

Tools and Tips:

As you build the book will show in my many picture manual how to assemble. You can use your own methods as you desire, but these worked best for me. A smooth, flat work surface is very important and the more space the better.

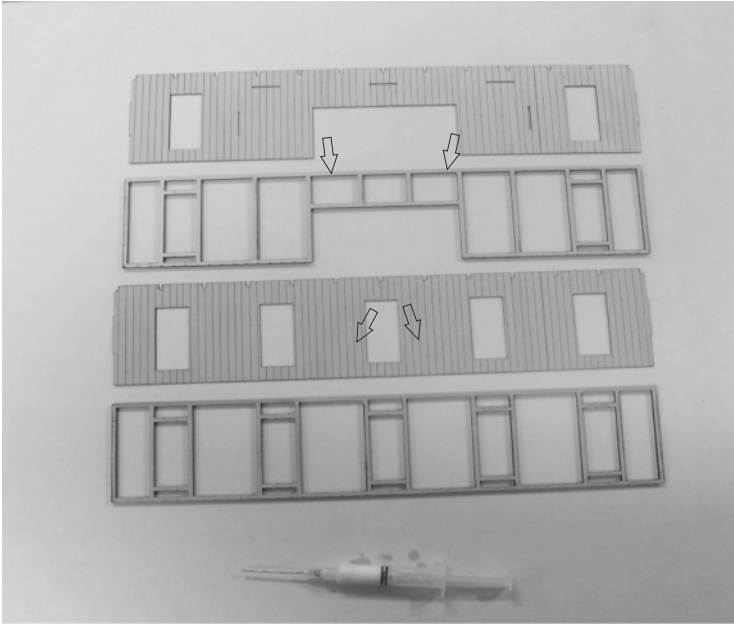
The photo on left is basic tools needed:

- A square and angle plates, also I use 123 blocks both to square and use as weights while glued parts dry.
- Hobby knives and plenty of # 11 blades
- While majority if not all parts are laser cut some of kits will need parts cut. A zona saw & miter is handy as also a Chopper.
- A assortment of sanding blocks a must to touch up parts and make perfect fits.
- For glues, CA (cyanoacrylate and quick set) white glue, I like Aleene's Tacky Glue. And most important how you apply the glue, not to much but enough to make strong bond. Using syringes for water base glues and needle applicators on CA a must.
- For clean up q-tips or micro tip brushes wore great to clean up excess glue.

Most all of these can found at good hobby shop or I order from Micro-Mark online.

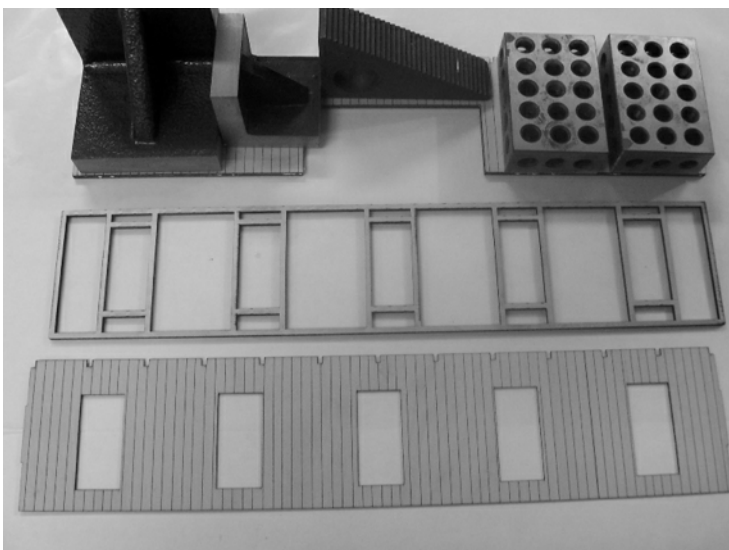
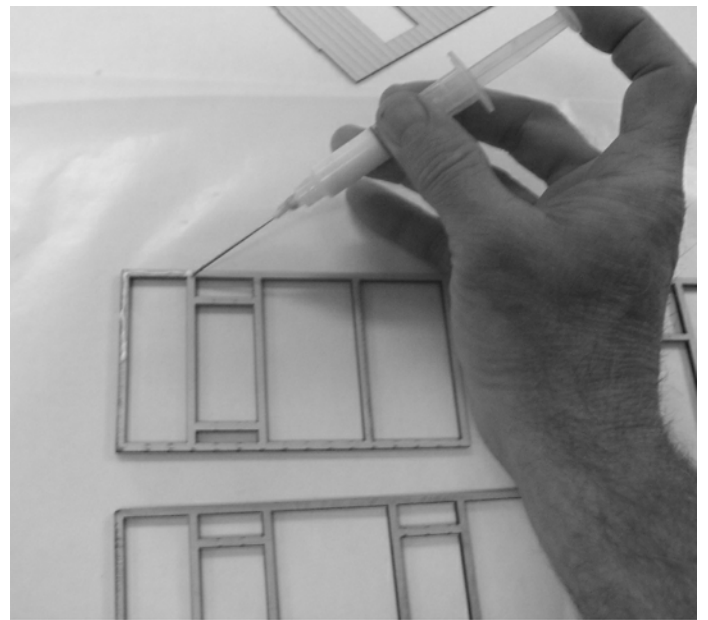
For painting will depend on materials but for wood best to not use water base paints. For best results use Floquil solvent-based enamel. Apply with air brush is best but brushing works also. I will make suggestions when to paint and colors I used for model built. The important thing is to take your time, test fit parts, look over photos before you make the final bond. If ever not sure feel free to contact me for help as I am here to help.

Single Stall Engine House Assembly

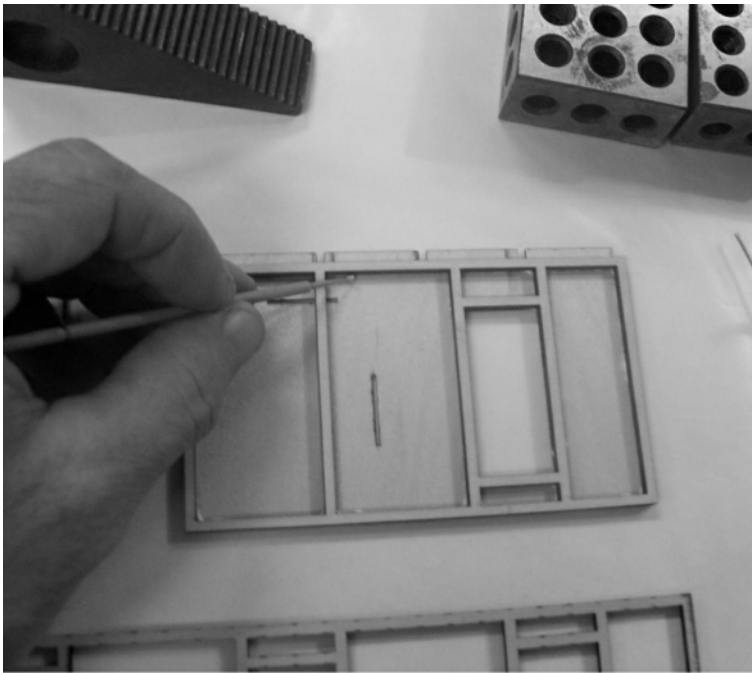


Identify and locate the inside framework (2 parts) and outside scribed siding. You are going glue the siding to the frame work. Note the notches at the top of scribe siding these go to top. Dry fit parts be for bonding siding. Also you may want to consider painting framing. But be use caution! not to wrap framing. A water base paint would do this, I use floquil enamel grimmy black thinned and sprayed lightly. Also stain can be done but some oil base stains may not hold glue, test parts before applying. I tried scribing inside of walls but found they became to weak. If you desire this affect use a #4 sharp pencil and with ruler lay out and draw lines to represent interior board work.

Apply glue sparingly to outside of the framework with a syringe using Aleene, tacky glue or white glue.

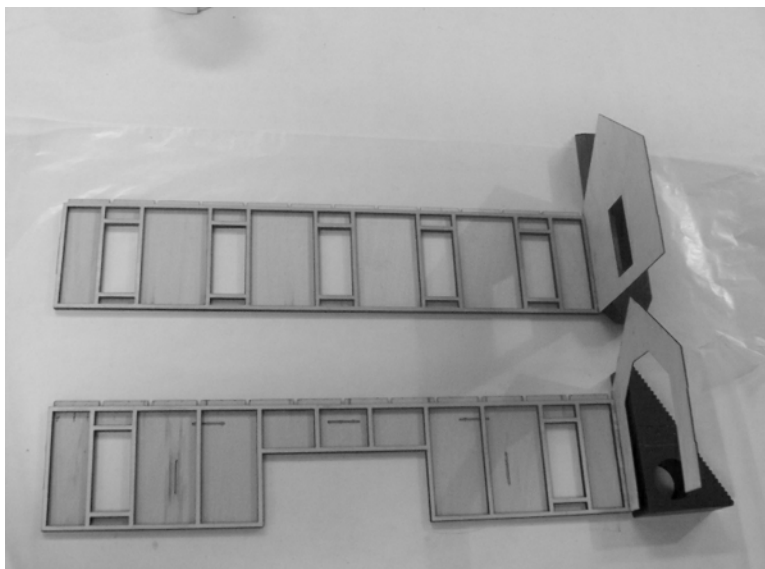
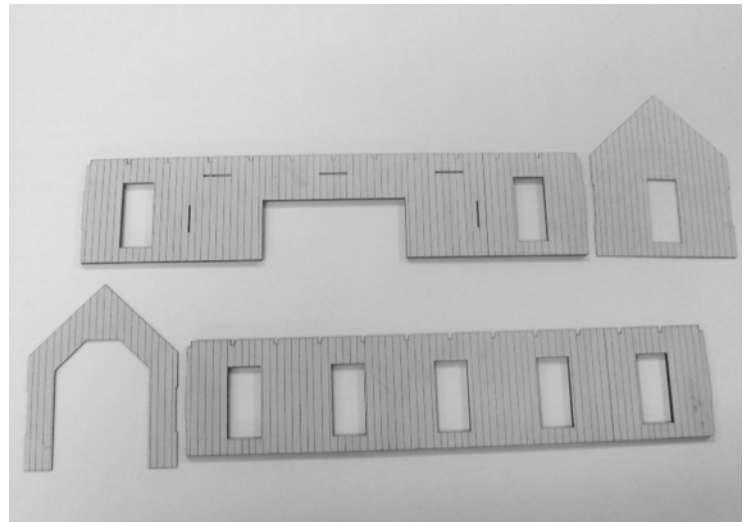


Place the frame work glue side up on flat surface then lay scribed siding on frame scribed side up. Adjust placement bottom flush and tangs on ends over hang frame each side. Then add weights to press down flat. As picture to left I like 123 blocks or angle plates. Any thing flat will work, repeat this process on other frames.



