

The Story of a Woodworking Shed/Shop

a journal about planning, building, equipping, and using Frank Pellow's shed

(with the advice of my friends on the Internet)



By: Frank Pellow

Issue 3.0 30 November, 2008

Front Matter:

Preamble to Issue 1: (*Issue 1 was dated 28 May 2005 and was entitled "Planning, Building, and Equipping Frank Pellow's Workshop"*)

This document contains a condensed version of my notes about the planning, construction, population, and initial use of my new workshop. The notes cover a period of approximately two years. As you will see, the notes make extensive use of photographs.

While building the shop, I filed regular reports and asked many questions on Internet woodworker's forums. In the past, almost all my construction projects have been undertaken with one or more other people. That has many benefits and, for me, the greatest benefit, is to be able to discuss design alternatives both initially and as unanticipated problems and opportunities arise. This time, I started out alone but, as soon as I utilized the Internet, many folks came to my assistance. Throughout this document, I will shade text that references the Internet forums in green.

Unless specified otherwise, the prices in this document are in Canadian dollars. The conversion rate between the Canadian and US dollars has varied a lot during the period covered by this document. The average rate was such that \$1.00 Canadian cost about \$0.80 US. You will also observe that I mostly use metric temperatures and distances because that is the norm in Canada and my decided preference. However, the building trades in Canada have been dragging their feet when it comes to conversion to Metric Ⓢ, so most of the building dimensions use Imperial measurements.

Preamble to Issue 2: (*Issue 2.1 was dated 27 December, 2006*)

I am updating this journal to reflect some changes to the shop in the year and a half since I released Issue 1. Also an index of sorts has been added, there has been some reorganization, some new material has been added, the title has been changed, and several typos have been fixed (*and, no doubt, new ones introduced*).

Preamble to Issue 3:

I am updating this journal to show changes to the shop in the last two years. Also, the description of a few projects from earlier issues have been removed and have been replaced by the description of more recent projects. The size of document has increased from 188 pages to 260 pages.

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Planning:

2003 April 10 (Thursday):

This is my first entry in what will, no doubt become a voluminous epistle.

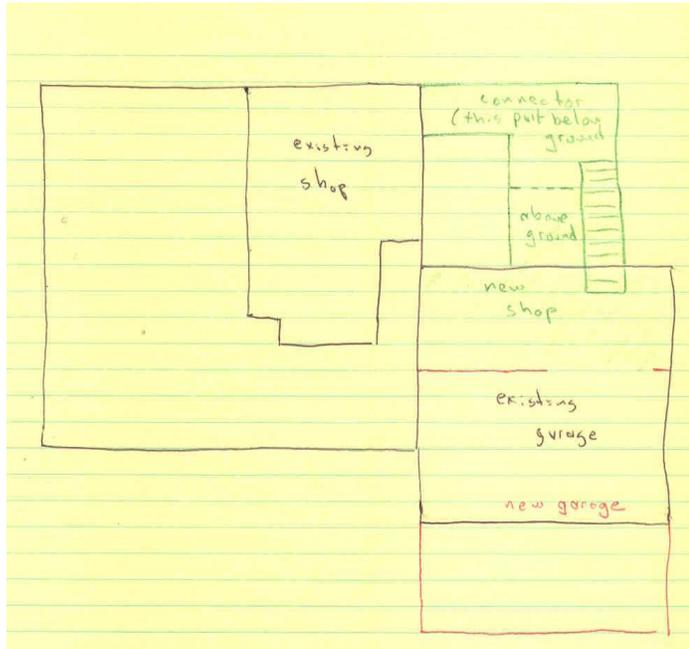
I just retired two months ago and I hope that a lot of my time in the future will be spent in my wood working shop. Right now I have a small (*about 250 square feet*) very over-crowded shop in the basement:



I want a shop with several things not provided by my current shop:

- Natural light
- Better ventilation and dust collection
- Some 240 volt circuits
- About double the space
- Wider entry doors

I think that this can be provided by pushing forward the garage, placing a shop at the back, breaking a hole in the basement wall, then joining my current shop to the one at the back of the garage via a stairway.



2003 April 26 (Saturday):

A couple of problems have come up.

First, and most important, is that **Margaret** (*my wife*) **is not keen on this plan**. I did mention my idea back when we were living in Kirkland, Washington, but she seems to have forgotten that discussion.

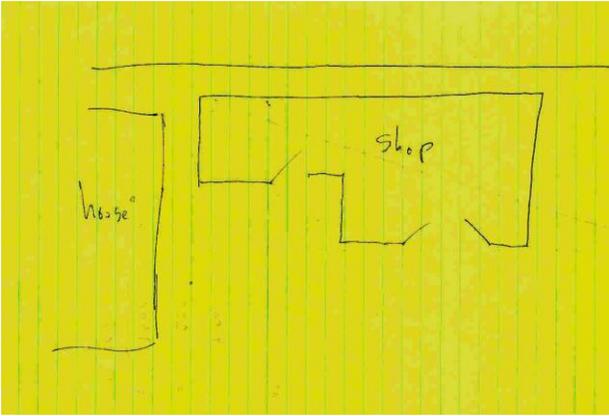
The other thing is that I don't think I can push the garage far enough forward without getting a variance from the building department. I can go 6 feet forward without a variance, but that does not leave enough room in the back of the garage for a decent workshop.

I told Jane and Jill next door of my plan and I said that I would not go ahead with it if they disapproved. They had no immediate reaction but I am afraid that, they too, do not like the idea.

2003 May 20 (Tuesday):

There has been a big change in plans!

I have given up on the idea of utilizing the garage. Instead, I will build a stand-alone structure on the west side of the back yard and close to the house. Here is the tentative layout and placement:

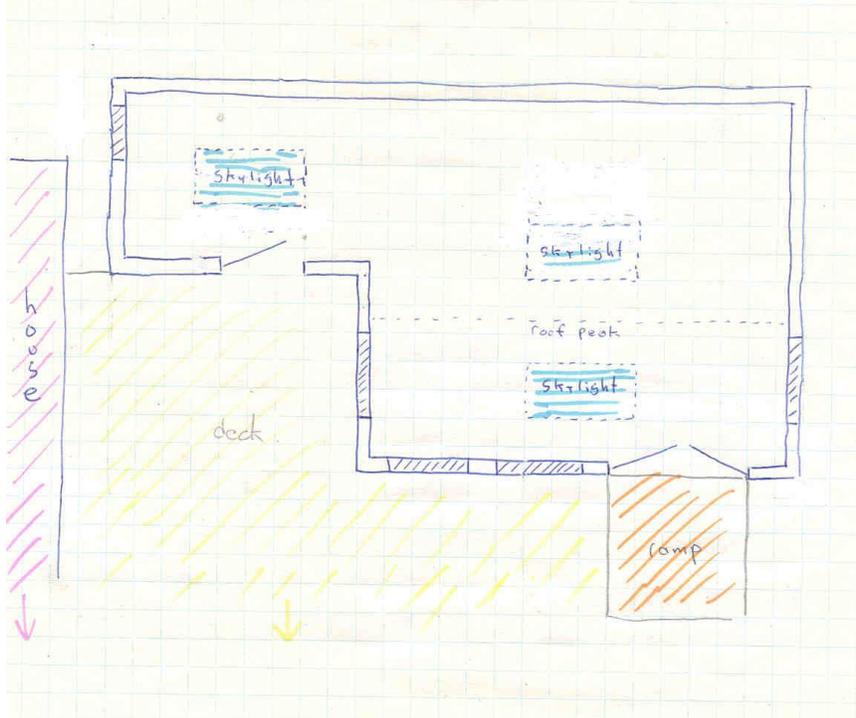


This should be a lot cheaper than the old plan. My guess is that the garage/basement plan would cost between \$40,000 and \$50,000 whereas I think a separate building will cost about half that.

2003 May 31 (Saturday):

I found some pre-stained cedar board and batten siding that is expensive but looks good. I sent away for information and received good and fast answers to my questions. They also sent me some samples of the different colours and I have nailed the samples to the back of the garage to see if one of them stands out as the correct choice. Margaret and I both favour a grayish blue but none of the samples that we received is exactly what we have in mind.

I am including a copy of the latest floor plan and some attempts at elevations:



- Calculate the percentage of our lot that will be covered by the combination of house, garage, and shed. The total coverage can be no more than 33%. I think that I am OK but, since the lot is a strange shape, I still need to do some calculations.
- Provide them with complete information about the stove and chimney that I plan to install. I expect that I can get complete details on the WEB without actually buying anything.
- Move the building at least 6 feet from the house. Margaret will like this rule. I don't like it because it leaves very little space between the workshop and the vegetable garden. Related to this, I found that the building can be within 18 inches of the lot line. I previously had it 36 inches away but will now move it closer to the line.

2003 December 28 (Sunday):

I made an interesting discovery at Home Depot today. They sell rough sawn 1 inch by 12 inch pine at 92 cents a foot. These are real 1 by 12s too! The quality of the boards that I saw was not bad and I think that I can use it for the board and batten. I talked to a sales person at Home Depot (*a woman*) who said that she used it on a shed that she built last summer and was quite happy with the result.

2003 December 31 (Wednesday):

The building plans were approved and I have the permit! There are a few more changes that I needed to make before they would issue the permit but they are all for the better.

I am attaching a copy of the permit and of some of the plans that back it up. There will probably be some changes along the way, so it will be interesting to look back at these some day.



East District
150 Borough Drive
Scarborough, ON, M1P 4N7
Tel: (416) 396-7322
Fax: (416) 396-4266

BUILDING PERMIT

This card must be kept posted in a conspicuous place on the site of construction.

03 203341 BLD 00 SR

Site address 150 HEATHERSIDE DR
 Project description Small Residential Projects; SFD - Detached;
Accessory Building(s)
 Date issued Wednesday December 31, 2003

Ann Borooh
Chief Building Official

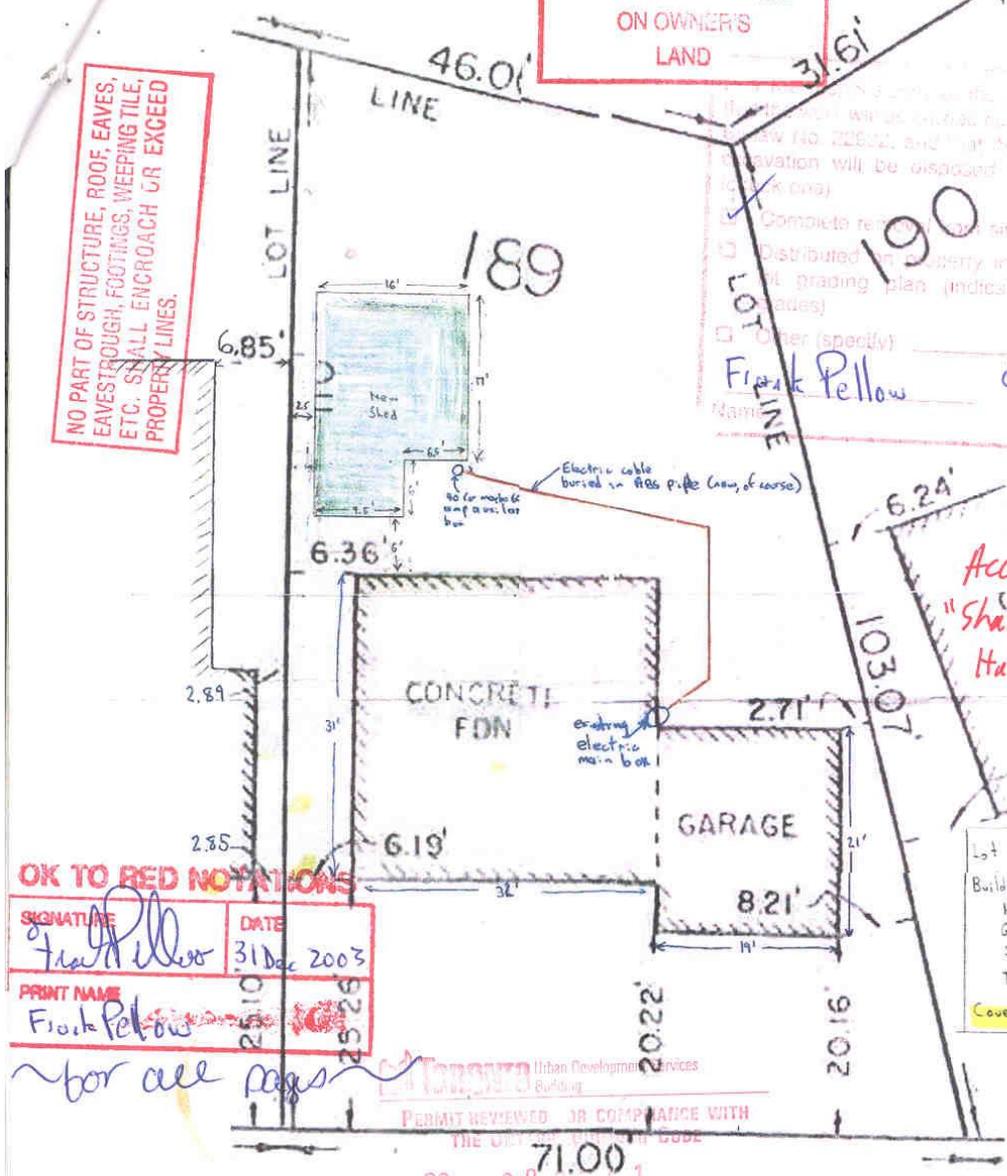
Bruce Ashton, P.Eng.
Deputy Chief Building Official

Dimensioned Lot Plan

STORM DRAINAGE TO BE SELF CONTAINED ON OWNER'S LAND

NO PART OF STRUCTURE, ROOF, EAVES, EAVESTROUGH, FOOTINGS, WEERING TILE, ETC. SHALL ENCRACH OR EXCEED PROPERTY LINES.

Frank Pellow
 Signature: *Frank Pellow*



OK TO RED NOTATIONS

SIGNATURE: *Frank Pellow*
 DATE: 31 Dec 2003

PRINT NAME: Frank Pellow

for all pages

PERMIT REVIEWED FOR COMPLIANCE WITH THE CITY OF TORONTO BUILDING CODE

DEC 31 2003

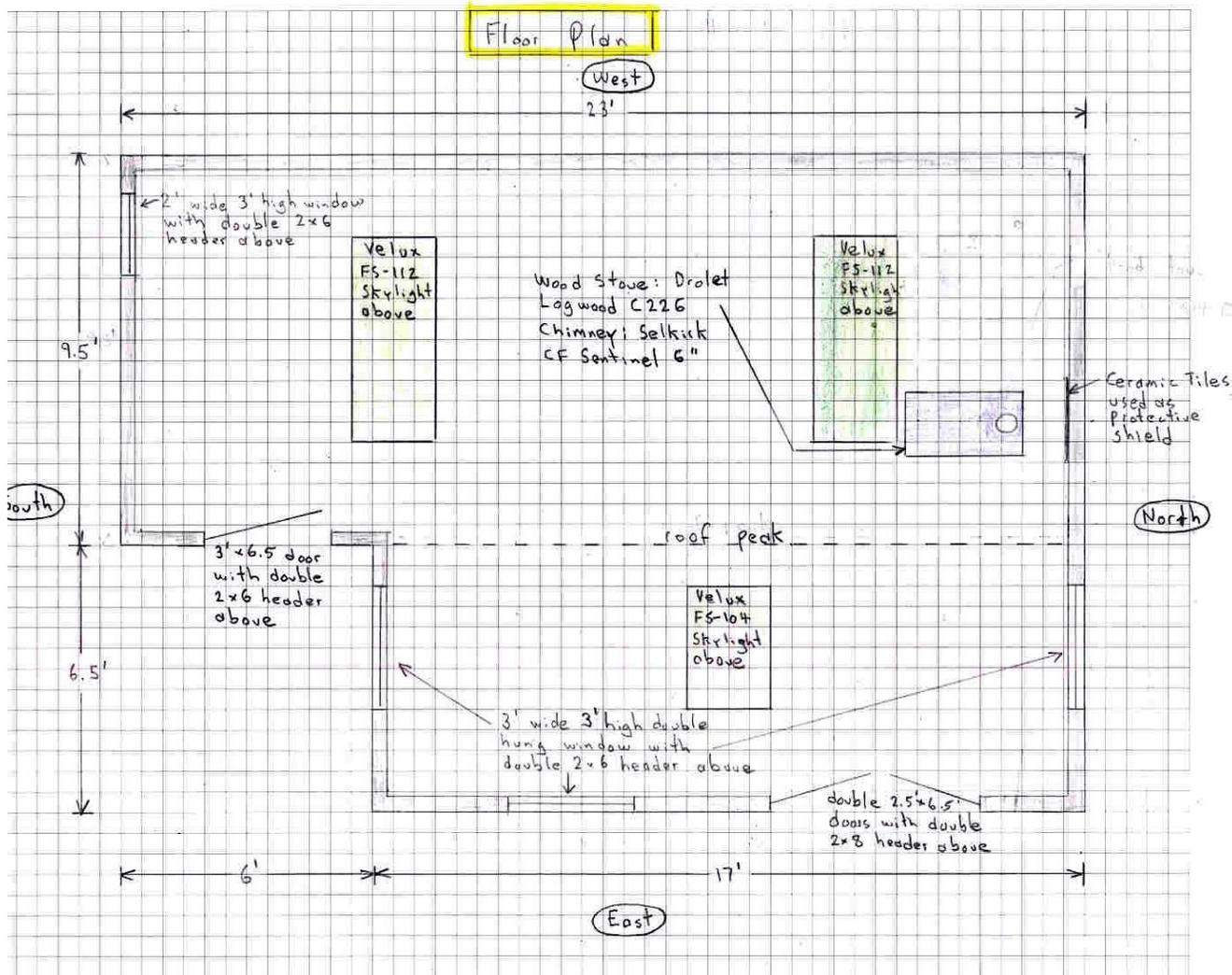
ZONING: *RS-1*

O.R.C. *Dec 31/03*

Shed position shown on a blow-up of our original lot plan

Also shows approximate route for electricity. There will be no plumbing in the shed.

THESE PREMISES ZONED SINGLE FAMILY DWELLING, TO BE OCCUPIED BY ONE FAMILY ONLY, HAVING ONLY ONE KITCHEN

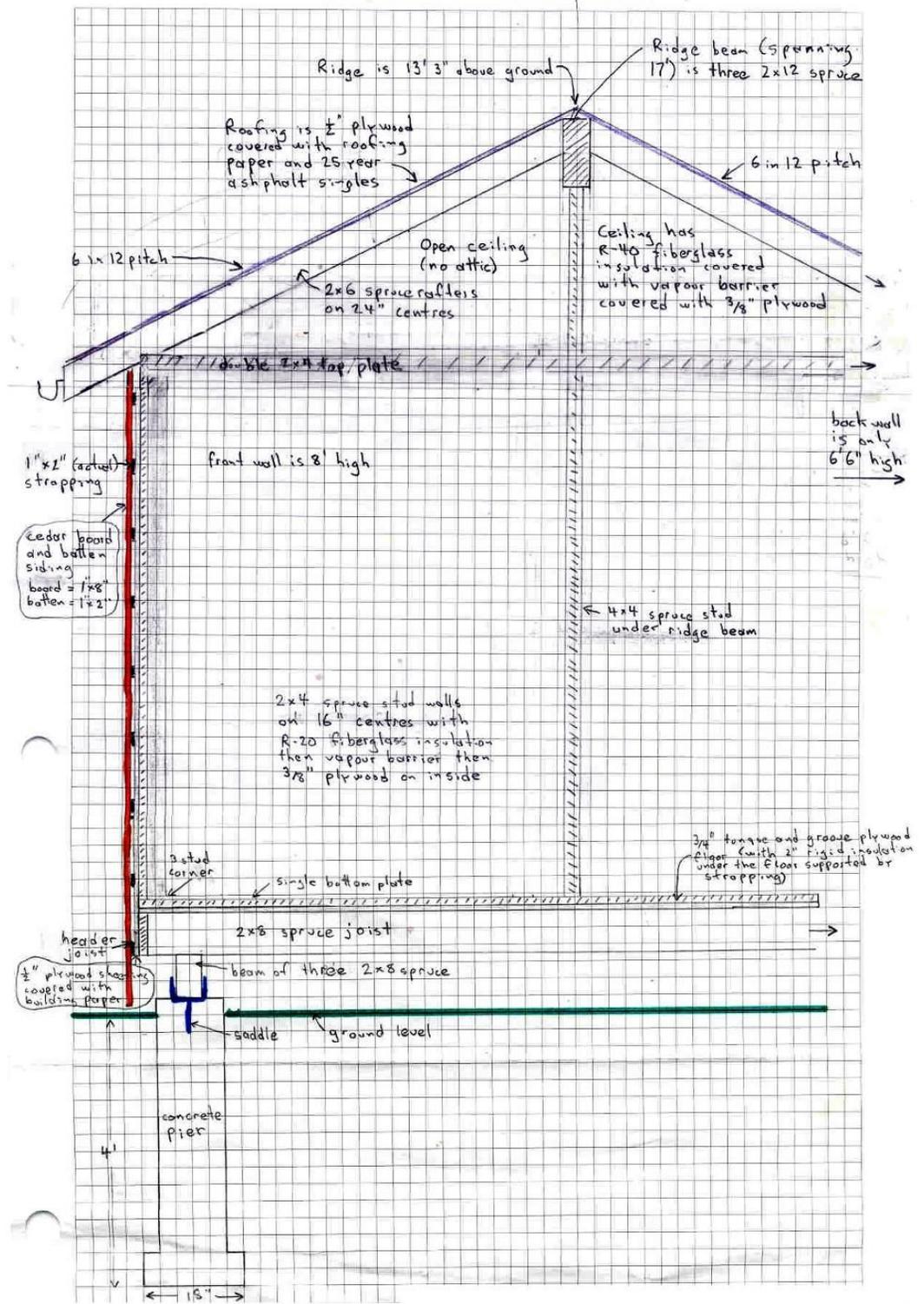


Pellow: 150 Heatherside
December 2003

③

Scale: 1 square = 6"

Typical Section - North Wall



Pellow: 150 Heatherside December 2003 (6)

Scale 1 square = 3"

