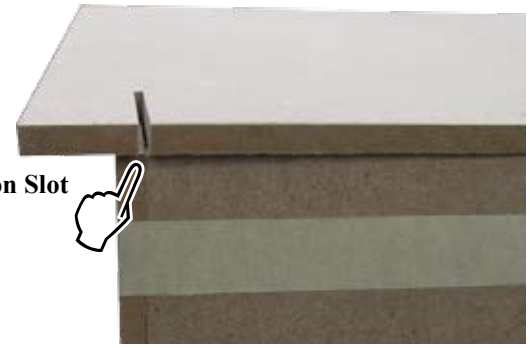


Check again... Make sure everything is tight: the Sides line up evenly with the Back, the Base Floor is tight in its groove, and the Molding Notches line up with the Sides
Let the Glue dry.

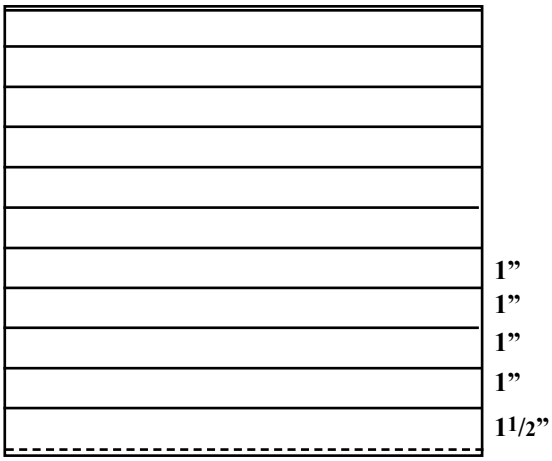
☐ 11. Glue and tape the TopFloor to the Sides and Back, centered side-to-side (measure the centering (3/4") or hold two Foundations against each Side).

Weight the Top Floor over the Sides and Back, let the glue dry

☐ 12. Check the measure under the Top Floor (3/4") from back-to-front. Fine-tune the position of the Side so a narrow slit is showing inside the Electrification Slot.

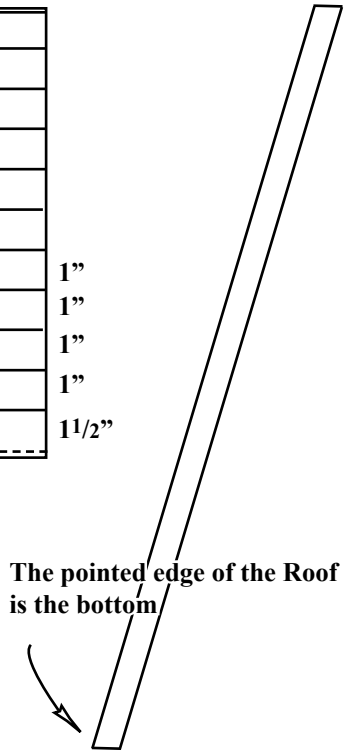


Pro tip: Dye or stain shingles several days ahead of time so they will be dry when the time comes to shingle the roofs. Follow the instructions on Real Good Toys' dye, or see "Dye or stain shingles" at www.dhbuilder.com



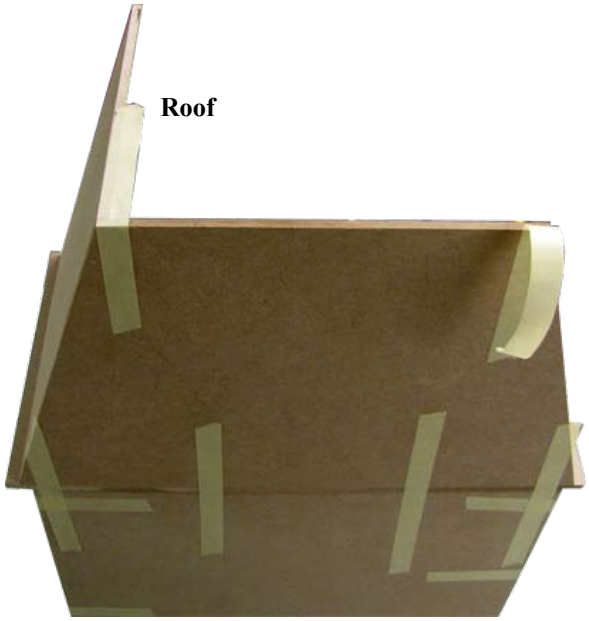
☐ 13. Prepare shingle guidelines on the roofs. The first guideline is 1 1/2" above the bottom edge, and the rest are spaced 1" apart. Measure up both sides of the Roofs and mark for the guidelines using a ruler or the guideline measure on the right of this page.