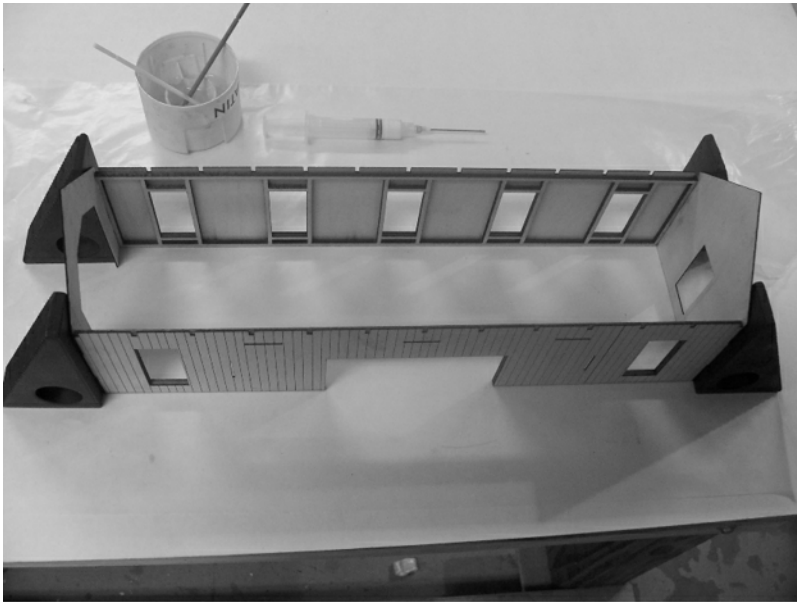
Before glue dries lift weights and clean any excess w/micro q tip that can be damp with water. And weight sides back till dry approx 1 hour.

Next locate ends and decide which end will be entrance and workshop. The Building is designed symmetrical so fits either way on base.



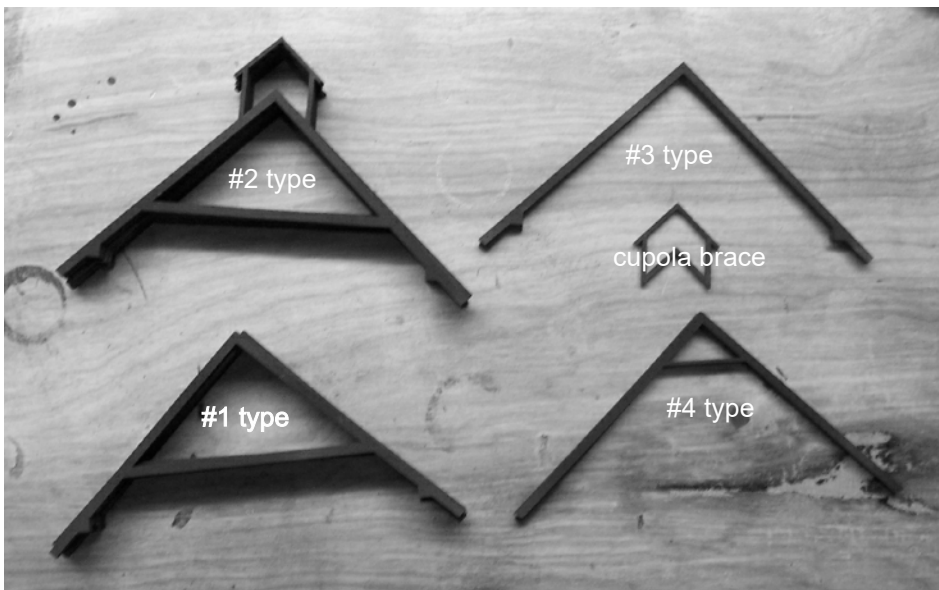
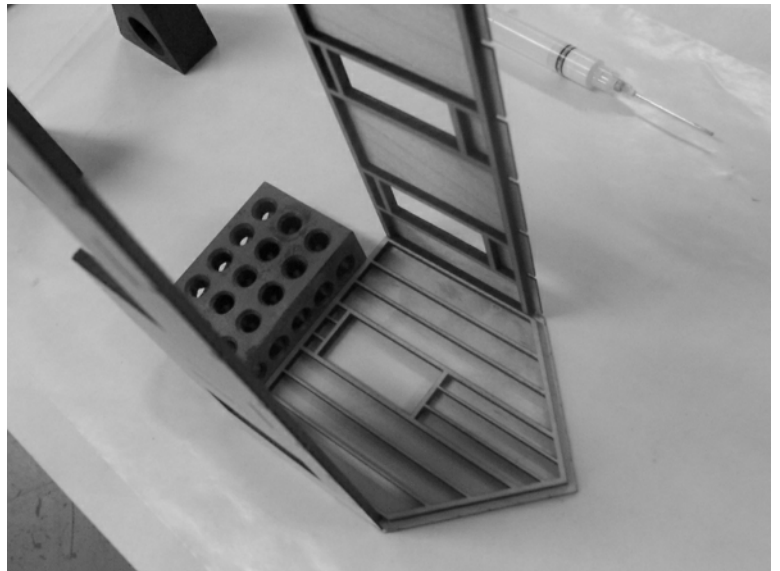
Then bond scribed siding ends only to framing as pictured to left. They center up with tangs and scribing to outside, use weights to keep tight and square while white glue dries.

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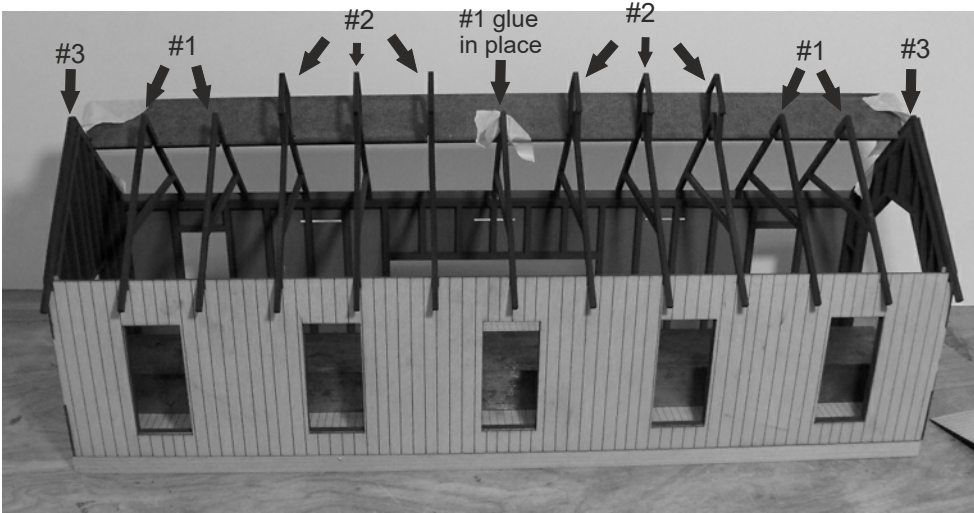


Assemble the two building halves as shown in photo to left. Use weights to keep walls square while glue dries. Note the cup of water with q-tips for cleaning excess glue, angles plates.

Once above dries about 1 hour test fit end wall frames. Sand if needed for tight fit. Then glue and weight down till dry one end at a time. Keep bottom framing flush to bottom of plywood siding. And always check for excess glue and clean w/Q-tips.

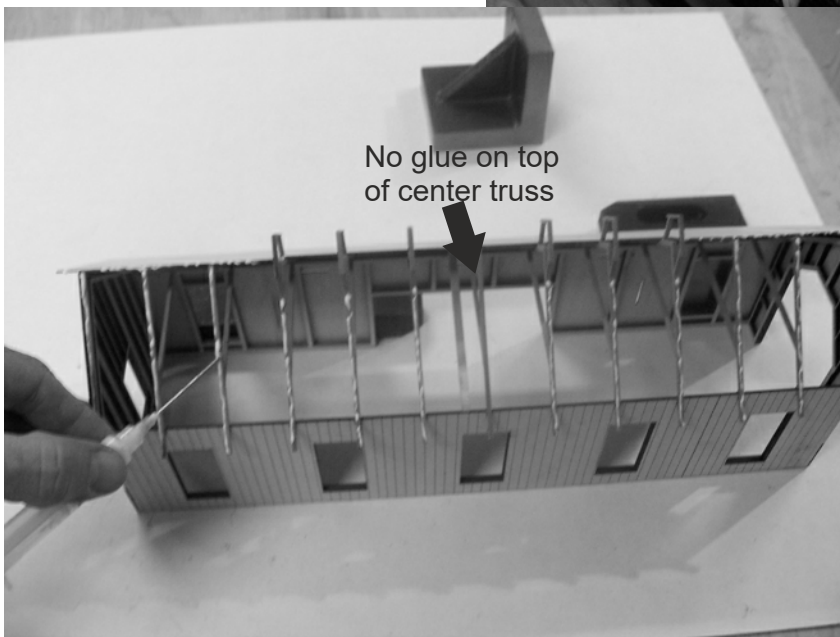
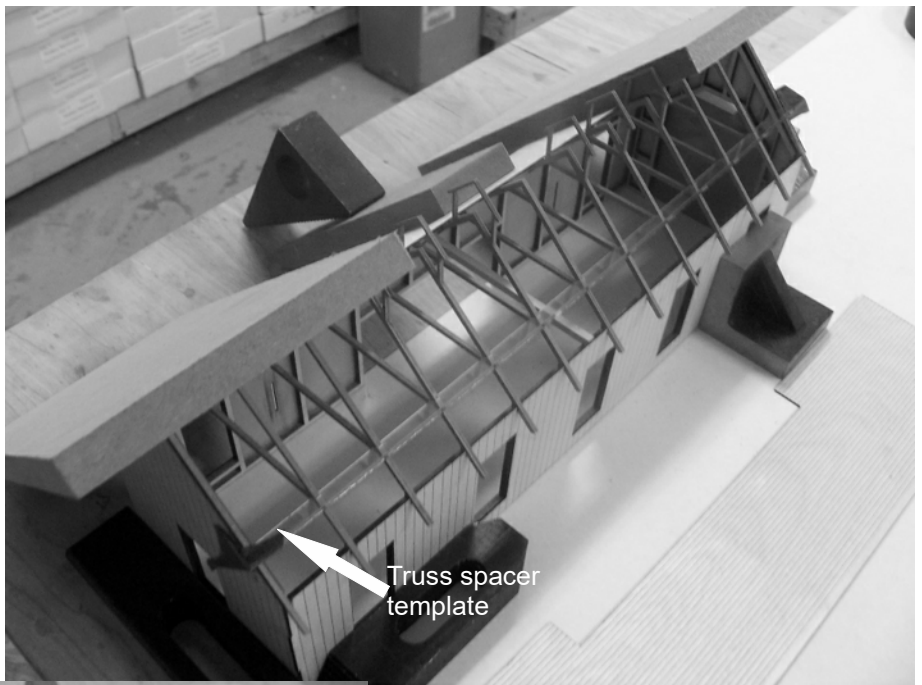


Next remove roof trusses from laser cut plywood. There will be some extras clean up parts require. Five of type #1, six of type #2 and two of type# 3. The two of type #4 are used on out side ends of roof once center trusses bonded to scribed roof. Also the truss spacer template should be located not pictured here. There are two cupola braces but only one used. Also you may want to paint these assembly as picture show the types stacked and in grimmy black.



