



THE Thornhill

The complete **Thornhill** kit includes:
Shell kit # 9001 and component set # 9002
46" L x 28" D x 36" T



Thornhill Shell Kit # 9001 Includes:

- All plywood parts pre-cut to fit
- 14 spacious rooms
- Quoins (pre-cut, mitered corner blocks)
- Dentil trim on front gable
- Chimneys
- Front steps
- Hinges and magnets
- $\frac{3}{8}$ " thick cabinet grade plywood
- Completely pre-cut parts
- Access from all sides
- 5 opening panels
- 2 room depth
- Scale 1" to 1'
- Handmade by Vermont craftspeople

Thornhill Component Pack # 9002 Includes:

- Interior and exterior doors, windows, shingles, hardware, staircases and trim

| Qty. | Item # | Description |
|------|--------|--------------------------|
| 10 | 1105 | Round Door Knob |
| 9 | 1114 | Knob with Keyplate |
| 1 | 1139 | Opryland Door Handle |
| 8 | 5014 | Palladian Window |
| 8 | 5031 | Victorian Slim Window |
| 1 | 5049 | Circlehead Window |
| 9 | 6007 | 6-Panel Interior Door |
| 1 | 6010 | Jamestown Door |
| 3 | 6011 | French Door |
| 2 | 6026 | Dbl. Entry Interior Door |
| 2 | 7000 | Straight Stair Kit |
| 1 | 7012 | Newel Post |
| 2 | 7019 | Stair Spindles |
| 2 | 7020 | Stair Handrail |
| 12 | 7041 | Door & Window Casing |
| 3 | 7104 | Square Butt Shingles |

Produced and packaged by:



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www.miniatures.com

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Real Good Toys



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SUPPLIES NEEDED:

White or yellow glue (8 oz.)

Quick Grab Glue or comparable clear solvent based cement (1 tube)Liquid Nails or comparable panel adhesive (4 tubes if shingling)

1" panel nails

Texture Paint or alternative for stucco and sanding base

Paint - semi gloss enamel

Brushes - 4" 1" foam brushes and 2-1 1/2" foam brushes

1 Pint Shellac

TOOLS NEEDED:

Hammer

#0 phillips screwdriver

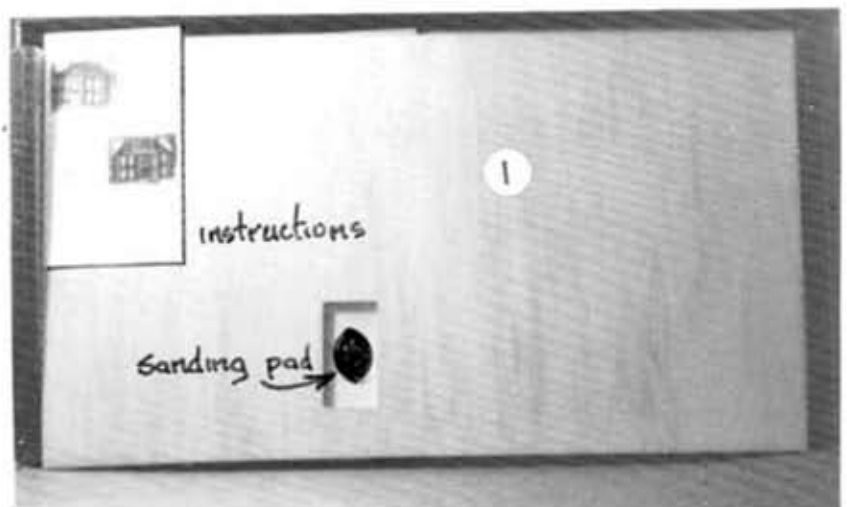
Tin snips or heavy shears

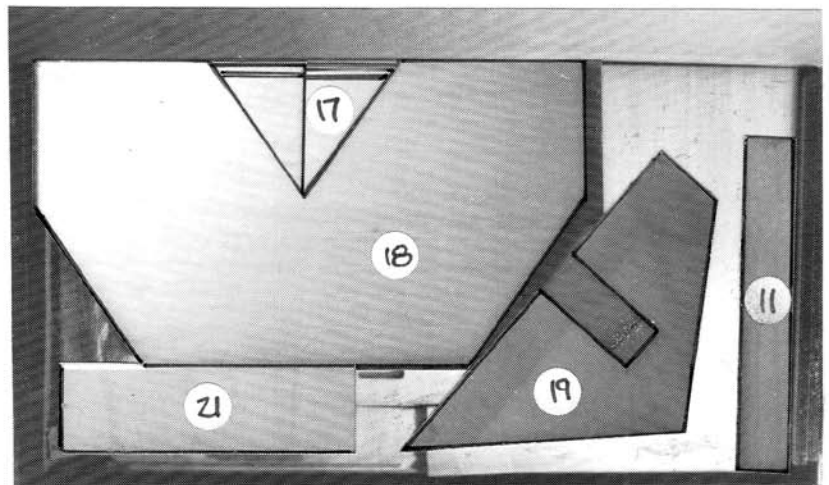
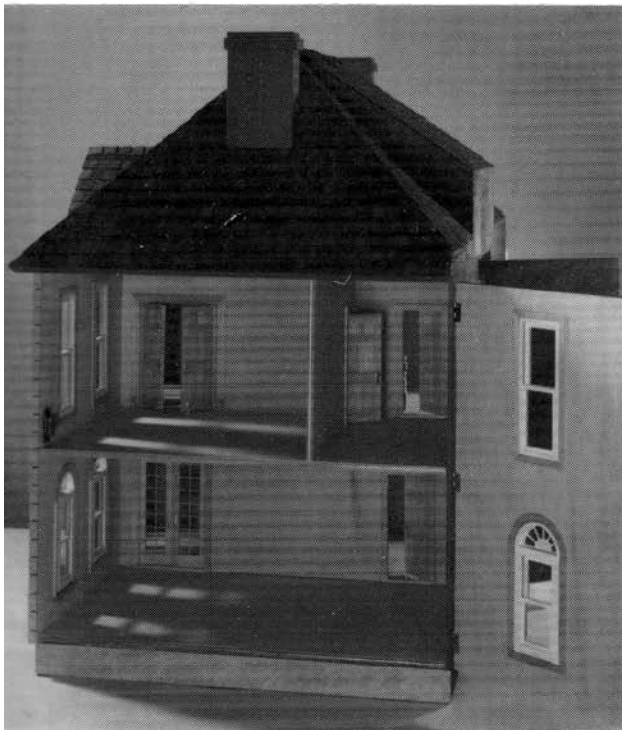
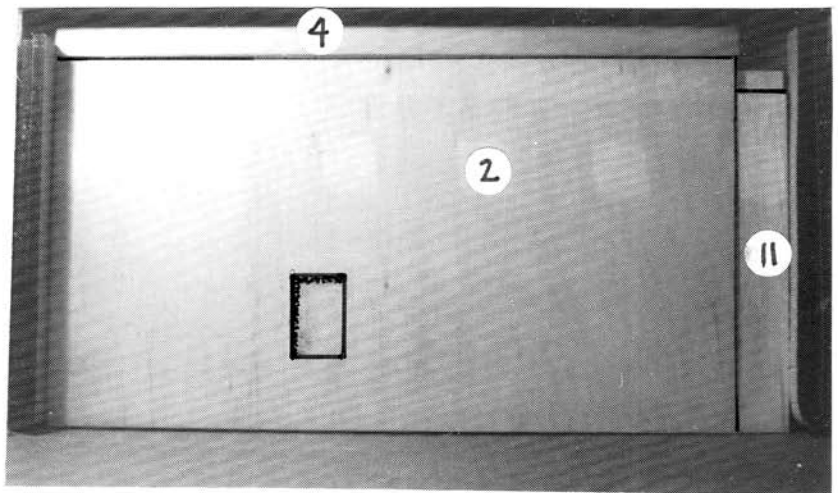
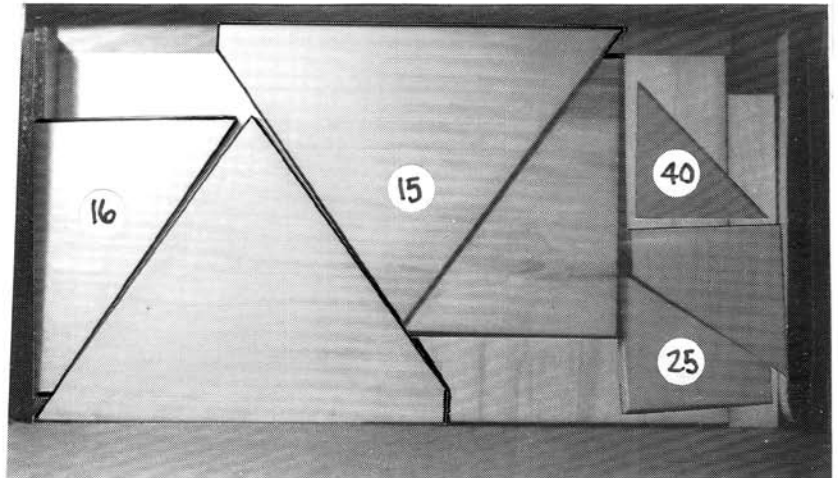
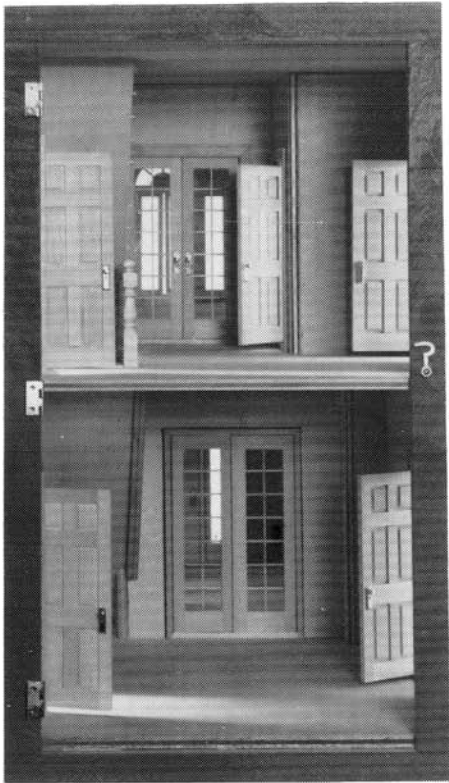
Ruler

Plyers (we use vice grips and a brad for prepunching nail and screw holes).