Prepare flaps of tape at the top and bottom of the AtticBack



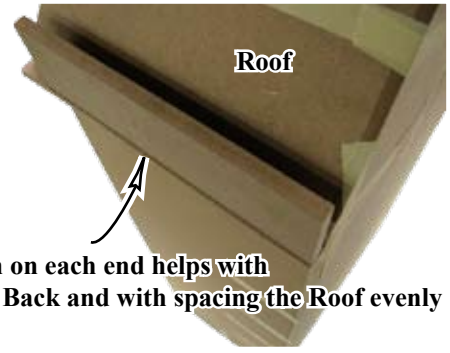
☐ 14. Glue and tape the Attic Back to the Top Floor, lined up in back and centered side-to-side (one foundation thickness on each end helps to find the "centering")

☐ 15. Glue and tape a Roof to the Attic Back (to the front face) and to the Top Floor, spaced evenly with the end of the Top Floor from back-to-front



☐ 16. Glue and tape the other Roof to the Attic Back and Top Floor, , spaced evenly with the end of the Top Floor from back-to-front.

Set a Foundation on each end to re-check the centering and to help get the roof spacing even from back-to-front. Tape the front edges



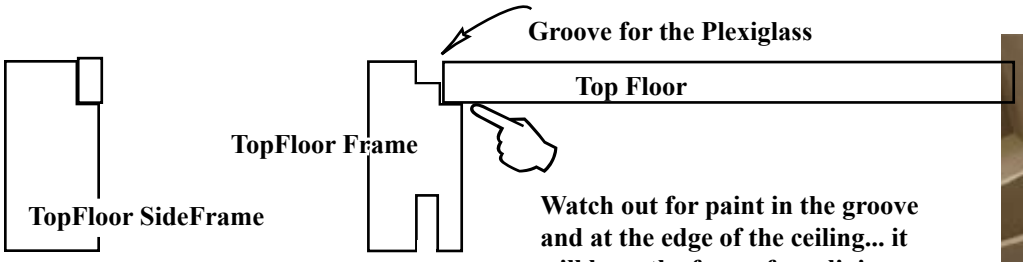
☐ 17. Glue and tape the Rooftop to the Attic Back and Roofs, lined up in back, and centered side-to-side.
Hold the Attic Plexiglass against the Roof to determine the fit of the Roof under the Rooftop first on the right (tape the Roof to the Rooftop), then on the left (tape the Roof to the Rooftop)

Check the spacing again before the glue is dry

Finish painting the outside of the Showcase (do not paint the edges).

☐ 18. Glue and tape together the Foundation set.
One Foundation has a 1/2" hole drilled to fit a #247 "2.1mm DC Power Jack". Use that foundation for one of the ends if that style jack is how you want power to come into the foundation space.
For the Showcases we make here at RGT, we paint the Foundation with one coat of grey paint, then one coat of the same color, mixed with Stucco Grit for foundation texture.
(see your Real Good Toys Dealer or www.realgoodtoys.com)

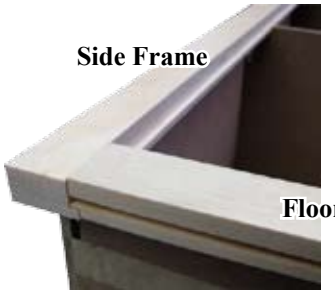
☐ 19. Tape together and test the TopFloor Frame and the TopFloor SideFrames on the Showcase - make sure they can line up with each other on top. You will probably have some excess paint to clean up to achieve a good fit.
Note the places where you will glue.