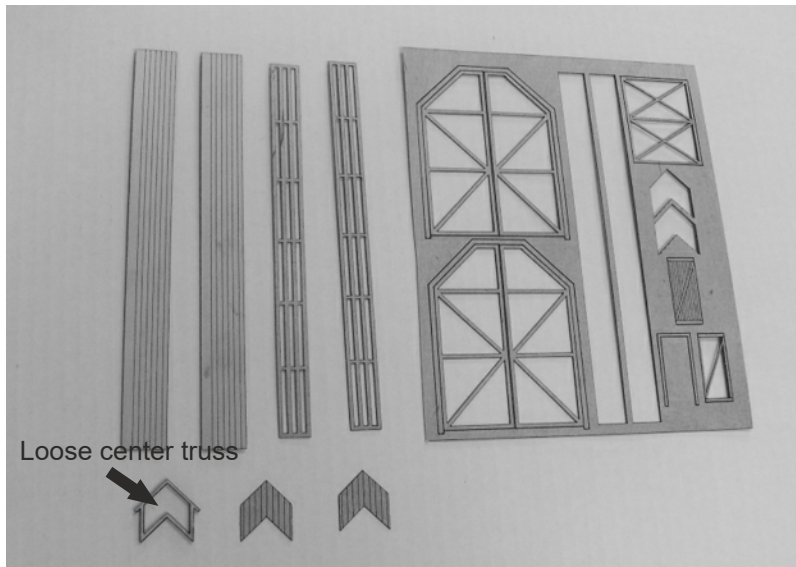
Set wall assembly on MDF base then begin assembling trusses as pictured to left. One #1 type in center of header and glued in place, this will be the only truss bonded to top of headers. All the next trusses will be loose. The other four #1,s set in notches but not glued as pictured. Three #2's each side of glued #1 in center, but again not glued. The two #3 type set on end wall headers and not glued. Also you see truss spacer templet tape in place to hold trusses plumb.

Then glue only top of all trusses but NOT top of #1 center truss. Lay scribed plywood roof on wet glue scribe lines up then weight down with some flat material or some light books. You should look like picture to right let dry for 30 minutes or so then bond other side.



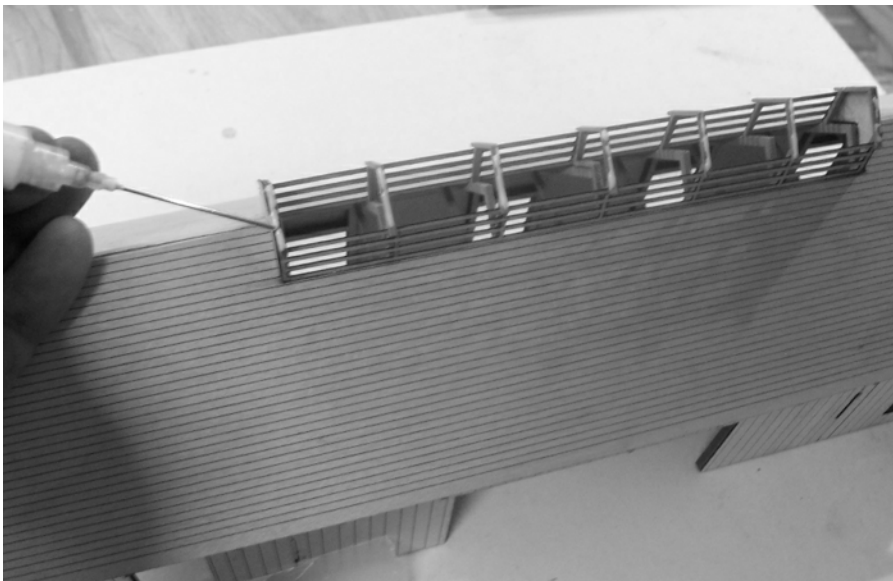
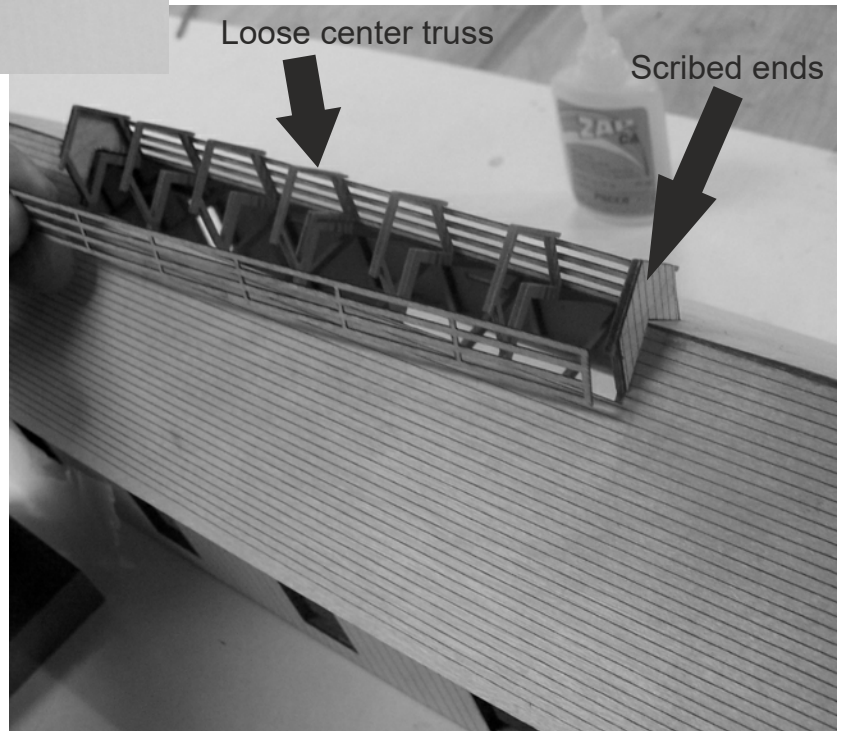
Here we see opposite side of roof being glued with needle point syringe. And as other side no glue on #1 center truss and the peak should have been line up at top. Then set plywood roof on, scribe lines up and weight down. After 1 hour or little more remove roof assembly as shown in next step.

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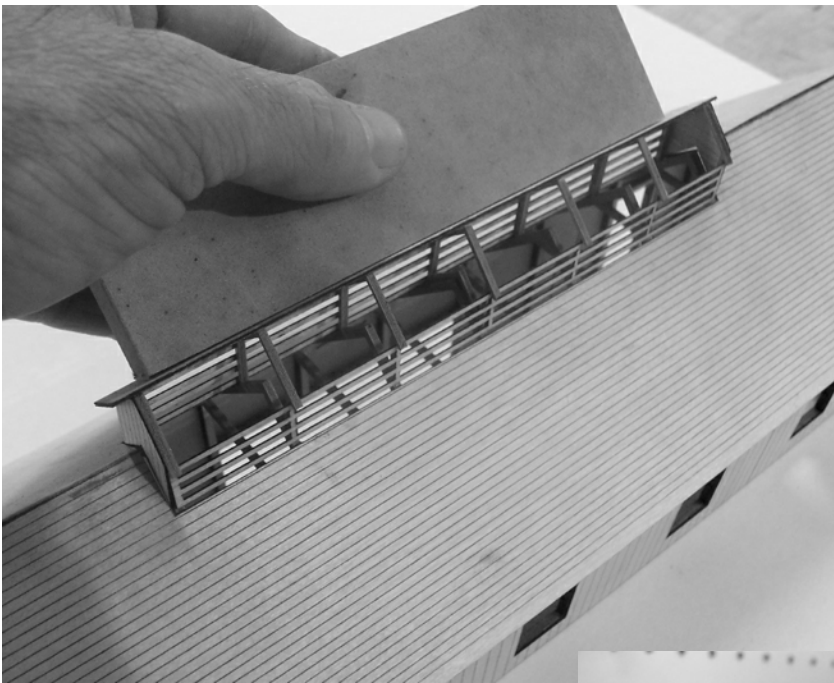


Identify and locate the parts to complete the cupola on roof top. There are two ventilated sides, two scribe ends, two scribed roof panels, and one center copula truss. Glue the scribed ends to outer trusses sticking up from the roof opening. Make sure the ends are centered and flush with the trusses.

Place the loose copula center truss on top of #1 center truss. DO NOT glue, tape on sides to hold in place. Glue the ventilated sides to the ends and trusses. Bond with CA to speed up assembly. Cap the corners between the copula sides and scribed end with 3/32" basswood angle.

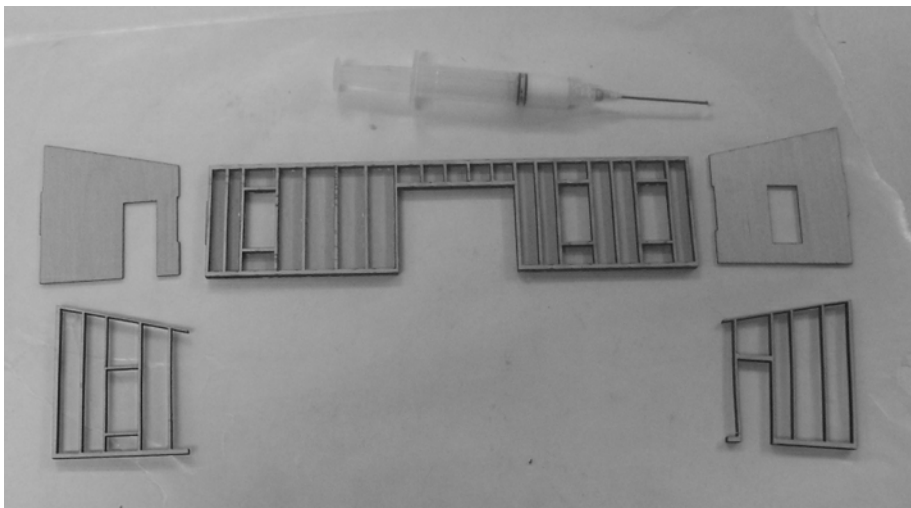


Apply a small bead of glue on one side of cupola roof supports. Place the cupola roof on the supports.