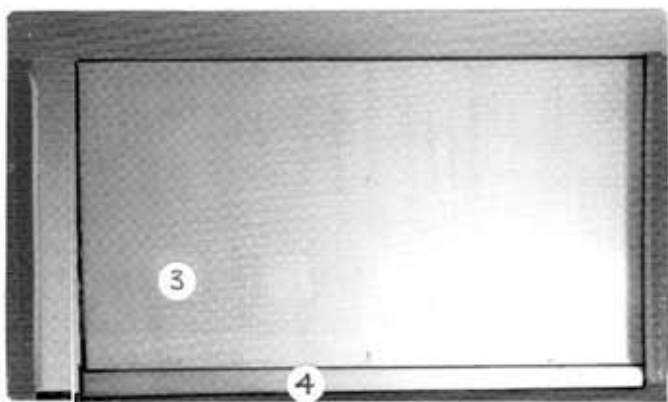
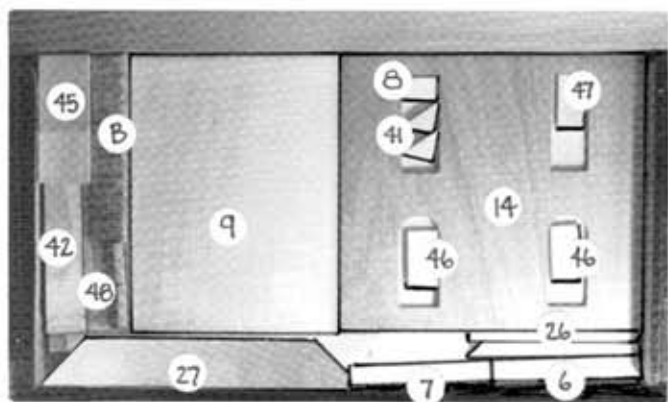
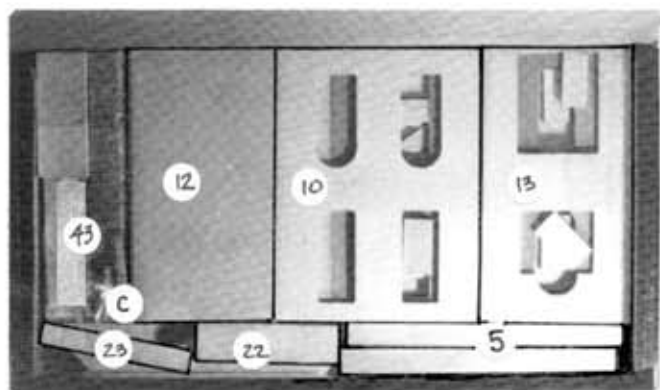
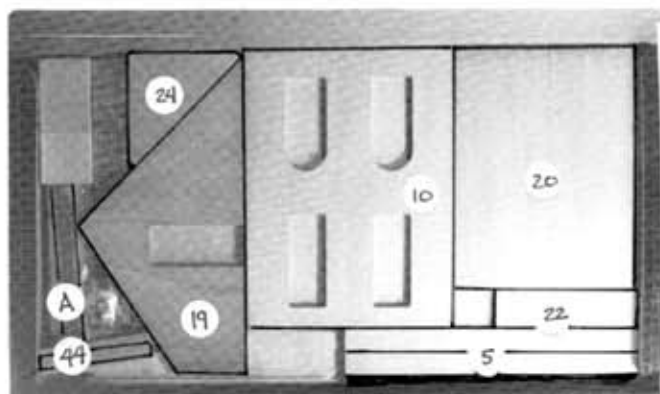
**Shell Kit Instructions**

The following series of photographs should be used to identify the parts. The photographs show the parts as they are actually packed - layer by layer.

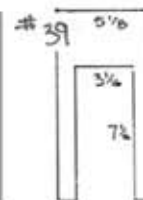
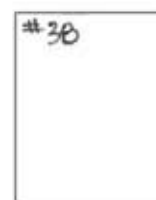
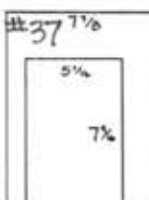
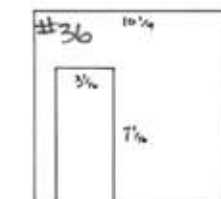
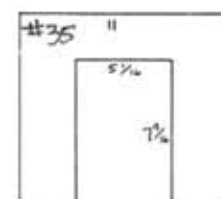
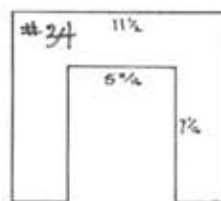
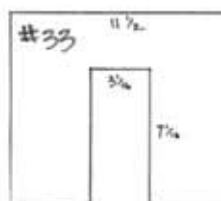
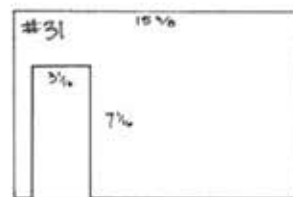
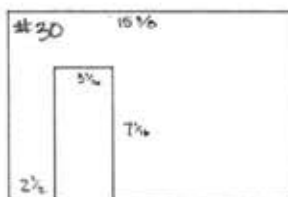
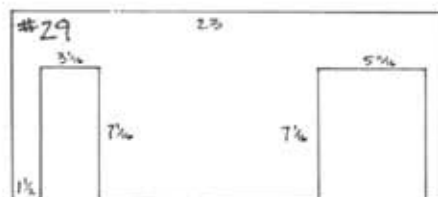
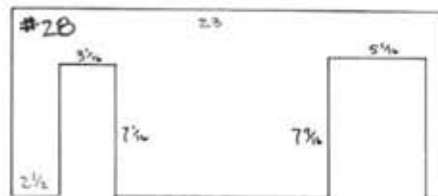




9001 Box 1 contains all the parts in these 8 identification photographs:



9001 Box 2 contains all of the dividers (parts #28 thru #39).



| Identification Number | Description | Measurements |
|-----------------------|-----------------------------|---------------------------------------|
| 1 | Top floor | 24-3/4" x 45-3/16" with stair hole |
| 2 | Middle floor | 23" x 42-1/2" with stair hole |
| 3 | Base floor | 23" x 42-1/2" |
| 4 | 2 Foundation pieces | 42-7/8" x 1-3/4" |
| 5 | 5 Foundation pieces | 22-3/4" x 1-3/4" |
| 6 | Foundation piece | 11-3/8" x 1-3/4" |
| 7 | 3 Foundation blockings | 10-5/8" x 1-3/4" |
| 8 | 2 Foundation pieces | 2-13/16" x 1-3/4" |
| 9 | 2 Back pieces | 20-3/4" x 15-3/4" |
| 10 | 2 Front pieces | 20-3/4" x 15-3/4" with window holes |
| 11 | 2 Gable side pieces | 20-3/4" x 3" |
| 12 | Center back | 20-5/8" x 10-7/8" |
| 13 | Center front | 20-5/8" x 11-3/4" with window & door |
| 14 | 2 Side pieces | 20-5/8" x 23-11/32" with window holes |
| 15 | Left & Right side roof | 25" base x 18-9/16" tall - beveled |
| 16 | Left & Right back roof | 12-23/32"b x 17-1/8" tall - beveled |
| 17 | Left & Right corner roof | 5-29/32"b x 8-3/8" tall - beveled |
| 18 | Center front roof | 34" x 18-9/16" inlet for gable, bevel |
| 19 | 2 Attic partitions | 24-1/16" base x 12-19/32" tall, door |
| 20 | Dormer roof | 17-7/8" x 14-3/8" - beveled |
| 21 | Dormer back | 5-3/16" x 17-7/8" - beveled |
| 22 | 2 Gable floors | 3" x 11" |
| 23 | Top gable floor | 1-5/8" x 11-3/4" |
| 24 | Gable triangle | 6-1/4" tall x 11-3/4" base |
| 25 | Left & Right gable roof | 9-1/8" x 9" - beveled |
| 26 | Left & Right back kneewall | 1-1/16" x 13-13/32" - beveled |
| 27 | Left & Right attic kneewall | 4" x 23-15/16" - beveled |
| 28 | Divider | 10" x 23" with door holes |
| 29 | Divider | 10" x 23" with door holes |
| 30 | Divider | 10" x 15-3/8" with door hole |
| 31 | Divider | 10" x 15-3/8" with door hole |
| 32 | Divider | 10" x 17-1/2" |
| 33 | Divider | 10" x 11-1/2" with door hole |
| 34 | Divider | 10" x 11-1/2" with door hole |
| 35 | Divider | 10" x 11" with door hole |
| 36 | Divider | 10" x 10-1/4" with door hole |
| 37 | Divider | 10" x 7-7/8" with door hole |
| 38 | Divider | 10" x 7-5/8" |
| 39 | Divider | 10" x 5-1/8" with door hole |
| 40 | Stair blind | 8" base x 8" tall triangle |
| 41 | 2 Stair blinds | 2-1/2" base x 2-1/2" tall triangle |
| 42 | Step | 3/4" pine 2-7/8" x 10" |
| 43 | Step | 3/4" pine 2" x 8-9/16" |
| 44 | Threshold | 9/16" pine 3/4" x 7-3/16" |
| 45 | 2 Chimney blocks | (1/2 x 4" angled |
| 46 | 2 Middle caps | 4-3/8" x 1 7/8" |
| 47 | 2 Top caps | 4" x 1 1/2" |
| 48 | 2 Stair extension blocks | 3/4" pine 1-3/8" angled x 3-1/8" |
| | 2 Stair treads | 1/16" pine 7/8" x 3-1/4" |
| | Sanding pad | |