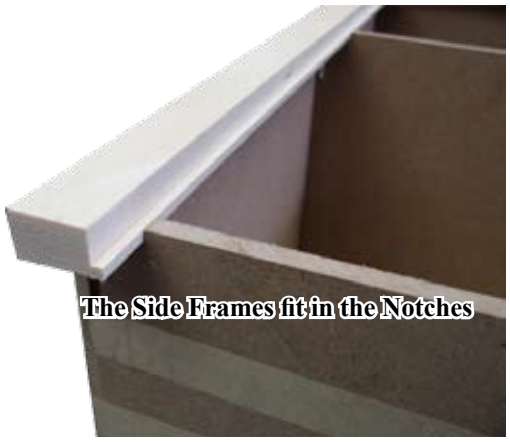


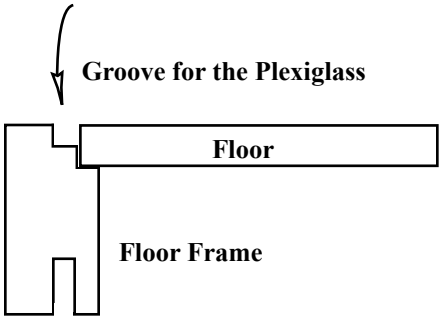
Watch out for paint in the groove and at the edge of the ceiling... it will keep the frame from lining up with the floor on top

☐ 20. Test then glue the Side Frames to the Showcase. Clean excess glue out of the plexiglass groove. Tape the TopFloor SideFrames tight to the Topfloor in back and across the front, keeping the frame lined up with the floor on top.

☐ 21. Test then glue the Side Frames to the Showcase







☐ 23. Test then glue the Floor Frames to the Floors, the Sides, and the Topfloor Frame.
Without glue, lay a Floorframe just below the TopFloor to hold the spacing. Glue the next-lower FloorFrame in place. The Sideframes should extend about the thickness of the Stripwood (3/32) past the Sides on each side. Tape all the way from one Side, around the SideFrame, across the FloorFrame, and around the corner to the other Side

☐ 24. Test the side-to-side fit of the SideFrames at the top (3/32). Tape the SideFrames to the TopFloor Frame.
Remove the FloorFrame (spacer).

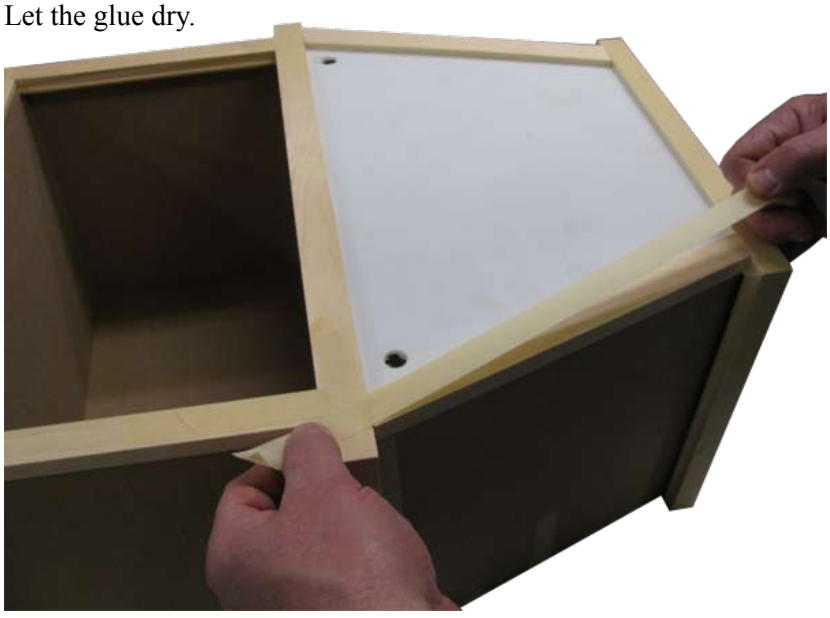
☐25. Glue and tape the rest of the Floor Frames to the Floors and Side Frames. Check again that the Frames line up with the tops of the Floors.
Clean excess glue out of the Plexiglass groove.
Tape the frames tight together and weight the Frame. Let the glue dry.