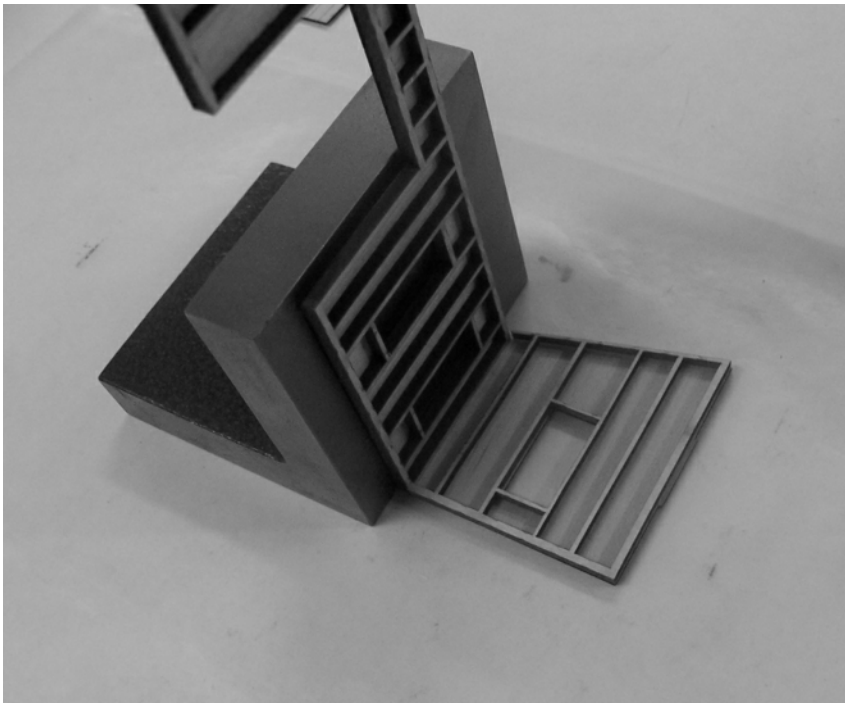


I use a small block of wood with straight edge to hold roof down while glue tacks up. Make peak lines up with truss tops.

Here top roof is done and you see how scribe line should look. The wider space is down. And 3/32" basswood on corners.

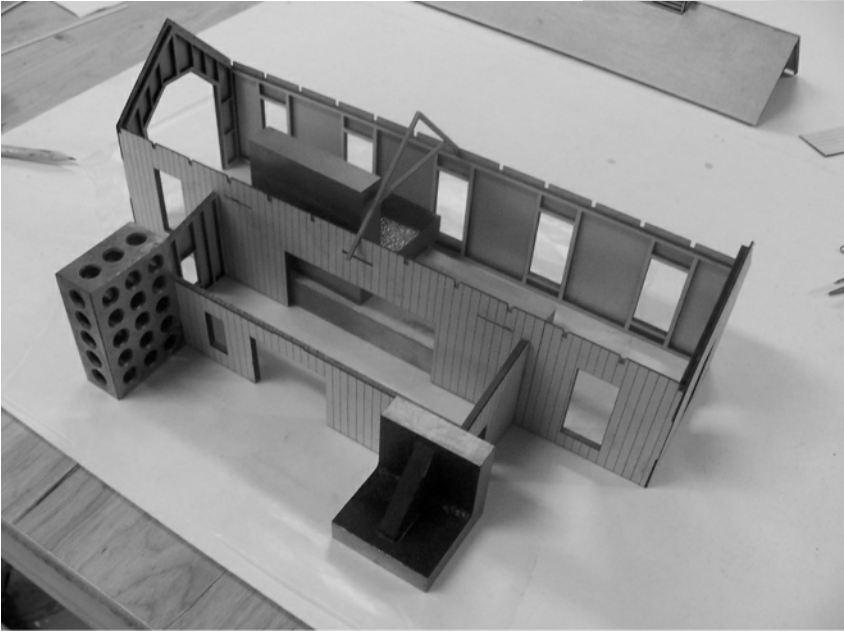
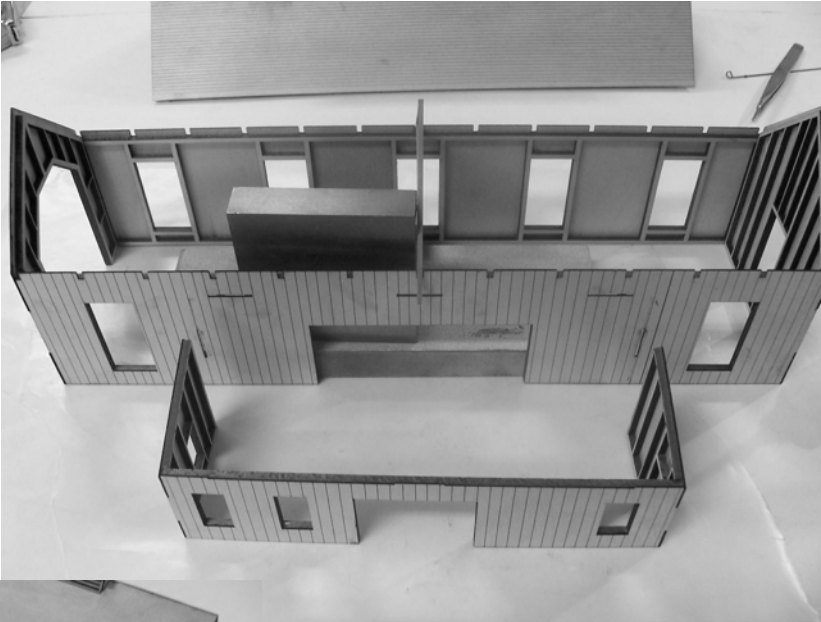


Next locate parts for workshop glue main wall as side walls on engine house early.

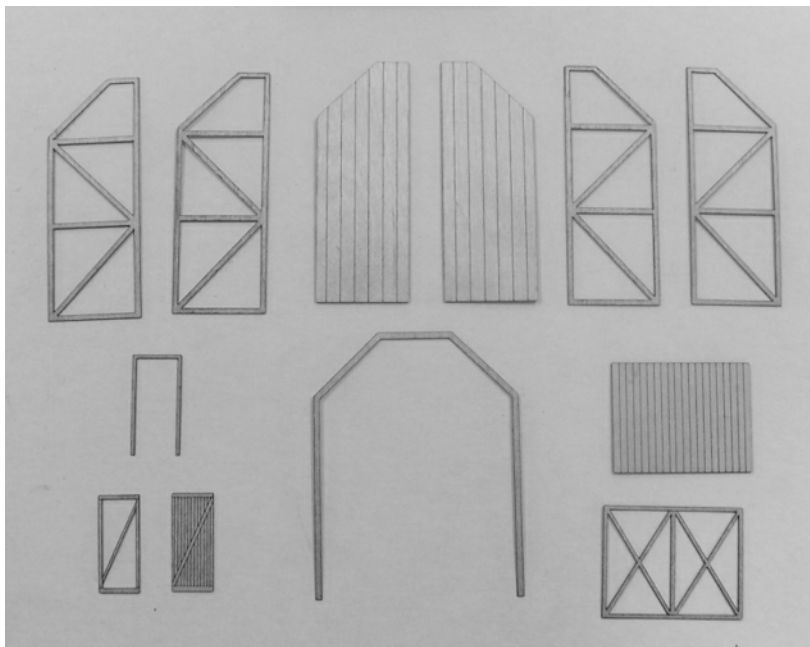


Next glue scribe siding to ends then glue framing to inside. As in picture use a angle block or square to keep corners true while glue dries.

With both ends glued in place and dry, test fit workshop to engine house. Work bench should be flat and I use wax paper under area to be glued.

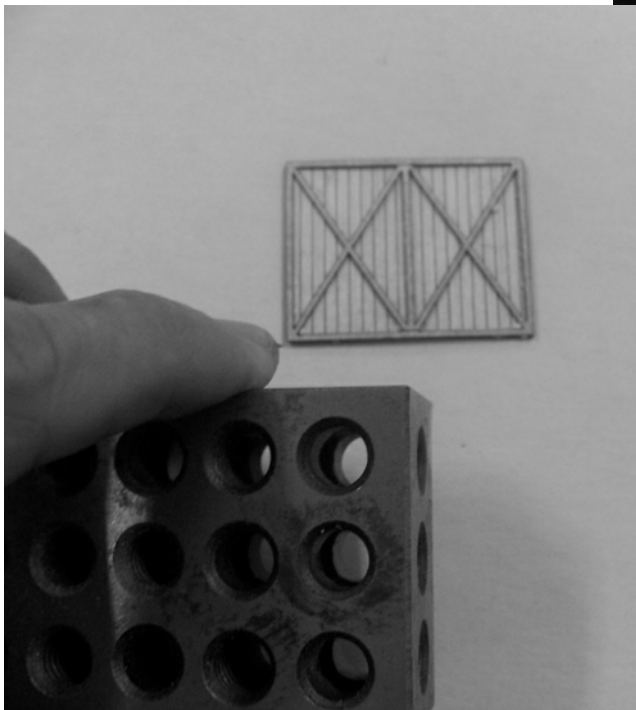
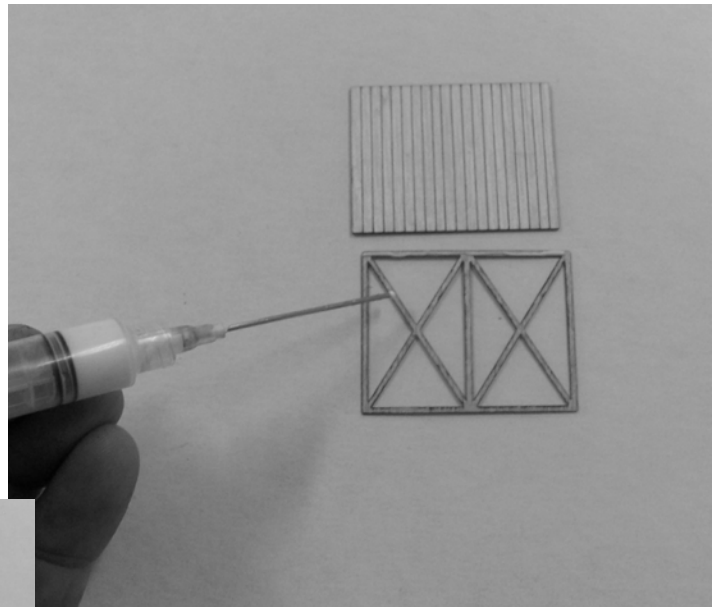


Glue in place and use angle blocks as weights to square and hold in place while glue dries.

