Scratch Building Prototype Houses Plus

1-Good afternoon and welcome. My name is Brook Qualman. Along with my husband, Jay and John Bussard I am building the Michigan Lines Railroad. A large portion of our layout includes towns that are meaningful to our family. As a result we decided it would be fun to recreate the homes we grew up in and the homes we have lived in together. This has expanded to include relative's homes. It has definitely been a learning experience in both researching and building.

2-I had completed a couple of wood and a couple of plastic kits prior to trying my first "custom" building by kit bashing Walthers Milwaukee Station …

3- Into the Saginaw Potter Street Station. I was too much of a novice to have any idea what I was getting into. Every single piece had to be cut or modified. It took six months and made scratch building seem easy.

4-Here's a mock up in cardboard and the preliminary plastic

5-These are my basic tools. A box cutter for large straight cuts. Exactos for all other cuts, Dremel and nibbler for windows and doors. Sprue cutter to remove windows from sprue. We like Weldon 3 (cheap Tenax) and Model Masters glues, tweezers and nail files. And my HO ruler. I find it easier to work in HO inches and feet. So if the house is 45' long I measure 45 HO feet rather than 6 3/16". It makes for a lot less mistakes.

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6-Before starting, check out your available space and surrounding buildings to decide the best fit. 100%, 90%, or 80%. Here are two size bases for the Holly Hotel.

7- We went with 90%.

8-Jay thought I should practice on my families' homes. I'm not sure if he thought it might maintain my interest more or in case I messed up. My great grandfather built three family homes all in a row, so my Dad grew up with his cousins and Aunts and Uncles. These homes are quite large so I built them at 80%.

9-The first thing you need is pictures. This was my Grandfather's house. My Dad lived here from the time he was 2. I was probably 20 when my Grandparents moved out so I remember it well. We visited this house a few years ago and I was able to take pictures of all four sides. I just rang the doorbell and told them what I was doing and asked permission. The homeowner was thrilled to meet us and asked us in. She showed us the original blueprints for the house.

10-My Dad remembered that a model had been built of the house in 1925. So, I emailed the cousin I thought might have it and his wife happily put it in the mail. It would work well on a G-scale layout, but it helped quite a bit with rooflines and scale and my Dad is now thrilled to have it.

11-This is the one I built. Almost all the doors and windows had to be modified from Tichy parts. I used N scale for the dormers, so don't forget to check other scales when searching for materials.

12-No one offers French doors so these all had to be "made" from Tichy pieces. Mutton bars needed to be added to most of the windows as 6 x6's are not offered in the sizes I needed. No one was home at the other two houses, and we didn't think we would be building them, so we didn't take pictures.

13-However, Jay decided we were going to need all three, Uncle Bert lived next door to my Father and I only had a picture of the front. This house is actually the same as my Dad's only flipped. Easy because I already had the pattern, but not so easy remembering to flip every piece. That's where numbering the parts and drawing direction arrows really comes in handy.

14-Here is the front of Uncle Bert's

15- However I had some 16 mm film my Grandfather took that I had transferred to a DVD. I played it on a TV and paused it to get the backs and sides of the houses.

16- Back of Bert's

17-Aunt Dot's was next to Uncle Bert's. Again, I only had a picture of the front.

18-I had some copper left over from a dollhouse I built. It's amazing where you can find materials. I save every scrap of plastic from the Evergreen and Plastruct I use or from a kit-bash.

19 -The next few pictures are ones I took of pauses on the DVD. It was rather a challenge as my grandfather took pictures of people - the houses just happened to be in the background.

20-So, I used Bing Maps and Google Earth for roof details and the sides I didn't have pictures of. Bing gives a crisper picture, but it is a challenge to save.

21-Here's the back all pieced together.

22-As I mentioned, I use Bing Maps and Google Earth for roof details. MapQuest is now available also. This is our house.

23-Here is the model

24-Google and Bing offer street views in many areas of the country. You just tap the little person icon, blue lines will appear where you can enter a street view. Tap on the line where you want to go. There are arrows on the street to show where you can move up and down the streets for different angles. The maturity of the foliage controls how good your view is. Bing has recently added our dead end road, but there is a tree that blocks our house.

25-Obviously you can get pictures of towns and industries also. Here is a street view of Milford a few years ago.

26-Here are the same buildings circa 1950.