☐26. Tape together, test, then glue the Rooftop Frames on the Showcase. Tape the RoofTop SideFrames to the Rooftop at the back.

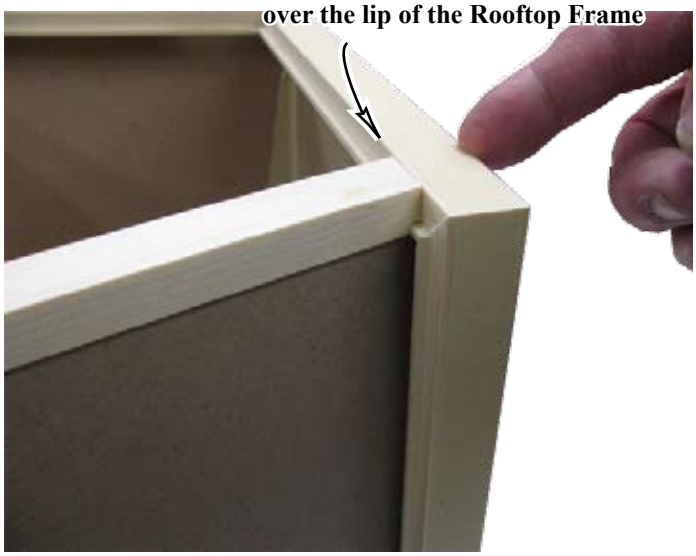
Rooftop Frame

Attic SideFrame

☐27. Test then glue the Attic SideFrames to the Showcase. Lay the Attic Plexiglass in the frame set to confirm the spacing. Slide the Attic Plexiglass "UP" so it touches the Rooftop Frame. Adjust the side-to-side spacing with the Roofs (extending 3/32 on each side).
Tape the frames tight and add weights.
Let the glue dry.



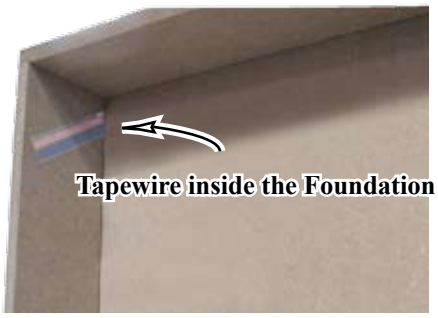
The Attic SideFrame's dado fits over the lip of the Rooftop Frame



Wiring: The Electrification Slots make running "tape style" wiring easy. We strongly recommend interior area lighting to be primarily LEDs to keep heat down. ExtraBrite© LEDs are high output LED striplights, available in daylight white or warm white.
This Showcase will use under 5' of ExtraBrite© striplight which, by itself, will draw less than 10 watts of power (.8 amps at 12 volts.) These instructions will cover the use of ExtraBrite© LEDs and tapewire. A 12 volt direct current (12VDC) power supply is recommended, although 12 volts alternating current (12VAC) will work. These wiring supplies are not part of this Showcase Kit.