2004 January 9 (Friday):

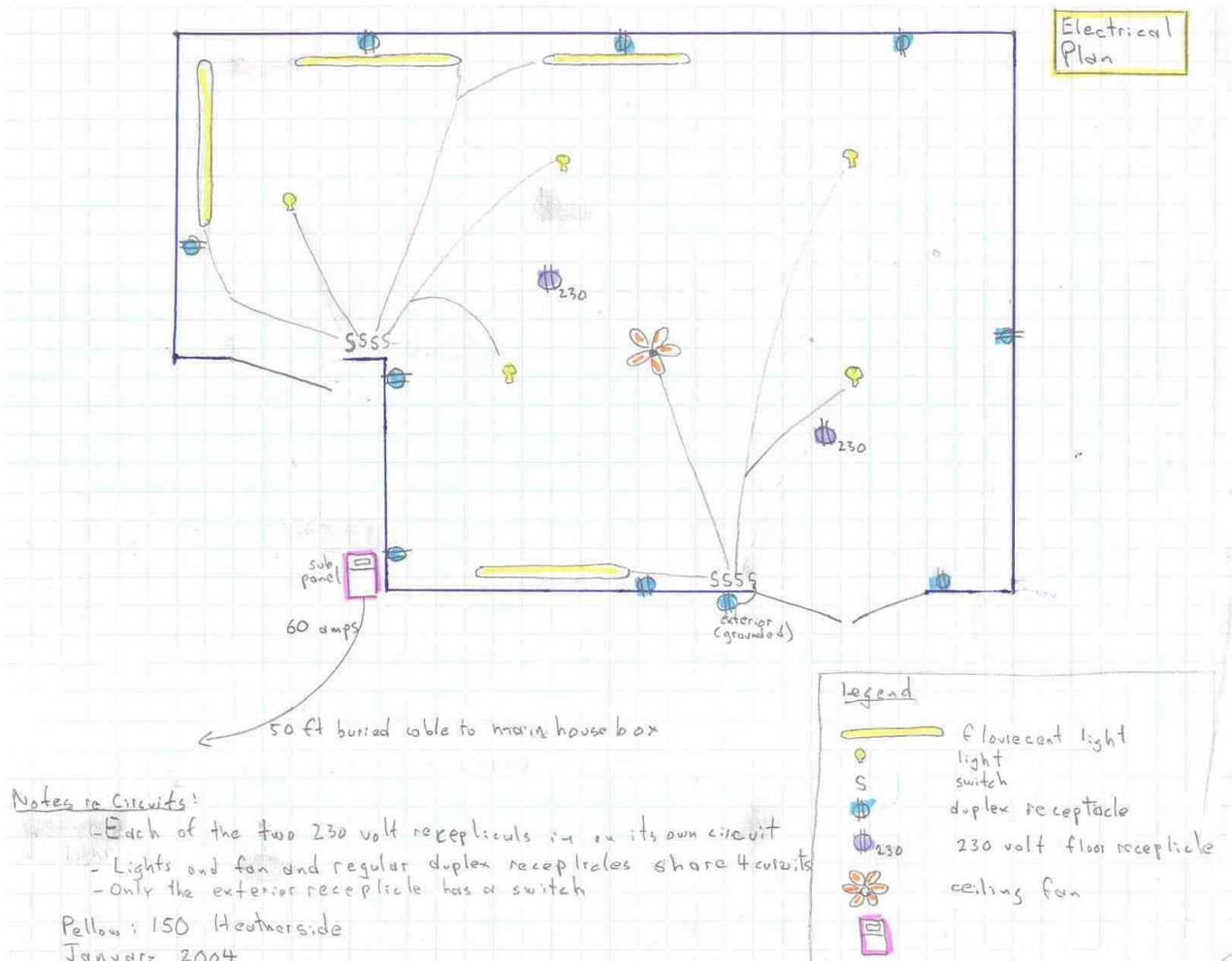
Today, I finally talked to a guy about digging holes and pouring piers for me. I found him on the WEB but could only contact him by phone and it has taken over a week for him to return my calls. Not a good start! I sent him the details by mail and asked for a quote.

2004 January 12 (Monday):

I have been working on the costs of material this month. My first try about a week ago came out to a little over \$23,000. I have been trying to find alternate materials and designs since then and the latest estimated cost total (including taxes) is a little under \$19,000. When the project is finished, it will be interesting to look back at these estimated costs. No doubt, both the plans and the costs will change but I hope that they do not change dramatically.

2004 January 14 (Wednesday):

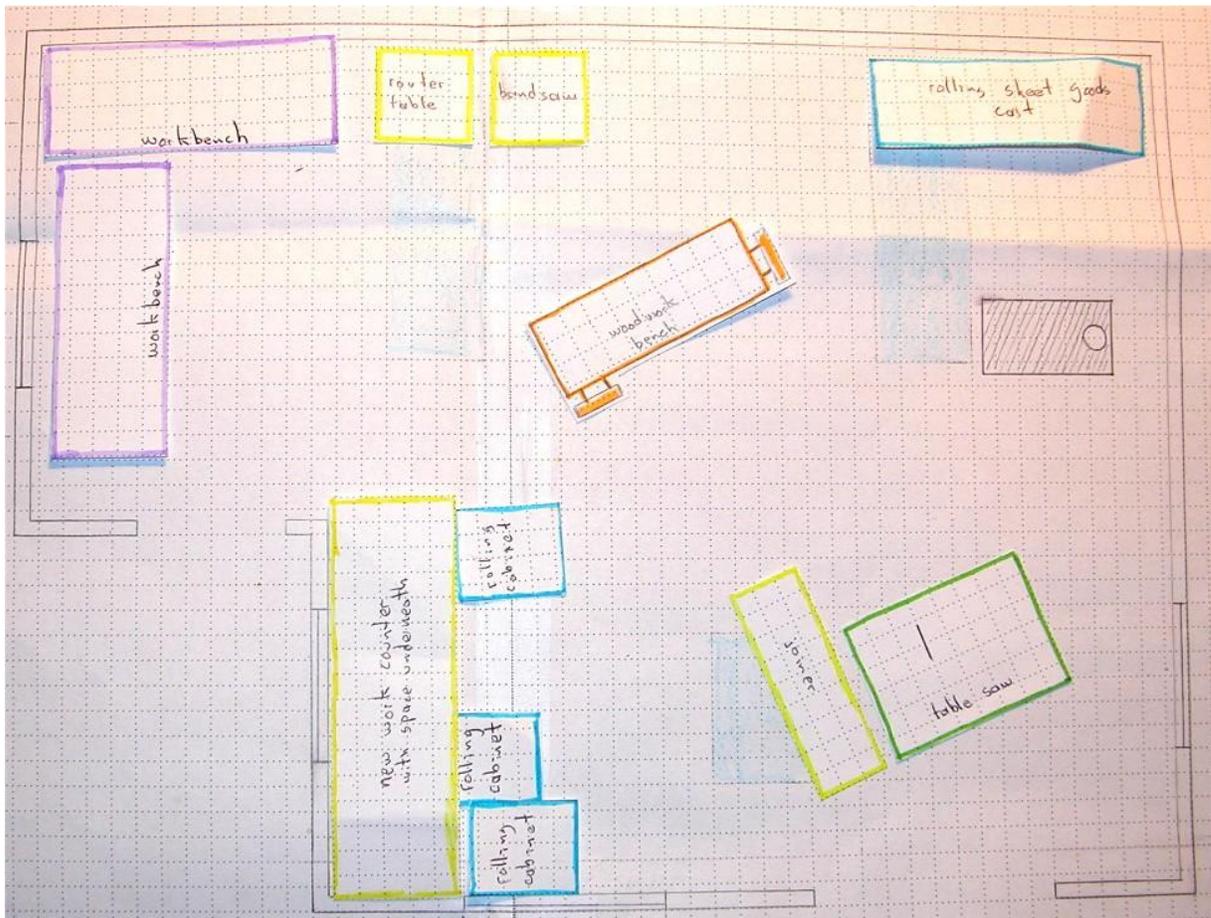
Today, I completed a rough wiring diagram.



I mailed the diagram along with the site plan to the same guys (*Mario and Frank*) that re-wired Kathleen's (*my daughter*) house last spring and I asked them for a quote. I got to know Mario quite well while we were working together at Kathleen's place and I did him some favours there. I believe he will take on the job, even though it is small, and will give me a good deal. He and Frank definitely do good work! I plan to do most of the wiring by myself and I will also dig a trench for underground cable from the house to the site of the secondary circuit box. There will be 60 amp service connected to the house's 200 amp service. There will be at least two 240 volt outlets and about twelve 120 volt 20 amp outlets.

2004 February 1 (Sunday):

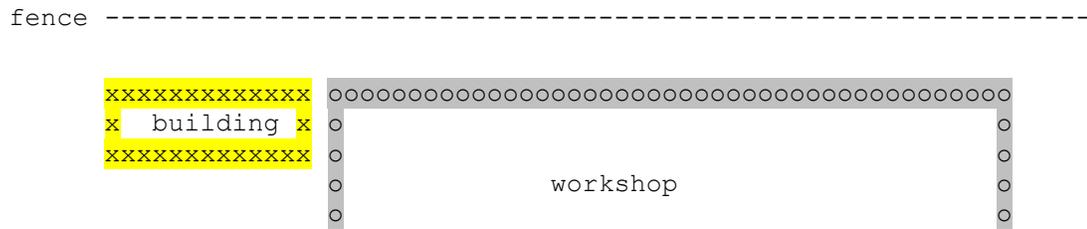
We are away for in the Seattle area for about three weeks helping Margaret Li with her new baby and I am taking the opportunity of spare time to browse the internet looking at workshop designs. Most of the shops described on the WEB are at least 800 square feet which is more than twice the size of mine (329 square feet). I do think that it will be possible to make mine a little bigger without breaking any zoning bylaws and without crowding the rest of our yard too much. To double check, I drew both the old plan and a new plan on some squared paper and cut out pieces of paper with the contents of the shop tried various arrangements. Here is a scheme that I like:



This entails the following changes:

- Increasing the overall width by 2 feet and the overall length by 1 foot which results in an increase of 58 square feet – up to 387 square feet.

- Leaving one existing workbench in the old basement workshop. I will use the old workshop for painting, other finishing, storage, and cleanup (*by adding the old laundry room sink*).
- Adding a small 2.5 ft by 9 ft building at the south east corner of the workshop



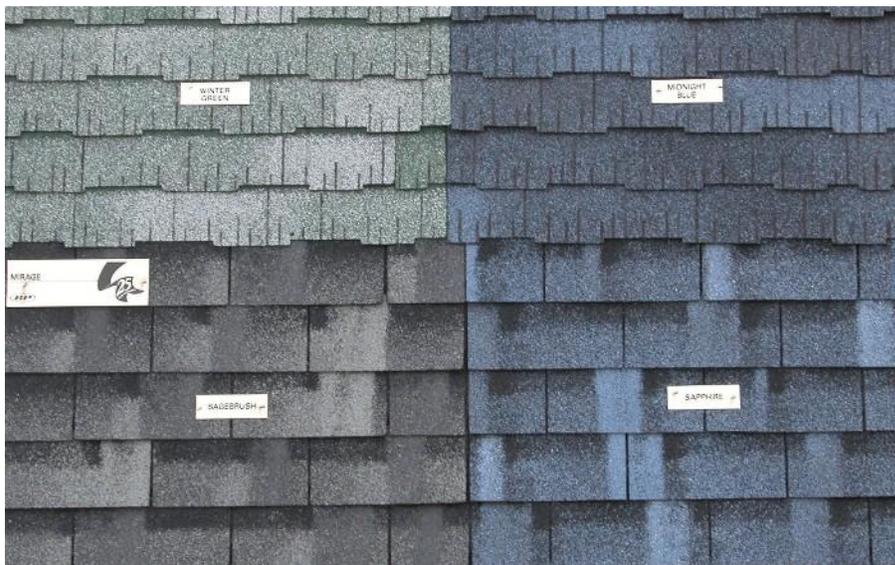
This will have a door to the south to insert and remove sheet goods. Since it is a small separate building, it does not need a building permit. It will have the look and feel of the workshop but (*just to avoid any questions*) I probably will not build it until after the final inspection of the workshop building. One big advantage of this little building is that it will continue the noise barrier that we are establishing to block the very loud sound of our neighbor's air conditioner.

- Increasing the height of the back wall to 6.5 ft from 6 ft in order to change the place where the walls meet. This means that the overall height of the building will increase only very slightly even though the building is 2 ft wider.

The changes are so minor that I don't think the building inspector will notice. If he does, I will plead that I made the changes in order to avoid the existing deck piers when sinking the workshop piers (*and this has the merit of being is partly true*).

2004 February 13 (Thursday):

Today, I looked at Home Depot to see if they supply any more expensive asphalt shingles that are not as boring as the normal ones that I have always used. They do and the cost is only about 25% more. Here is a photo of some of the many shingles of this type.



Margaret and I both like the shingles in the bottom right.

2004 February 14 (Saturday):

Although this is entry not directly about the construction of my workshop, it does have to do with a tool that may prove to be important in that workshop and, if I buy it soon, even in the construction. For the last couple of days I have been reading many reviews of the hand power tools produced by a German company called **Festool**. The company sells mainly to contractors because their tools are very expensive, BUT VERY GOOD. There is a combination offer on a shop vac and a circular saw that I am seriously considering buying. The saw/vac combination along with a few things like, a (very good) rail guide system, an extra blade, and extra vacuum bags has a US price of about \$850. However, the reviews that I read say that this saw can be substituted for a panel saw and that it does a better job. The least that I could get a reasonable panel saw for is about \$1,500 US and such a saw takes up a lot of space. Furthermore, if I buy this combination, I also get a shop vac which can be run independently of the saw and which rates right up there at the top. Does it look like I am trying to justify the expense? You bet I am!

2004 February 17 (Tuesday):

I purchased a small quantity of rough-sawn 1" x 12" pine today from Home Depot along with a can of the same stain that we used on the Sauna building at Pellow's Camp. I cut some battens from the sample and stained some boards and battens down in the basement. It is pretty certain that this is the siding and stain that will be used, but I am trying out a small sample to be sure. Also, it is good to get work started, even if in such a small way, on the building.

2004 February 18 (Wednesday):

I talked to Mario of CTC Electrical Services today and things look good. He says that they are still interested in doing the work but they can't give a quote at this time. I kind of got a quote from him anyway by saying that I had budgeted \$2000 for his time and for the electrical supplies to do the job and his reaction was that that number was high. Another good thing is that Mario said I can get the electrical supplies through CTC.

On the other hand, I have had no luck contacting the guy that I thought could do my post holes. He has not responded to the letter that I sent on the 9th of January, nor as he responded to the pages that I have left him several mornings in a row. All I can do is to leave a page; he does not seem to have an answering machine. If I have not heard from him by this time next week, I will start looking for someone else to do the job.

Today, I decided to construct the wall using 2" x 6" s in order to be able to insulate the shop better. This, together with the increased size, and the fancier shingles will, no doubt, put up the costs. I also decided to include a real dust collector (*probably the 1200 cfm, 2 hp, 220 volt King unit that cost \$439 at Markham Industrial*) and to increase the duct size in the pipe network from 2" to 4". My guess is that the \$19,000 estimate will increase to \$21,500.

2004 February 20 (Friday):

I like the look of the stained siding, so made a final decision to go with it. Based on that decision, today I picked up five 12' boards and two 8' boards when I was at Home Depot for some supplies for redoing our downstairs loo. Altogether I need over a thousand linear feet of this stuff, so I certainly will not be getting it all on my car top carrier. But, I can pick out better boards this way and I can get a head start my staining some of them. I do plan to stain the boards both front and back before screwing them into place (*with two coats on the exterior surfaces*). The 12 foot boards presented a challenge; I got them into the basement but not into the shop (*one of the reasons for a new shop*). So, I had to stain them in the recreation room. As you can see, the recreation room

is a big mess anyway. It is awaiting the completion of my shop which will free up storage space elsewhere.



I finished off my first can of stain and determined what the coverage is likely to be for the whole job. I figure that 14 cans (*US gallons*) of stain will be needed.

Today was decision day I guess: because, I also decided to go ahead and purchase the Festool circular saw and shop vac package that I talked about on the 14th. The bottom line is that there is no way to save money. The stuff is being shipped from a warehouse in the United States and I am paying 6.5% duty, GST, and freight on top of the already high cost of \$910 US -a LOT of money for a circular saw and shop vac and a few extra things like saw blades, guide rails, carrying boxes, and vacuum bags. But, I have great expectations that this saw will save me from having to buy things like a panel saw, a sliding table for my table saw, and a chop saw. If it does, the purchase will have been well worth it.

2004 February 23 (Monday):

I gave up on the post hole guy and contacted someone else. This guy called me right back. He says that he can probably do the job. I will send him details in order to get an estimate.

2004 February 24 (Tuesday):

Today was a good day! For starters, I received email from my accountant in the USA telling me that I was actually going to get a little more than \$3000 US back on my income tax. I expected to have to pay as much as \$10,000 more. What a relief. I celebrated by spending some more money:

- More money for dust control. I will probably upgrade the dust control system to the top of the line. The top of the line is a cyclone system with 6" metal ducting from Oneida. I contacted their Canadian re-seller who is located in Durham Ontario. The name of the

company is Welbeck Sawmill and they have a lot of interesting tools and supplies in addition to the dust control. I agreed to send them a plan of the shop along with a list of likely power tools.

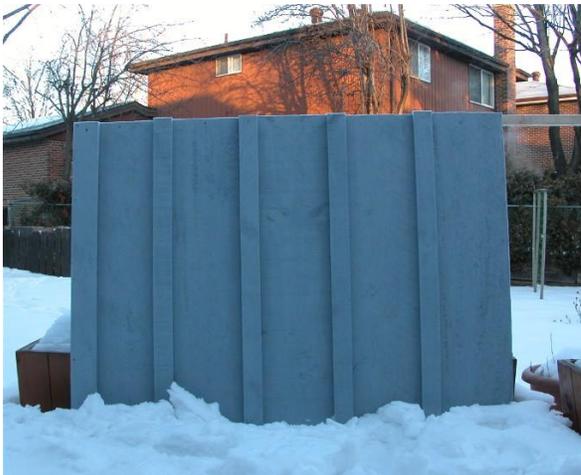
- One night at the Elora Mill Country Inn with dinner and breakfast. There is an ulterior motive because Elora is near Durham and we can visit Welbeck while in the area. We will go a week from today.
- A Festool Jig Saw. I ordered a discontinued model at a much reduced price (\$159 US).

2004 February 25 (Wednesday):

My Festool circular saw and vacuum arrived today. What prompt service!

I put together a small prototype (4' high and 5.5' wide) of wall and placed it into the back yard. Here is a photo.

I learned that I am going to get a bit more coverage (13" per board rather than 12") which is good but that I am going to have to buy longer screws (3") to put on the battens. When researching the application of board and batten on the WEB and in my reference books, I got conflicting advice about how wide apart to space the boards and about where I should place 1 or two screws into the boards at each junction. Since the screws are very expensive, I decided to try to get away with just one screw per junction ¹.



I think that I will try to build the double doors out of the 1" x 12" s. In fact, if I can locate some nice a straight boards, I will get started this weekend. That's one time-consuming job that I can get started on in advance. If I do that, I will probably drop the sliding door idea and revert to hinged doors swinging outward.

2004 February 27 (Friday):

Today was the day of the Canadian Home Workshop show. I attended for about 6 hours and learned quite a bit about available tools from Canadian suppliers. Of course there is lots of stuff that I want but I restricted my purchases to two. The first was a portable rolling stand made by General. The second purchase was a kit to make a drum sanding table.

I have been playing telephone tag with the building inspector this week. I have some questions to ask him and it seems that he wants to set up an appointment with me. But, he is not good at returning calls, so we do not yet have an appointment.

¹ I ended up using two screws per junction on the boards and one on the battens.

2004 February 28 (Saturday):

I moved some stuff around in the garage today in order to give me some working space and some space to store material. Right now, that material consists of the rough-sawn pine siding boards that I have been buying from time to time and carrying home on my roof-rack. That technique lets me get the better boards from 3 different Home Depots but I am very unlikely to get my whole supply that way. I figure that I need 1280 linear feet and I have purchased 206 feet to date. The car will have to stay outside now and I doubt that it will get back into the garage until next November.

I have added my guess at the cost of a hooked up gas heater to the shed cost and that pushes the total to about \$23,500. That a \$4,500 or about 25% increase in one month. Not good!

2004 February 29 (Sunday):

I am using the WEB to try to find the best way to insulate my cathedral ceiling and I found these recommendations:

Above Grade Walls	R-17 (RSI-3.0)
Ceiling	R-31 (RSI-5.4)
Floors Over Unheated Spaces	R-25 (RSI-4.4)
Exposed Cantilevers	R-25 (RSI-4.4)
Cathedral Ceiling	R-20 (RSI-3.52)

I was planning on having R20 in the walls and ceiling and R10 in the floor. It looks like I should rethink the floor. The plans currently call for the use of 4" of rigid insulation in the ceiling in order to get R20. But, I am going to use 2 x 8 roof rafters and I hope that R20 fiberglass will fit and leave enough air circulation above. I am having trouble getting a definitive answer about this on the WEB so I hope that the building inspector can advise me. The cost of the rigid R20 for the ceiling is estimated at \$850 whereas the fiberglass would be about \$240, thus a saving of a little over \$600. On the other hand, I should beef up the floor to at least R15. Increasing it to R15 would cost about \$220 more in insulation and I would guess about \$80 more in wood. If, I do both these things, I save \$300.

2004 March 1 (Monday):

Today at Home Depot, I checked out the spec for the available insulation in more detail. I discovered a company Roxul that produces a slightly more compressed batt, that is: 5.5 inches rather than 6.5 with an R value of 21.5. This should give me enough clearance with the 7.5 inch rafters to get a big enough air space above the insulation: in the cathedral ceiling. Based on what I found, I have decided on the following insulation:

- Walls: R-21.5 in 6" walls (include R-2.5 for other material) = R-24
- Walls: R-21.5 in 8" rafters (include R-1.5 for other material) = R-23
- Floor: R-12.5 in 1.5" nailers (include R-2 for other material) ² = R-14.5

2004 March 2 (Tuesday):

Today, I received one quote much below my guess and another about 25% above budget:

² Later, I changed my mind and opted for R21.5 in the floor as well.

- The post hole guy phoned early this morning and his ballpark for the job is \$750 pre-tax which is about \$860 when PST and GST are added. I had planned for \$2000 so that is really good news. He says that the job that I want done is very straightforward.
- We drove to Durham to visit Welbeck Sawmill today. They are the Ontario distributor for Oneida Cyclone Air Cleaner, which is by far the highest rated dust collection system. It comes at a steep price. I met there with Gary Agonbar and we planned the ductwork layout. The cost of everything pre-tax will be about \$1,800; which works out to a cost of \$2,160. I had guessed \$1,500. This is now the most expensive item in the estimate list.

Welbeck Sawmill, itself, was a good discovery. It has good wood (*both hard and soft*) at good prices. It also has very good prices on an extensive supply of tools (*including the General 350 table saw that I would like some day*).