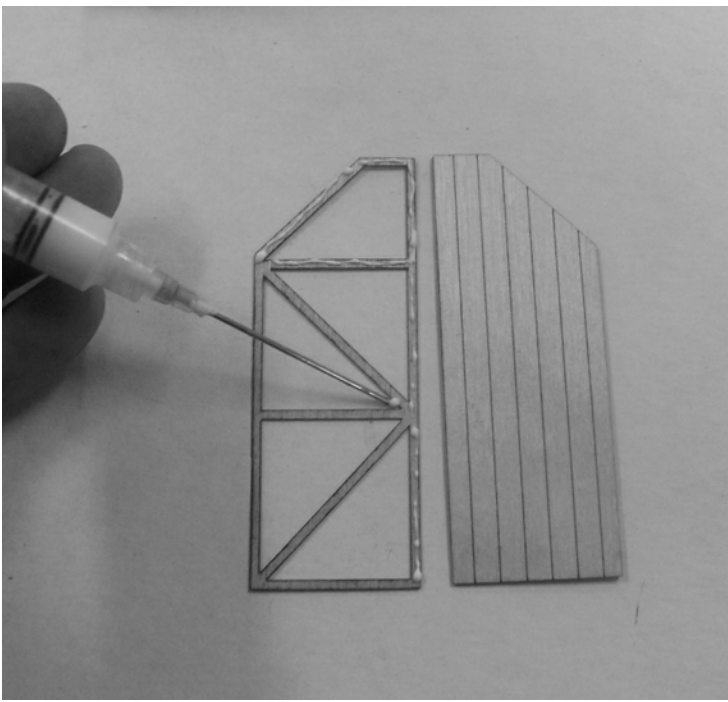


Next lets locate door and trim parts to be assembled. Remove from plywood sheets and clean edges if needed.

Lets assemble shop main door with needle syringe and white apply small bead of glue.

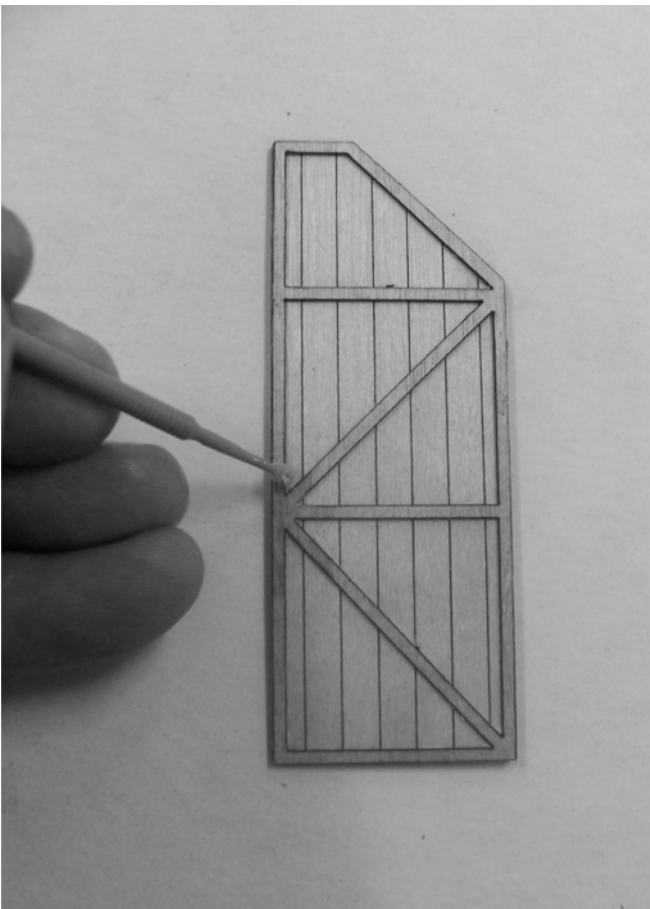
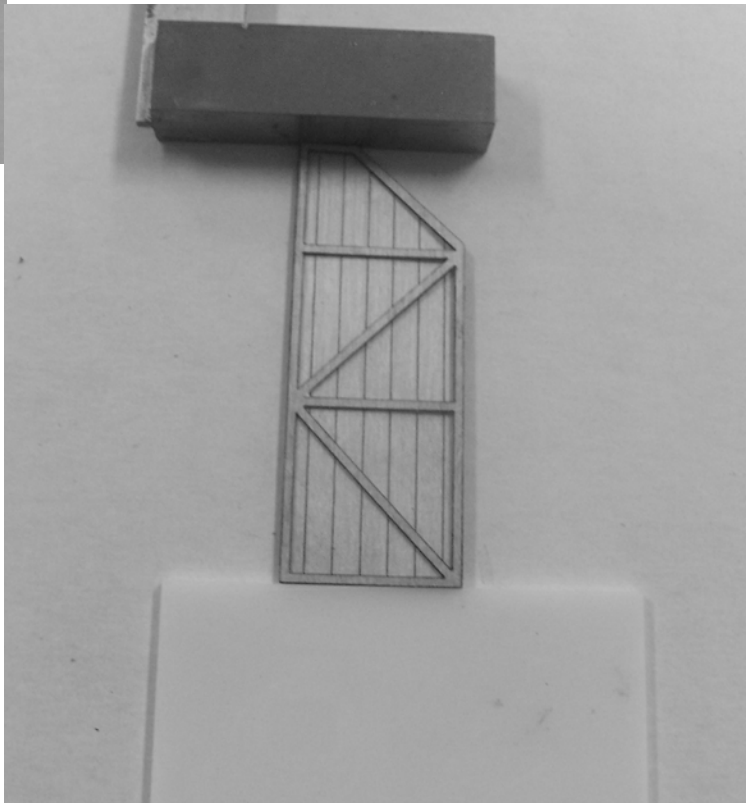


Set trim on scribed plywood door and place a flat weight on after flushing up edges. Remove weight after one minute and clean up any excess glue with damp mini q-tip. Then replace weight and allow to dry 30 minutes or so.

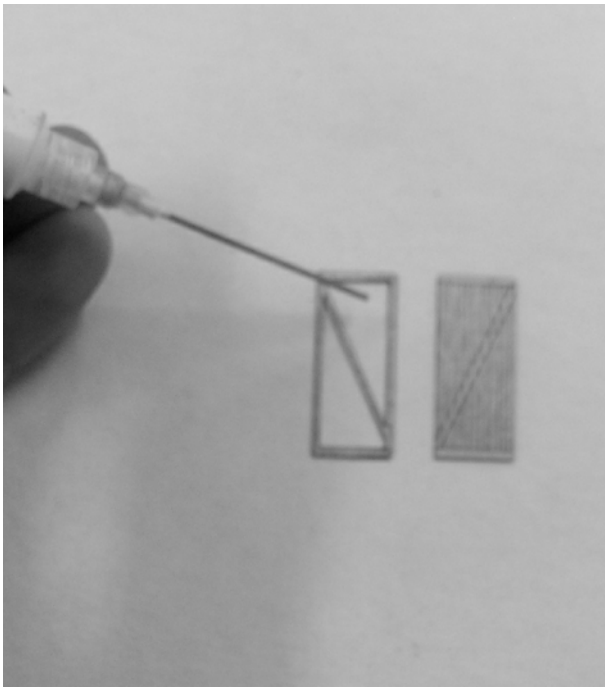


Next glue trim to engine house main doors. Note that trim is glued to both sides. Use white glue and apply with needle syringe. Glue one side at a time.

Place trim on scribed plywood door and flush edges. I use couple of straight edges to help flush edges then press with weight. After one minute remove weight and clean any excess glue with damp micro q-tip.

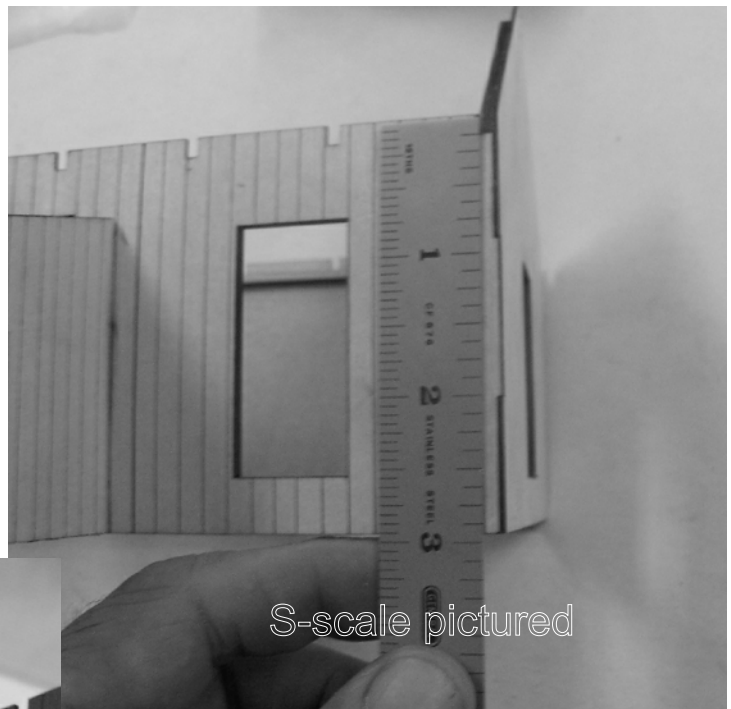


After cleaning excess glue with q-tip flip door over and glue trim to other side. Repeat process then place weight on door to dry for hour or so. Then with sanding block sand out edges flush. Stack up and place weight on doors till needed later.

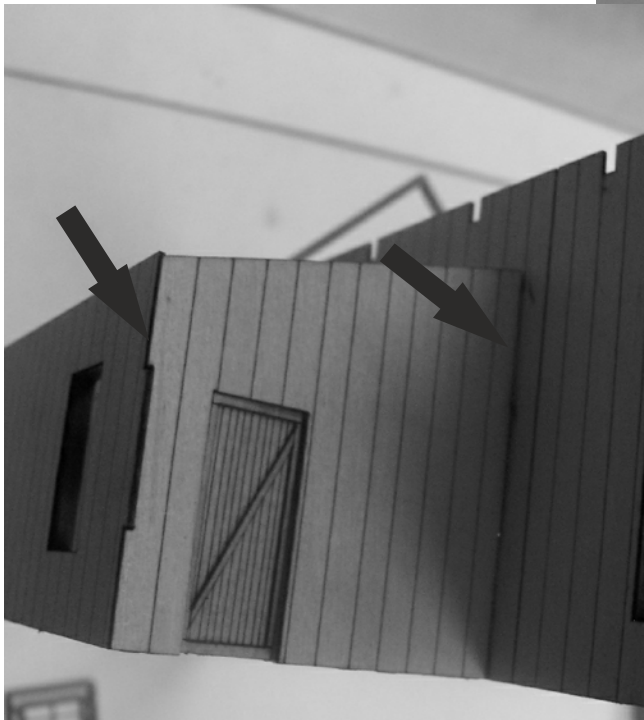


Next glue small shop door as doors early.

Next locate 1/8 basswood angle and cap four corners of engine house. Use ruler as picture and cut slightly longer, then apply with white glue. Once dry trim out truss opening and sand flush with top and bottom.