Prepack A:

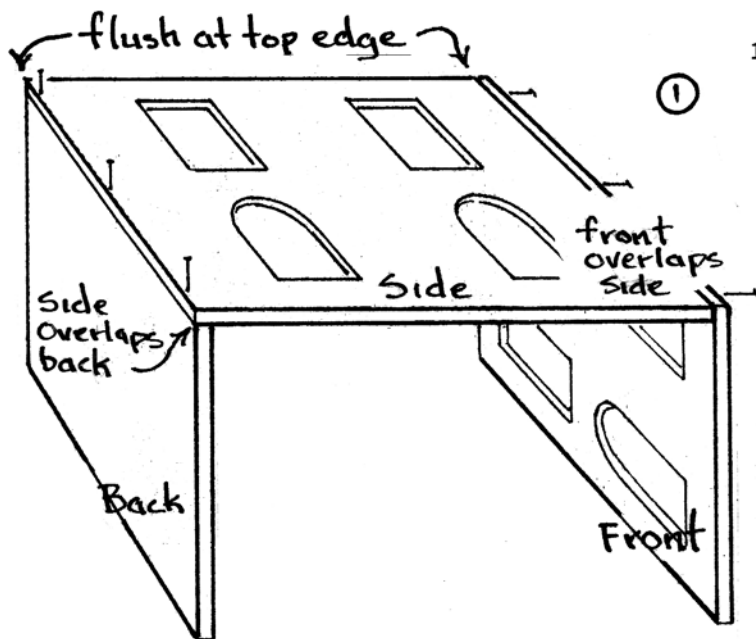
- 1 Triangle pediment
- 1 Pediment dentil
- 2 Eave dentil
- 2 Pediment purlin
- 1 Peak purlin

Prepack B:

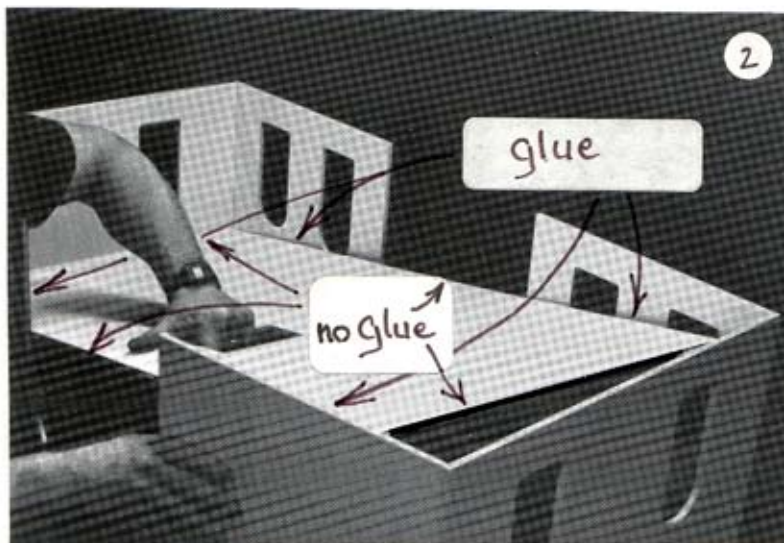
- 18 Keystone
- 44 Quoin 1 1/2" mitered
- 22 Quoin 1 1/2"
- 44 Quoin 1" mitered
- 66 Quoin 1"
- 88 Quoin 1/2" mitered
- 44 Quoin 1/2"
- 5 Quoin 3/8" mitered

Prepack C:

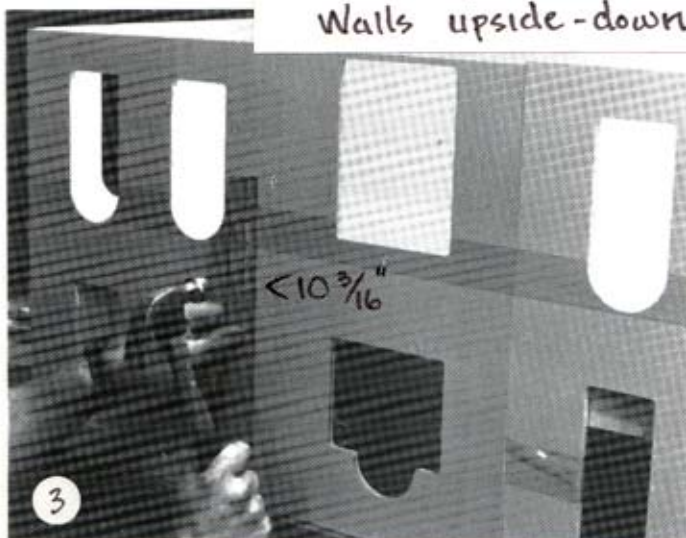
- 3 Cabinet magnets
- 16 Hinges #1276
- 64 Screws 3/8" #2
- 3 Hinges #266
- 15 Screws 3/8" #5
- 1 Flat hook
- 5 Roundhead screws 1/2" #6
- 6 1-5/8" Panel nails



1. Locate and identify all the parts using the photographs and parts list. Parts identification numbers are in parenthesis in the instructions. Discussion with Real Good Toys about any assembly problems should include the exact name of the parts as used in the parts list.
2. Nail together (don't glue, this is a temporary assembly) one front (#10), one side (#14), and one back (#9) into a freestanding "U" shaped wall section. The front panel overlaps the side, and the side overlaps the back. Set the 3 panels flush at their top edges.
3. Repeat step 2 with the other set of walls, but lay them out in reverse order to produce the other assembly of a left & right set.



Square the Corners
of the Openings



4. Stand the wall assemblies on their top edges, upside down, on a large, flat surface. Tape dividers around the inside perimeter, forming a support platform to hold the middle floor (#2) in position for glue/nailing. Without glue, put the middle floor into the wall assemblies. With the floor upside down, the stair hole should be closest to the back panels, offset to the left when viewed from the front. Mark the position of the center front and center back panels on the edge of the floor panel.

Remove the mid-floor and do NOT put glue on the edge of the areas which line up with the side walls and the center front and back. These panels will be hinged and will swing open. Apply glue to the other edges.

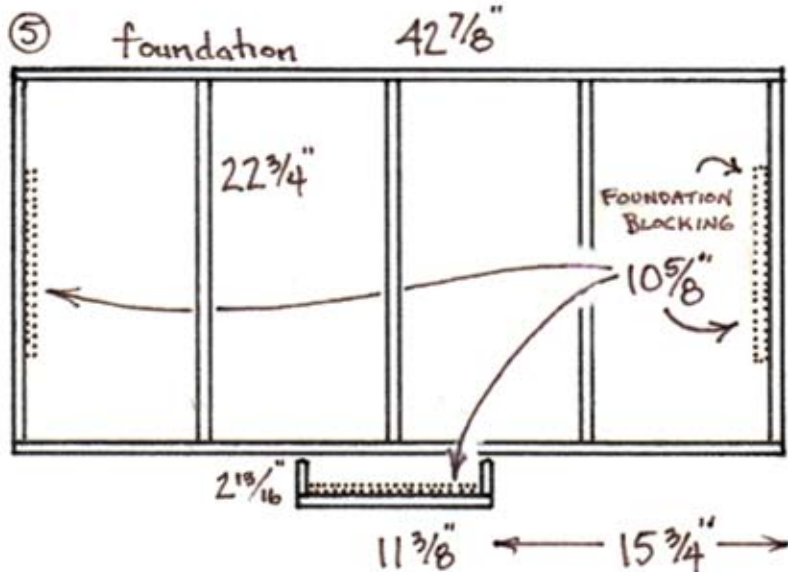
Set the floor panel back in place, oriented properly. Use another person to help avoid messy glue smear.

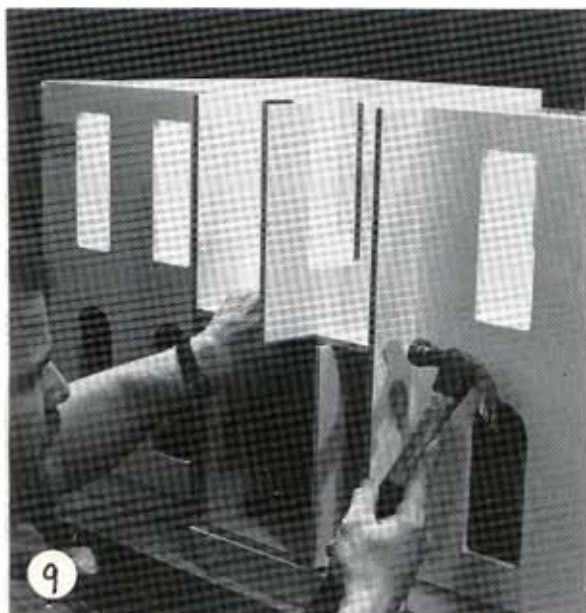
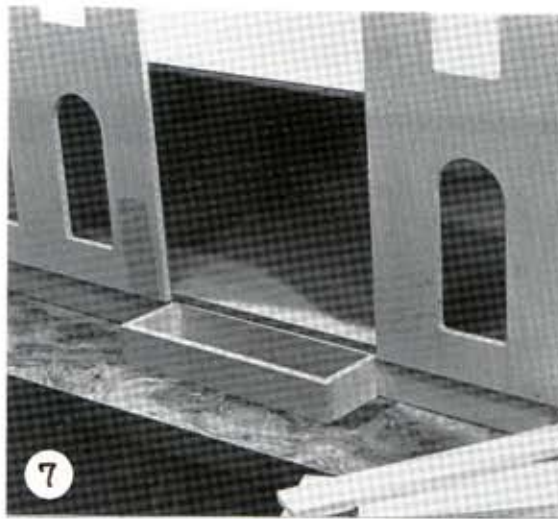
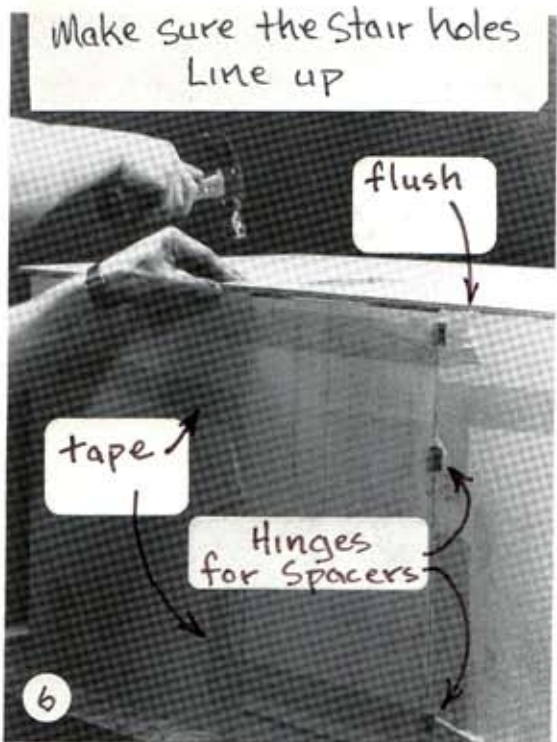


Add the center front (#13) and center back (#12) panels to the wall perimeter and tape all the way around - don't be stingy! One leaf of hinges from the hardware pack (prepack C) will ensure clearance if squeezed into the center back/back joint. You can see them in photo #6.