2004 March 5 (Friday):

I talked to the "Perfect Post Hole" guy and arranged a tentative date for the work. That date is April 13th. He says that he can do it in one day.

It got up to the 18° today and that means that the snow is almost all gone. The ground is even starting to unfreeze. Now, unless it snows some more, I can start to dismantle the deck. Before I do so, I will take some "before" pictures of the area. During construction, I plan to take picture from the same spots and put them into this journal.

2004 March 6 (Saturday):

I fell down on the stairs about an hour ago and the edge of a stair caught me right in the small of my back. Right now, I am resting with Ice on it and there is a lot of pain. I sure hope that the back is not injured in a way that will slow down my work on the shop!

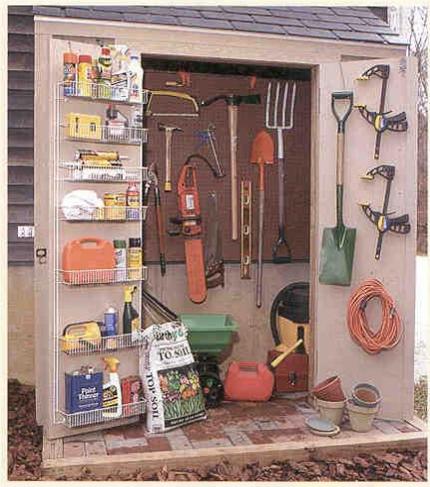
Here is one of the "before" site photos that I took early this morning:



2004 March 8 (Monday):

I am very happy to say that, although my back is still quite sore, it is not stopping me from working.

I decided to scale down the auxiliary building (see 1st Feb layout). That building was going to be 2.5 ft by 9 feet and have a door at the end to manage sheet goods. Now, the length will be reduced to 7 ft and there will be two doors at the side. It will no longer be used for sheet goods, rather for garden equipment storage. I will model it on a lean-to that I found in a book.



2004 March 9 (Tuesday):

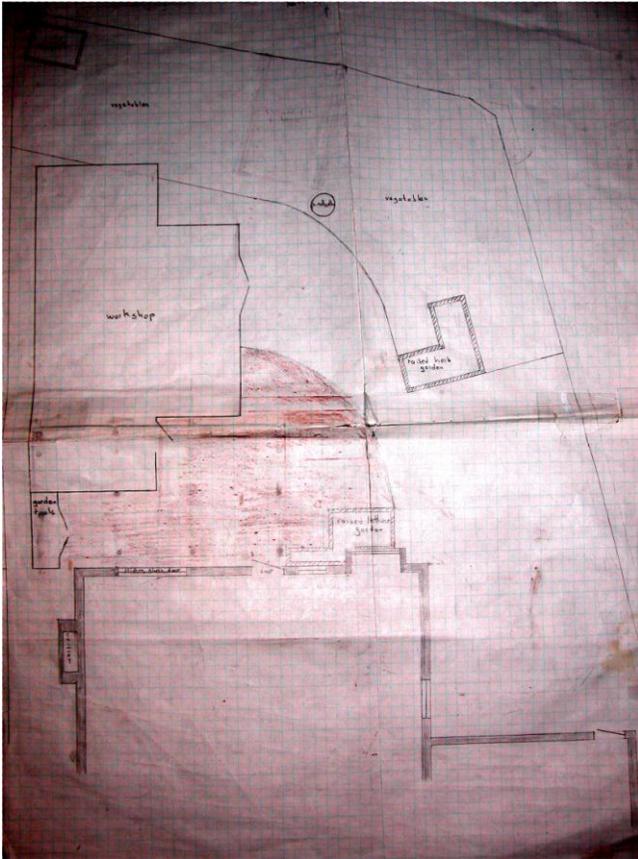
The building inspector finally called me this morning but he did not have answers to many of my questions. The thing he seems to be concentrating on is that he wants to see the holes and that might make for interesting logistics. I told him the date of the digging/pouring and he said that it should be OK -we will see.

Things are really underway now, at least on the spending front, because I have already spent about \$1,400. Over half the siding has now been purchased. I will continue to purchase the siding boards at Home Depot stores and bring them home in my trailer because there are a lot of boards in the stores that I am rejecting. I have now cleared the acceptable stock (*only about 1 in 3 boards makes it*) from four different Home Depot stores.

2004 March 11 (Thursday):

Here we go again. I have changed the layout one more time again to increase the size. The more I read about other people's shops and the more that I see their layouts, the more I become convinced that I am just not going to be happy if I settle for less than 400 square feet of usable space. I kind of fooled myself on the last size increase -the one to 387 square feet. I fooled myself because I ignored the width of the walls. The interior floor space in that design was only 345 square feet. I have been thinking about some way to increase the size for the last couple of weeks but, because of the strange shape of our lot, I could not figure out anything that did not seriously encroach on another zone of the backyard.

This morning, I thought of the solution -change the shape of the building from an L to a T; that is adding another wing at the north-west corner. Here is a (*rough*) diagram of our backyard showing the T-shaped workshop:



The footprint of this layout is 473 square feet and the useable floor space is 425 square feet. The increased footprint means that the percent of our lot covered by buildings will become 31%. The allowance is 33%. So, this is almost as far as I can push things.

I talked to the building inspector this morning and he said the changes would probably be OK. He did ask me to send him a revised layout. I will do so once I have a decent one prepared. I also have to redo all my diagrams and calculations. Oh well, better now when I have some time than a month from now when I will be starting the real construction work. Once I redo the calculations, I expect to find an increase in cost of about \$2,000. I guess that that is not bad for another 80 square feet.

2004 March 12 (Friday):

Well, I redid all the estimates and the increase is about \$2,200. The expanded plan was not entirely responsible for the increase. I also remembered to include the cost of plastic and crushed rock under the building and I remembered the cost of 2x4s for the Garden Tool enclosure. As well as this, I upgraded all the skylights one level. The total cost now stands at about \$25,000.

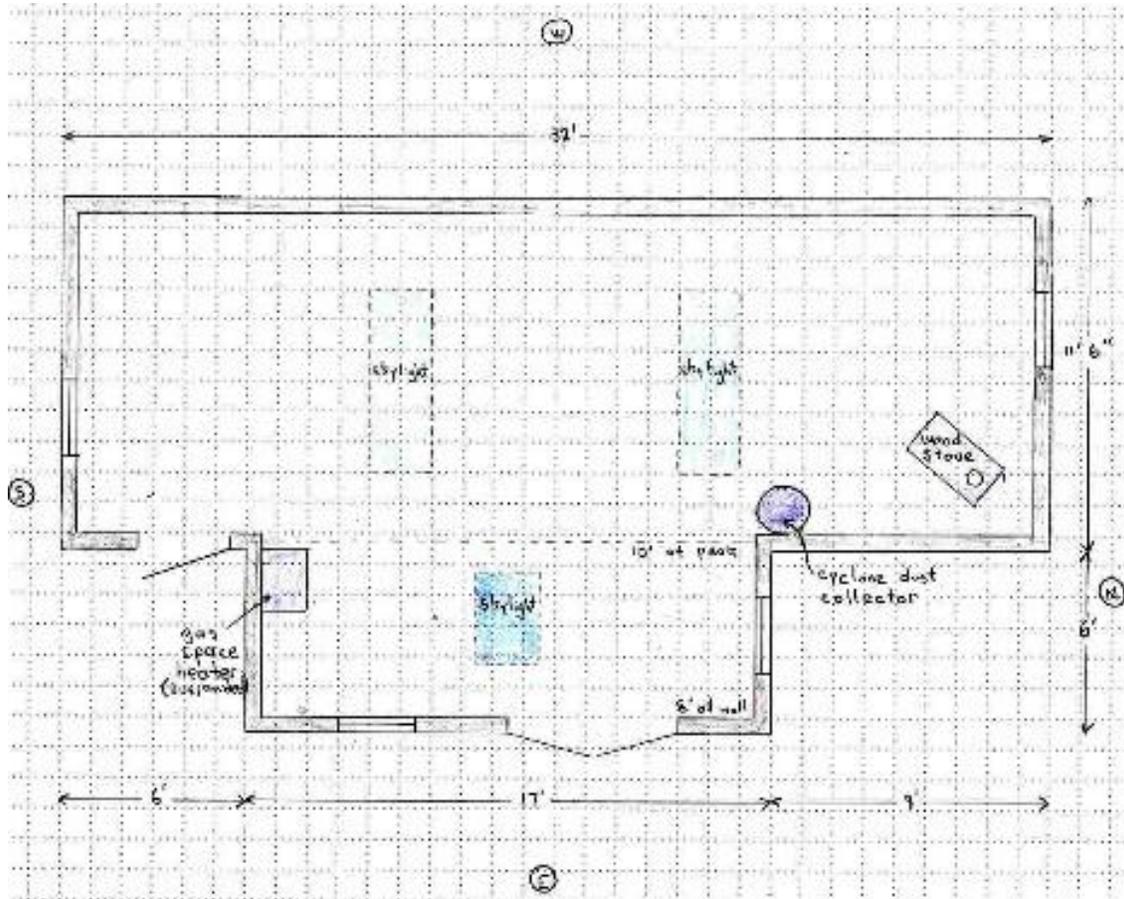
2004 March 14 (Sunday):

The snow is now mostly gone from our backyard, so I was able to get out yesterday and roughly stake out the site and put up some skeleton frames to show elevations. **To my dismay, when I showed all this to Margaret, she was not a happy camper.** The building, in her opinion would be too intrusive. So, early this morning, I went back to the drawing board, moved some walls, and lowered the roof pitch, reducing the height at the peak by 2 feet.

About two hours ago, Margaret (*grudgingly*) approved of the revised building. I next have to pass things past the building inspector but he will be a much easier sell than was Margaret.

I am happy to say that I was able to retain most of the area increase by lengthening the overall building in the direction of the compost heap while reducing the width of the middle protrusion to 6'. The useable floor space is now 420 square feet. But, I am certainly going to miss the extra height within the shop.

Here is the latest (*and I certainly hope the last*) floor plan:



2004 March 15 (Monday):

A couple of weeks ago, I found some woodworking forums that appear to be good. Already, I have received good advice about a number of things. This morning, I started a thread entitled "Frank's Workshop Construction Project" on one of the forums and posted a layout as well as a picture of my old basement shop. I plan to post updates as I progress and spin off new threads for any questions that arise.

2004 March 16 (Tuesday):

I took this picture this morning. The duckboards mark the perimeter of the shop.



I posted a spin-off thread re dust control today asking a lot of questions. As of 21:30 there have been 264 people who looked at the thread and all the questions that I asked have been answered. The main question concerned whether or not I should install the unit in a closet and the answer seems to be that I should build a well insulated and well ventilated closet around the unit after it has been installed.

2004 March 18 (Thursday):

I posted the following list of major objectives for my new shop on internet today (*the order in which objectives appears in the list is insignificant*):

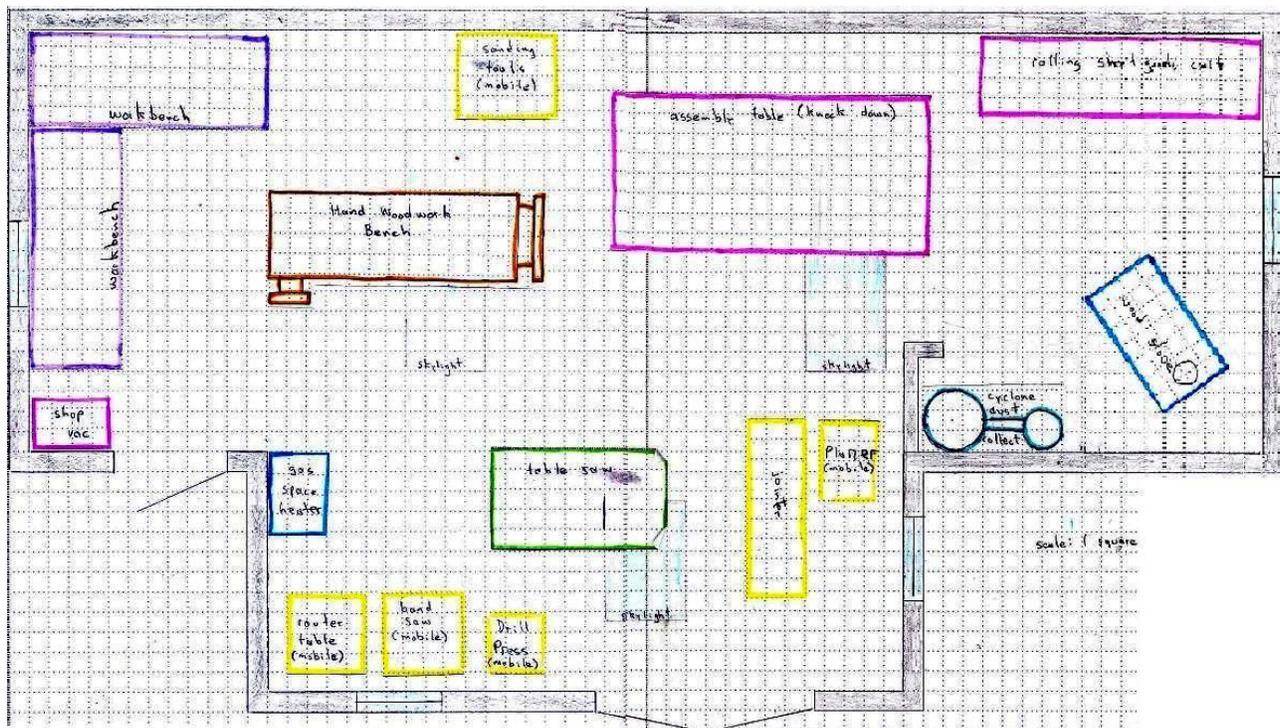
1. Lots of natural light
2. Good artificial light
3. Good ventilation and dust control
4. Ready access to the outdoors
5. Free movement of goods both into and out of the shop
6. A comfortable floor (*i.e. wood rather than concrete*)
7. Sufficient room within the shop to handle sheet good and long boards
8. Provide a location for a good stationary cabinet table saw, an adjacent (*but moveable*) jointer, and an adjacent (*but moveable*) planer
9. Provide a location for a high quality stationary woodworking bench
10. Good cabinets to organize all my tools and paraphernalia

11. A place that is warm in the winter (*but not as warm as my wife likes to keep our house*)
12. A great sound system to listen to music (*all kinds of music -well not rap, but all other kinds*)
13. A place where the noise of my power tools will not disturb other family members
14. A place that I can escape to when I wish to do so (*in particular, a place with no television*)
15. A place where my friends and family will feel welcome and comfortable
16. The building should be attractive and should enhance the neighborhood

On the internet today, someone asked me a question about my 24 inch centres for the floor. That made me think some more, then I decided to switch to 16 inch centres.

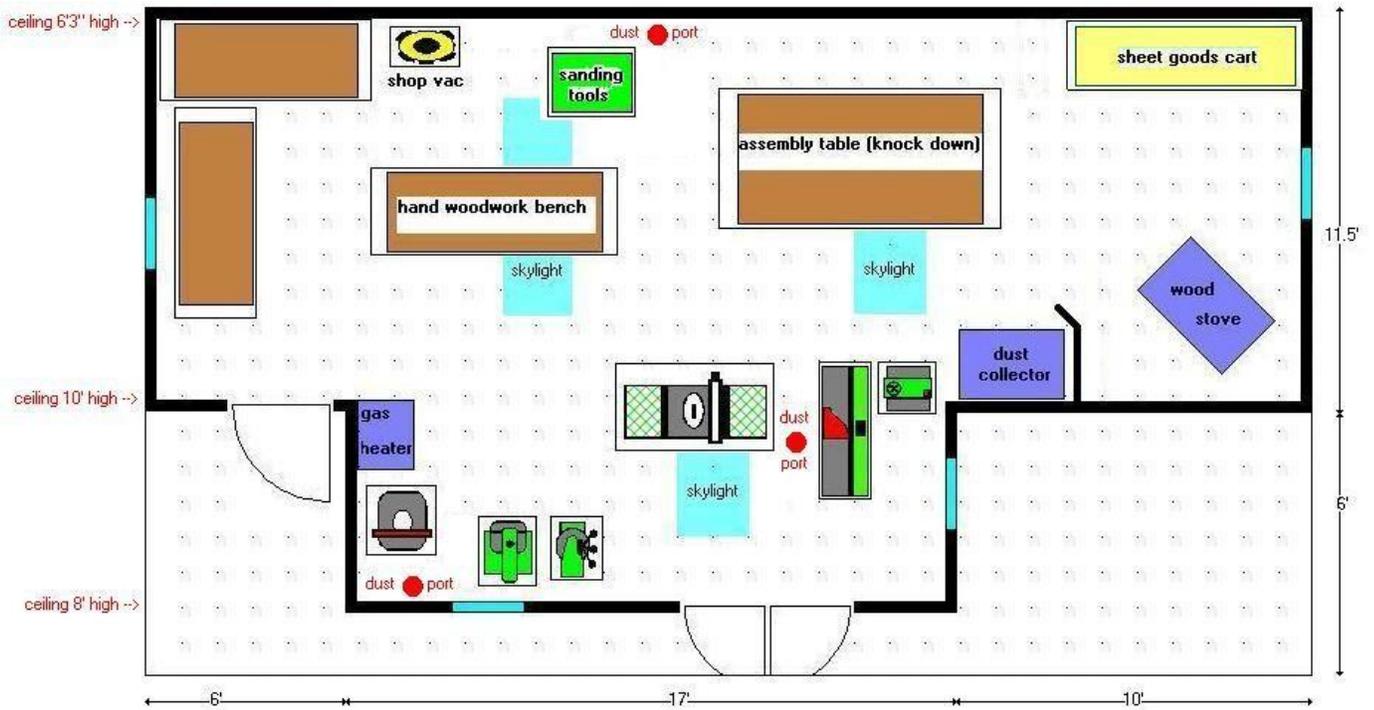
2004 March 22 (Monday):

I posted the following diagram of the shop on the internet today:



As part of the posting, I appealed for information about a free or inexpensive shop layout program.

My appeal was answered, and I got some very old (1995) but free software that allowed me to put together the following diagram (*I had to augment to program's result by touching things up in Microsoft Paint*):



There are a couple of changes between the two diagrams and these resulted from feedback on the forum. People were concerned that my dust collector was too close to the wood stove. So, I made the wing that contains these two items one foot longer (11' rather than 10' but this is not shown on the above diagram) and I moved the interior wall so that it is now between the dust collector and the stove. I still hope to one day fully enclose the collector in a closet, but I will wait until after it is installed to see how practical that is.

Building:

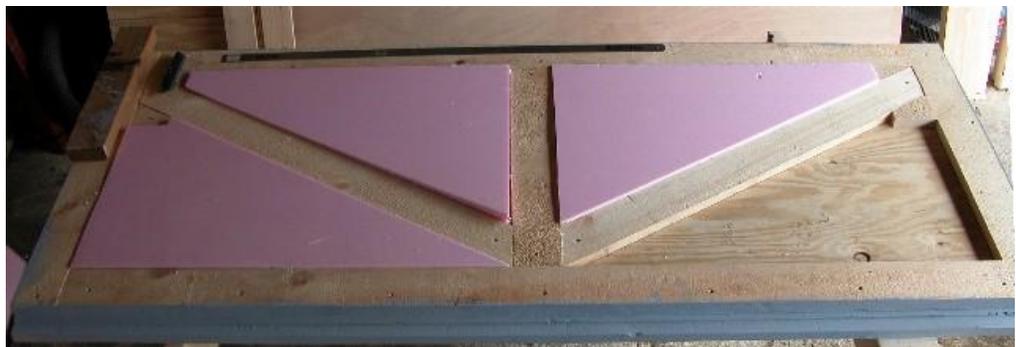
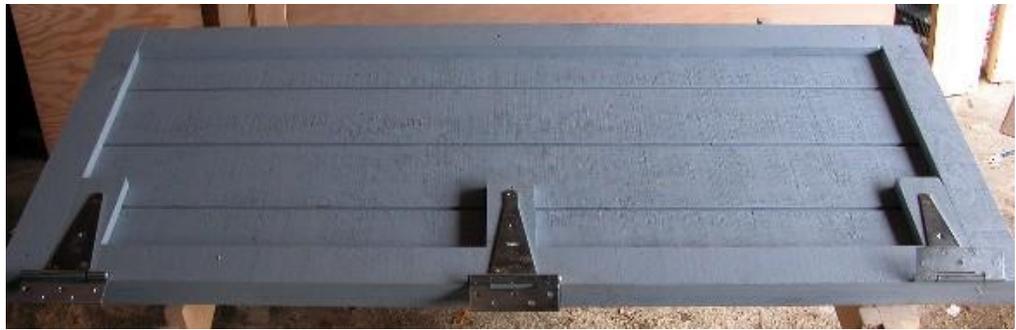
2004 March 28 (Sunday):

Here is a weekly progress report:

- The task of staining the rough-sawn pine for the board and batten siding reached a little over the 400 board feet mark (not all done this week). This is a little more than 1/3 of the boards that will be needed. Here is a picture of the pile of completed boards.



- I built double doors out of rough-sawn pine and plywood. These two pictures show the front and the back of the same door and you can see the overlap that is being built in the eliminate wind between the doors. Note also that the doors are being insulated. The insulation and the rest of the inside of the doors were covered with thin plywood after this picture was taken.



- Lots of small changes were made to the shop layout and to the materials list. The internal size of the shop crept up to 431 square feet.
- About 20 feet of 10 foot high fence and trellis was removed from the end of the existing deck and I started to remove deck boards. About 40% of the existing deck needs to be removed to make room for the workshop. I am happy to say that the 23 year old 2x6 cedar decking and the 2x8 cedar joists and beams are in good shape. I plan to rebuild the deck elsewhere next year and I will definitely be able to reuse the wood. But, this time I will screw it down; not nail it.