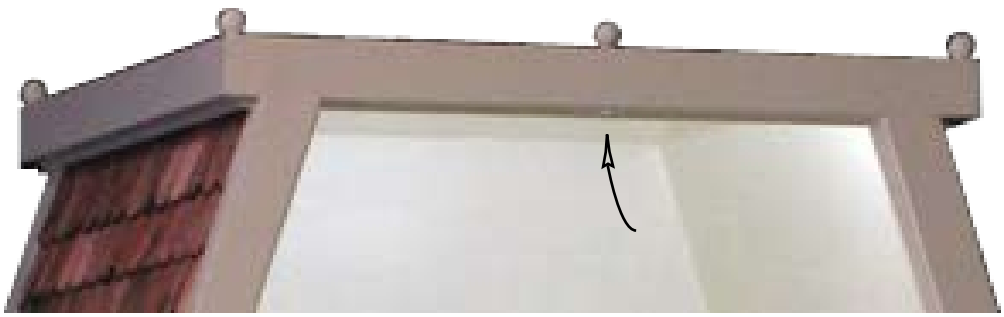
☐ 28. Run Tapewire from the top of the Roof to 4" below the Base Floor, leaving the 4" un-attached.

☐ 29. Glue, tape, and weight the Showcase to the Foundation. Turn the 4" of tapewire at an angle where it comes into the Foundation space so it will still be a loose flap after the Foundation is attached. The Foundation touches the Floor Frame in front, and is spaced evenly down both sides and across the back. Check all around - let the glue dry



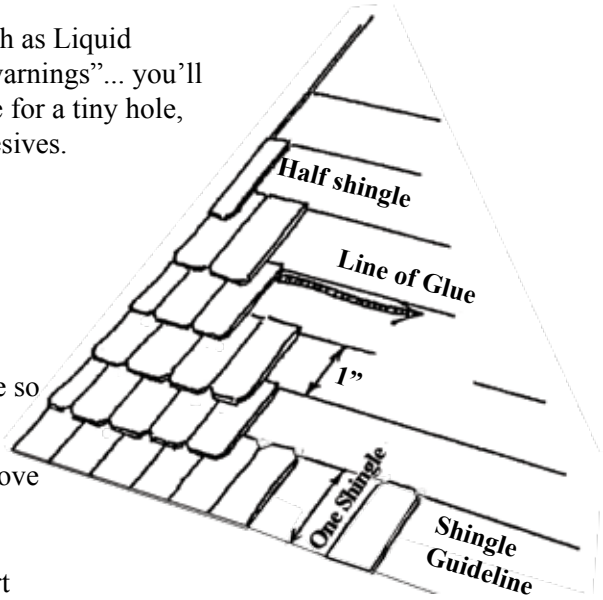
☐ 30. Tip the showcase or lay it on its back. Stick the Tapewire to the inside of the Foundation - cut off the excess leaving at least 2 1/2" of tapewire for making connections.

☐ 31. Stand the Showcase upright.
Glue and tape painted Stripwood to the Sides at the back
Cut, glue, and tape painted Stripwood to the Roofs at the back.



☐ 32. Glue a Dowel into one Bead. Without glue, drop the Dowel thru the Rooftop Frame's hole (in the center of the front) to "keep" the Attic Plexiglass. Glue four beads in the corners

☐33. Shingle the Roofs: Glue: Use a thick *solvent-based* panel adhesive such as Liquid Nails®Macco available in a caulking gun tube at building supply stores (read the "warnings"... you'll know it's *solvent based* if it's flammable). Trim just a little of the end of the tube for a tiny hole, to give a thin bead of glue. Always use good ventilation with solvent based adhesives.

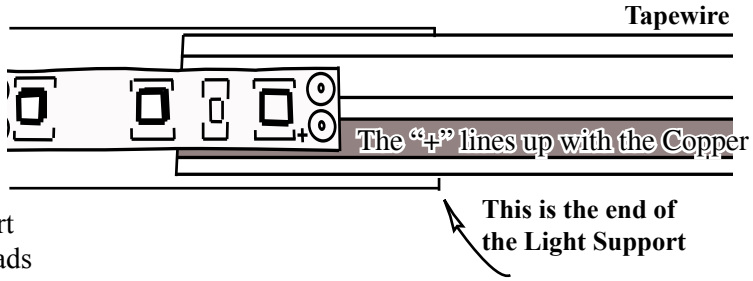


Apply a thin line of adhesive **1/8**" below the lowest guideline. Press the top edge of a Shingle into the line of glue, squeezing out the excess. Hold the first Shingle steady and press another shingle into the adhesive, tight to the first. Hold the next Shingle and press in another... etc. all the way across the roof, cutting the last shingle to fit with scissors or a fine toothed saw.