Nail the front left & right walls and the back left & right walls to the mid-floor panel. Be sure the floor is held down tight to the divider perimeter. Nails will be 10-3/16" from the work surface. (Always check for "splitout" before the last smack of the hammer so the nail can be extracted if necessary.)

5. Tape in place another divider perimeter, spacing from the middle floor. Position, mark, and remove the base floor (#3). Once again, glue & nail only the L & R front and back panels. Keep the floor tight to the dividers when nailing.
6. Pre-assemble the foundation as shown (#4 & #5), one nail into each cross piece is sufficient.
7. Lay the foundation on your flat worksurface. Put glue on all the top edges, except those that will line up with the side panels and the center front & back. (We like panel adhesive for this operation.) Set the house body right side up on the foundation, flush at the back edge and spaced evenly elsewhere. Tape and tack - avoid flexing the base floor.





8. Glue/nail the top floor (#1) in place to the top edges of the L & R front & back walls, flush at the back edge, and overhanging one inch at the sides and front. (Again, do not glue the opening panels in place!)

9. Remove the center front panel. To encourage the base to remain flat as the glue dries, place the 23" dividers across the base floor, thus supporting the base across the opening.

Glue and nail together the gable foundation (#6 & #8) and glue to the house foundation in the space left by the center front. Glue and nail one gable side (#11) to the edge of the front panel.

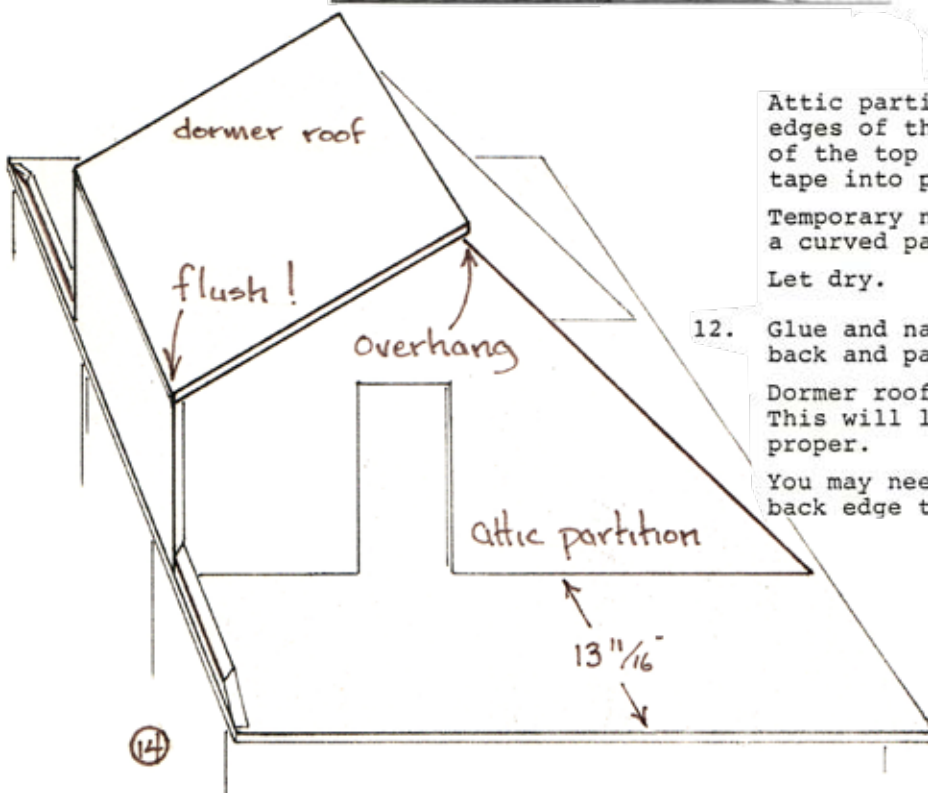
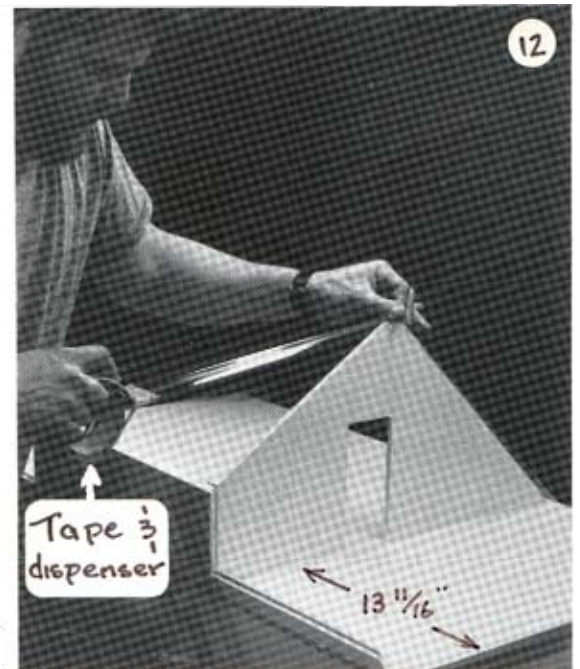
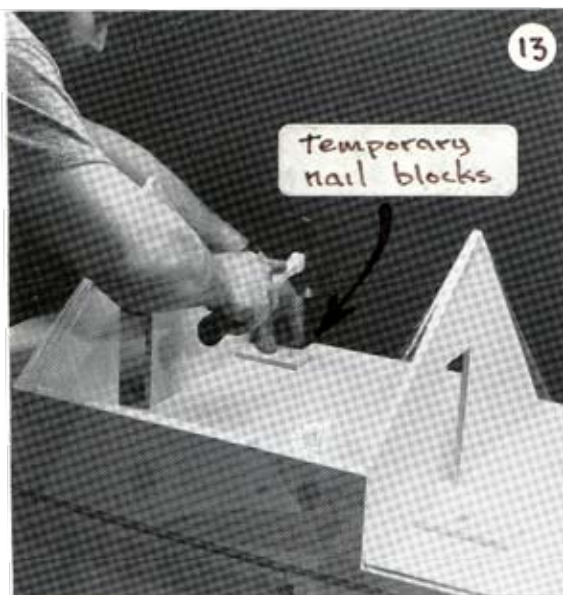
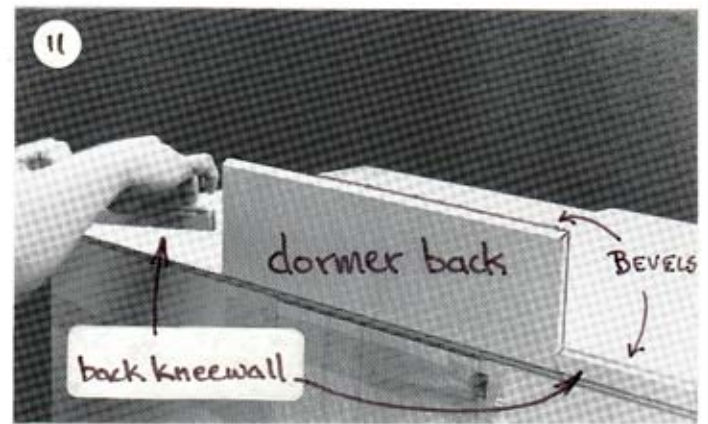
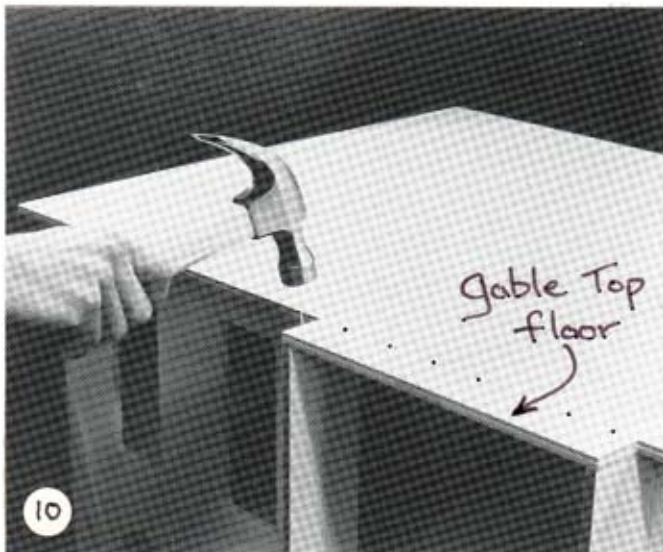
Glue and tape (lots of tape, stretch it as you rub it down) the lower 2 gable floors (#22) to the house floors and gable side.