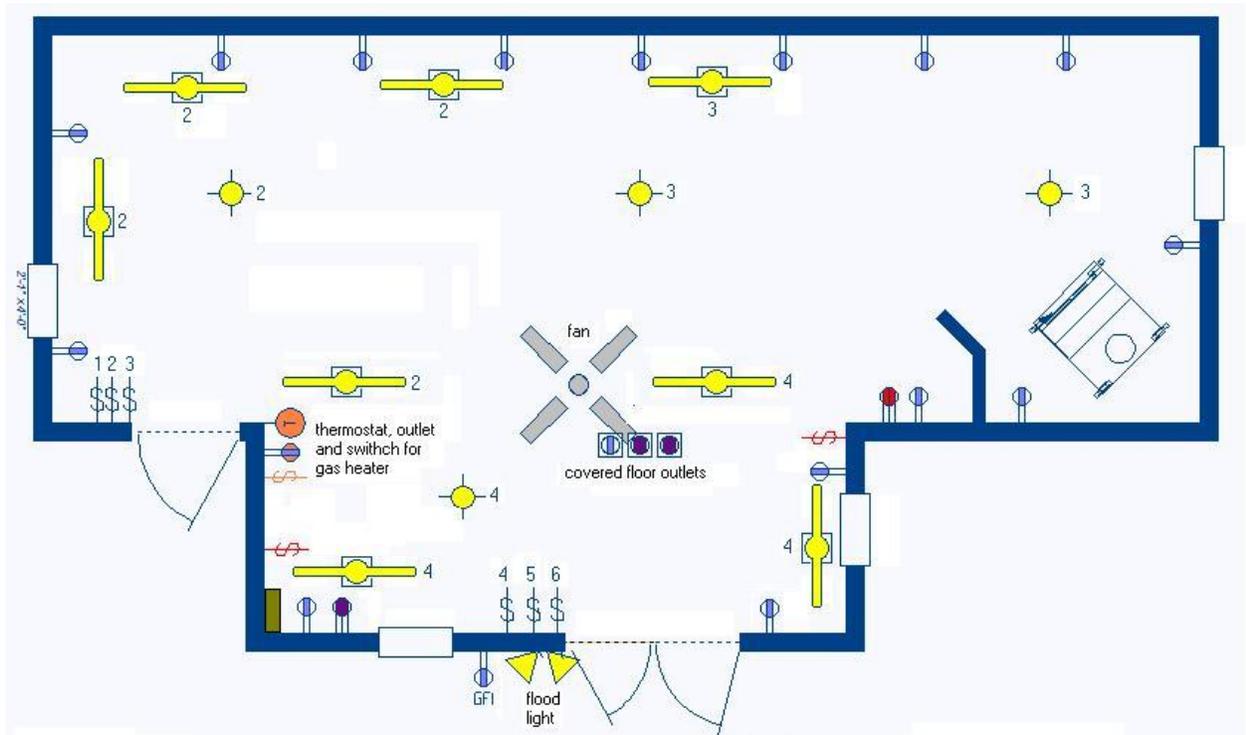
2004 March 31 (Wednesday):

Well, it is the end of another month. I feel like I am in a holding pattern waiting for the "real" work to begin. The time, next month, things should be in full flight.

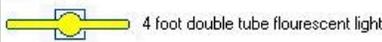
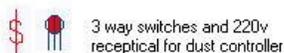
The cost estimate continues to rise. Now it stands at about \$25,400 which is another \$1,900 or 8 percent. Not as bad as the 25% increase last month but definitely a trend that I need to continue to try to halt (*and even reverse*).

2004 April 2 (Friday):

I have been reworking my electrical plans for the last couple of days based on feedback from the internet. I posted the following diagram that is shown on the next page there and solicited comments:



Legend:

-  60 amp panel box
-  110 volt 20 amp outlet
-  220 volt 20 amp outlet
-  switch
-  incandescent light
-  4 foot double tube fluorescent light
-  3 way switches and 220v receptical for dust controller

Switches (numbered):

- 1: fan
- 2: lights marked 2
- 3: lights marked 3
- 4: lights marked 4
- 5: outside GFI outlet
- 6: outside flood light

Circuits:

- each of the four 220 volt outlets is on its own circuit
- gas heater outlet and ceiling fan share a circuit
- 110 volt outlets on left and back wall are on one circuit
- 110 volt outlets on front and right walls are on one circuit
- lights with switches 2 and 3 are on one circuit
- lights with switches 4 and 6 are on one circuit

There has been a lot of very valuable feedback.

I have also been pricing things at Home Depot so that, when Frank and Mario give me a price for the job, I have something to compare it to. As usual, the more I learn, the more I seem to add to the shop. It would certainly be no surprise if my new plans exceed the \$2000 budgeted for electricity.

2004 April 4 (Sunday):

Here is a weekly progress report:

- The portion of deck that it was necessary to remove in order to make room for the workshop is no more.



- About another 100 board feet of siding has been stained.
- With the assistance of internet forum members and, in particular, **Rob Russell**, I solidified the electrical plans for the shop.

2004 April 11 (Sunday):

I observe that I started this journal one year and one day ago.

I returned today from 6 days in Saskatchewan helping Kristel (*my daughter*) and family get ready for their move to Carleton Place, Ontario. While I was away, I did some more work on my electrical plans; as I feared, the estimated cost has gone up -from \$2,000 to \$2,600.

2004 April 16 (Friday):

The weather has been good for the last three days -sunny with highs of about 12 degrees. That has allowed me to get out side and mark the locations and elevations of all 13 of the workshop piers. Yesterday, Kathleen and the children came before lunch and they stayed all day (*and night*). Both the children enjoyed working outside with me.

I started staining boards outside yesterday and will not be staining any more indoors. The stained board total now stands at 708 board feet (about 60% complete).

2004 April 18 (Sunday):

During the last couple of days, I dug about 2/3 of the trench that will eventually be used to run electricity and natural gas to the workshop. This was hard work and the work was not made any easier by the fact that I encountered big chunks of concrete in the ground. It looks the builders of my house must have had concrete left over one day and simply dumped it on the site. A picture is attached showing a cross section of a piece that was about 1.5 metres long. I had to break the concrete up with a sledge hammer before I could extract it. Not fun! But, I slept well last night -a little over 10 hours of uninterrupted sleep.



The remaining 1/3 of the trench cannot be dug until the machinery needed for the piers has come and gone. I did manage to alter the path of the trench and reduce the length by about a third (*14 metres instead of 20*) which will save me money when running the gas and electric lines.

2004 April 20 (Tuesday):

The piers are in! And, as far as I can tell right now, the guys that put them in did an OK job, not great, but OK.

2004 April 21 (Wednesday):

The piers still look good today. Below are three pictures taken today:



The top left picture gives some idea of the mess left behind by the extracted clay. But, the only way to get a real appreciation is to walk in it. **Boy is it sticky!** I can't recall anything as sticky but the mud in Hearst when I was a kid. I spent about 6 hours today scraping up the clay then wheeling it over to the BIG pile behind the garage. And, I only got about half the job done. The bottom left picture shows the other big contributor to the pile of dirt and mud, namely the almost completed trench. Some of the pile (*maybe half*) will fit back into the trench once the electricity and gas lines are in, but I reckon that at some point I am going to have to hire someone to come and take away a lot of mud and dirt.

2004 April 22 (Thursday):

Today, I took delivery of the 2 x 8 s for the beams and joists as well as the plywood for the floor from Rona/Lansing and stacked it in various corners of my side and back yards.

Yesterday, I started a thread on the internet asking for advice about my floor insulation. I was going to install 3" of rigid foam between the sub-floor and the floor but there are several disadvantages:

- It raises the floor 3" more than I would like.
- It is very expensive
- It only provides R15 insulation

With the help of my internet forum friends, I have decided to:

- Insert Roxul R21.5 insulation under the sub-floor. I am told that this stuff, which is rock wool, is hated by critters. It is also much more moisture resistant than fiberglass.
- Staple galvanized wire mesh with a 1/4 inch opening under the joists to discourage mice.
- Put a 6mil plastic vapour barrier over the insulation and under the sub-floor.
- Install rigid wire fencing at least 6" into the ground around the perimeter of the building and extending up above the ground by about a foot to meet the siding. I will then cover that with lattice stained the same colour as the siding.

This scheme has the following advantages:

- The floor will be at about the desired height
- I get R21.5 rather than R15.
- It is a little cheaper. The insulation is a lot cheaper but the cost of the wire mesh is about \$1 a square foot after taxes so that eats up most of the savings.

If I had thought of this scheme in time, I could have saved \$243 in the cost of the plywood for the sub floor. Because there is a vapour barrier below it, pressure treated plywood is not needed. But, I already had the other plywood on site and stacked when I thought of this alternative.

2004 April 27 (Tuesday):

We got back from Carleton Place about 15:00 today, after a 4 day visit helping Kristel and family move into their new home. It was cold outside (*about 4 degrees*) but I went out and spent about 3 hours moving clay. Mostly, I cleaned up the trench but I also spent time extracting the clay that the sub contractor dumped on top of the stones that used to be under the deck. That is a very tedious process and there is still about 2 hours of work left before it is finished.

2004 April 28 (Wednesday):

It was mostly sunny today but it only got up to about 10 degrees. Still, it was good weather for working. About 10:00 a BIG load of crushed stone arrived:



First thing this morning, I sprayed the grass in the ground that will be under the workshop with grass killer (*Roundup*). I also dug around then cut back the lilac tree even more; then I dumped some concentrated plant killer (*Killex*) on it. Later on in the day, I covered about half the area (*including the spot where the lilac used to be*) with 6 mil plastic then started to dump loads of crushed stone on top. I transferred 16 wheel barrow loads by 18:00, and then I called things off because it started to rain.

2004 April 29 (Thursday):

It was sunny and warm today (*up to 24 degrees*) but, because of babysitting time, I only put in 6 hours work on the workshop.

I finished getting the plastic down under the workshop site and spread an additional 21 wheel barrow loads of stone on top. A small (*by comparison to the original*) pile of stone remains in the driveway (*for eventual use under the deck extension*).

I got started on the beams and it quickly became apparent that west-most row of piers is not at all level. **Bummer!** The middle and east-most rows are not too bad, but not as good as I would have liked. I expect that I will be spending most of tomorrow leveling, shimming, and notching to compensate.

2004 April 30 (Friday):

With continued good working weather, I managed to work on the shop for about 12 hours. All of that time was spent getting level beams on un-level piers. 2 and 2/3 of the beams were completed before it got too dark to work outside. Of the 13 piers, 4 were OK, 3 needed shims below the beams and 6 required a notch in the beam.



A 33 foot triple-laminated 2x8 beam is heavy, and I am working alone; so, I built 2/3 of each beam on the sawhorse, put the beam in place, and then nailed the third 2x8 into place on the piers.

I had a call from Gary Agonbar of Welbeck Sawmill about my dust control system today. Oneida has looked at my shop layout and they recommend the 2hp commercial system which is about \$700, or about \$800 with taxes, more than the system that I have budgeted for. I don't know whether or not I should go for it.

Being the end of the month, it is time to reflect on the budget. This is getting very discouraging because the cost estimate continues to rise. Now it stands at about \$26,400 which is another \$1,000 or 4 percent. Not as bad as the 8% increase last month or the 25% the month before but definitely not good (*and there is the potential upgrade to the dust control in the offing*).

2004 May 1 Saturday):

I was at Home Depot this morning and discovered that they were having a "spot sale" for the weekend of 10% off everything. I promptly ordered about \$6,000 worth of stuff. Some I brought home with me but most will come in a couple of deliveries later on.

2004 May 2 (Sunday):

I determined exactly how to install the insulation and animal prevention under the floor. A major part of this is a galvanized steel mesh with 1/4 openings screwed and stapled under the joists. There is not much room to operate under the joists, so installing this mesh is proving to be very tedious and slow (*and cold and wet if the weather stays as it is*). Attached is a photo. Note that only the first 3 joists with the mesh are in place right now.



2004 May 3 (Sunday):

Today I installed the first section of insulated sub-floor. I am attaching some photos that illustrate the structure that I decided upon (and I thank all the folks on the internet who contributed to this decision).



Below is a photo of the "tool" I am using to screw the strapping under the joists. I sure could use a Festool CD 12 FX drill with a right angle chuck, but I don't have one, so the improvised tool will have to do. Actually, it is surprisingly fast.



2004 May 10 (Monday):

Last week, I almost finished the sub-floor. The job was not quite completed because of a light rain all day Saturday and a 7 hour break in the middle of the day Sunday for Mother's Day festivities.

I took the attached pictures early this morning. One is the "normal" picture taken from the roof of the house and the other is a new perspective -taken from the back door of the house.



I should easily finish the job this morning; it's overcast but no rain is predicted. That's just as well, because tomorrow morning I am leaving for almost two weeks. A boyhood friend, **Terry West**, and I are meeting in Ottawa and then driving to Lake Pivabiska north of Hearst Ontario. Altogether this is a 1400 kilometre one way trip. We both have cabins on the lake and are going to help each other with several maintenance and upgrading tasks. Terry is an aspiring (*and good!*) author and he will also be launching his first book while we are in the Hearst region.

I am happy to report that I did finish the floor later in the day.

2004 May 26 (Wednesday):

I am back from Lake Pivabiska for a brief period but, unfortunately, I have to return there again soon because I left my car behind. A bearing went in the front right wheel and they are awaiting parts and the Expert Garage in Hearst. There is only one Audi dealer in Northern Ontario; they are in Sudbury (*about 600 kilometres from Hearst*) and that dealer is helping the guys at the garage in Hearst with advice. I hope that the car will be ready by this Thursday so that I can drive up there and get it on Friday. If all goes well, I will then drive to Carleton Place where I will be spending the week helping Kristel rest in the later stages of her pregnancy or helping her cope with her new baby and 2 young girls. So, once again, the workshop will be delayed.

About 16:00 today, I got a BIG delivery of material from Home Depot. Here are some photos:





Since overnight rain was forecast, I immediately went to work to move all the material into the garage, to the side of the garage and into the back yard. I finished the job about 22:45.

Also, I talked to Welbeck Sawmill today, and I did decide upon the more expensive dust control unit.

2004 May 27 (Thursday):

My car has been fixed, so I will be off to Hearst early tomorrow morning. Today, I did get the 2x6 wood for the back wall cut and got a start on assembling it. Here is a photo:



Ethan even got to "help" me a bit. He hammered for a while without nails then, when he saw that I was using them, insisted on having some himself. Then he decided that my two buckets of different size nails needed to be merged.

2004 June 5 (Saturday):

I drove back from Carleton Place this morning. My sister Christine has taken over the "help Kristel wait for her baby" assignment for the next week. I do expect to be able to (*mostly*) work on the workshop for the next week then, on the 13th, I will probably be going back to Carleton Place for a while –I hope that the baby will have arrived by then.

Having reached another month end, it is time to reflect on the cost estimate. There is yet another increase – it now stands at about \$27,200 which is another \$800 or 3 percent. This is almost all accounted for by the dust control system upgrade.

2004 June 6

I was down seeing my daughter and grandchildren this morning and did not get to get back to the workshop construction until mid afternoon. Here is a photo of the first segment of the wall in place:



2004 June 9 (Wednesday):

The walls framing is progressing well. This morning **Emrys Evans** came over and assisted me in putting the ridge beam into position.



2004 June 13 (Sunday):

My objective for this week had been to finish framing the walls. But, I did not quite finish the job.



All the walls except the north wall on the front portion of the shed are done. As well as that, I will need to fill in between the wall and roof framing on the end walls, once the roof framing is in place. The main reason that I did not finish the wall is that I took considerable time to work on a prototype of a roof rafter. I am happy with the result –the rafter fits perfectly on both ends of the back part of the shop.

It is now 14:00 and I will be leaving shortly to take the bus to Carleton Place where I will be for the next 6 days helping to look after **my new granddaughter Jamie**.

2004 June 20 (Sunday):

Got back home briefly this weekend and managed to get in about 10 hours work on the shop. The wall framing is now almost complete and I have started on the roof rafters.



With a few rafters in place, I can now really envision the interior of the shop.

One thing that I would like to comment on is how much easier it is to cut the bird mouths in the rafters with my Festool jig saw than it was in my bad-old pre-Festool days when I used the combination of a circular saw and a hand saw to do the job.

Margaret and I are leaving for Carleton Place shortly and will be there at least a week.

2004 June 27 (Sunday):

Got home late last night, then put in a solid days work in today and made good progress on the rafters for the long section. It is good to be looking forward to several days (*about 20*) of (*mostly*) steady work on the shop.

2004 June 28 (Monday):

My daughter, Kathleen, and her two children stayed here last night because Ethan is quite sick with a virus that results in sores in his mouth. We have to "force feed" him with a syringe in order to keep him from getting dehydrated. Of course this cut into my working time. I did get a prototype rafter created for the front section and tried it in several spots. Happily, everything seems to line up OK.

I do have a concern about the windows and how to prevent leaking. Neither the window I inherited from Jane and Jill nor the windows I purchased, have any built-in flashing. I checked for flashing kits at Home Depot today and they don't seem to have anything to do the job.

2004 June 30 (Wednesday):

I ordered the bulk of the remaining material from Home Depot today. It's to be delivered on Saturday (July 3rd). Boy, will I have a garage full!

This month, for the first time, there has been **no increase in the cost estimate**.

2004 1 July (Thursday):

I spent a lot of the day with Kathleen, Ethan, and Isla. We went to the Riverdale farm and, there, I discovered what I think is the solution to the installation of my windows. It is a cap made of galvanized metal that fits over the window and has a lip up under the siding. I expect that they will be able to make such things at Danforth Roofing. Here is a picture:



2004 4 July (Sunday):

This week, I got in 5 full days work on my workshop. During that time I:

- finished the framing of both the roof and walls.



- started to install the fascia. I am using the same (real) rough sawn 1" by 12" pine on most of the trim that I will be using on the walls. I really like working with the pine. I am attaching a photo of me trimming an angle cut on the top of one of the fascia boards.



- took the final delivery of material from Home Depot. I was promised a delivery early in the morning and they showed up at about 19:00 in a rain storm. My garage is now full and there are several piles around the job site. Oh well, from here on things can only get better.



2004 July 5 (Monday):

This morning, I went to Danforth Roofing and they can, indeed, make the window caps. The set of 4 is not cheap (*\$165 when tax is included*) but I ordered them. They will be made no later than Thursday.

This afternoon, the building inspector came in order to check my framing. He said that I had done a good job but suggested two additions:

- Install a line of 2x6s in the middle of the 2x8 roof rafters on the long portion of the roof in order to prevent twisting. These things are almost 12' long, so I should have thought of this myself.
- Insert an extra board over the doors and windows on the load bearing walls. I placed two 2x6 or 2x8s on their sides over all the doors and windows but one of them was flush with each side, leaving a gap in the middle). For strength, the boards should have been laminated.

After the inspector left, I managed to do the most difficult of the chores and that was to insert an extra 2x8 over the double doors. The board had to catch the lip on both sides yet fit between the two existing boards –not an easy thing to do. I managed by cutting an angle at the top of one end, inserting the other end, sledge hammering the board into place, then prying it at one end so some of the board caught the jack stud at both sides.

2004 July 6 (Tuesday):

This morning, I was awakened at 7:30 by a call from Danforth Roofing. The window caps are ready already.

I got most of the fascia installed today. **It looks good!**

I contacted Frank and Mario the electricians and said that we could now talk turkey about my electrical work. Frank paid me a visit, looked at the site and took my plans away. He said he would like to quote on the whole job rather than just the hook-up and see how close he can come to my estimated work of doing most of the job myself.

2004 July 7 (Wednesday):

I did not get anything done on the workshop today, but I did drive down to Danforth Roofing, pick up my window caps, some soffit vents, some drip edge and an 18' eavestrough. Getting the eavestrough home on my roof rack was an experience that I don't want to repeat.



2004 July 8 (Thursday):

Half a day was spent working on the shop today. There is still a lot of fiddly work to do before I can start nailing plywood to the roof. Today I made all the changes that were recommended by the building inspector.

2004 July 9 (Friday):

I have decided to install the chimney for the wood stove at the same time as I am doing the roof (*even though I have not yet decided on the stove that I am going to buy*). To that end, I looked at the Selkirk website and found that the recommended price had gone up from about \$450 (*pre tax*) to about \$700 (*pre tax*) since last December. So, I started looking for someone who sells it for less. Would you believe that I finally found the best deal, **and a very good deal**, at Danforth Roofing? They are obviously my store of the week. They sold it to me for \$390 (*pre tax*).

2004 July 11 (Sunday):

About 2/3 of the plywood is now installed on the roof.



I encountered 3 problems that slowed me down:

- The recommended rough opening for the Velux skylights was one inch too narrow (21.5 inches) for the 2 foot centred rafters.
- When calculating the placement of my rafters, I forgot that I had a 1 inch fascia board on the rake ends.
- I have never used ½ inch thick plywood on a roof before (*always having used either boards or ¾ inch plywood*) and I just was not happy with the lack of rigidity where the plywood butted over spots where there was no support. The building inspector advised me to use clips but I tried those and I still was not happy. So, I ended up notching the rafters and using (real) 1" x 2" strapping under all places where the plywood was to but. This sounds very time consuming but it was not as bad as I feared it would be –my Festool jigsaw handled the notching quite quickly and accurately.

Here is a ground level view:



Here is an interior view of the shop (notice the setup for ripping narrower boards –the blade on my old craftsman table saw is unguarded and I stay well away from it)



And, here I am cutting notches in the rafters:



2004 July 12 (Monday):

Terry West came over today for 6 hours. First Terry helped me get the skylights up onto the roof, then into position. He then hung around long enough that we almost finished getting all the plywood onto the roof. There is only about an hour's work left to do in nailing down the rest of the plywood.



2004 July 14 (Wednesday):

Yesterday and today I managed to get in about 10 hours work on the shop. All the plywood is now down, there is building paper around all the skylights, and the front roof is about 75% done (with the drip edges, the shingles, and the flashing around the skylight). **I am really really happy with the appearance.**



2004 July 18 (Sunday):

Kathleen, Ethan, and Isla were here yesterday and today. Here are photos of them using as a chalkboard, one of the plywood panels that is eventually to be utilized for fascia.



However, I am thinking that maybe I should cut out a piece and attach to the wall as shop art. We will see. What is certain is that I need to include a chalk board in my finished shop.

I have done little work since Wednesday because we have had company from Switzerland since early Friday and I have only managed to steal a little time away from entertaining them.

(aside: Actually, I don't really want to steal away time. The company is a couple and two young children (4 and 6) who were our next door neighbours in Kirkland Washington for five years. The children were born while we were there. Margaret and I were stand-in parents and grandparents and they will always remain a part of our extended family. They returned to Switzerland the day before we returned to Canada so no one felt that they were deserting anyone.)

2004 July 21 (Wednesday):

Tomorrow morning, Margaret and I are off to Pellow's Camp for about 4 weeks. I am happy to report that I am leaving a mostly shingled roof. The major things places where I have not shingled are over the (to be installed) ridge vent and around the (*to be installed*) chimney



2004 July 29:

Margaret and I are at Pellow's Camp, so I did not work on the shop today –but I did make progress on it. While in Hearst, I went to All North Plumbing and Heating. I have been getting the run around in Toronto when trying to purchase a space heater. Hardly anyone that I have contacted knows anything about space heaters and those that know a little want a fortune (*about \$4,000*) to install one for natural gas. I figured that All North people might know a lot more and be more helpful –I was not disappointed. I came away with an order for a propane space heater that should do the job as well as two 100 pound tanks and some fittings. The total cost, including taxes, will be a little over \$1,000. The space heater is on order and will be here in about two weeks. I will take it to Toronto and install it myself.