S-scale pictured



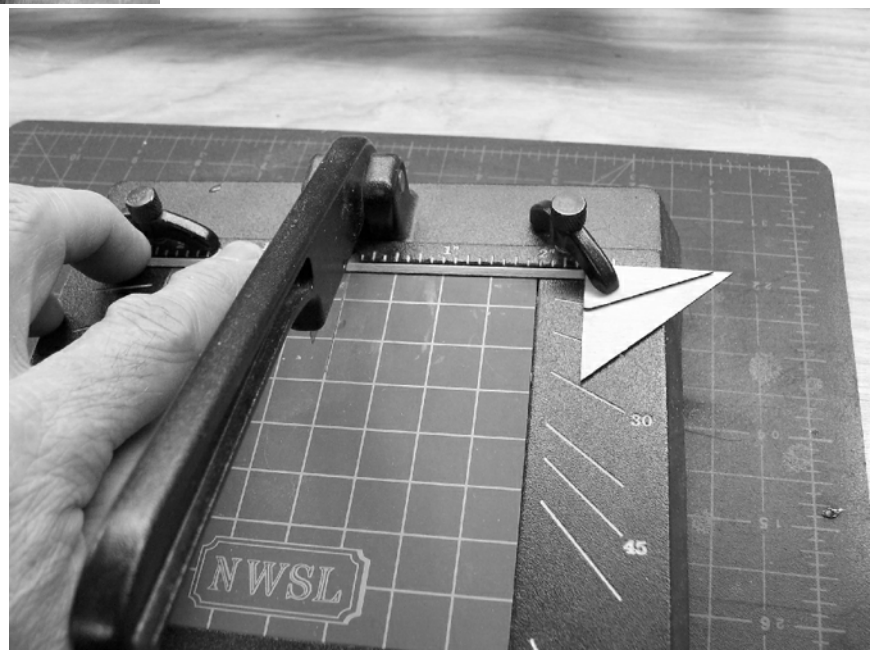
Glue small shop door in place. Also cap shop corners with 1/8 basswood angle.

From trim sheet S-002 remove part #1 sills for large window opening and glue as pictured. Remove any excess glue with micro q-tip.

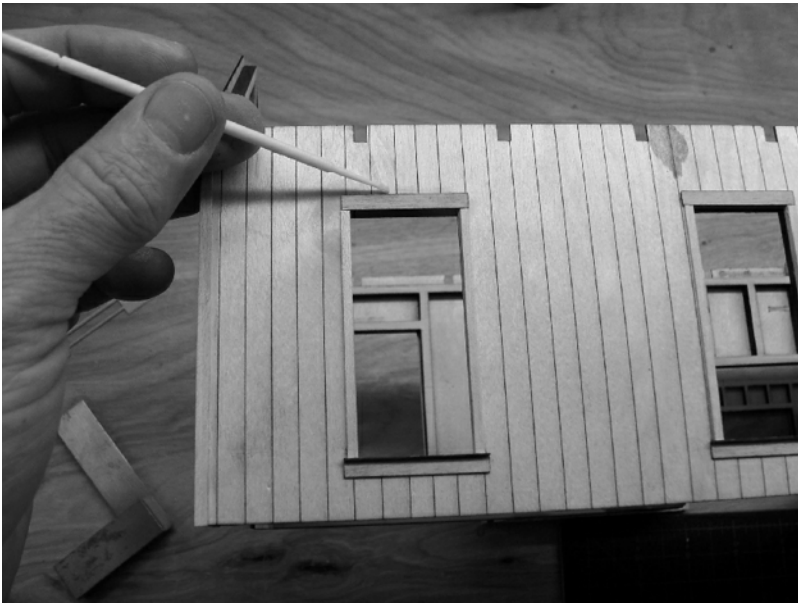
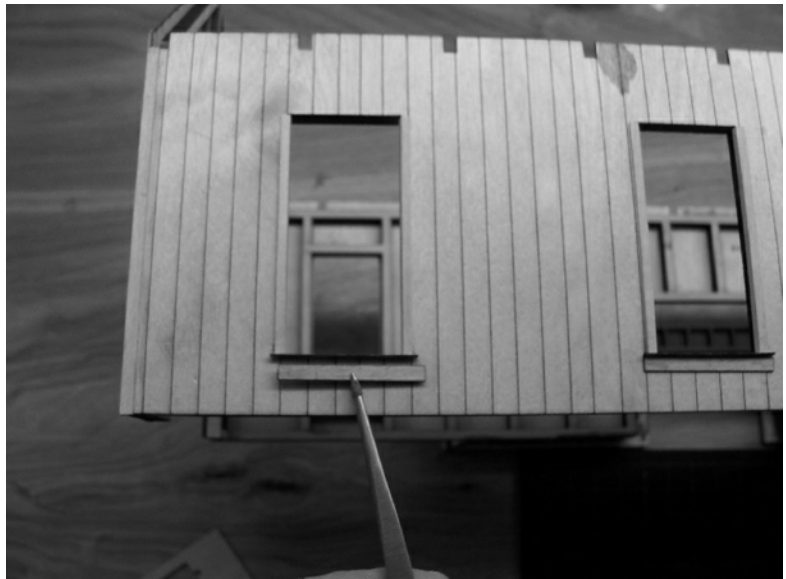


Next with $\frac{3}{32}$ " basswood angle trim two vertical sides as pictured cleaning up any excess white glue with micro q-tip.

As pictured to right use a NWSL chopper with stop for cutting the $\frac{1}{8}$ basswood angle to size. This is faster and more accurate.



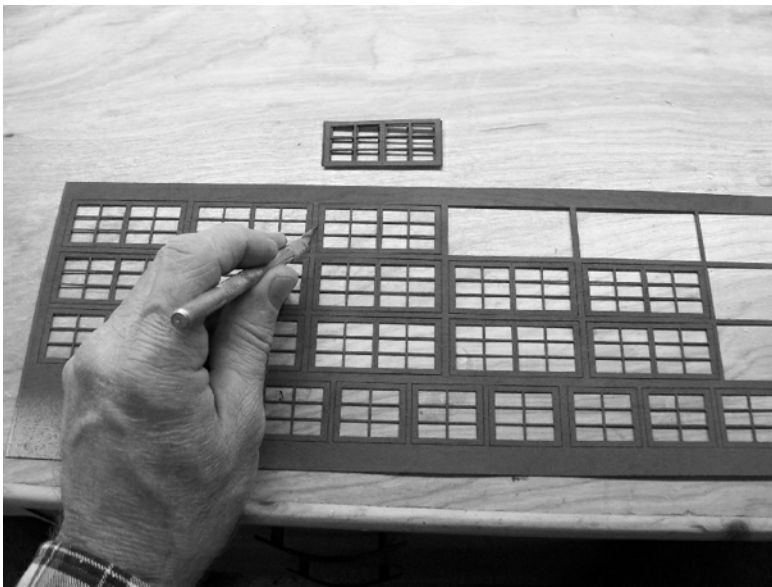
Next bond lower sill #3 from trim sheet S-002 as pictured. And header #2 as pictured below. Use white glue in syringe to apply.



Again any excess glue clean with damp micro Q-tip.

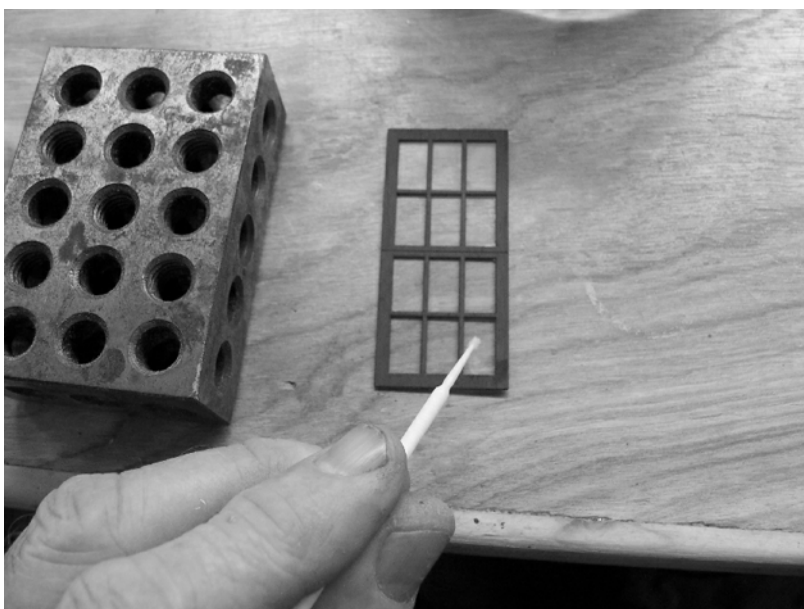
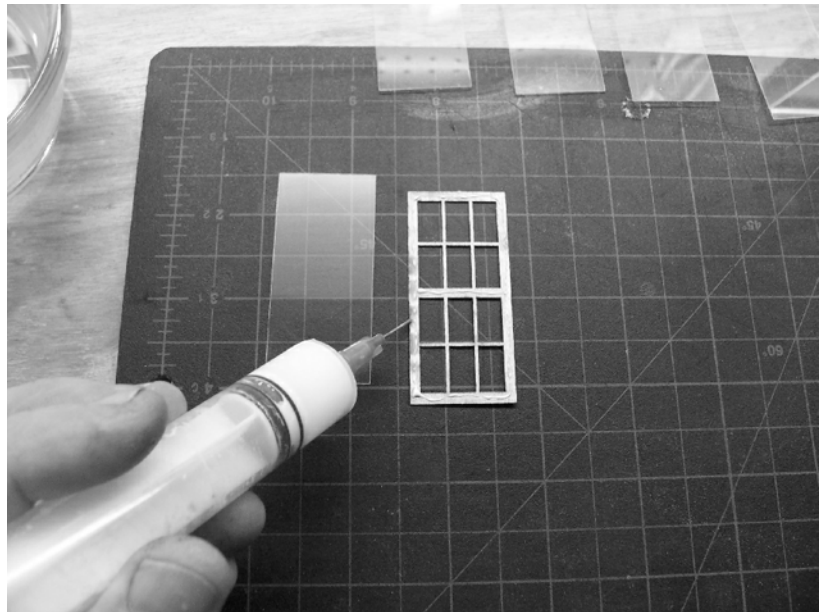
Here we see engine house nearly complete and ready for paint. As arrow indicates install trim to front door. I use floquil RxR color paints reduce 15-25% reducer and spray with airbrush. But first seal with Floquil glaze reduced 25-30% and spray lightly with airbrush.