Without letting the glue set on the floors, glue and nail the second gable side in place.

Check the flatness from the gable floor to the house floors by sliding in dividers.

Glue, nail and tape the gable top floor (#23) in position to the house top floor edge and to the gable sides, flush with the sides.

10. You may have space between the foundation cross pieces and the floor panel. Three foundation blocking pieces (#7) are provided to reinforce these joints at the gable front, and at both side panels if necessary. These should be glued to the foundation inside face and to the floor bottom.
11. Test fit the back kneewalls (#26) and dormer back (#21) to the top rear edge of the house body. Make sure they are equally spaced (about 1/4") from the top floor ends and flush with the back. The beveled surface of these panels face the back of the house. Glue, tape and nail the kneewalls and dormer back. Use 1-5/8" nail in the hardware pack for the kneewalls.



Attic partitions (#19) will be flush with the edges of the dormer back, 13-11/16" from the ends of the top floor. Mark their position, glue and tape into position.

Temporary nail blocks may be used to straighten a curved partition while the glue dries.

Let dry.

12. Glue and nail the dormer roof (#20) to the dormer back and partitions.

Dormer roof **MUST** be flush with the dormer back. This will leave a 1/8" lip at the top which is proper.

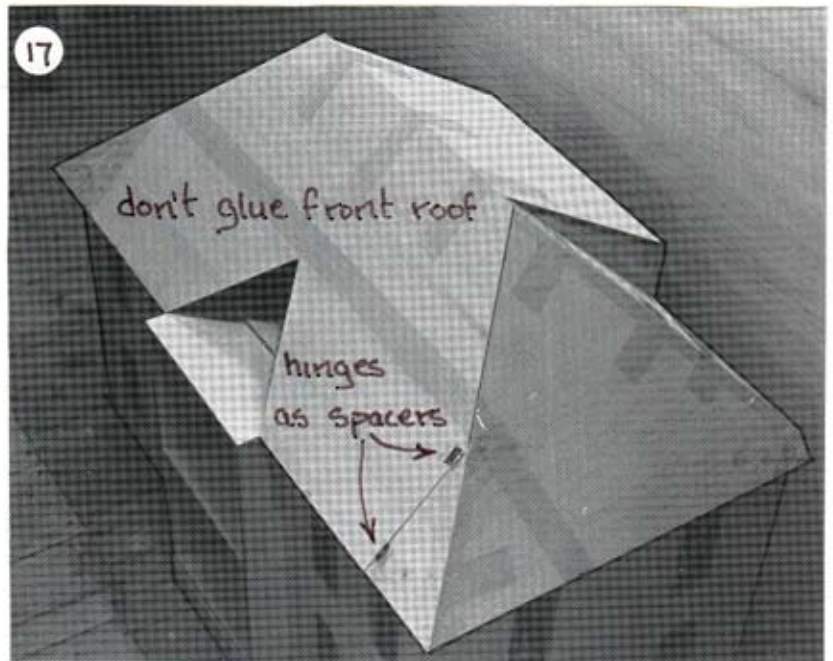
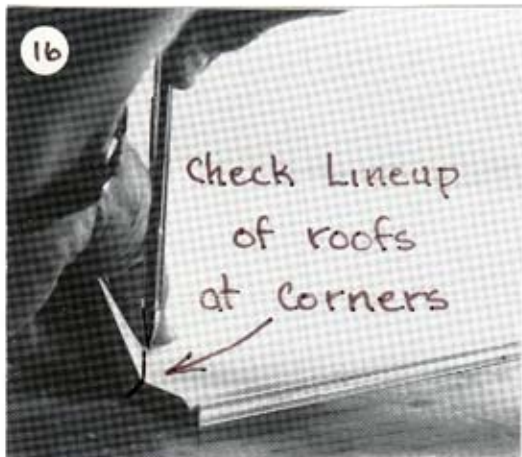
You may need assistance when nailing across the back edge to keep the dormer back from curving in.

13. Layout the sets of side roof (#15), back roof (#16) and front corner roof (#17) as shown. Tape these sets together at the points of the bevels. Extra caution **MUST** be used to be certain that the corners will line up with each other when the sets are folded into half-roof shells. Test the half-roof shells in place on the roof. Note edges which will be glued.

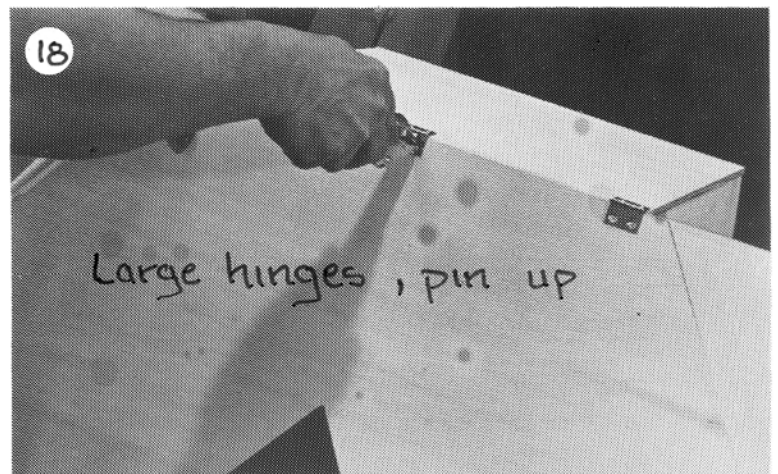
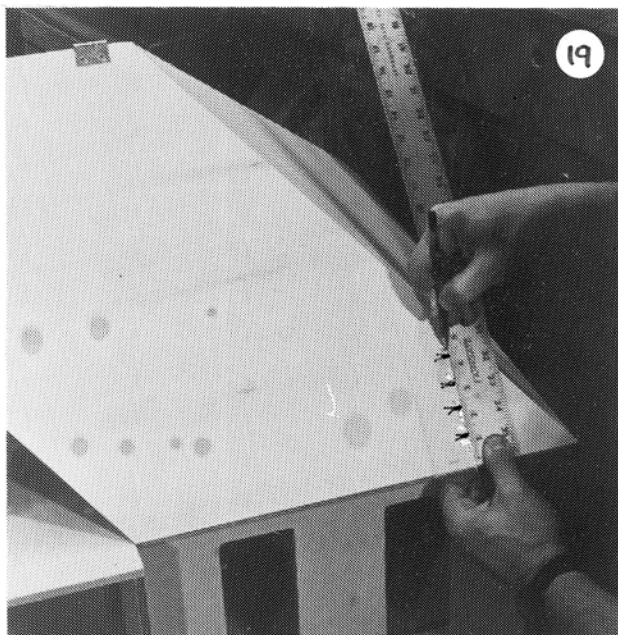


Glue together the roof sets. Glue them in place on the house.

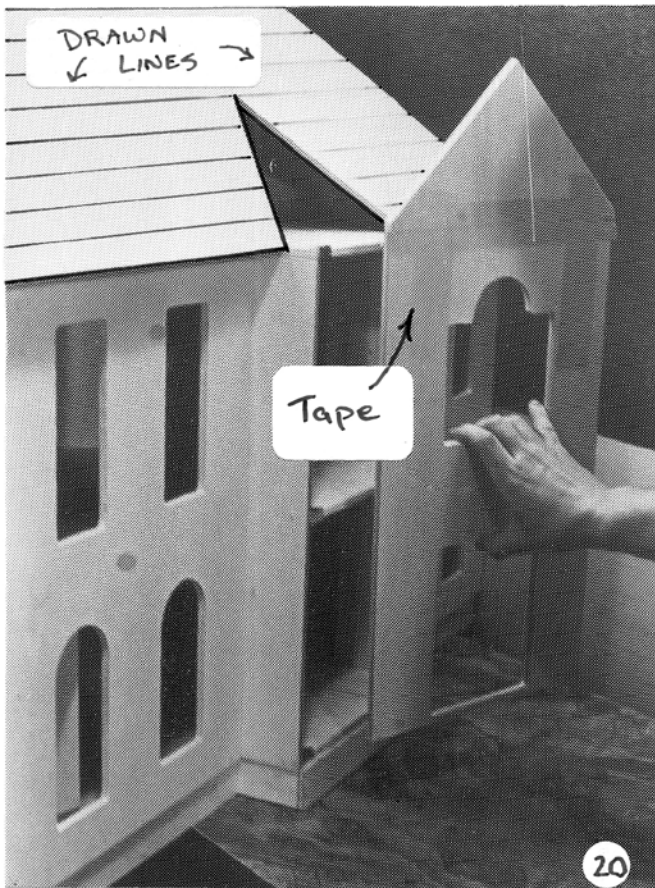
Set the front roof (#18) in place with hinge leaf spacers to ensure clearance, then tape the entire roof unit to hold everything firmly in position. (We always end up with about 6 loops of tape all the way around the house as well as lots of pieces stretched into position across every joint.) Let dry.



Setup entire roof while glue dries



14. Using the large hinges from the hardware pack, mount the front roof.



15. If you are planning to shingle the house, this is the easiest time to draw the shingling lines. The 1-1/4" shingles provided in the Houseworks Component Set would use lines at 1-3/16", 2-3/16", 3-3/16", 4-3/16" etc. for the front and side roofs. The back roof would use lines at 3/8", 1-3/8", 2-3/8", etc. in order to have the lines match at the corners. The dormer roof top should be marked at 7/8", 1-7/8", 2-7/8", etc.

These lines would dictate a shingle cut to 1/2" on the first course of the back roof, and 1" for the dormer roof.