2004 August 10:

We are still at Pellow's Camp. I checked in at All North Plumbing and Heating today and there was both bad news and good news. The bad news was that they quoted me the wrong price on the heater. The good news was that they had an appropriate heater in stock. The net price for the unit, connectors, empty tanks, and taxes turned out to be \$1,590. That's more than the \$1,000 that I was expecting, but a lot less than \$4,000. I loaded everything on my trailer and will take it back to Toronto when we return in a few days.

2004 August 19:

We have been home since the afternoon of the 16th, but with visits from Kathleen and crew as well as garden weeding, this is the first day that I have done any work on the shop. I want to temporarily hook up the space heater and try it out before I go back to camp with my brother

John on the 27th, so I decided to ignore the unfinished roof and to fill in the wall where the space heater is to go. I made good progress on the wall and here is a photo taken just after I knocked off work this evening:



As can be seen from the first attached picture, the siding steps are:

- 1) nail sheeting to the studs
- 2) staple building paper to the sheeting
- 3) nail 1" x 1.5" (*real dimensions*) horizontal strapping on 12" centres over the building paper
- 4) screw on pre-stained 1" by 12" (*real dimensions*) rough sawn pine boards leaving 1" between the boards

aside: When I experimented last February, I said that I thought I could get away with one screw at each board/strapping intersection, but today I decided to play it safe and use two screws at each junction.

- 5) screw on pre-stained 1" by 2.75" (*real dimensions*) battens

2004 August 21 (Saturday):

I had wanted to install the chimney today and got the job mostly done, then noticed that the chimney flashing was the wrong size (*the supplier's mistake, not mine*). The place I obtained the chimney is closed Saturday afternoons and Sunday, so I have to wait until Monday to order correct flashing. Then I expect it might take up to a week to arrive.

2004 August 21 (Sunday):

I got a lot more of the sheeting on the walls, installed a bit of soffit, temporarily hooked up the space heater and got the pilot light working. However, both the instructions and the wire for the thermostat are missing so I could not fully test things.



2004 August 23 (Monday):

I spent most of the morning and early afternoon working on soffits. I also ripped a lot of strapping. Here is a photo of the later activity.



Then, about 14:00 I knocked off work to go Danforth Roofing to exchange the chimney flashing for that of the correct size. After some discussions and demonstration with three different people, I convinced them that Selkirk had sent them the wrong size. They have ordered a replacement and it should be here on Wednesday.

Some people on the internet did not think that I should have carried the eavestrough home on top of the car last month. They accused me of Audi abuse. Well the Audi gods had their revenge and they got back at me at the very place where I purchased the eavestrough. When I parked in the Danforth Roofing lot in order to return wrong size chimney flashing, my car key broke off in the door lock as I was unlocking it. I managed to get the broken piece out but, of course, the key no longer works. To make matters worse, the place was closing in half an hour and they lock their

lot at night. It was too late to get someone to pick up a key and drive over. So, I took the subway and bus home (*about a 70 minute trip*) and will have to reverse the journey tomorrow morning to be there to retrieve my (*unlocked*) car when they open at 7.



2004 August 24 (Tuesday):

Another day on infrastructure such as soffits and ripping battens. I cut and partly stained over 300 linear feet of battens.

I am concerned about where it will be possible to place the propane tanks. I had hoped to place them on the outside wall at the north end but I doubt that the copper pipe is long enough. It might be necessary to place them just outside the smaller door. I will study things more tomorrow and see if I can come up with an alternative. Also, I can't seem to light the pilot light using the button lighter, only using a match so I will spend some time looking into that as well. So far, I have not heard from Empire re my request for wiring instructions on the thermostat.

2004 August 25 (Wednesday):

The pilot lighter button now works OK. I found and fixed a small leak at a joint in the piping, so I expect that enough gas was not getting through. Anyway, that's my theory. More importantly, I figured out how to route the gas line in order to place the tanks where I want them. Here are a couple of pictures that illustrate the route:



The tanks will go under the window on the southernmost of the two north walls. I will run the copper pipe (in conduit) on the inside wall roughly as shown above.

I put up some more sheeting on the south side and it is becoming quite obvious that I will need electric lights in order to work in that area. It's a lot darker there than illustrated in the picture. I wish now that I had put in a third big skylight on the longer portion of the shop. Oh well!

2004 August 26 (Thursday):

I picked up the chimney flashing first thing (7:00 am) today. But, it was raining off and on, so I did not touch the roof. I managed to work outside for about 6 hours in spite of the weather and got building paper over all the installed sheeting and strapping over part of that. Here is a photo:



Now it really is starting to look like a tarpaper shack isn't it? I will leave both the walls and the roof the way they are because I am off to Pellow's Camp mid-day tomorrow (*and I have a bunch of stuff to do in order to get ready*).

It is time to reflect on costs again. I did not do so at the end of July, so this reflects a two month period. This time, I am happy to see that there has been a **decrease in the cost estimate**. It is down from \$27,165 to \$25,985 which is a 4 percent decrease.

2004 September 8 (Thursday):

I have managed to get in two and a half days on the project since returning from Pellow's Camp last Sunday. But, the guaranteed no-rain day that I want before I tackle the roof has not yet happened. Right now, tomorrow looks good. I estimate that it will take a day to install the chimney, install the ridge vent and finish the shingling.

I have spent most of the time sheeting the walls with OSB and am about 75% done. My supply of OSB is going to be tight.

2004 September 11 (Saturday):

I finished the roof and chimney today. I had to tell someone, so I posted this picture of the completed roof on the internet:



2004 September 12 (Sunday):

Well, it turns out that I was not quite finished the roof when I posted the picture yesterday afternoon. I did some further work this morning encouraged by a set of notes that I exchanged with **Jim Becker**. Here is the relevant content from those notes:

Jim: Question...don't you need one more "partial row" of shingles on the two end-peaks? The area right at the edge is not the "weather" exposure part. One more row would also strengthen that particular point.

Frank: I was not quite sure what to do there and I could not find any specific instructions about what to do with asphalt shingles at the top of shed roofs. I already cut 3.5 inches off the shingles at the two peaks and I thought of that as a partial row. When you say "partial row" can you be more specific about exactly what I should do?

Jim: What I see in the picture is that on the top row, there is a major portion of the shingle exposed that is normally "under" another shingle row. What I'm suggesting is to run one more row, which would end up being cut off in such a way that only the "normal exposure" would be on the roof. Obviously, you'd have to face nail those but a little extra roof cement under the shingle and over the nails will deal with that nicely. It's not just a finishing touch, but also makes for a nice double layer right on the edge for more strength. This whole thing would only take a short period of time to do and I believe will serve you well, both in appearance and in roof integrity. But then again...I'm not a roof expert!

Frank: Jim, I don't think that I can do exactly what you have suggested because of the 2 gaps that separate each shingle into 3 parts. However, I can cut out 15 centimetre by 1 metre strips from the top of each shingle and use those as an overlay. I am going to try that right now.

Jim: Don't you mean strips from the "bottom" of the shingle??

Frank: No, I mean strips from the top of the shingles. If I were to cut a strip from the bottom, I would get three pieces.

Jim: Hmm...I think you need to use the individual shingles, then, as you really want that surface, rather than the portion that is designed to be "under" additional rows. But you're the man on-site!

Frank: You win! I did a mock-up of both and let my wife pick. She chose the individual shingles.

Jim: Don't you hate when that happens!! Those individual shingles are also a different color than

the other portion...I think you'll be happier (and by definition you'll be happier because LOYL is happier) with the entire roof being the same color!

Here is a picture of the roof after I made the changes:



Here is a view of the shop from the back yard of my neighbour to the west:



Here some interior views:



left: looking through the south window



right: looking through the east window



left: looking through the north-east window



right: looking through the north-west window

2004 September 17 (Friday):

I purchased an Oneida 2 hp Commercial dust control unit and expect to take delivery in late November. In the meantime, I have been simulating exactly where the duct work and drops will go in my shop. I did this by painting some strapping bright green then screwing in the locations where the duct work will go. Seeing this layout in place has been very valuable and, as a result, I have made a few minor changes. Here are some pictures:



In the above photo, the painted white plywood is in the spot where the dust control unit will go. The green strapping shows the lower location of the duct work. The black strips hanging down show the locations of the drops. There are 3 in this picture and there is a 4th in the next picture. The ceiling will be filled in with insulation then covered with painted plywood. The ductwork will be suspended below this. The beam will not be covered (*just painted*) and the trickiest part of the ductwork will be getting around this beam. (*Oh yes, I am also simulatin gn the lighting and the two suspended yellow bits of OSB show the location of some of the fluorescent lights.*)



This shows the location of the remainder of the ductwork as well as the 4th drop

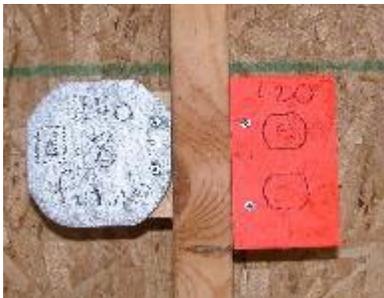
The ductwork simulation is proving to be helpful, but what is even more helpful is the electrical layout simulation. I have cut out and coloured representations of all the components other than the wire and panel box and am screwing them in place. Then I imagine that I am doing certain jobs and determining if things are in the correct places for those jobs. I have already moved several components, added some, and eliminated others as a result of this activity. It is also

helpful that I am doing this simulation in conjunction with the simulation of the ducting because it has shown me that some lights need to move. Three pictures are attached:



In the above picture you can see:

- 2 overhead yellow fluorescent light fixtures
- 1 silver junction box where I am going to leave a loop of at least a metre of #10 wire for possible future 240 volt use
- 3 orange 120 volt 20 amp receptacles
- 1 red 240 volt 20 amp receptacle
- 2 green switches
- 1 white thermostat



This shows a close-up of a silver 240 volt junction box and an orange 120 volt 20 amp receptacle. Note that I have marked the circuit (*lettered a through k on my electric diagram*) on each component.



This shows a close-up of 2 green switches, another orange 120 volt 20 amp receptacle, a red 240 volt 20 amp receptacle, and a white thermostat.

It really did not take as much time as you might think to put all this together and I am very glad that I took the time to do it. One advantage is that I am going to have an electrician acquaintance help me do so of the electrical work (*for some remuneration and work exchange, but I get a really good price on the components*) and there will be no question as exactly where I want things to go.

I got lots of good feedback and compliments from folks on the internet about both the electrical and ducting simulations. Here are a couple of typical responses:

Jim Becker: *I really like how you're working this out visually. Excellent idea!*

Very clever...3D CAD...lifesize!!!

Michael Stafford: *Frank, I love your shop and all the planning that went into it.*

2004 September 18 (Saturday):

Today, I got a window installed (well mostly installed –it’s not yet screwed in or calked. I was not sure how I was going to do it, but I worked out something that should be waterproof and that looks good. Here are some pictures:



Also, the Ryobi drill that I was using to drive screws knocks out from time to time (*I expect that it has a loose wire*). That forced me to use my new Dewalt hammer drill (*model DW505*) in “screw” mode and I am so glad that I did. Although the drill is heavy, it is great for driving screws. It can be slowed right down to an appropriate drilling speed but still has loads of torque at that speed. I never knew that driving screws could be so easy.



2004 September 19 (Sunday):

We are leaving again this morning. I won't be getting much done for the next 10 days. During that period, we will only be home for one full day and two half days. What's that I hear people saying?

Frank, don't you know that where you live you get cold winters with snow and stuff? Why are you always goofing off? You should be staying home finishing enclosing and insulating the place.

I know, I know –once I get back in 10 days I promise to stay here for a month and finish that part of the job.

Here is a picture showing what I am leaving:



2004 September 27 (Monday):

We got back home from London about noon today. Now, to get some real progress on the shop ...

Last week when we were home for a couple of days, I finalized the electrical layout. I talked to Mario and he is coming over tomorrow night to look at things, answer my many questions, and arrange to start the work. I hope that they can start this week or next.

While we were home, I also got some more plywood painted and some more board and batten on. This afternoon, I got the boards and building paper around the southern window up. Tomorrow, I will semi-install the window. I think that, after that, I will probably start to install the double doors.

The knots have been showing through on the pine boards even with 3 coats of stain. The solution to that problem is supposed to be to put shellac on the knots then stain over it. Today I experimented with doing that for two knots. It looks good so far but I will give the experimental region at least a week before declaring victory.

2004 September 28 (Tuesday):

Well, today was a day where I did a lot of work but made little progress. In the morning, I painted a couple of sheets of plywood and fiddled around with the window and with the siding around the small door but did not really accomplish a lot. Piecing around the window and door caps is finicky.

Frank and Mario of CTE Electrical Services were here about an hour this afternoon. They are going to give me a new estimate by the end of the week and I expect it to be higher than the last time (my guess is \$3,200 rather than \$2,500). That I can handle. If they go ahead with the work, they say they can probably do the first part next week.

2004 September 29 (Wednesday):

Today, I got to work at the job all day long and I did get quite a lot done.

Two windows are now temporarily in place, but this did not go as smoothly as I expected it to. It turns out that the window that I put in last week was crooked and I never noticed it. The reason for this was that I put framing around the outside on the assumption that all four sides were bevelled as shown on the left side of the picture to the left below. But, the bottom is not bevelled and I never noticed this. The result was that the bottom did not snug up nicely to the framing but, rather, it was pushed back as shown in the picture to the right below.



After consultation with Margaret, I fixed the situation by adding extra framing on the top and two sides and this pushed everything back the same distance.



I also got one of the double doors hung and it fits quite well. I hope I still feel that way when I get the other one installed.



2004 September 30 (Thursday):

I only worked until about 13:00 today. The east wall on the protrusion now has all the board and most of the batten installed.

Today I purchased a small double paned octagonal window and I am, somehow, going to fit it into the single door that I still need to build. That will probably present some challenges.

Being the end of the month, it is time to check up on costs again. Last months downward trend in the estimate did not continue. It is up to \$26,327 which is an increase of a little more than 1 percent.

2004 October 1 (Friday):

I worked all day on the shop again. Several sheets of plywood were added to the stack with one coat of white paint on them, all the boards are now on the southern-most wall, all the rest of the building paper is on, most of the strapping is on, and the other double door is installed. The door fits perfectly.

2004 October 2 (Saturday):

I put in half a day's work today. We are babysitting Isla and Ethan tonight and they arrived shortly after lunch. The weather was bad for the first time within two weeks and I did several fiddly things. One thing I did do was to cut the outside piece of plywood for the single door and cut an octagon in it for the window. I think that the door will look good (*once I figure out how to build it*).



Here is a picture, showing progress on the siding:



Ethan spent about an hour “helping” me with one task. The project was to make a small “bridge” as Ethan called it from the old deck to the single door of the workshop. I explained every step to Ethan and he participated (*after a fashion*) in locating the wood we needed, cutting it, and attaching it.

2004 October 6 (Wednesday):

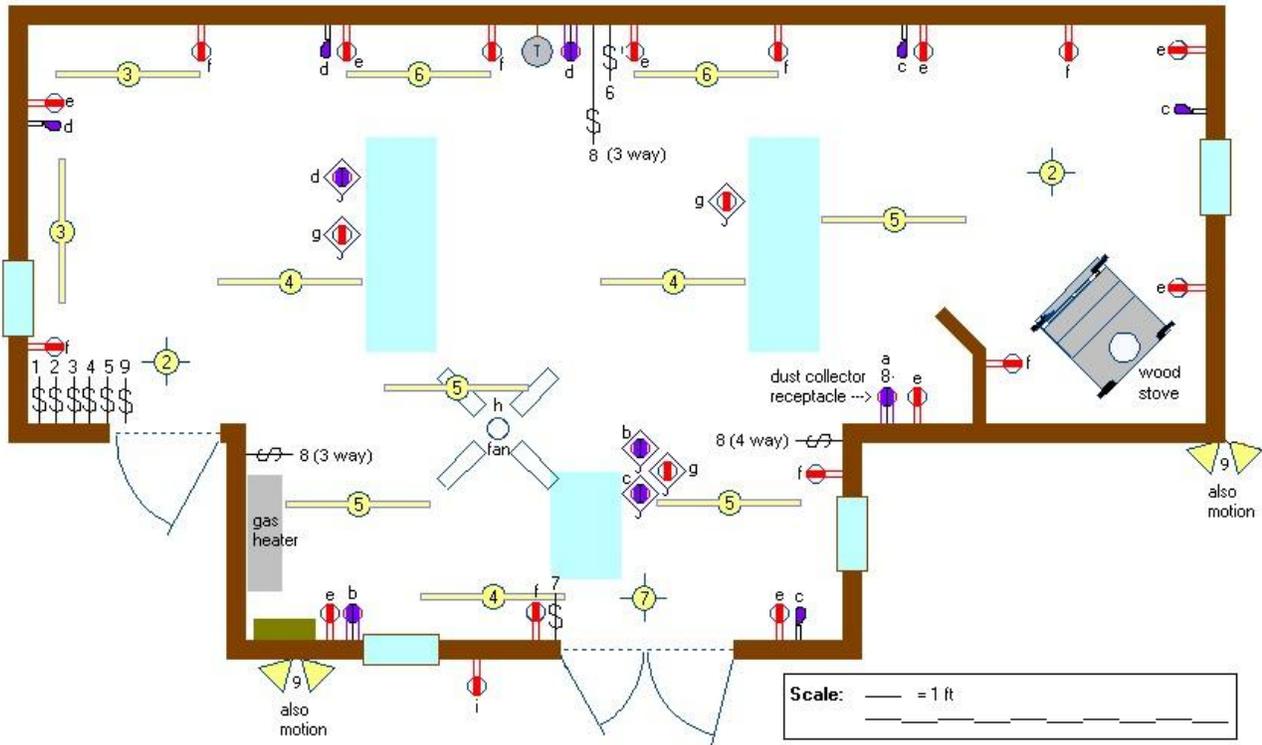
Monday and Tuesday I finished enough boards on the two north walls to enable me to install (*temporarily*) the two remaining windows. I also did a little bit more work on the single door.

Today, I spent the day tidying up the shop because early tomorrow morning, Mario is coming to start the electrical work. Here are a couple of pictures of the interior of the cleaned up shop:



Here is the final electrical layout plan:

Electrical Layout for Frank Pellow's Workshop - Oct 7, 2004



Legend:

panel box (100 amp)	switch -numbers show items linked to each switch -all switches but those for 8 are single pole
thermostat for gas heater	incandescent light
120 volt 20 amp wall receptacle	fluorescent 4 foot T8 double tube light
240 volt 20 amp wall receptacle	letters: - show the items on circuits a through i
reserved for possible future 240 volt wall receptacle	- lights with switches 2,3, & 4 are on circuit j
120 volt 20 amp ceiling receptacle	- lights with switches 5, 6, and 7 are on circuit k
240 volt 20 amp ceiling receptacle	- lights with switch 9 are on circuit l

Contrast this with the initial plan shown on April 2nd. There are many changes and those listed below were suggested by my friends on the internet:

- Removed all the floor receptacles in favour of ceiling receptacles.
- Changed the service from 60 amps to 100 amps. And, as recommended, the panel box is SquareD "QO" series.
- Moved the service box so that there would be more space around it.
- Buried loops in the wall for additional 240 volt receptacles should they be necessary.
- Used 10 gauge wire rather than 12 so that I can upgrade to 30 amps should I ever want to.
- All the 120 volt receptacles are GFCI protected.

- Moved the thermostat away from the gas heater on basic principle of not wanting it misread based on proximity to the heater.
- Put an incandescent light on a motion sensor by the single door. That way, at night I can walk into the shop with my hands full.
- The dust controller is on a separate circuit.
- Switches for the dust controller were placed close to all the blast gates (*I don't like remotes!*).

2004 October 7 (Thursday):

Mario (*with some help from me*) managed to get all of the wire run for the job but that is as far as he got. He may or may not be back tomorrow afternoon to install the boxes. If we get that far, I can call for the first inspection then start installing insulation and plywood. Here are a couple of photos of the wiring operation:



I fiddled around, helped Mario some, got the first coat of paint on the remainder of the wall/ceiling plywood and advanced the door a bit. Here are some pictures of the door construction:



By the way, I had to be very very careful with the jigsaw.

2004 October 8 (Friday):

Mario came this afternoon and we installed all the boxes. I can now get the place inspected so that I can then start installing insulation and plywood. That's great! Here is a picture of the corner of the shop where the sub-panel is to go -beside the window:



2004 October 11 (Monday):

Today is Thanksgiving Day and we had the Kathleen and family here from mid afternoon until early evening. I did get about 6 hours work done before they arrived. The most important thing that I did was to install the single door.



I spent a lot of the rest of the time cleaning up the shop. But, I also finished the studs for the interior wall and even got a bit of the plywood on one side of the wall.

2004 October 13 (Wednesday):

The electrical inspector came first thing today and the roughed in wiring passed with flying colours. He only stayed about 10 minutes and he told me that he was impressed with the planning.

Today, I only worked for about half a day. In the time that I did have yesterday and today, I made steady progress on the siding and I hope that with about another 4 to 6 hours work I can get the board and batten finished on all sides but the west side (*which has not even been started*).

This evening, I started to do a bit of insulation. I learned that the ceiling insulation does not stick up in place of its own accord. I am not sure if the insulation is heavy because it was left outside and has absorbed moisture or if this is just the way things are. Nevertheless, I am going to have to staple up the plastic barrier and slide in the batts as I go along.

2004 October 17 (Sunday):

All the board and batten except for the long (33 ft) but not high (7.5 ft) west wall is now complete. I do still need to put edge trim on all the corners though. Here is a view showing the two north walls of the shop (a perspective that I have not shown before).



One significant thing that I did today was to purchase a wood stove. Home Hardware had the same stove that I was planning to purchase from Canadian Tire for \$490 on sale for \$400. It weighs over 200 pounds and they do not deliver so this will be a test for my dolly. I also need to make some ramps to use with both my trailer and the shop.

2004 October 19 (Tuesday):

I spent most of yesterday afternoon, all this morning and half of this afternoon helping out with Ethan who is recovering (*well*) from a MRI test. I did come up with a way of holding the insulation in place which is preferable to squeezing it under the vapour barrier, namely the use of wire strapping.



I will get to spend the whole day tomorrow on the shop and my ambition is to finish installing the insulation, not the vapour barrier just the insulation.

2004 October 20 (Wednesday):

I didn't achieve my objective with the insulation. The walls are all done, but the ceiling is only about 40% complete.