27-Jay decided I was finally ready to tackle a Qualman home. Here it is! This is

where Jay's Grandfather's house was and the Eggert Home next door. Obviously they no longer exist.

28-Sanborn Maps were very helpful for these. They cover the years from 1867-1970. They are available on microfiche in many libraries, or you can subscribe on line for $5,000. We like the library

29-They include information such as the outline of each building, the size, shape and construction materials, heights, and location of some windows and doors. The maps also give street names, street and sidewalk widths, property boundaries, building use, and house and block numbers.

30-The Eggert house not only no longer exists, but we really didn't have a picture of it. We had only small glimpses of one side of the home to try to piece together. The Eggerts' were Jay's Great, Great Grandparents. They lived next door to Jay's Grandparents. These pictures show windows, roof style, porch, chimney placement, and the porte cochere.

31-Now, I'll get to how I actually build a structure. I needed to do the beginning part so my presentation would last more than 10 minutes. We started with the Sanborn map. This really helped with the shape and heights. (Point out 2- 1 ½- 1, bay) First Jay figured out the dimensions for me.

32- I draw a "blueprint" to size using those dimensions.

33-Then I sketch the walls to size so I can choose windows and doors.

34-I figure out which Tichy and or Grandt Line windows and doors I need and order them if needed. Tichy is very easy to order from. It usually arrives in 2-3 business days. Remember to write down the materials and their numbers as you go along, not only in case you decide to go for your structures award, but it makes it easier on subsequent buildings to duplicate a look or color you like.

35-Next I build a cardboard model. I find cereal boxes work just fine. This is not built for posterity, just as a template and to see how everything goes together. Roofs are generally the most challenging part. I find this thinner cardboard works better dimensionally when I cut the plastic. There doesn't seem to be as much of a discrepancy between the thickness of the cardboard and the styrene.

36- I use .30 or .40 styrene depending on the size of the building.

37- I used shirt cardboard on the Potter Street Station and it really threw off my measurements- especially for the roof.

38-I number the parts as it's amazing how similar they look and it is easy to mix them up before you cut the windows and doors in them or glue them to the wrong piece. Marking the direction is also helpful for matching bricks, getting your siding right side up, and especially on roof dormers and peaks (triangles)

39-I use the cardboard model as my template for cutting whatever brick, stone, siding, styrene I'm using. I put bracing where the different sections go together for stability and to make sure the pieces get glued in the correct position.

40-Next, check out how all the windows, porches and trim fit

41-42-Assemble it making sure everything is square along the way.

43-I'm learning to add lots of bracing so my models aren't too fragile and it really helps keep them square.

44-John assembles his entire building and tapes what he is not painting. I find that no matter how hard I push on the tape, I get leakage, so I put automotive masking tape wherever I'm going to attach porches, roofs, corbels, Quoins, electric boxes, downspouts, etc., so the glue will hold.

45-You can see on this that I painted some bricks darker. I added mortar below the porch, but we decided not to use it. Jay remembered this house as being very dark from his childhood.

46-I like to do my windows and doors separately rather than on the building. Too much taping for me with all the nooks and crannies and roofs houses have. The paint masking tape I put the parts on keeps most of the glue points paint free and a little sanding or scraping gets any overspray off.

47-Don't forget gutters, downspouts, electrical boxes, chimneys and vent pipe. You can buy gutters and downspouts, but they are never the right length and I am very cheap, so I make my own gutters out of Evergreen L80 and L100 nested together. The boxes are whatever size you want (depending on industrial or home) with slice of .035 rod.(100 rod for industries) Conduit can be styrene or brass rod. Bent or with small blocks on top. If you are going with a conduit that sticks above the roofline, I recommend brass so it won't break off. Same with plumbing vents. (which are always breaking off)

48-This is what we decided the house should look like. I don't add "glass" to my windows until after I dull cote and drybrush to keep the windows shiny on the outside. I dull cote the insides of the "glass" to cut down on interior visibility. At some point the interior of the building is painted black to make sure the interior lights just come out of the windows and not through the walls.

49-This is the finished house. For weathering, I drybrush with Applebarrel Country Tan. I use an airbrush around the bottom on an angle to get a splash pattern of dirt and mud with diluted Roof Brown. If the building is really old or really dark I airbrush the entire structure with a VERY diluted roof brown, to take away the newness and knock back any white. There aren't any good trim whites. They are too bright, yellow or gray. Now I add the windows. Window, roof, vent pipe and chimney streaks are added where needed along with walking patterns on steps and porches-either with the airbrush or Doc O'Brian's Weathering Powders.