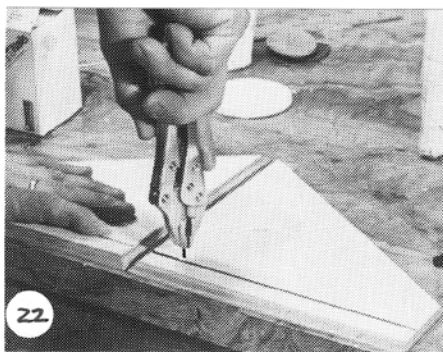
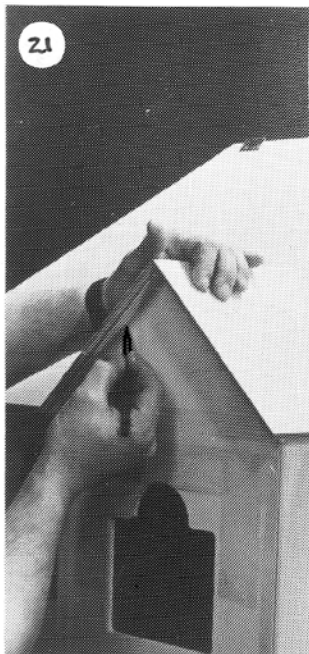
16. Tape together the gable front (#13) and triangle (#24). Do not use glue. Temporarily attach this unit in place on the house body using lots of tape or nails. Line up the shoulders on the triangle with the corners of the gable top floor. This will leave a space of about 1/8" at the bottom edge of the front panel.

Tape together the gable roofs (#25) at the peak. Dry fit this unit on the house and mark its location on the house front roof.

Mark the eave edge on the bottom surface of the gable roofs. Push holes 3/16" to the inside of this line, 1-1/2" from the peak and bottom edges of each roof.

Glue together the gable roof set and glue this unit to the gable triangle and the house front roof. Nail through the prepunched holes to the triangle and use lots of tape to hold the gable roofs to the front roof. Let dry.

Remove the center back, sides, and center front wall panels.



17. Drive 2 nails into each attic kneewall for handles to use while coaxing them into position. Later, they can be removed and a dab of texture paint will hide the hole.

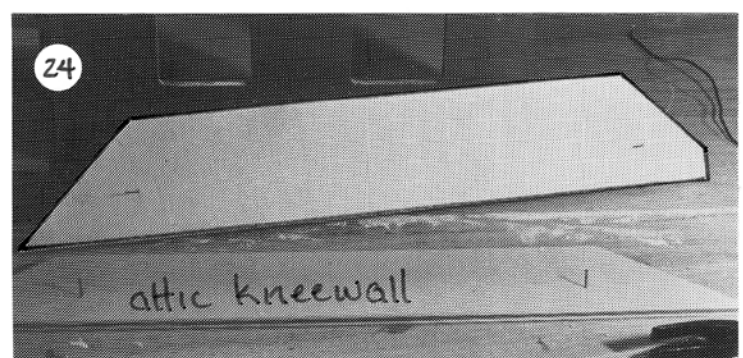
Test fit the kneewalls. Mark the position of the bottom edge on the attic floor.

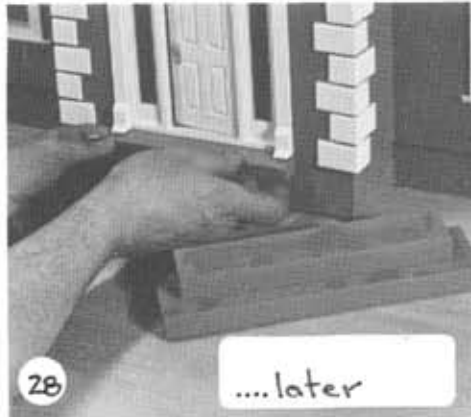
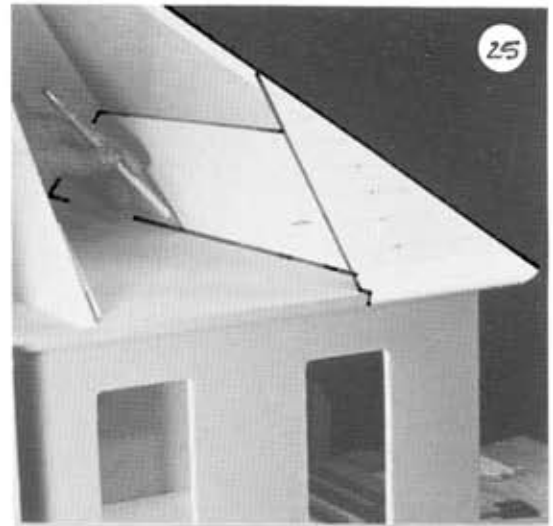
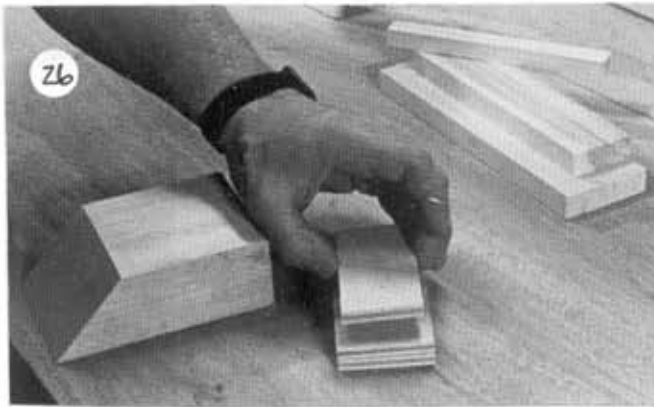
Unless the kneewall is perfectly flat, you may wish to prepunch 1 or 2 holes 3/16" behind this line for nailing up through the floor into the kneewall.

Put a line of glue just past the mark on the attic floor and a line of glue on the kneewall beveled face.

Install the kneewall.

Assemblers Note: One of the kneewalls in the photographed house required considerable straightening. We used nails up through the prepunched holes and a divider wedged against the attic partition while the glue dried, and were satisfied with the results.





18. Chimneys: Let the glue set for a few minutes between each step. Perform each step twice to yeild 2 chimneys.

Glue together 2 large caps (#46). Accurately lining up the perimeters will reduce sanding later.

Glue on the small cap - centered.

Glue on the chimney block - centered

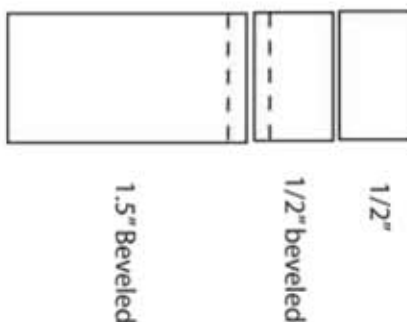
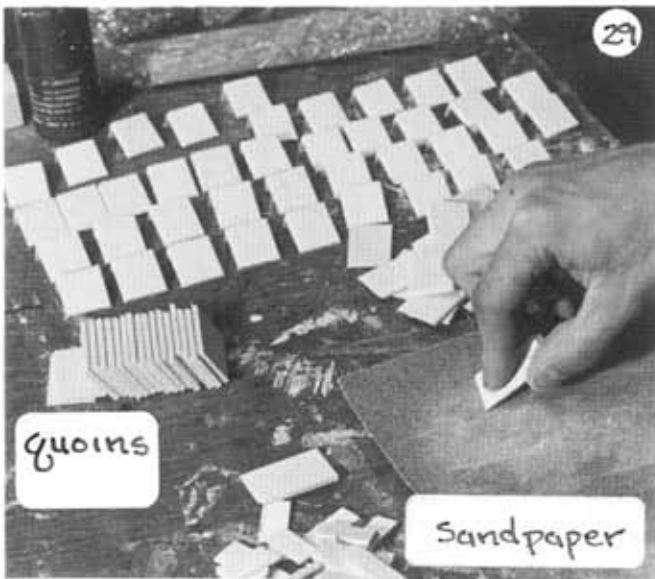
19. Steps: glue step #43 to step #42, centered end-to-end, and flush at the back edge. The threshold (#44) will be glued to the center front panel at the door bottom after all finishing is complete.

20. Prepack B: pre-assemble wraparound quoin sets. Take extra care to line up the parts.

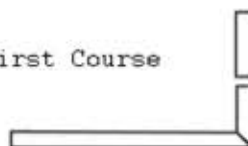
This house uses (4) 3/8" x 1" sets using 3/8" beveled & 1" beveled quoins, (36) 15/32" x 1" sets using 15/32" beveled & 1" beveled quoins, and (40) 15/32" x 1-1/2" sets using 15/32" beveled and 1-1/2" beveled quoins.

While sanding, lightly bevel the outside edges of the quoins, both the flat pieces, and after they dry, the wraparound pieces. Do not attach quoins to the house until stucco and painting are complete.

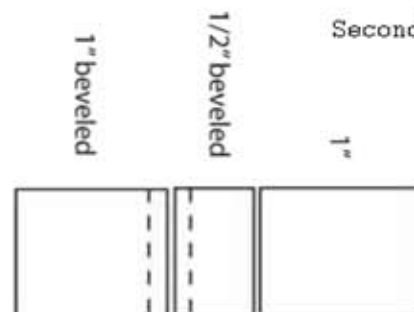
Prepare the keystones for painting by lightly sanding.