I talked to Mario this morning he will not be coming this week to connect the electricity. I do think that the odds are pretty good for next week though. Next week is actually better for me because we are going to London (*via Durham to pick up the Oneida dust control unit*) on Friday and returning Sunday.

2004 October 22 (Friday):

It's about 10 in the morning and we will be leaving shortly for a long weekend. The insulation is all installed and about 2/3 of that is covered with the vapour barrier. I also get started on the plywood panels, but only just. Two out of thirty four panels are now nailed up. Here are a couple of pictures showing the installation on the walls and ceiling of the shop.



2004 October 25 (Monday):

The Oneida dust control unit is now in our garage occupying the space previously taken up with the insulation bales. I had a very full trailer coming home. It is a good thing that Oneida pack their equipment so well. In fact their packing is made better than a lot of manufacturer's products.

This morning I built a couple of ramps using ends that I purchased in a kit from Lee Valley, then I went over to Home Hardware and picked up the 200 pound + stove that I had ordered on sale about a week ago. I used the ramps to load the stove in and out of my trailer and into the shop.



Kathleen dropped off Isla and Ethan for a sleep over about 3:30 so work stopped then. Before that, I put up some more vapour barrier and also nailed a bit of plywood to the ceiling. I want to have a completed wall section where I can put up some pegboard to hold some of my tools and I am doing the ceiling in that area first.

2004 October 27 (Wednesday):

Hardly any work was done yesterday because Isla and Ethan were with us all day. Today I re-dug parts of the trench because Mario is coming tomorrow to install the electrical service. I also put up more vapour barrier (now about 90% complete), and more plywood (now about 15% complete).

A different building inspector came today to check out the siding, the roof, and the insulation. He obviously was impressed with the place and told me: **"You should be in construction. I wish that the homes I inspected were built this well."**

2004 October 28 (Thursday):

The sub-panel is now installed (*upside-down as those in the know will observe*) in the shop and one circuit is operational. Here are some photos:



Also, I finally got around to working on the fascia for the west wall. All the holes are cut and drilled and half the fascia is installed.

2004 October 31 (Sunday):

Here is where things stand at the end of another week:

- The trench is partly filled in.
- The fascia is finished
- The vapour barrier is all installed.
- About a third of the interior plywood for the walls and ceiling is now installed.
- I found some pegboard hooks at Lee Valley that really stay in the board. They are made by a company called Talon. I bought a mixture of various kinds and put up a section of pegboard to test things out:



I really like them so will put up more pegboard and buy more hooks.

Here is a view of the interior of the shop from the south window:



and here a view from the north-east window:



Being the end of the month, it is time to check up on costs again. The estimate is up from \$26,327 to \$26,647 –a small increase. The real cost is up to \$23,184 –an increase of \$2,827.

2004 November 2 (Tuesday):

I have worked full days on the shop both yesterday and today, concentrating on getting up the plywood and I would estimate that the job is now about half done. Today, I mostly worked in the area where the propane gas line is to run within conduit within the shop. With luck, I will actually run the gas line tomorrow

2004 November 3 (Wednesday):

I spent a lot of time on the conduit for the propane gas today but did not accomplish much. I put 25mm conduit through the wall then installed the interior plywood around it. Then I proceeded to glue some 45° turns in a somewhat convoluted pattern outside. Then I tried to “fish” the 10mm copper pipe through the set of turns only to learn that **you do not fish copper pipe**; even though it is quite bendable. Rather, one must build the conduit around the pipe bending the conduit one 45° degree turn at a time. In the end, I cut away the conduit, straightened the tubing and (*after 6 hours of useless work*) called it a day.

2004 November 4 (Thursday):

I only worked a half day today and most of that time was spent staining boards outside in the cold (*3 to 5 degrees*) and, eventually, rain and wind. One thing that I did this time that I neglected to do with the boards that I stained last winter and spring was that I painted the knots with shellac before applying the stain. The knots have bled through the stain of the other boards which means that next spring I will have to go back over them applying shellac then re-staining them all. Live and learn.

When I finally went into the shop, I got the kerosene heater working. The results were OK but not dramatic. In one hour, it raised the temperature inside from 5 to 10. The best thing about the heater was that it provided a place to warm my hands.

I just realized that when I put some plywood on the ceiling today that I covered up the junction box for the incandescent light by the double doors. It is very hard to remove the plywood –you have to use a nail set and push the nails right through the plywood. There are two potential pieces that are covering it up, one small and one large. I will remove the small piece tomorrow. If the box is not there, I will kiss the light goodbye.

2004 November 5 (Friday):

I was in luck –the box was behind the smaller section of plywood.

After fixing the goof in the ceiling, I proceeded to install the gas pipe for the space heater. I started afresh and installed the conduit around the tubing rather than the other way around. It was a little slow going but worked well.



Here is the route of the gas line:

- 1) Starting outside at the twin propane tanks (*yet to be hooked up*)



- 2) the line enters the shop and snakes over the double doors:



3) and will end at the space heater which will be installed at the spot that the kerosene heater occupies is the picture below:



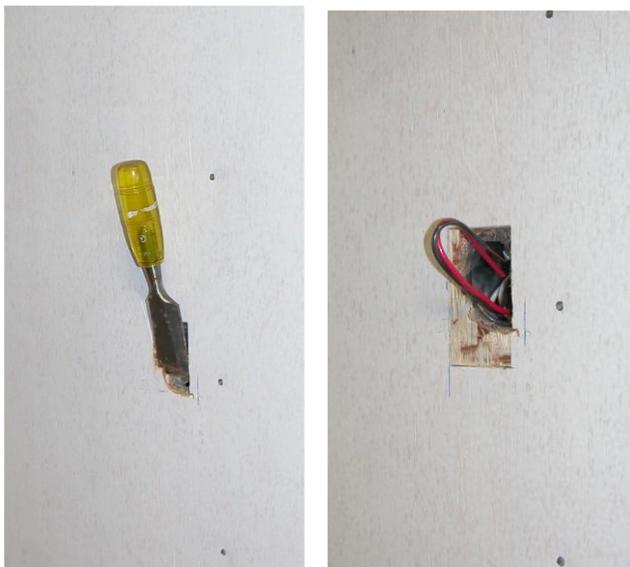
After installing the line, I put up some more plywood and I put the second coat of stain on enough boards handle half of the west wall. Because it is so cold, the stain is taking a long time to dry.

I kept the heater on until about 17:00 and it eventually got the temperature up to about 16 degrees. I figured that it cost me about \$5 to heat the shop this way today.

I don't know why this always seems to happen after work for the day is finished, but I just realized that I covered up one of the three switch boxes for the dust control unit with plywood. The good news is that, this time, I have a reasonably good idea where the box is. The bad news is that it is behind big section of plywood anchored by about 50 nails. I need the switch, so tomorrow morning I will try to locate the switch by first drilling a small hole. Then I will need to make a rectangular opening and I am not sure how I will do that.

2004 November 6 Saturday):

Just as happened yesterday morning, I was in luck with the buried electrical box. I located it on the first hole that I drilled, then it turned out to be easy to fashion the required rectangle with a chisel.



I spent the rest of the day plodding away at getting more plywood nailed into place.

2004 November 7 Sunday):

I made good progress today. I would estimate that about 80% of the plywood is now installed (*slightly more than my objective for the week*). The trench is filled in. But, there is a lot of clay left over. I expect the trench to compress over the winter then I will be able to get rid of some of the clay that way next spring. But, I will be left with some that will need disposal somewhere.

Here are two pictures, both taken from the south end of the shop. The occupied by all the Festool stuff is where I am going to place the dust control unit.



2004 November 10 (Wednesday):

Here it is Wednesday night already –time has really flown by this week. Isla and Ethan are staying overnight tonight, so nothing got done on the shop after about 16:00 and I will not be able to work much tomorrow. In spite of that, things are progressing well. The gas is hooked up and the pilot light is burning. A thermostat still needs to be attached and the vent needs to be completed but I expect both those things to be done tomorrow. All the boards and battens for the west wall are now cut to length and shellac has been applied to the knots. About 95% of the walls and ceiling have plywood on them and I have started on the plywood for the floors.

I expect Mario to come tomorrow to put in most of the receptacles and switches, the thermostat, and a couple of fluorescent fixtures of different types.

2004 November 12 (Friday):

Two more days have flown by.

Mario did come yesterday and he hooked up the 120 volt circuits and a few of the lights. It is great to have them. He also connected the thermostat then I fired up the space heater. The vent was not yet properly installed and the heater eventually blew itself out. I installed the vent properly today and am waiting for the heat-proof silicon sealer to dry before trying it out.

Would you believe that there were three more buried boxes? I unearthed one yesterday while Mario was here and two more today. I really had no idea where one of them was, but I had taken a complete set of photos of the wiring before installing the insulation and one of them came to the rescue:



I have started to install the top layer of plywood floor. Yesterday Ethan “helped” me to screw down the first sheet. The plywood is being both screwed and glued.

The walls and ceiling are not quite finished because I need to purchase one more sheet of plywood for them. My original estimate was accurate but I used one sheet on the door with the octagon window.

2004 November 13 (Saturday):

First of all, I am happy to report that the space heater is operational. Today, it warmed up the shop from 3 degrees to 15 degrees in less than an hour. This lowest that I can set the thermostat is 10 so that is what the shop is at right now –at 21:00.

I went shopping this morning after Kathleen and the kids left so only got in about half a days work. I worked a bunch of different things but did not complete anything.

2004 November 14 (Sunday):

I got a lot done today. About one third of the top plywood layer on the floor is now installed. I have also started to sand then to apply a second coat of paint to the plywood on the walls and ceiling. Most of the hardware and all of the trim is installed around both the double doors and the single door. What remains is door knob and lock set for the single door and I need to figure out how to handle the fact that the door is too wide for the lock set.

Here are two pictures, both of the shop interior –one from the north end and one from the south:



2004 November 15 (Monday):

Isla and Ethan arrived about 15:30 for a sleep-over, so I had a truncated work day. The main things I accomplished were to finish nailing up the wall and ceiling plywood, to put a second coat of white paint on the inside of the double doors, and to sand the walls and ceiling in the area where the stove is to go.

2004 November 20 (Saturday):

Early this morning, I cleared space in the shop and moved all the dust control equipment out of the garage. The unit is now in the shop and the ductwork is just outside the shop.



aside: With a couple more hours work, we will be able to get the car into the garage again (for the first time since last March). Margaret has been on my case about this for some time and it is none too soon because winter is on its way.

I have no idea whether getting the unit put together and operational is going to be easy/difficult nor can I guess how long it will take. I am about to find out. I have received quite a bit of advice about installation from folks on the internet including several comments that I should not attempt to do the task by myself.

2004 November 21 (Sunday):

I had a productive day today. Here is how work is progressing at the end of another week:

- All the -plywood is now installed on the walls and ceiling. All the ceiling has a second coat of paint and about 2/3 of the walls have a second coat of paint.
- All the boards and battens are stained. But, only about 25% of them have been installed.
- The top layer of plywood is installed and there is second coat of paint on about 25% of the floor.
- I did not quite get the wood stove installed because I am missing the part to connect the chimney to the stove pipe. A picture is attached.



The stove is in a little alcove in one corner of the shop and divided from the dust control unit by a partial interior wall. I will also place a couple of chairs, a drawing table, and a bookcase, in the alcove.

2004 November 24 (Wednesday):

On Monday I put in two more 8 foot strips of pegboard on the west wall then painted the wall. Tuesday morning filled sanded and painted most of the floor adjacent to that wall. Here is photo:



Yesterday afternoon I drove to visit my internet friend, **Greg Mann**, who lives near Port Huron Michigan. Greg took delivery of large Festool order from me about three weeks ago and I went down to retrieve about half that order. It was great to meet Greg in person. I stayed overnight

at his place and we had a great time. I drove back this morning reaching home about noon. The picture below shows my expanded Festool "family".



I didn't get any real work done on the shop in the afternoon or evening. All that I did was to tidy up the place in preparation for electrical work to be done tomorrow morning.

2004 November 26 (Friday):

We are going to be busy this weekend then away for three days, so I am not going to get any more work done on the shop until next Thursday. So, it is time for the week-end look at progress:

- The walls are not quite finished. There is a small section remaining near the electrical circuit breaker box and the space heater.
- I did not get much work done on the west wall siding. Only about a third of it is installed.
- I did not get much more of the floor painted. The painting is about 40% complete
- Mario came over for about 6 hours and helped me with the electrical work. Except for the dust control unit wiring, the job is now complete. **I really like the light provided by the eleven four foot double T-8 C-50 fluorescent lights.**

Below are two photos showing a lot of the completed electrical fixtures:



2004 December 2 (Thursday):

I managed to put in a full day of work on the shop today. In that time I finished putting plywood around the electrical panel, painted the last of the walls a second coat, and painted most of the rest of the floor a second coat.

2004 December 5 (Sunday):

I was away a good part of the week but managed to get quite a bit done after returning home on Thursday. I am happy to say that I:

- Finished the small part of the plywood around the sub-panel and finished the second coat of paint on all the walls.
- Finished painting the floor.

- Installed the wood stove and had a fire.



- Got up to the "half finished" stage of the board and batten installation on the last remaining exterior wall.
- Did some serious planning for the installation of dust control unit. I appear to have very different support brackets than those shown in the Oneida book and it has taken me some time to figure out how to deal with this. I think that I have solved the problem and will know whether or not that is the case when two friends (*as advised by folks on the internet*) come to help me install the thing on Tuesday morning.
- Cut out cardboard "mock-ups" of the machinery that I would like to get in the next year or so and tried to squeeze that machinery into the shop. That has caused me to rethink some purchases, to move the location of some tools, and even to alter the spot planned for one of the dust-control drops. This is planning is still "work in progress".



aside: my four year old granddaughter Isla contributed the art work on the double doors.

2004 December 7 (Tuesday):

My friends **Bert Nicol** and **Emrys Evans** came over today in order to help me install the Oneida dust controller.

Following is a series of eight pictures, showing the operation.

(1) The first section (*it's heavy!*) bolted onto the wall.



Since the centres of the two angle brackets had to be 22 inches apart, I could only bolt directly into one of the studs. So I attached two 2x8s to the studs and bolted the unit onto them. The leftmost, angle bracket is also bolted into a 2x6 stud.

(2) Emrys uses temporary clamps to position the 2nd piece.



(3) Frank connects the 3rd piece (below left).



(4) Frank bolts on the 4th piece (above right).

(5) Bert and Emrys complete connecting the filter.



Notice that the filter is on an angle. The weight of the unit has caused the front of the angle brackets at the top to be about 1/4 inch lower than the back part next to the wall. This tilt is

subsequently to be exaggerated in the sections below it. I assume that this tilt does not matter, but will check with folks on the internet.

(6) Lunch break after the unit is installed (*but, without ducts or electricity*).



2004 December 8 (Wednesday):

Today, Mario completed the final bits of the electrical installation.

2004 December 10 (Friday):

Based on advice from friends on the internet, today I moved the dust control unit closer to the wall then drilled some new holes into the brackets. The filter is still tilted, but I feel more confident that the unit will stay up OK. Here are a couple of pictures to go at either end of the above sequence:

(0) Drilling new holes into the support brackets in order to get the unit closer to the wall



(8) Starting to install the ductwork



2004 December 15 (Wednesday):

We were away in Carleton Place for a few days, returning yesterday evening. I decided today to replace the space heater propane tanks and connections that I made for with a rental tank to be supplied from Superior propane. There are three reasons for this:

- The closest fill-up place I found is about 20 kilometres away and I would have to transport the tanks there and back upright in a trailer through heavy traffic. Superior will send a truck out to fill rental tanks but not customer owned tanks.
- I am not absolutely sure that my installation is OK. The tanks seemed to be depleted very quickly so there might be a leak somewhere. Superior will hook their tank up the space heater with their own line and be responsible for that line.
- My tanks are probably too small and will need frequent refills.

aside: the tanks will not go to waste. I can use them with propane frig that I plan to purchase for Pellow's Camp.

A guy is coming from Superior tomorrow to check out the place.

2004 December 16 (Thursday):

Finding location for the rental propane tank proved to be more difficult than I anticipated. First of all the representative informed me of some mistakes that I had made. The biggest of these was to place the tank within 3 ft of a window. Another was to have a feed of more than 20 feet with the size of pipe that I was using. The tank has to be within 80' of a location that the delivery truck can get to and the only place that was not near a door or window and was close enough was the south side near the west corner.

We agreed that the tank would go there and that the gas could come in from the other gate. I will need to move all the construction debris that is currently in that path. Another thing that is

touch-and-go is that the tank they provide (*depending on just which one I get*) is somewhere between 32" and 34.5" wide. The clearance between the posts (after removal of the gate) is only 32", so I might need to remove the post. Even then the clearance between the fence and the air conditioner is only 34.5". They will need to install a new pipe from the tank to the space heater, the most likely path being under the future deck. They are coming on the 23rd to install the tank and I hope that there are not too many glitches at that time.

2004 December 20 (Monday):

After getting some more ductwork temporarily in place, I stood back and realized that it is quite convoluted. I posted the following photo on the internet and asked for suggestions for good alternative arrangements:



2004 December 21 (Tuesday):

We have had Kathleen and the kids here since early Sunday morning so, what with that and with getting ready for Christmas, almost nothing was done on the shop for over a week.

I did get some feedback re my ductwork from folks on the internet. The main advice was that I should have mounted the cyclone as high on the wall as possible and that it was best to get a 5 foot straight run of 7" pipe out of the cyclone. My run is about 6 inches. Everything that I saw from Oneida had the pipes getting to the ceiling as soon as possible with no branches on the way, so that is how I did things. **Tom LaRussa** was quite ingenious and re-posted my picture marked up to show how he would change things.



Late this afternoon and early this evening, I followed this suggestion as it pertains to the left side of the picture. This was the part of the ductwork that really bothered me and that caused me to ask the question in the first place. The result is shown below:



I haven't decided whether or not to make the other change. That part doesn't bother me much.

2004 December 22 (Wednesday):

Here is a photo of the shop looking very "Christmasy" this morning:



2004 December 23 (Thursday):

The only work that I did that was shop related today was to clear a path along the side of the house for transportation of the new propane tank for the space heater. I was told that a 36" opening in the fence would be needed for the tank and my opening, after I removed the gate was only 32". That meant I would have to remove a gate post and I really did not to do that. It's good that I decided to wait to see that actual size of the tank before I went ahead and cut down the post. The tank (which holds 425 pounds of propane) was only 30" wide and it easily fit through the gate. It was miserable out with freezing rain on and off all day after a about a 20cm dump of snow overnight. In spite of the weather, the installers did a fast professional job and I now have propane heat in the shop again. The tank is only 10% full and will not get filled until some time after Christmas –so I can't go wild with the heat.



2004 December 24 (Friday):

Today's text is a copy of the entry that I posted on the internet announcing the completion of my workshop construction project.

I am going to declare this project complete. There are still a few odds and ends that need doing, but the shop is enclosed, heated, electrified, ducted, and awaiting machinery.

The majority of the little bit of time that I did work on the shop in the last two weeks was spent planning for machinery and layout and ductwork for same. There was one change that will please the folks who did not like the gas pipe in conduit snaking over the wall. I decided to abandon the propane cylinders that I had installed and to rent a larger tank from a local propane distributor. They did the installation (*for almost nothing*) and their pipe runs outside –and will eventually be covered by extensions to my deck.

There was a good test of the T8 fluorescent lights in cold weather last weekend. One morning, when there had been no heat on in the shop for 3 days and it was -26 (*Celsius*) outside, the temperature was -19 in the shop. The lights turned on instantly.

The final cost of the project was \$25,365 (Cdn). At today's conversion rate, this works out to \$20,585 (US). This total includes all materials, taxes, fees, sub-contracting. The cost of the heating and dust control systems is also included. No tools are included in the cost. Let's see how this compares against my estimates along the way (*all in Canadian \$ and rounded to the nearest \$500*)

May 2003 (<i>original SWAG</i>)	between \$20,000 and \$25,000
Dec 2003	\$23,000
Jan 2004	\$19,000
Feb 2004	\$23,000
Mar 2004	\$24,500
Apr 2004	\$26,500
May 2004	\$27,000
June 2004	\$27,000
Aug 2004	\$26,000
Sep 2004	\$26,500
Sep 2004	\$26,500

What would I do differently if I had the opportunity to start over with what I know now:

- Make the building one foot longer (*with the extra length in the north wing*)
- Make the walls 6 inches higher all round
- Install one additional (long) skylight
- Mount the dust control cyclone as high up on the wall as possible
- Go directly to a propane company installed rental tank (*I wasted time and money on my own installation*).

Here are some pictures:

- The corner near the double doors. Observe that the gas conduit has gone



- Looking from the south end of the shop to the north end



- Looking from the north end of the shop to the south end



2004 December 27 (Monday):

I took a crack at estimating the amount of time that was spent on the shop. The result of these calculations is:

Planning: 440 hours

Purchasing (research, visits, deliveries): 140 hours

Productive work by me: 1,020 hours

Productive work by others: 65 hours

Useless work by me: 55 hours

When I was working for a living, I averaged about a 55 hour work-week, so another way of looking at these figures is:

Planning: 8 weeks

Purchasing (research, visits, deliveries): 2.5 weeks

Productive work by me: 18.5 weeks

Productive work by others: 1.2 weeks

Useless work by me: 1 week

A few folks on the internet have suggested that I should write a book about the building of my shop. I don't think that I will do so, but I did post a poll to the forum in an attempt to ascertain how much interest there would be.

Late this afternoon I got a call from a lady at Oneida. It seems that **Mike Kelly**, a member of one of the internet forums, sent them the pictures that I posted about my leaning dust control unit. They claim that I used the wrong bracket, and they are sending me the correct one at no

additional charge to me. I guess that this will be the excuse I need to call the guys back and re-mount the unit higher on the wall.

2004 December 28 (Tuesday):

Terry Hatfield posted a thread on the internet about a plywood storage rack that he recently made. Here are a couple of pictures:



I really like to two open ends and think that I can do something similar. I had planned to further enclose the dust collector (see the chalk marks in yellow on the floor in the picture below). What I will also do is to build the sheet goods storage rack adjacent to the new wall (see the chalk marks in pink on the floor). The segment of white sheet goods is exactly 8 feet high and it is just about in the position where the outer portion of the storage rack will go. So, everything will sort-of fit.



Populating and Initial Use:

2004 December 29 (Wednesday):

Today, I finally cleaned up the garage enough that the car will now fit in again. Actually, it is less crowded than it was last winter. But, I will probably "fix" that in about a month when I take delivery of machines for the shop. Everybody delivers just to a driveway or a garage at the end of a driveway.