50- You can see where I've painted the individual bricks. Unless the bricks are glazed they are not all the same color ever.

51- If the trim is white the drips should be white, unless it's a white building. I paint electrical boxes, conduits, and pre-color gutters and downspouts with Model Masters Jet Exhaust.

52- I like CGLaser 3-tab shingles and Builders in Scale (self-adhesive), but I also use Plastruct asphalt shingles and/or tile. For really premium buildings, Northeastern Scale Lumber laser cut shingles.

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54-We finally thought to call a cousin to see if he had any pictures and he sent the following. We were quite pleased that we nailed it. This process has helped us reconnect with cousins for pictures and other information.

55- Here it is on our layout

56-This is a Xerox of Jay's Grandfather's prairie style house and my primary source. It was built in 1912 in Saginaw, MI and was converted to a Beauty School in the '90's and then bulldozed. We had a few highly modified modern day pictures from the early 2000's before it was demolished. Jay calculated the dimensions for me from the Sanborn map.

57-Here is a more recent photo. A porch roof has been added.

58-The porches were really a challenge on this house. As you can see, the front porch is indented.

59 -You can see how the interior porches are in the back. There were four.

60-There was a lot of detailed lattice on this house, making it unique.

61-This is a highly modified back view with 3 of the porches filled in.

62-back of house

63- Notice the drip holes on the upper porches. It's the details that really complete your structures.

64- Everyone in the family has a picture of the 5 children in front of the garage. 3 are in their WWII uniforms. Little things like this really add to your layout.

65 - This is the house my Mother grew up in. It is made from stucco. Plastruct stucco is very thin, so I framed the house first. Not exactly 16" on center.

66- If I'm building a stone house or foundation, I paint stone before I cut.

67-Another good source is Acadia or Postcard books.

68-This was my home from ages 8-14.

69-Here it is in 1956.

70- It was this color in 1950.

71-Here is my elementary school from an Acadia book

72- Here is the model

72-Both Bing and Google let you rotate and tilt your buildings so you can get a good look at the roof lines from all sides.

73-It's the roofs that are the most challenging, along with porches and bay windows. Even if I don't build a cardboard model, I will make a cardboard roof before cutting the roofing material.

74-Ocassionally you get really lucky and get blueprints. Here is the blueprint for the front of the Presbyterian Church. They changed the front in 1956. These were in the boiler room of the church.

75- The Milford Historical Society was instrumental in restoring the Albert Kahn Power House built by Henry Ford to operate his carburetor plant, so they had blueprints.

76-Here it is on our layout.

77-In summary- Gather all the **pictures** you can. Call or email relatives if it's a family building. This was a great way to reconnect with cousins that we only send Christmas cards to.

Bing and Google Earth are fun vehicles to check out you own house, your friends' houses and the buildings you want for your layout.

The **Acadia books** give really crisp pictures if you are lucky enough to find the building you are looking for.

Call your **library** first to see if they have the Sanborn maps you want. You may have to go to a major library.

Many libraries have reverse directories where you can look up the address you want to build and find out what it was in the year you want to build it. This is especially true of stores, which change often.

Regular old **phone books** can be helpful too. It's easier to look up businesses than street addresses, unless you know the name of the person who lived there then.

Call the local **historical society**. The local library usually has the same information, but members can be very helpful in narrowing down the information or letting you know if they even have it.

Go **online** to the local Historical Society; many of them have their pictures on line.

Check Facebook or Google to see if there is an online forum. "I Remember When It Happened in Milford" is one in our area. Ask a question and see how many answers you get or ideas of where to find the answer.

76-Thank you. Any questions?

B. Live Clinics

These are live presentations given at conventions, Division meetings, etc. In order to be eligible for credit, the clinic must be prepared and presented by the member applying for the certificate, it must be at least 30 minutes in length, and it must include a handout (a copy of the handout must be included with the certificate application.)

Points Earned For Live Clinics

Item	National	Region	Division
Given At NMRA Sponsored Events	6	4	2
Given at NON-NMRA Sponsored Events	3	2	1

A live clinic can only be claimed for Model Railroad Author points once, even if it presented more than once. Additional presentations of a clinic earn credit towards Association Volunteer.

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