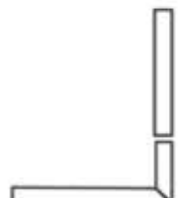
First Course

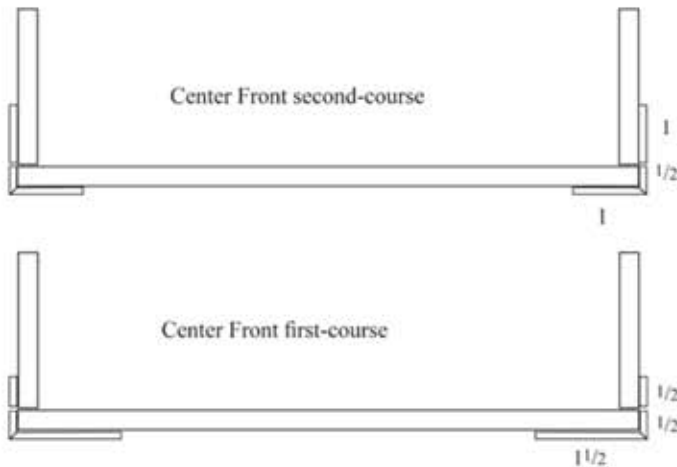


15/16

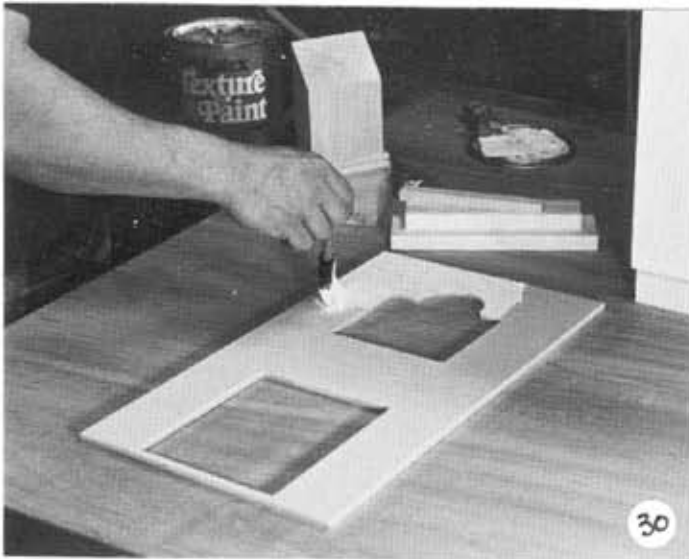
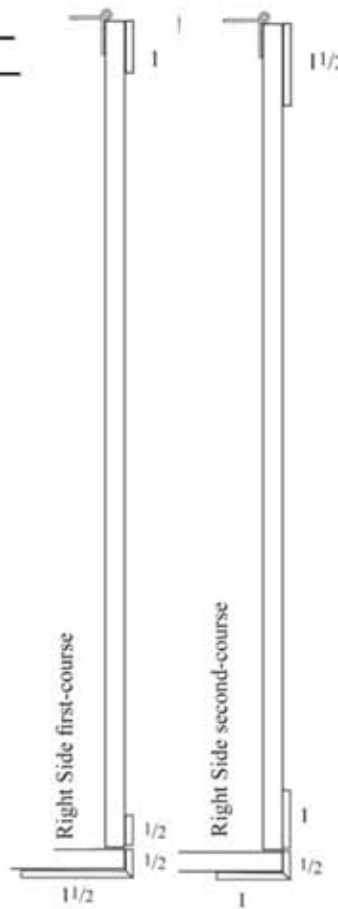


Second Course





Odd courses follow the "first course" detail
 Even courses follow the "second course" detail
 3/8 wraparound quoins line up with hinges
 on the Center Front



21. Prior to painting the 4 hinged wall panels, completely seal the wood inside, outside and all exposed edges. Use shellac which brushes on easily and helps keep moisture from warping the panels.

Stucco: read this section and EXPERIMENT with your own variations in technique to achieve the finish you like best.

You may wish to have your paint dealer tint Texture Paint to match the house body color. This will help hide scratches when the house is in use. You will need about 3 cuts of Texture Paint for the walls. Save out a cup or so for the quoins.

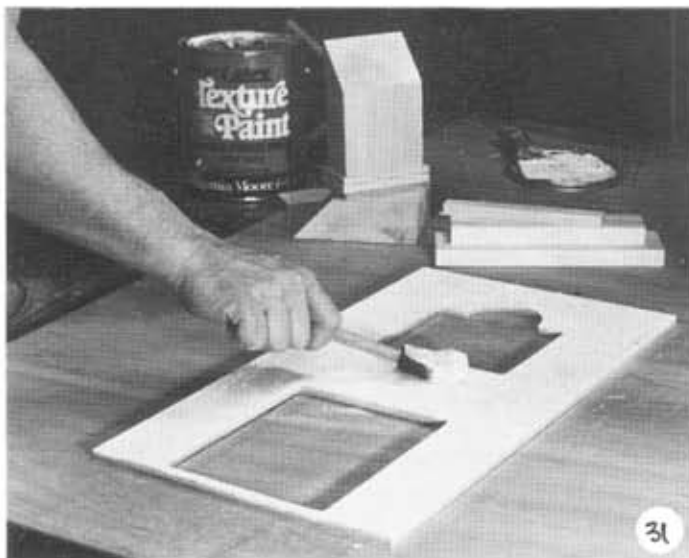
Apply a medium coating of tinted Texture Paint to the walls of the house. Use short strokes in random directions to create an irregular textured pattern which is the beginning of the stucco finish.

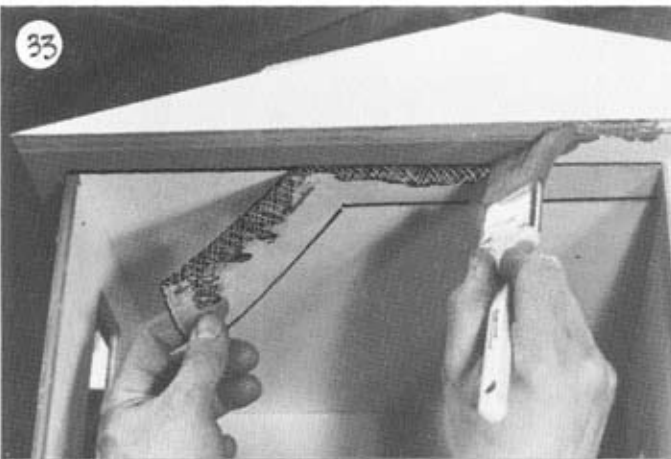
Before the paint begins to dry, go back and "slap" the paint with the flat of the brush, raising tiny peaks. (Thick wet paint gives big peaks and dry thin paint gives little peaks.) Do only one panel at a time. Do all the walls, foundation and roof edge.

Texture Paint can also be used as a wood filler and a pre-sanding coat on the panel edges, assembled chimneys, assembled front steps and the arched top of the palladian windows. Lightly sand all walls and edges prior to painting.

Assemblers note: moisture from the Texture Paint will invade the wall panels causing them to swell unequally. After a few days, the moisture WILL equalize and the contortions will subside.

After the panels are hinged, the twist can be solved by careful placement of the heavy cabinet door magnets provided.





22. Paint.

We recommend semi-gloss interior latex paint. The colors used on the color photo are Benjamin Moore's Aqua-glo Hamilton Blue with Silvertone Foundation and white trim.

Mask edges where colors change, by painting to a putty knife wiped clean each time it's moved, or by defining the edge with tape. Pull off the tape while the paint is wet.

While one coat is often sufficient on the house body, at least 2 or 3 coats of white are desirable on the windows, door, dentil trim, triangle pediment, purlins, eaves, quoins and keystones.

Beware! Paint in working window tracks may freeze them forever.

23. Shingling: the shingles are part of the component set, which is separate from this shell kit. We recommend a combination of panel cement in a caulking gun applicator, and Quick Grab cement for applying them.

The gable roofs still need shingling lines at 1-3/16", 2-3/16", 3-3/16", etc. to form continuous lines of shingles around the valley.

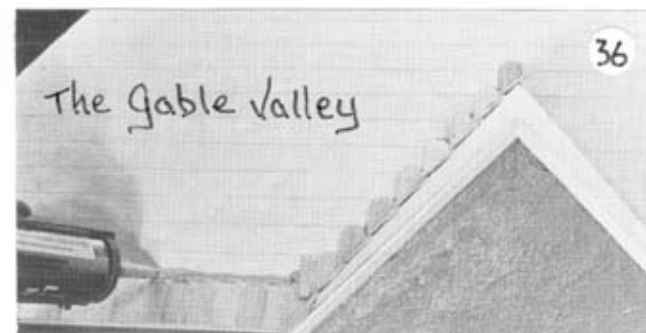
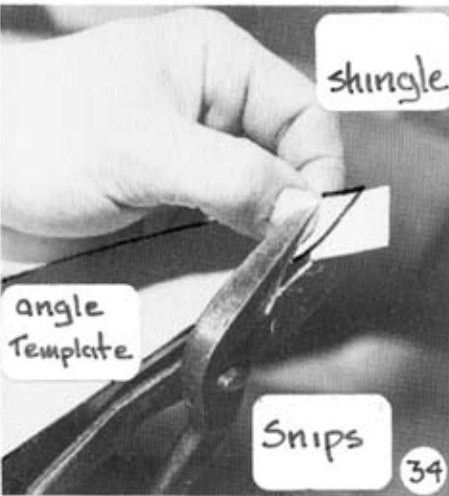
For the most perfect job, start with a 1/4" wide row of shingles at the bottom of the front and side roofs. It will be entirely hidden, but will hold the lowest full course at the same angle as the rest of the courses of shingles. This spacer course should overhang the roof edge by 1/16" and should be glued on with Quick Grab or similar solvent based clear glue. Cut strips from full shingles with tin snips or other extra heavy shears.

Be sure to separate the shingles which overlap the joint in the front roof for each course. Avoid glueing the roof closed!

The first course on the rear roof should be 7/8" and the dormer roof should be 1".

Make an angle guide for cutting the shingles to be used on the corners and valleys (same angle).

Cut some corner shingles and glue sets on the house with Quick Grab Glue. Check their fit with a full shingle held next to the corners to locate the bottom edge and to check their squareness. You may do all the valleys at once, but one course at a time for the corners.