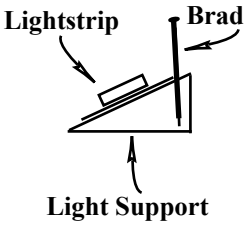
Continue up the roof one row at a time. Start every other row with a half Shingle so that the seam between Shingles weaves back and forth as you go up the roof.

When you get to the top course the guideline is hidden; space the shingles 1" above the next-lower course.

☐34. Stick a piece of Tapewire to a Light Support with 3" or so on the Support and a 3" or so flap sticking out the right end. Cut a Lightstrip at a "cut mark" just shorter than the Light Support. Stick the Lightstrip to the Tapewire with the "+"contact on the lightstrip over the copper colored wire, and the "-" contact on the lightstrip over the blue colored wire. Punch a hole thru each contact with an EL-66 Electrification tool (www.realgoodtoys.com), and insert an eyelet thru the contact into the foil.

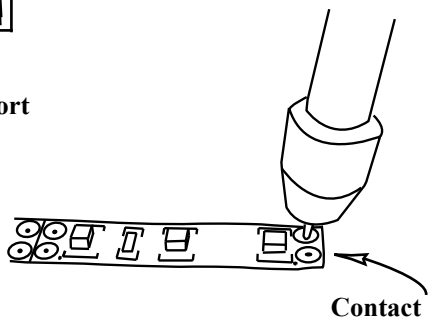


☐35. Start 2 brads in the light Support. Turn the Light Support around, hold it against the back of the Floor Frame, drive the brads into the Floor Frame - but **don't hammer the Lightstrip!** The ExtraBrite© striplights last a long time but not forever... leave the heads of the brads exposed so they can be pulled out for service.

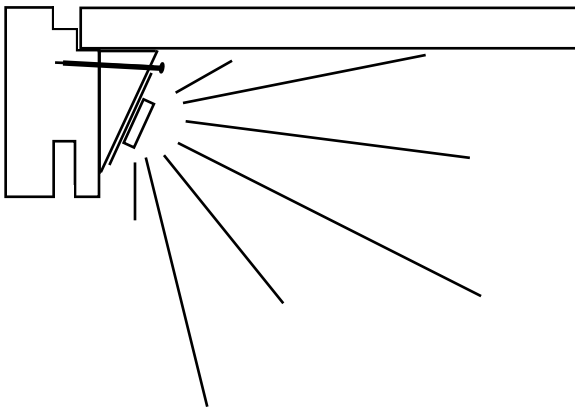


☐36. Stick the flap of Tapewire to the Side, overlapping the vertical Tapewire run (step #28). Make eyelet connections, copper to copper and blue to blue.

☐37. Repeat these steps for each floor. Cut the Light Support to fit the Attic ceiling.



☐38. Connect a 12 volt lead-wire from the Power Supply (or the jack) to the tapewire. If the power supply is DC, it matters which lead-wire goes to the "+" (copper-colored) so, if the lights don't light up, switch the lead-wires. Test the lights before spackling the tapewire or doing the interior finishing in your Showcase following normal miniature wiring procedures. Refer to your wiring manual, Real Good Toys' "Quickstart Guide", or www.dhbuilder.com for wiring techniques information.



☐39. Remove the protective covering from the plexiglass when construction is over. Clean the plexiglass with soap and water, and a soft "lens grade" cleaning pad only... do not use amonia or glass cleaner, paper towels, or squeegees. Install Dividers as part of your interior finishing plan; it is recommended to use *at least* one Divider between each floor for structural support.