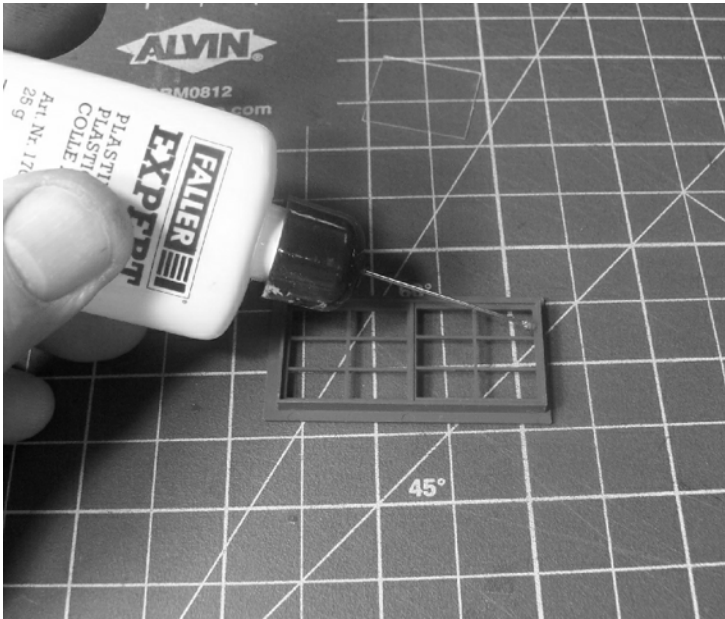
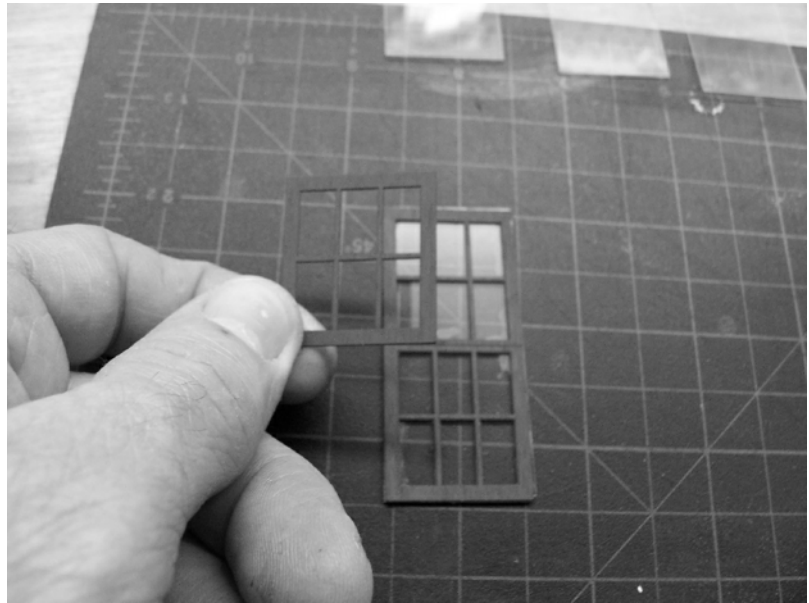
Next locate window sheet S-003 and paint to color desired. I used RustOleum primer red in spray can. Next locate window clear glaze and cut parts loose and remove paper and clean edges. After paint has dried on S-003 cut window parts from sheet and sand tangs edges smooth.

Next bond clear glaze to unpainted side of large window frame. I use needle point applicator on syringe with white glue. Just a thin bead on outside of frame and center required. Place clear plastic on wet glue and press flat with a weight or flat piece of wood.



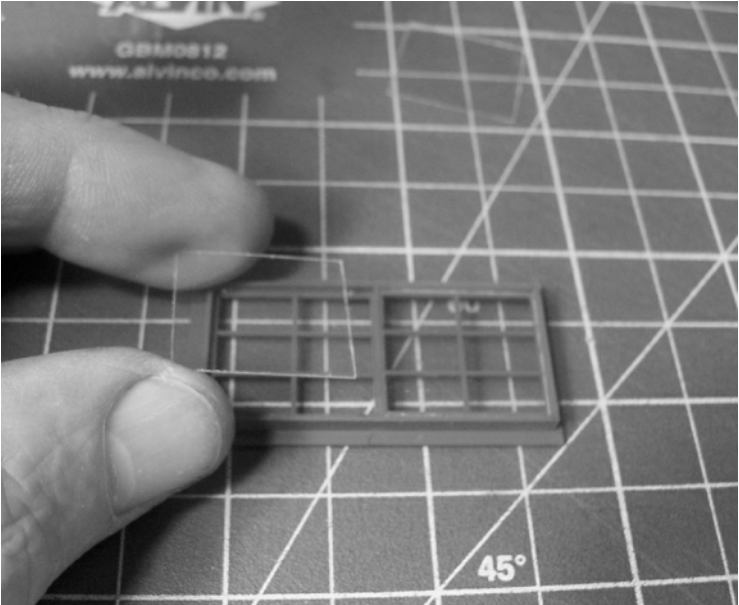
Remove weight after 30 seconds and clean any excess glue with micro Q-tip, then replace weight till dry. Bond all glaze this way then set a side till dry, 1 hour. Then bond frame to apposite side. This will laminate plastic in center of frames.

Next bond small frame to one side of large frame to represent a slide type window. This is a optional but makes a better looking window. Stack windows flat and let dry over night. When ready to install sand outside edges flush with small sanding block and fit to opening from inside. They should press up to 3/32 angle from inside, few drops of glue keeps in place

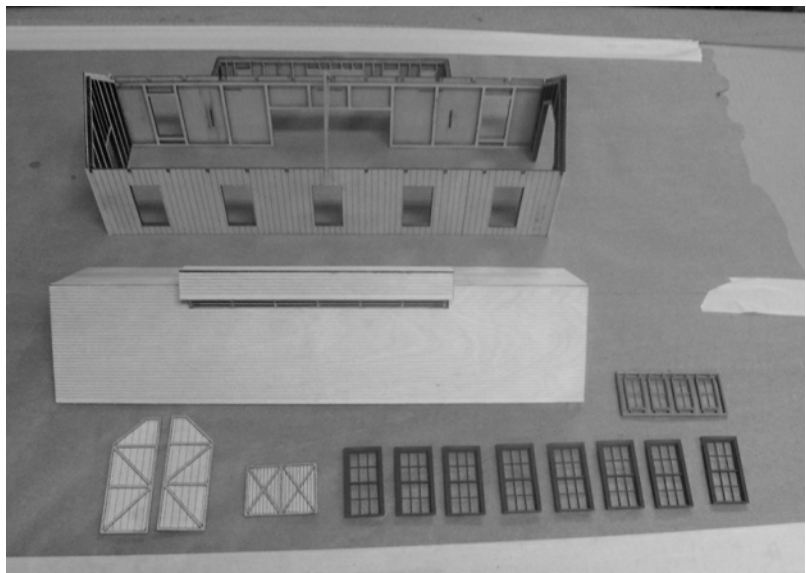


Locate plastic workshop windows and paint. When dry finish plastic windows by installing glaze. Use a quality plastic cement with needle applicator. Place drop of cement in each corner of of frame and drop in clear glaze.

Here we see glazing being place into back of window frame right after cement drop is applied.



Here roof is removed and doors and windows laid out. The roof should not be painted but sealed with testers dullcote or lacquer sanding sealer. Shingles will stick best on this treated surface. But do spray ends and vents with color desired.

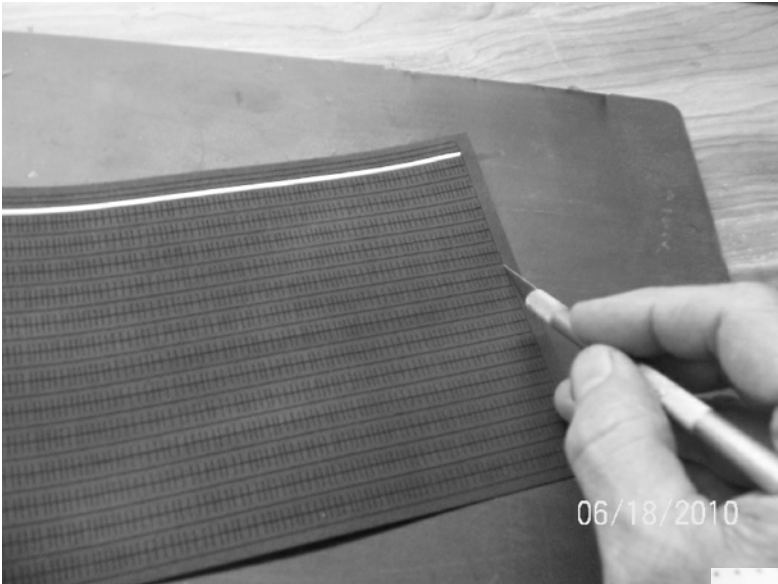


Next lets spray shingles, 8 sheets To do this lay them down flat and tape edges of down. Spray 3-4 light coats until even coverage of RustOleum primer red, when dry air brushwith Floquil roof brown. Then airbrush lightly w/ grimmy black. Then the trick is some light grey and silver in small blotchy areas. Note picture to right. Also spray cap sheet with shingles.

All though next few pictures are not of engine house the same princiabls apply to lay roof shingles.

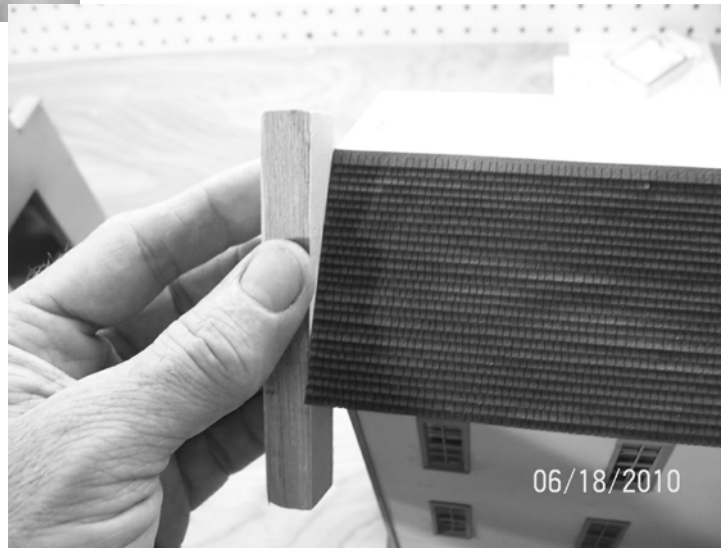
Here we start laying shingles, start at bottom working your way up on scribed lines. Alternate from left to right to keep pattern of shingles mixed as you work your way up roof.