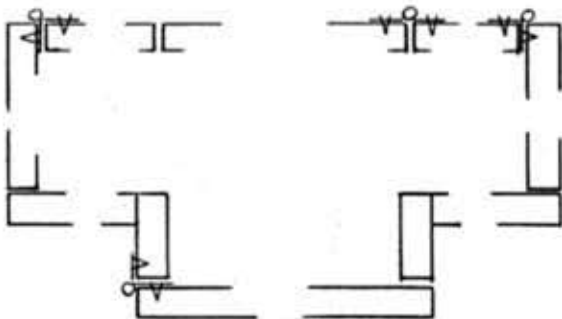
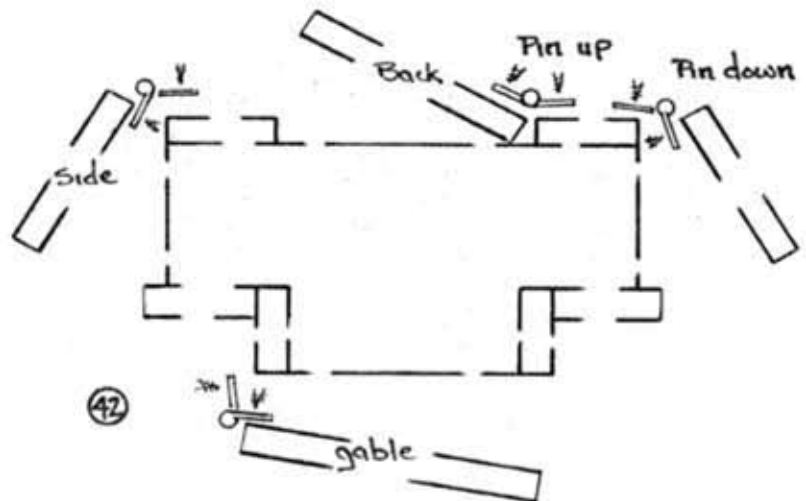
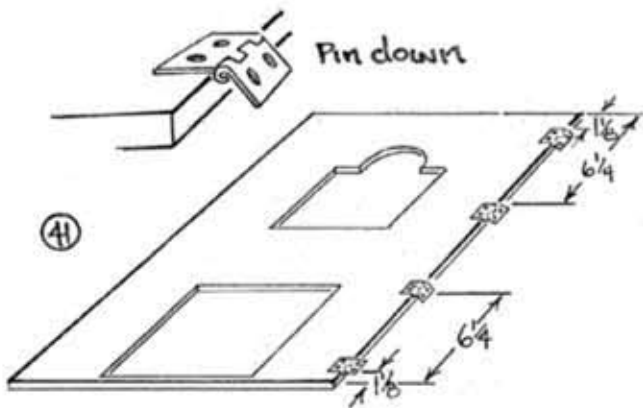




Put a thick line of panel cement on the roof at the top edge of the previous course of shingles. Be tidy! A neat cylinder of glue which is taller than the thickness of the in-between shingles works best.

Tip the shingles into position and always squish excess glue toward the empty side of the course of shingles instead of between the shingles. Follow the shingling guide lines with the top edge of the shingles. Split a shingle on the end of the course to match the previous set when necessary. Ensure staggered joints between the shingles of one course and the next. Otherwise, only use full width shingles.

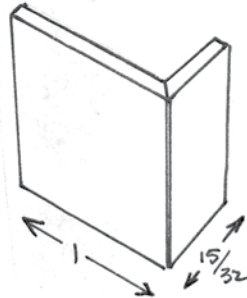
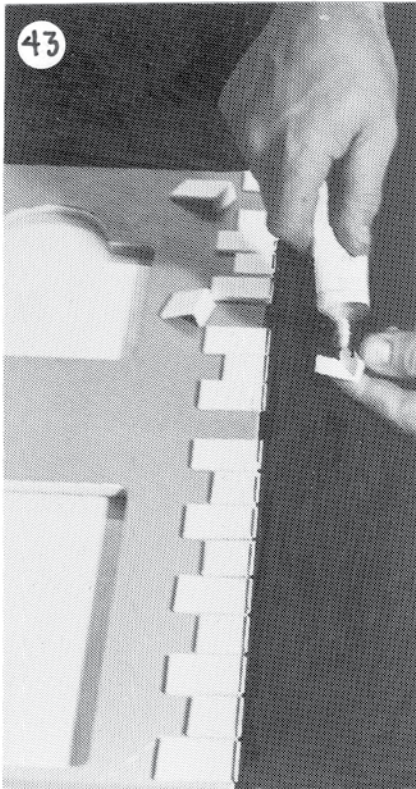
Put a line of Quick Grab Glue or hot melt glue along the top edge of each course every 3 or 4 inches to "staple" that course to the roof, preventing a course that sags.



24. Hinge: determine which edge of the center front and side panels gets hinged (make a mark to remind yourself - it's easy to do it backwards). Lay the panels face down and mark $1\frac{1}{8}$ " and $6\frac{1}{4}$ " from both top and bottom of each panel along hinging edge. Place hinges pin down to the center edge of each mark and screw in place (we like to mark the hinge holes and punch a starter hole with vice grip pliers and a brad).

For the center back panel, position hinges as per the other panels, but attach them pin up to the outside face of the back.

Place the panels in position on the house, elevated to the top of the opening, and mark, prepunch, and screw hinges to the gable side or the back panel.



25. Quoins: quoins are laid out without glue to achieve exact spacing, then one by one glued in place. To do this, you must set the house in turn on its back and sides.

Have pillows ready to protect the stucco and shingles.

With the house on its back, layout all the wraparound quoins. Start with 1" x $15/32$ " at each bottom edge, then proceed with 1" and 1-1/2" to the 1" at the top. Substitute 1" x $3/8$ " wraparound quoins where they impinge on the hinge. Adjust the spacing then glue them down.

Do not allow the $15/32$ " leg of the quoin to protrude past the edge of the front panels. Leave extra thickness in glueing if necessary. Let dry.

Repeat the above procedure on the gable sides and side panels matching 1/2" flat quoins to 1-1/2" wraparound sets, 1" flat quoins to 1" wraparound sets, and using 1" flat and 1-1/2" flat for the rear edge of the side panels.

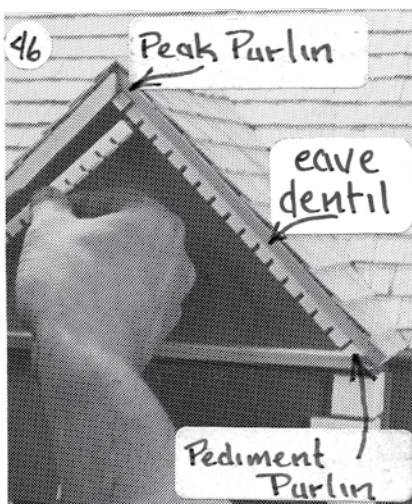
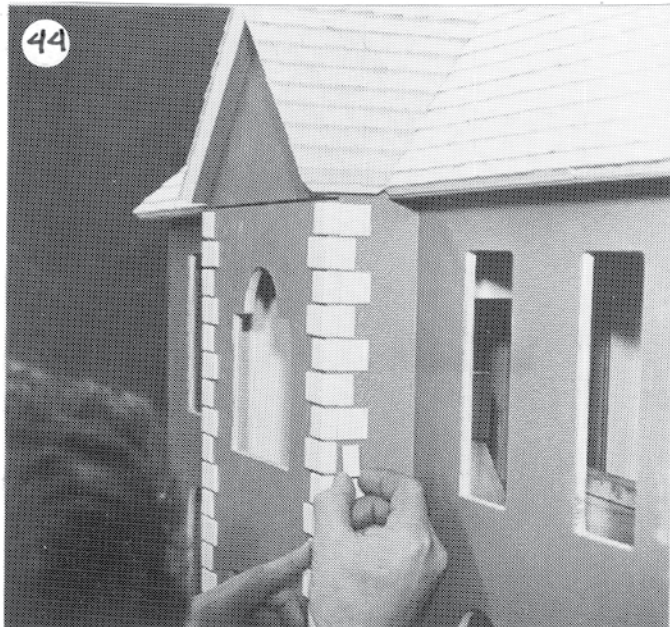
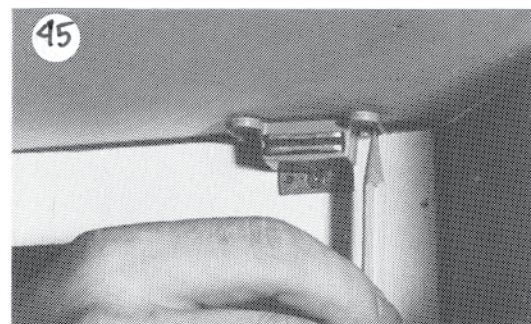
26. Magnets: prepack C

Assemblers Note: these magnets are strong enough to control an unruly side panel. You may choose the lower front panel as a mounting location if it better serves this function. If the magnets are more powerful than needed, put 2 or 3 thickness of celophane tape over them.

Using a $3/8$ " #5 flathead screw from the hardware pack, attach the magnet plate to the hinged panel, usually at the top and 1" in from the edge of the panel.

Stick the magnet to the plate, hold the hinged panel in its closed position, and reach through a window to trace the position of the screw holes for the magnet.

Prepunch and screw the magnet in position. $3/8$ " roundhead screws are provided for the gable magnet to prevent break through. The side panel magnets line up with the space hidden by the attic kneewalls, thus may use the longer screws packed with the magnet.



27. Gable triangle trim: pediment, purlins, dentils - attach the prepainted triangle pediment, purlins, and dentils as shown. The pediment dentil attaches to the center front panel and opens with it.
28. Attach painted keystones to the window tops.
29. Install interior dividers as per floor plans in the following order: #28/#29, #31/#36, #30/#32, #34/#35, #42/#43. Install #40 & #41 after installing stairs from the Houseworks Component Set. You may wish to delay installation of the dividers until finishing the interior.

30. HOUSEWORKS COMPONENT SET:

You have probably already painted the windows and maybe even installed them. The windows have pre-cut interior trim, and there is a bundle of trim material for the doors, exterior and interior.

The stairs will fit best if the bottom stair block and tread from the shell kit is added. Assemble the bannisters in place on the stairs using rail and spindles from that pack. Locate the newel on the floor for the first floor, and on the second tread for the second floor stairs.

The doors should have knobs attached before installation. Use a spot of Quick Grab Glue for each knob. Consider the direction each door will swing before installing it. Test the doors, particularly the double and french doors to make sure of your placement and fit prior to glueing.

Rails should be pre-cut and assembled with white glue, and attached to the newels during installation.

Enjoy.