I did get started on the new wall, but only started. I need to purchase a couple more 2x4s and a couple of pieces of thin plywood to cover the wall. There are two full sheets of G1S ½ inch plywood left over from the floor that I will use for the shelving walls.

For the past couple of months, I have been researching the machines that I will purchase for the shop and I think that I have now (*mostly*) decided upon:

General 350-T50 Table Saw (M2 Motor) RH

General 690 Band Saw (M2 Motor) *I am still considering alternate band saws*

Delta X5 DJ20 8" Jointer

Delta X5 15" Planer

Delta X5 16.5" Variable Speed Drill Press

Excalibur-30 Scroll Saw (with stand)

The first four of these will be 220-240 volt single phase. The last two will be 110-120 volts.

All machines but the scroll saw will have a mobile base.

I have been in contact with several dealers in order to get the best deal and have eliminated all but two of them. Right now, I am in active negation with Welbeck Sawmill (*where I purchased my Oneida dust collector*) and Markham Industrial. They have both offered package deals at around \$9,000 (*Cdn, pre tax*) including shipping. Markham's offer is about \$300 less than Welbeck's. I like the service that I have received from Welbeck so, even though Markham Industrial is only 7 kilometres from my house, I would prefer to purchase these tools from Welbeck. One benefit of purchasing from Welbeck is that, once my shop is set up, I will be buying lumber and I can expect to get a "preferred customer" discount on lumber purchases.

2004 December 30 (Thursday):

I purchased the material for the sheet goods storage and wall today and got a little further work done on same.

Superior Propane came and filled the tank (*well anyway, filled it to 80% of its 425 pound capacity*). Now I can heat the place with other than wood. The wood stove is good but it is a bit of a pain to have to keep feeding it and sometimes it actually gets the place too warm (*up to 27 degrees today*).

Today, I decided not to go ahead with a book, at least not for now. **Following is the note that I posted re the poll:**

I have decided not to go ahead with the book, at least not at this time.

First, here is my analysis of the poll:

- The responses to the poll have just about petered out. I had hoped for about 200 votes but only received about one third that number.
- On the surface the percentage that would or might buy the book is encouraging:
-would buy the book _____ 15%

- about a 50% chance that I would buy the book _____ 15%
- about a 25% chance that I would buy the book _____ 7%
- none of the above, but I might buy if recommended _____ 11%
- doubt very much that I would buy the book _____ 52%

but, 631 folks read the thread and only one tenth of them voted.

- My guess is that of the approximately 570 people who did not vote about 1/3 are not members of the forum. That leaves about 380 people chose not to vote.
- I must assume that, if a person did not vote, then that person would not be interested in the proposed book.
- So, I am adding 380 to the last choice, and this results in the numbers:
 - would buy the book _____ 9 _____ 2.2%
 - about a 50% chance that I would buy the book _____ 9 _____ 2.2%
 - about a 25% chance that I would buy the book _____ 4 _____ 0.9%
 - none of the above, but I might buy if recommended _____ 7 _____ 1.5%
 - doubt very much that I would buy the book _____ 412 _____ 93.4%
- These are not good numbers, particularly when I would think that the folks on the forum are a representative demographic of the most likely audience for the book.

Other Considerations:

- I think that **Christian Aufreiter's** observation: "*But my favourite topic is basically the inner structure of a shop – shelves, dust collection, well-thought storage, machinery ...*" applies to a lot of folks (*including me*). So, a book written now would be considered incomplete by many folks.
- Some number of people told me that they would prefer hard copy to a CD. Providing such a thing is a whole other dimension and one that I am not willing to finance.
- Margaret has a lot of projects for me that were put on hold in 2004. It would be best for domestic tranquility not to undertake a book writing and promotion task right now.

What will I do:

- Continue to make notes and take pictures as I populate the shop with machinery, cabinets, etc in order to have more complete material should a book eventually happen.
- Work on many of Margaret's projects.
- Later in the year I will pursue the possibility of a magazine article.
- If the article happens, then I will consider a book possibility as well.

I thank everyone who responded to the thread, everyone who voted, and everyone who sent me private mail on the subject. I am neither disappointed nor discouraged.

2004 December 31 (Friday):

It got above freezing today and was quite pleasant. The main thing that I accomplished was to tidy up the garage so that we can get the car in. It does leave good space for material storage. Next spring, I will gut the place and reorganize it for even better storage.

The wall studs are in and I have painted most of the needed plywood with one coat of paint.

The final cost is \$25,703. This is \$338 more than reported on the 24th –which can mostly be attributed to additional ductwork as well as to building another closet wall and accompanying sheet goods storage structure. Also, a few items are not in that total. The dollar estimate for tasks like this that ended up not being done is \$645. I will include those costs in next year's Maintenance and Clean-up budget.

2005 January 3 (Monday):

I worked in the shop most of the day today and pretty well finished the wall/storage/chalkboard project. Here are some pictures:



In mid-afternoon, one of the 120 volt 20 amp receptacle circuits blew for an unknown reason. It is GFCI protected and every time I tried to reset the GFCI push button, it turned off the circuit breaker. To trouble shoot a bit, I removed the GFCI receptacle and everything then worked again. I am stymied –I called Mario and he could not suggest anything. The most likely problem is the GFCI receptacle. Mario will come and take a look but I told him that there was no hurry.

I heard from Welbeck and it looks like they will come very close to matching Markham Industrial's price on the tool package. Furthermore, I will get 10% off future lumber purchases of more than \$1000. I think that I will go ahead and purchase from them but I have still not decided for sure on the band saw. Someone on a Canadian Woodworkers forum has told me of a good deal on a new ACM bandsaw via a place called Karman's Tool and Supply in Ontario. ACM are an Italian company that makes their own saws as well as Laguna bandsaws.

2005 January 4 (Tuesday):

I talked to Ivan at Karman's about the ACM bandsaw then went to a place in Etobicoke (*Honig Industrial*) where a Star 400 was set up for viewing. It looks like nice machine and the price is only \$200 more than the General 690. However, I still have many questions.

2005 January 5 (Wednesday):

I heard back from Ivan at Karman's Tool and Supply today and he had satisfactory answers to most of my questions.

This afternoon, I attended a hands on seminar at Lee Valley about the Leigh Dovetail jig. The jig (*designed and made in British Columbia*) is used in conjunction with a router. It is a very nice tool, the documentation is excellent and I want one. But, at over \$500, I think that I will wait a while before I purchase one –perhaps towards the end of this year, perhaps next year ³.

2005 January 6 (Thursday):

I spent most of the day in the shop. The result of this activity is a tidied up shop and a new clamp rack. I based the clamp rack on one made by Jim Becker and shown on an internet forum. A while ago, Jim created a thread showing the rack for his Bessey K-body (etc) clamps. I bookmarked the thread, awaiting the day when I would have need of such a rack. Well, thanks to Lee Valley's great sale, yesterday I tripled the number of Bessey K-body clamps in my shop. So, today I built a rack. The photo to the left shows the top under construction. This shows one of the many uses that I have found for the Veritas Hold-Downs that Margaret gave me for Christmas.



To the right is the clamp rack in use. This is a great use of the wall over the space heater (*which can't be used for much*).

³ As of November 2008, I still don't have one and I think it will still be along time before I get one.

2005 January 7 (Friday):

Not much time in the shop today. Isla visited for a sleep-over and decided that she wanted to paint the shop some more. Featured here is her treatment of some of the electrical receptacles:



I wonder what Mario will think!

2005 January 10 (Monday):

We drove back to Toronto this morning after spending the weekend in London (*where, earlier in the week, my brother Bruce had an operation (successful we are told) to remove a cancerous tumour from his lung*). Most of the rest of the day was spent on the computer and phone doing research. I have decided to purchase the ACM bandsaw rather than the General. **Folks on the internet have convinced me that Italian made bandsaws are the best.** I can't find much about use of the ACM Star 400 on the WEB but it is almost the same machine as the old model (*replaced within the last year*) of Laguna 16HD and that is a highly rated machine. Delivery details remain to be worked out. **To that end, I posted the following question:**

I have had limited experience moving heavy objects and am seeking advice on a move that I am contemplating. I am probably going to purchase an ACM Star 400 bandsaw. It weighs about 450 pounds crated and will be a little over 6 ft high. I would like to pick up the saw at a (somewhat) nearby warehouse and will take a friend with me to do the job. We are both in good shape. I have the trailer, dolly, and ramps (2" x 8" x 9' spruce with metal ends) shown below:



Is this going to be something that we can handle? If so, do you have any advice?

I also agreed to purchase the other five machines (*table saw, scroll saw, jointer, planer, drill press*) from Welbeck Sawmill. I will be driving up there on Wednesday in order to exchange some ductwork, pick up the new brackets for the cyclone, and finalize the purchase and delivery of the machines.

2005 January 12 (Wednesday):

Well, I now "own" six new woodworking machines. In spite of the freezing rain, I drove up to Welbeck Sawmill today (*about a 3.5 hour drive today, 2.5 hours in ideal conditions*) and completed arrangements for the purchase and delivery of five machines to my garage. In the end, I purchased the left tilt table saw (*model 650*) twin of the General right tilt (*model 350*). The main reason that I did this was that the dust port was positioned on the better side of the saw for the planned shop layout. Others claim that left tilt is safer for beveled cuts and that may or may not be true for me. The cost with taxes and some electrical stuff came to \$7,946. These tools will probably be delivered in early February.

Folks on the internet convinced me not to try to move the bandsaw with my dolly. I will arrange to have it delivered to my garage and then figure out how to deal with it along with all the other tools.

After my mid-afternoon return, I completed arrangements to purchase the ACM bandsaw from Karman's. With taxes and delivery, it cost \$2,873.

The total of both purchases is \$10,819. And, it is going to cost me an additional \$300 to get help with moving and installation plus, say, another \$80 in incidentals raising the final installed price to about \$11,200. **WOW!** The only major additional tool that I see purchasing this year is a (Festool) router. That plus the bits for same will probably come close to another \$1,000. But, the way things go, I should add another \$1,700 for things that I have not thought of –bringing the total tool budget for 2005 to \$14,000.

But, on the other hand, I did spend about \$9,000 on tools last year. My excuses last year were:

- (1) I had just discovered Festool
- (2) I needed some of the tools for construction

That \$9,000 blew my tool budget by \$7,500. In other words, I spent six times my budget. **Very bad and not to be repeated!**

2005 January 13 (Thursday):

While I was at Welbeck Sawmill, I picked up the proper bracket for the cyclone. Yesterday, I got the old brackets off and got the cyclone motor transferred to a support stack. Here are photos of the new (*to the left*) and old (*to the right*):



And here is the stack:



2005 January 16 (Sunday):

Today, I finally got in a significant amount shop time. I built a "dolly" to tow machinery. It is a 2' x 7' piece of $\frac{3}{4}$ inch plywood with wheels and a rope in the front to pull. I used a four wheel set of 4" wheels (2 rigid, 2 swiveling and lockable) that I purchased at Lee Valley. The thing sags in the middle so I need to get two more wheels.

I mounted the new bracket above the spot where the old one used to reside:



and then, I tried to move the motor unit onto the bracket but could not do it by myself. With luck, Emrys will be able to come over some time this week and give me a hand.

2005 January 17 (Monday):

I added the two wheels to the dolly. Here is a photo of the dolly under construction. I pulled some heavy loads around on it and it appears to me that it will handle the moving job with ease.



Late this afternoon, Mario came by to fix the defective circuit and to deliver a box of 25 fluorescent tubes and. They are pricey at \$231 but hard to get and this is actually a good price for them. Also, I should never need to purchase tubes again.

While Mario was here, he helped me to put the cyclone motor up on the brackets. I am certainly glad that that is done. There was one hitch and this is that, because I mounted the motor higher, the wire is not long enough. So we had to remove the connection to the box and I need to go out and purchase a longer wire then re-wire the machine.



2005 January 18 (Tuesday):

Today was Isla's birthday, so I did not get much shop time in. I did re-wire the dust control motor and it works fine.

2005 January 19 (Wednesday):

The bandsaw was delivered this morning by a very friendly and cooperative driver. We offloaded the saw onto the dolly on the road, and then easily pulled it up the driveway and into the garage.

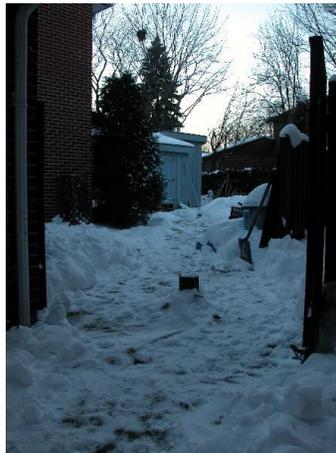


I re-installed most of the remaining dust control components. It was necessary to drill some holes into the brackets in order to get the filter into the correct position.

2005 January 26 (Wednesday):

We got back this afternoon from a visit to Carleton Place. I had tentatively planned to have the four tools from Welbeck delivered tomorrow, but they don't yet have my table saw. The backup delivery date here is a week from today. I sure hope that it happens then.

Dave Streeter and **Emrys Evans** have agreed to help me move the bandsaw to the shop tomorrow afternoon. It will be good to see if we can move one machine before being faced with the rest. I had planned to move the saw on the dolly over plywood. Today I shoveled a path to the shop.



While shoveling, I found the ground to be very hard, so I think that we will first make an attempt to roll the dolly on the bare ground. We will try rolling it up the ramp into the shop but, if that doesn't work, we will try running the dolly up to the door and tilting the saw up into the shop.

2005 January 27 (Thursday):

The saw is in the shop! This afternoon Emrys and Dave came over to help me move the saw. It proved to be quite easy to move the dolly (with the saw crate screwed to it) over the frozen ground. It also turned out to be quite easy, with one person pulling and two pushing, to get the saw up the ramp into the shop. The whole job of moving the saw, uncrating it, setting it upright, attaching the mobile base, and attaching the motor, took just under an hour.

Here is a photo preparing to haul the saw up the ramp:



Here is the moving team with the saw:



2005 January 28 (Friday):

I got the rest of the saw assembled today (*without the blade*). I downloaded the manual for the Laguna 16HD from the WEB and was able to use it for most of the assembly steps. That manual is much better written than the one I got from ACM. However, the "euro" bandsaw blade guides that came with my saw are different than the ceramic blade guides for the Laguna saw. This evening I purchased some 12/3 wire and will wire up the thing tomorrow. The on/off switch is confusing so I hope it works OK once things are wired.

I also got a bit more of the ductwork done. The job is about 40 percent done and I am happy to say the hard part is in that 40 percent done portion.

My first substantial project is just about to start. Earlier this week, I purchased Murphy bed parts and plans at Lee Valley and today I purchased the necessary wood. I plan to make a bed/bookcase unit for the guest bedroom.

2005 January 29 (Friday):

Yesterday, I appealed on the internet for any on-line information about the use of the blade guides for my bandsaw. **Jim Becker** responded with: "*Those guides are identical to the ones that came with my MM16. Literally. Adjust them close to the blade...some folks use a dollar bill as a spacer. The thrust bearing should be the same distance from the back of the blade. The disk should not engage the teeth of the blade, so they need to be moved back and forth as you switch blade sizes, etc. ...*" I downloaded the MM16 manual from the WEB and it has a good description of how to use the "euro" guides.

2005 January 30 (Sunday):

All of the ductwork that I plan to do before the rest of my machines are in place is complete. The bandsaw is wired and works but I have not yet installed a blade. I hooked up the saw to the dust control ducting and it sucked a piece of paper into the far away barrel in 4 seconds. So, I assume that the dust control system is fine.

All the heavy sheets of plywood are now in the workshop and I have started (*only just started*) to cut them up for the bed.

2005 January 31 (Monday):

I checked with Welbeck Sawmill today and General has not yet sent them the table saw. With one thing and another happening to Steve Kraus of Welbeck and to me, the delivery has been changed from February 2nd to February 23rd.

So, I will have a bit of time on my hands this week. I arranged with Greg Mann to fill some it by driving to Michigan tomorrow afternoon, having him help me to set up my Festool Multi Function Table (MFT), staying overnight, then returning home Wednesday morning.

I did get all the plywood pieces for the bed cut to width, but will wait until I can use the MFT to cut them to length.

2005 February 3 (Thursday):

Everything went very smoothly on my Michigan trip on Tuesday-Wednesday. Greg was very helpful and informative about the Festool MFT. He threw in a few tools that I thought I would like and I left him a set of clamps for use with his MFT. I had purchased two sets by mistake and doubt that I will need the second set. I stayed up talking to Greg until about 1 in the morning then was up at 6:30 for the trip home.

I arrived home to find that Ethan is sick with an ear infection. I went down to help mid afternoon on Wednesday then drove back early this morning and brought him to our place for the day.

I did get the MFT set up in the shop and took the time to cut a couple of pieces of plywood for the bed. Here are some photos:



2005 February 5 (Saturday):

Today I attended a sign carving course, taught by Ruth Arnold at Lee Valley. I carved a sign that will be used over the shop door. More work remains to be done but here is an in-progress photo:



I enjoyed carving and am proud of the way that I utilized the knot in the pine board.

2005 February 6 (Sunday):

I did some more work on the Murphy bed on Friday and Sunday (*made it all the way up to step 4 of about 60*). The MFT certainly make cross cuts a lot easier and more accurate).

Another tool that I brought back from Michigan was my Festool cordless drill. One of the best aspects of the drill is the way(s) in which it can get into small spaces. Here are some photos that illustrate what I mean:



1

2

3

4

1. The Festool drill is much shorter than my corded DeWalt drill.
2. There are several different chucks for the Festool drill. The chuck (*Centronic*) in photo 2 results in an even shorter drill. And, one can make it shorter still by drilling without a chuck at all (*no picture*).
3. The right angle chuck.
4. The offset chuck lets one get really close to edges and corners.

When I mounted the dust control motor a couple of weeks ago, there was one spot where I could not get at with the DeWalt drill. The Festool drill fit in well and it had the power necessary to drill a 3/8" hole through the iron support bracket.

2005 February 7 (Monday):

I made a prototype to figure out how to build drawers in a rolling cabinet that is to contain Festool systainers. I am modeling this on the cabinets that were made by **Paul Franklin:**



Paul's cabinets are, of course, modeled upon the systainer ports made by Festool. A Festool "sysport" costs \$390 US pre tax and delivery and I figure that I can make one for under \$200 Canadian after tax. I bought some self locking drawer slides at Lee Valley and experimented with making one (*temporary*) drawer that fit into a (*temporary*) cabinet. The tolerances for the drawer slides are very small (*down to the millimetre*) so one has to be very precise. I am happy with the result of the experiment and will probably build two cabinets. Margaret would like a similar shorter one to fit under the breakfast table in the Kitchen.

By the way, I showed Isla the above picture and she wants me to put a floor like Paul's into the shop.

2005 February 10 (Thursday):

I made some progress in edge banding the plywood for the Murphy bed but it is slow going. First I iron it on, then I roll it with the wallpaper roller, then I leave it for a while, then I off the excess with a hand sanding block (*using 80 grit*). There are machines costing big bucks that do this. The cheapest that I found was about \$300 US and it does not do the trimming. If I had to do much edge banding, I would consider getting a machine. Not only is it slow going the way I am doing it, but it seems to me that the banding is not adhering as well as it should in some spots.



2005 February 11 (Friday):

I finished the edge banding and started to install some of the hardware on the bed. But, I am still only up to step 7 of about 60.

The sign has been painted and stained then everything has been covered with one coat of Varathane (*at least two more will be applied*). The darker grey is the paint used on the soffits and the lighter grey is the stain used on the walls.



My shop is named after the shop/bunkie/storage building named "The Shed" at Pellow's Camp. Here a picture of the sign on that shed:



as well as a couple of pictures of that building, one exterior and one interior:



2005 February 12 (Saturday):

We have a set of inexpensive (*but useful*) cabinets in the guest/sewing room and somehow they need to fit in with the new bed. Here is a photo of some of the cabinets:



They are cheap veneer over particle board and the stain is a very boring brown. My initial thought was to paint them; but this morning I took a crack at removing the stain on a drawer front. The result was a happy surprise –the veneer looks quite good and is a good match for that on the birch plywood being used for the bed.

It is going to be a big job to remove all the stain without sanding right through the veneer, but my Festool Rotex sander makes the job possible.

Here is photo of the sanded drawer front with a coat of the stain (*Minwax Polyshades Satin Pecan*):



Beside the dresser are two sample pieces of plywood that I stained with Minwax coloured stain. I am trying to decide whether or not to use one of these, probably the green, on some trim. Margaret is not in favour of this, but I will try some really trim and see if this changes her mind.

2005 February 13 (Sunday):

The bed frame is now assembled. Here is a picture of me working on it:



2005 February 20 (Sunday):

I was in Carleton Place for 4 days this week, getting back on Friday. While there, I picked up some handy small parts bins at the Home Hardware in Perth. They are now installed just inside the single door (as shown in the leftmost photo below).



I am going to purchase at least as many bins again.

Progress on the set of mobile shelves for the kitchen is good –assembly of the frame was made easier by the MFT (as shown in the rightmost photo above).

On Friday evening I attended a 2.5 hour seminar at Lee Valley on bandsaw tuning and it was well worthwhile. I also bought about \$1,300 worth of tools and supplies. I will write more about some of these in days to come. One of the things included in the \$1,300 was 25 sets of drawer slides of the type that is going to be used in the rolling cabinets.

Work is progressing well on the Murphy bed and a lot of it is now assembled in the guest/sewing room.

2005 February 22 (Tuesday):

Yesterday afternoon we went to Kathleen's to help out because Ethan is sick again. This morning, I went down early and brought him back to our place. He will stay overnight and I will take him home tomorrow afternoon. This has eaten into my planed project time. One thing I did get done was to stain some handles and place them on the restored dresser drawer. Thank goodness, Margaret now likes the appearance. Here is a photo (*I need to straighten the left handle*).



There was also time to install some drawers under one workbench. There is mostly unused space underneath the three benches that I made many years ago. And, I want to organize things in my new workshop properly. I decided that the quickest way to do something about this was to purchase some ready-made drawers from Lee Valley. The top edges of the drawers are also the slides, so it is easy to make a cabinet for them. It took two hours and 29 minutes to make the cabinet and install the drawers. Here is a breakdown of the time taken:

- 4 minutes –find scrap MDF and plywood
- 22 minutes –design, measure, and layout
- 83 minutes –cut
- 35 minutes –assemble
- 5 minutes –take photos

Here are some photos:

1) Bench before installing the drawers:



2) Cutting grooves in the MDF:



3) Method used to keep grooves square towards bottom of sides:



4) At the very bottom, I had to use a square:



5) Bench after installing the drawers:



Tomorrow Steve Kraus of Welbeck Sawmill is delivering my table saw, jointer, planer, drill press, and scroll saw.