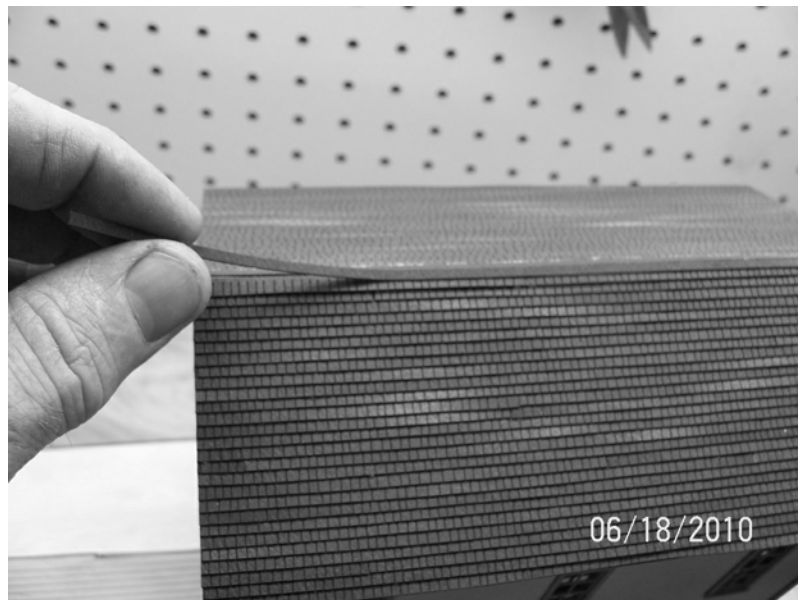


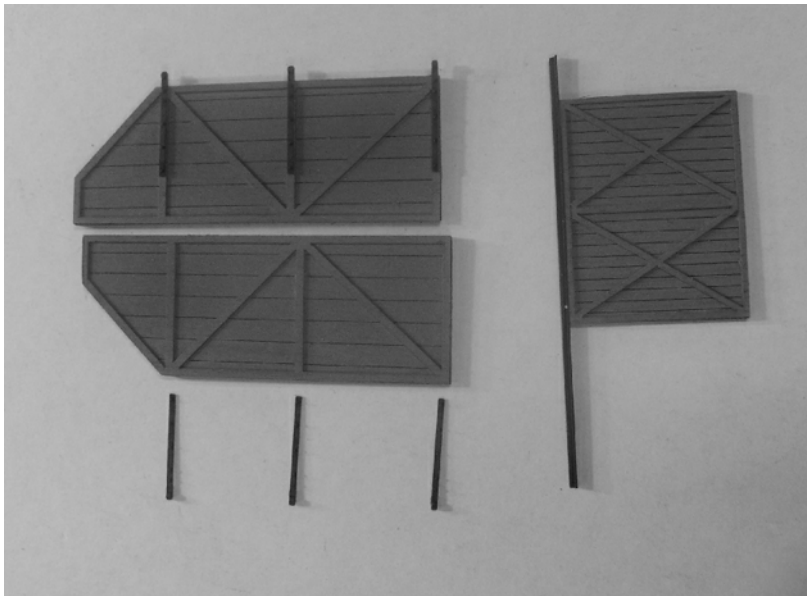
As you pull strips of shingles from sheet you will find that a light scribe with #11 x-acto blade maybe required in some areas.

A light sanding with block at ends will clean up and a touch of paint when complete.

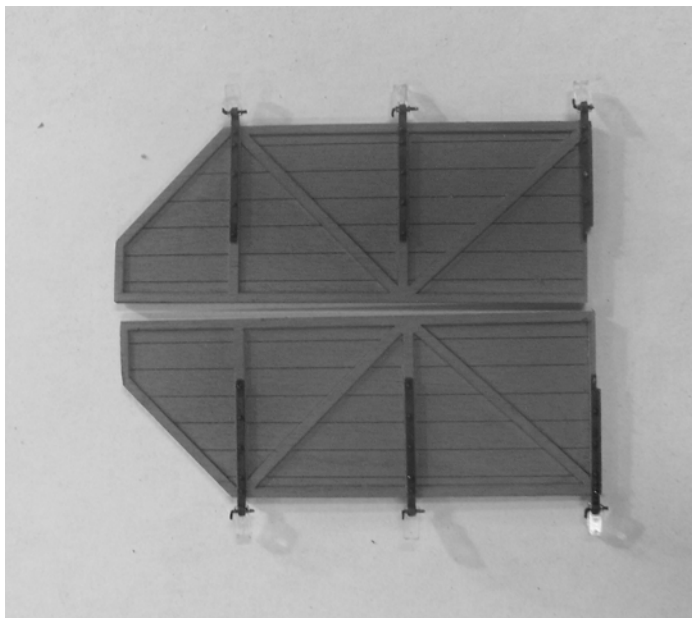


Once both sides shingled to peak you will find a sheet cut for top. Cut to length, slightly fold in center then peel back and apply.





Next locate .080 plastic angle paint black and install to top of machine shop main door as pictured. Then remove strap hinges from spurs and drill hinge point with .025 drill clean up and paint black.

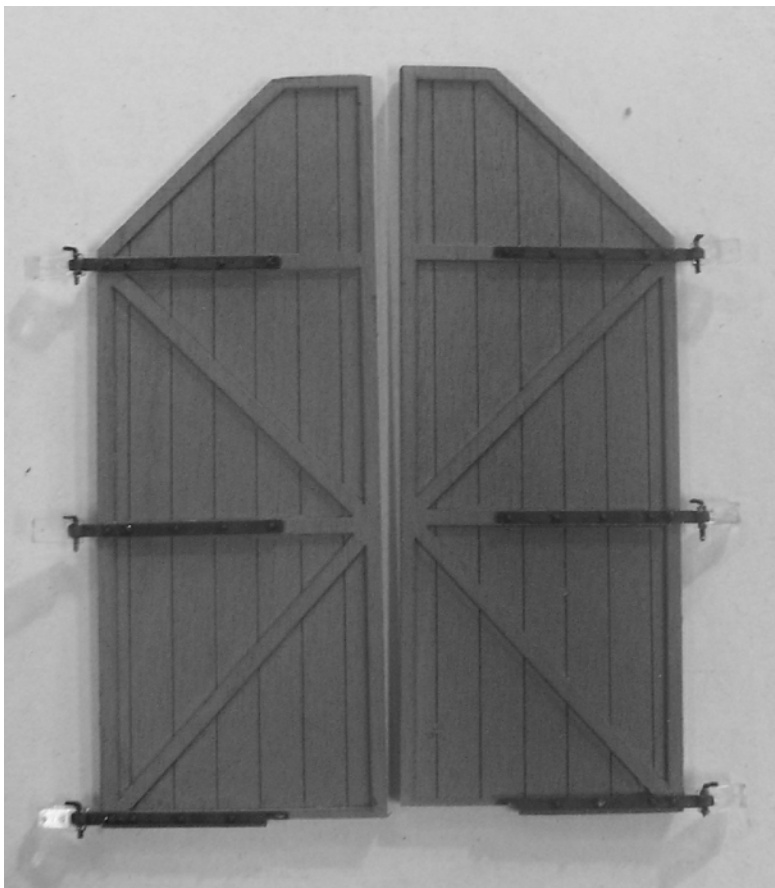


Next install straps to door with ca or best epoxy. You will notice slight step on back side of strap push this up to edge of door and center strap on trim.

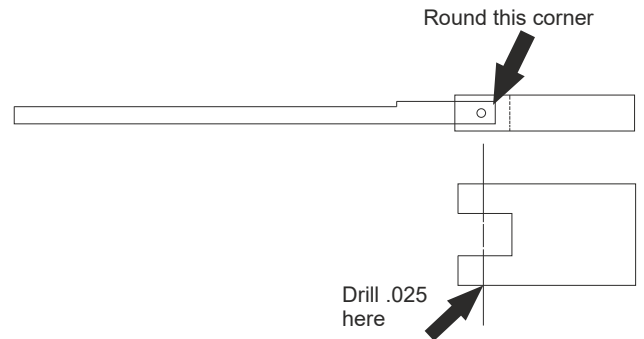
Next bond machine shop main door to desired position. I used white glue and clean any excess with damp q-tip.



(18)



Next locate clear plastic hinge point brackets, notice diagram below. You will need to drill with #72 (.025) bit with dremel. This hole is for small spike, hinge point. Also note the back of strap needs to be rounded with file as noted for clearance.

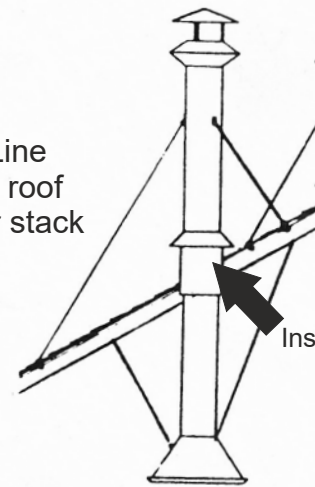


With straps attached to door and hinges points pinned and working smoothly its time to mount door. As picture to left with rails installed in base you may need to file notch in bottom of doors between rails. As you can see doors are tape together and center up in opening. Next fold open hinge blocks and place a drop of quick set epoxy on each block but keep clear of hinge pin. Push them back to siding and let cure, pull tape and doors should open smoothly. On the O scale model there is small shim blocks used behind hinge points.

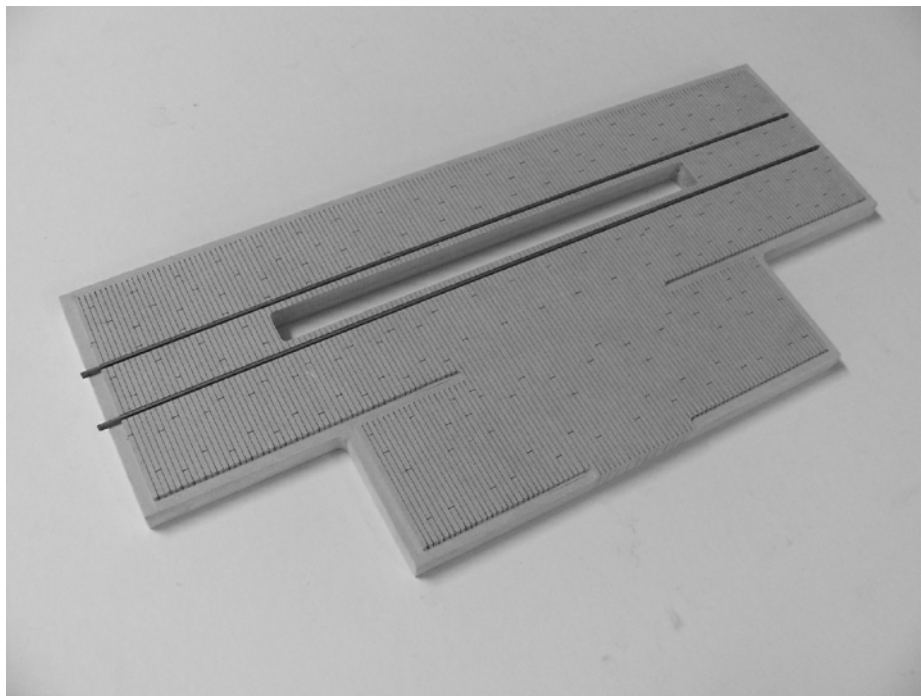


Here we have jump a head and building is complete. Roof sheeting is also sticky back, paint like shingles, then peel and stick. Paint to desired color before applying. Also install plastic windows at this point.

A add on to kit included is a set of GrantLine Chimney stack. Drill hole where desire in roof at peek for collar. Attach upper and lower stack at this point.



Engine House Stack



To complete, model base needs to be finished. Use dullcote or any universal wood sealer. Then base can be painted and weathered to desired affect. Then install rails in grooves a few drops of white will hold them in place. The grooves have been milled for code 148 rail, but contact if you require a different size. Bond rail with aleenes tacky glue after test fitting. Not rail not included.