2005 February 23 (Wednesday):

The delivery happened and my garage is full again.



I am making arrangements for help to move and set up the machines one day next week. In the meantime, everything possible for one person to lift then to drag on the dolly is in the shop.

2005 February 25 (Friday):

Yesterday and today, I set up as much of the equipment as I was able to lift.

First the scroll saw –it is actually operational now:



This saw is made by Sommerville Design which is located in Pickering, Ontario. The picture to the right is a close up view of a simple scroll-saw blade holder that I made following a tip in a magazine.

Next, the drill press. I made a mobile base for it and mounted the column (with the table attached) to the base. The head (which contains the motor) is too heavy for one person to lift up onto the column.



Observe the duct work to the left of the drill press. Steve also brought me the sections that I needed to finish the ductwork. This particular drop is now ready for the jointer.

One of the things that I have had to do with my bandsaw and drill press (*and still need to do with the table saw, planer, and jointer*) is to clean the cremoline grease off all the bright iron and steel surfaces with kerosene.



Once the gunk was removed, I put Top Cote on the surface. Paste wax would also work.

I assembled the base of the planer but chose to leave the planer itself (*along with the table saw and jointer*) in the garage until I get help. Oh, yes I have arranged for that help to come next Thursday.



2005 February 27 (Sunday):

I did not have a great deal of time for workshop related projects this weekend (*Margaret was sick, there was a lot of snow to clear, and I babysat Ethan and Isla for about 6 hours*). What little time I did have, was spent sanding and staining. Here is a photo of the shop filled with freshly stained items:



2005 March 2 (Wednesday):

Tomorrow is the day that we are going to move the rest of the machinery from the garage to the shop. **Emrys Evans** has volunteered to help again and I am paying a Delta/General repair guy (**Fernando Mazza**) to help move and set up the machines. Things are scheduled to commence at 9:30 and, no doubt, it is going to be a very full day.

The weather promises to be perfect –that is about -10 to keep the ground frozen but sunny to keep us warm. The shop has been cleaned up and is ready for the stuff.

2005 March 3 (Thursday):

It's about 21:30, Fernando left about half an hour ago, and everything was moved and appears to be set up properly.

Going back to the start of the day, here are two "before the move" photos:



Emrys showed up a little before 9:30, but Fernando did not arrive until about 10:30. By the time Fernando arrived, Emrys and I already had both parts of the jointer inside and un-crated. That left the planer and the saw and we really did need 3 people for both of those. With some hard slow slogging they were both in the shop and un-crated by noon.



We then spent the rest of the time ungreasing, waxing, setting up and testing the machines. Emrys hung on until about 16:30 and Fernando until about 21:00. I ended up paying Fernando \$360 for the job (and I expect to get future favours in exchange for certain computer-related tasks I can do for Fernando).

Here is a photo of the packing stuff that we removed:



2005 March 5 (Saturday):

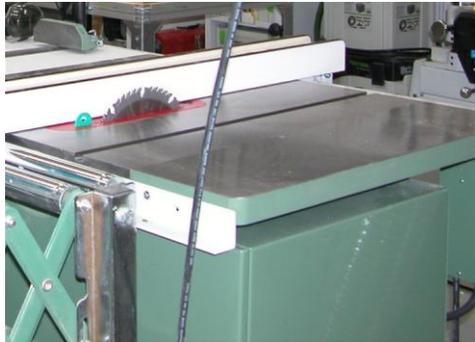
I spent most of the last two days dealing with the packaging, connecting machines to the dust control system, installing the table saw splitter, trying out the machines a bit, and taking photos.

Here are a few comments and observations:

- The Delta manuals are quite good.
- The General manuals are very sparse.
- The HTC mobile base for the General 650 saw is great (*except for the Mickey Mouse way that one has to set/unset the brakes*). The saw and table are really easy to move.
- The Delta planer and jointer come pre-wired for 230 volts, but I wish that they had not bothered. The wire is only 14 guage and is of inadequate length (*180 cm on the jointer and 2 metres on the planer*). They should either not wire at all (*as was the case with my Oneida, General, and ACM machines*) or they should provide at least 3 metres of 12/3 wire. I am now going to have to rewire both machines.
- I am going to reverse the positions of the bandsaw and the jointer (*once I get a mobile base for the jointer*). That appears to be my only machine placement planning mistake.
- Delta does not deliver their X5 "free extra tools" in a timely fashion. It's 7 weeks since I mailed in the form for the mobile base for my jointer and the base has still not arrived. I already need to move the jointer, so this is creating problems for me.
- I am very happy with the amount of room that remains in my shop after the installation of the machines. Things did look good with the cardboard cut-outs that I experimented with, but I had the fear that when, occupied by 3 dimensional machines rather than 2 dimensional cut-outs, things would become crowded.
- The MicroJig splitter was quite easy to install on the table saw. With the limited testing I did, the splitter seems to work very well. I did not even bother to unwrap the splitter and blade guard that cam from General. (*Why don't they come up with something better?*).

- My dust collection system certainly seems to be performing well. When I turn it on with a near empty barrel, the suction pulls the barrel right off its stand.
- The sooner I get the remaining wall built around the dust collection unit, the better. It's **LOUD!**

Here are some photos showing the installation of the zero clearance insert and MicroJig splitter on the table saw:



Here are 2 photos that, between them, show the current position of all the machinery in the shop:



Below is a collage which contains each of the 6 wood-working machines (7 if you count me:



2005 March 11 (Friday):

A lot of things were going on this week, so I only spent about 20 hours in the shop and/or on projects. I can report that it is REALLY NICE to have (*almost*) all the tools and supplies that I need and to be able to easily locate them.

The rolling cart for under the table in the kitchen is done except for the painting. I am going to let Margaret try it out for a while to see if she wants any further modifications before I paint it.

I made good progress on the guest/sewing room. I drilled bigger holes into the pegboard in order that they can now accept (*with effort*) the Talon hooks that I like so much in my shop.



The repainting of the room is finished. All the bed parts are now ready for assembly and stained one coat. Two of the cabinets have been redone and are back in the room. It is very hard to get the stains a consistent shade and very hard to stop the pecan satin from running around the edges. So, the job is not as good as I would like, but I have already spent too much time so it will have to do.

I purchased a grill for one of the windows of the shop in order to see how it would work out. It seems fine –here is a photo where it is temporarily installed:



I want to purchase or make something to balance longer wood while using my drill press. To that end, I found this support thingy at the Lee Valley web site:



I am seeking comments and advice from folks on the internet about this specific support or alternatives.

2005 March 13 (Sunday):

I did no work at all on workshop related stuff on Saturday and, in fact, did not even go into the shop.

On Sunday, I spent a lot of time fixing up the aluminum wiring in the guest/sewing room. About 5 frustrating hours of that were spent in an attempt to install a new receptacle feeding off an existing one. I had to cut some holes in the drywall to string the wire and that will require some clean up. But, the big problem is that the thing keeps blowing a fuse and I can't figure out why. I rewired it completely and still the fuse blows. The frustrating thing is that it works some times and I can not pinpoint the problem. I also cut and stained some trim for the bed.

Based on feedback from **Carole Valentine, John Bush, and Bob Boake**, I have decided that to give the Lee Valley and HTC drill press support contraption a miss. I will probably follow Carole's suggestion: *"Save what you would use for this thing and buy one or two of the new Lee Valley Roller Stands. A bit pricey at \$79 but really nice stands. I use mine with everything, band saw, table saw, router table, drill press"*.

2005 March 20 (Sunday):

We had Isla and Ethan over for three days and nights this week because both their parents were sick. That certainly cut down on workshop related projects.

I did finish and install the Murphy bed and I am very happy with how it works and how it looks. Here are a couple of pictures:



I spent about another 5 hours on the electrical outlet move that I talked about last week. In the end, I replaced the wire and that eliminated the problem. The wire I was using was quite old (*left over from wiring in the basement of our first house about 35 years ago*) and there must have been some interior deterioration somewhere.

I also got 8 drawers made for the rolling cabinets I am going to building in the shop. Now, I guess I should start to build the cabinets. Also, there is the small matter of sanding then staining the remaining cabinets for the guest/sewing room.

2005 May 6 (Friday):

In the later part of March and most of April, Margaret and I were away on a trip through the Western USA. We flew to Vancouver, rented a car, and drove in a big 8,000 kilometre loop which extended as far south and east as New Mexico. While I was away the mobile bases for my Planer and Jointer finally arrived from Delta. Getting them mobile will allow me to get my tools into their (*what I new deem to be*) optimum positions. I expect that shifting the jointer will be difficult and I have four friends coming over on the 20th to help.

Now that the snow has melted, it has become all too apparent how much debris and mess was left from the construction. It is clear that this spring a summer most of my time that I am home will be spent restoring the back yard. There will be very little shop time, so once the machines are in place on the 20th, I will declare the shop populated and wrap up this document.

I spent some time this week completing my variation of Paul Franklin's rolling systainer cabinet. On February 7th, I embedded a picture of Paul's cabinets. Here is a picture of my cabinet (*beside the version made by Festool*).



Like Festool's version, mine has a rubberized top which is handy for gripping small parts, tools, and (*as can be seen in the photo*) coffee cups.

One thing worth noting is that, in order to balance the cart when drawers are sticking out, I placed an enclosed concrete slab on the lower portion of the back panel. This can be seen in rightmost picture above.

I also made a variation of the cart that fits under the breakfast table in our kitchen.



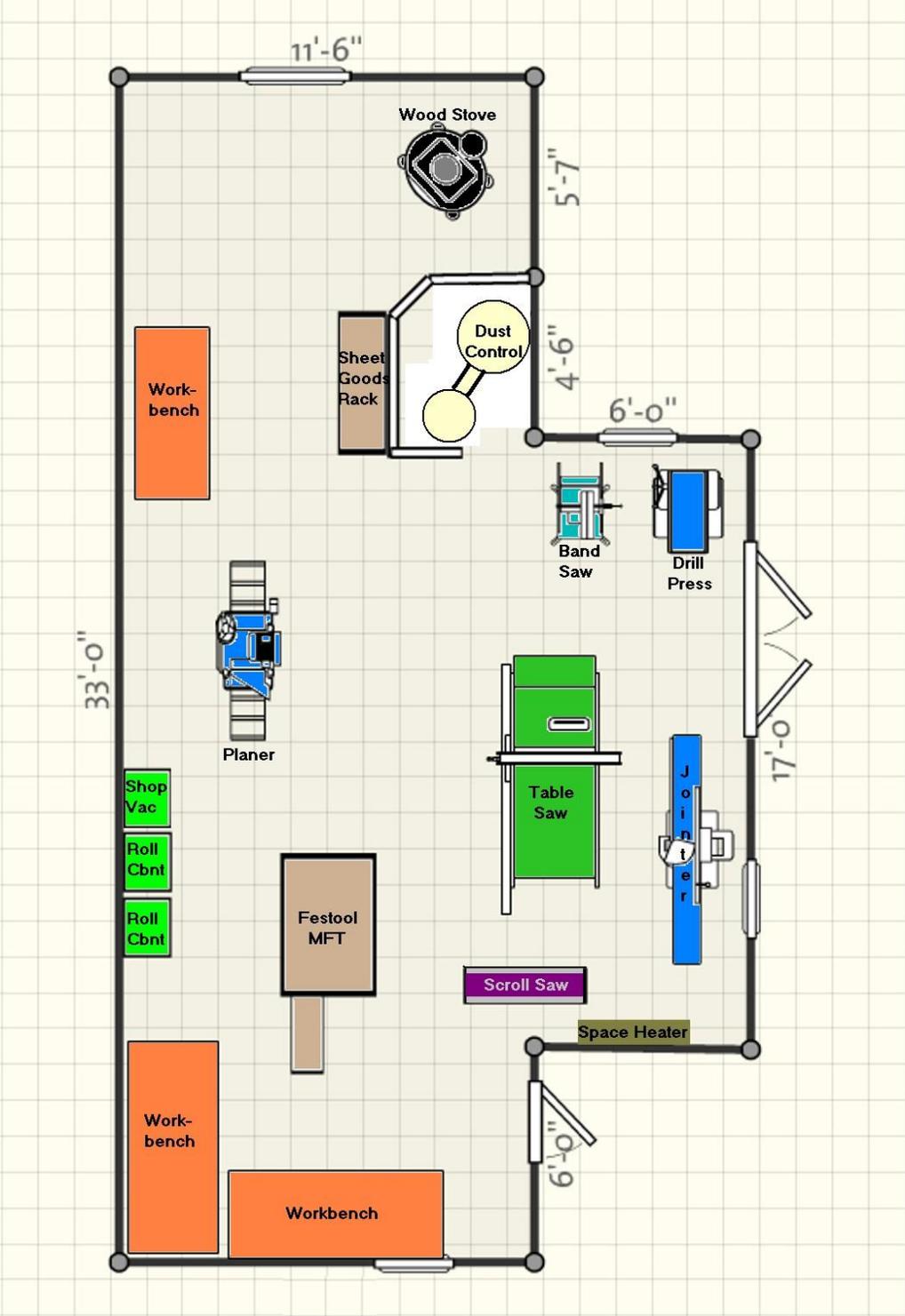
The kitchen cart is used to hold art supplies, toys, dishes, and play clothing –all for visiting children.

Wrap-up in May 2005:

2005 May 20 (Friday):

OK, the jointer and planer are now on the mobile bases and in position so I am declaring the shop populated and this journal complete.

Here is a diagram showing the "final" layout of the large items within Shed 2:



And here are some internal photos showing this organization:

Taken from the bottom left corner:



Taken from in front of dust collector and looking towards bottom left:



Taken from beside of sheet goods rack and looking towards bottom right:



On 18 March, 2004, I posted 16 objectives for my shop. Let's see how things worked out:

1. Lots of natural light.
Result: Not quite as much as I would like.
2. Good artificial light.
Result: I am very happy with this.
3. Good ventilation and dust control.
Result: Both are excellent.
4. Ready access to the outdoors.
Result: OK. But I need to use ramps with the double doors.
5. Free movement of goods both into and out of the shop.
Result: Good.
6. A comfortable floor (*i.e. wood rather than concrete*).
Result: Good.
7. Sufficient room within the shop to handle sheet good and long boards.
Result: OK. But, additional height would have been better.
8. Provide a location for a good stationary cabinet table saw, an adjacent (*but moveable*) jointer, and an adjacent (*but moveable*) planer.
Result: The placement of these tools is not ideal, but they are all mobile.
9. Provide a location for a high quality stationary woodworking bench
result: Using a mobile Festool MFT and a "not-so-good" old woodworking bench. I would still like a good bench (Veritas?), but if I either buy one or make one, I will probably need to make it mobile.

10. Good cabinets to organize all my tools and paraphernalia.

Result: My stuff is well organized but the discovery of good pegboard hooks has resulted in fewer cabinets.

11. A place that is warm in the winter (*but not as warm as my wife likes to keep our house*).

Result: Excellent.

12. A great sound system to listen to music (*all kinds of music –well not rap, but all other kinds*).

Result: I don't have this yet. But, I will.

13. A place where the noise of my power tools will not disturb other family members.

Result: Excellent. I should add that my neighbors told me that they have not noticed the sound of tools.

14. A place that I can escape to when I wish to do so (*in particular, a place with no television*).

Result: Excellent.

15. A place where my friends and family will feel welcome and comfortable.

Result: Excellent.

16. The building should be attractive and should enhance the neighborhood.

Result: It is and does and I have had many comments to that effect.

Finally, to wrap everything up, some "thank yous" are in order.

1. Thanks to the folks on the internet who contributed. Here is summary of their contributions:

- The fact that I was filing a weekly report on the internet, encouraged me to work a little harder in order to be able to meet published objectives.
- The original plan was for floor joist on 24" centres. Questions re ability to support heavy machinery caused me to switch to 16" centres.
- I increased the distance between the dust control unit and the wood stove and built a wall between the two.
- The size of the shop was increased by 23 square feet.
- The plans for the insulation of the floor were changed completely. I had originally planned to install rigid foam between two layers of plywood. Switching to R21.5 under the bottom layer of plywood saved money, lowered the floor (*as I wanted*), and provided a higher R factor.
- Wire mesh was installed under the floor insulation in order to discourage critters.
- The proper shingling was done at the peak of the shed-roof portions of my roof.
- The dust control system was upgraded to Oneida 2hp commercial.
- As suggested, I had friends come by to help me install the Oneida cyclone (*and I needed that help*).
- I moved the dust control unit both closer to the wall and higher on the wall.
- The convoluted ductwork was simplified and enhanced.

- The original bracket that was supplied for mounting the cyclone was not the correct one. An internet contact sent the picture of my leaning unit to Oneida, they sent me the correct bracket at no cost to me.
 - I was convinced to purchase the Festool circular saw and guide rail and this combination saved me a lot of time with all the plywood, etc that had to be cut and produced much better results.
 - I received the information that I needed to be able to adjust my bandsaw blade guides.
 - The sheet goods storage racks design came from an internet forum member.
 - The clamp rack design came from an internet forum member.
 - I was persuaded not to buy the HTC drill press support bracket.
 - Also, see the set of Electrical changes listed on October 6th.
2. Thanks to my subcontractor, and now friend, Mario Conte who did such a great job with the electricity. I doubt very much that Mario made any money on the job but I know he had fun and I expect him back to use the shop.
 3. Thanks to my friends Emrys Evans, Terry West, Ron Holt, Dave Streeter, and Bert Nicol who helped with tasks (*mostly heavy/awkward lifting*) that I could not do by myself.
 4. Thanks to my grandchildren Isla and Ethan who helped a bit with building tasks and a lot with the art in the shop.
 5. Thanks to my dad (Tip Pellow), my grandfather (Frank Rosseter), my aunt (Mildred Pellow), and my uncles (Scott Thomson and Jack Whitney) who instilled into me a love of design, building, and woodworking.
 6. Thanks to my wife Margaret who had to put up with a lot of mess and disruption.

It's been fun!

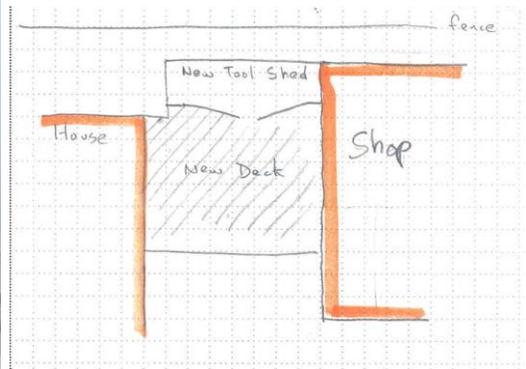
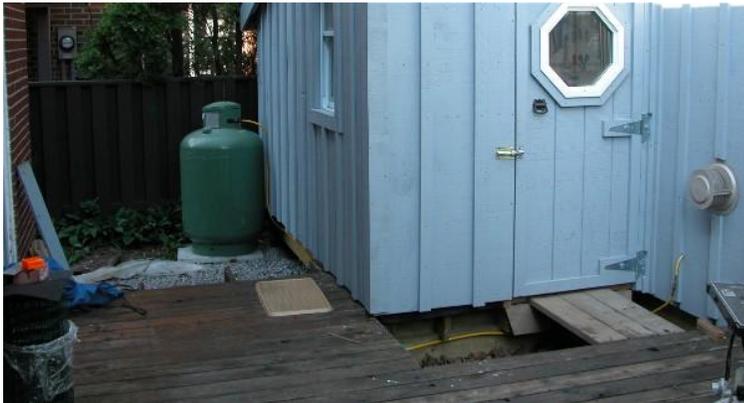
Follow-Up in December 2006:

Well, I have now had my shop in full operation for 18 months and it's time for both some updates and some reflection.

Some Changes to the Shed and some New Tools:

Garden Shed (June 2005):

The propane tank for the space heater was moved in the late spring of 2005 from the temporary location where I had them put it in December 2004. Now that it is moved, I am going to extend the deck out to the edge of the shop. To the left below is a picture of how things looked before the move:



The hole right in front of the door will be filled in with decking, the deck will be extended as shown in the drawing, and then I will build a tool shed. The tool shed will have the same siding and roofing as the workshop. One big reason for the tool shed is to further cut down the noise that emanates from the air conditioner next door.

After the tank was moved, I installed a pier and started on the deck restoration.



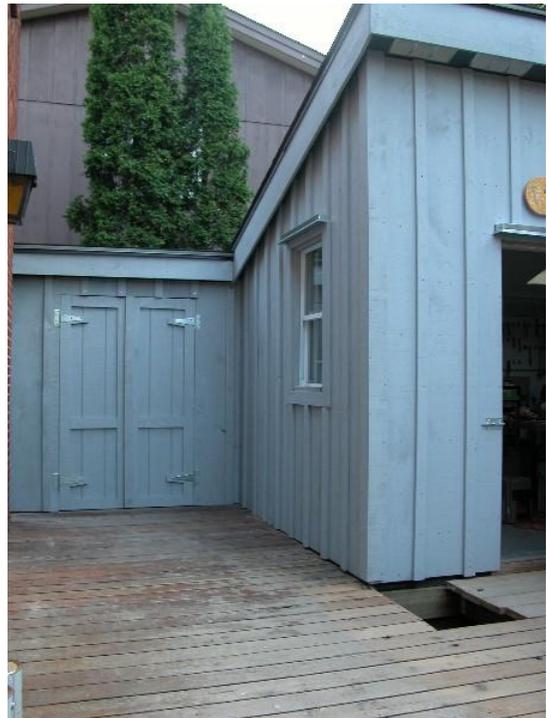
Don't worry, the pier will be cut off - it was just easier to level a full height post. As can be seen in the rightmost photo above, the deck is sanding quite well. And my Festool sanders are making the job relatively easy and fast. There are some places where I will need to patch with wood plugs, dowels, and epoxy, but all and all the 25+ year old deck has stood up very well.

One week and about 36 hours of work later, the garden shed looked like this:



It does blend in well as a natural extension of the workshop. Also, I think that we are going to enjoy the enclosed and shaded alcove on the deck.

And, a week later, the job is very near to completion. To the right is a picture with the extended deck and the shed. The (*new*) deck boards are only loosely in place and still need to be restored.



Next, here are views from our front garden and from the workshop roof:



The wall line and the fascia of the workshop appear to continue almost uninterrupted and the roof of the tool shed is slightly below the level of the workshop for good runoff.

Finally, we have an overall interior view along with close ups of the left and right sides:



All the material used on the interior was left over from the construction of the workshop. You might recognize the yellow OSB boards screwed to the front of the studs. They were used to simulate the fluorescent light fixture placement in the shop. The bin on the leftmost door is a prototype and parts for seven more have been sawn and are awaiting assembly. All that remains to do on the tool shed, is the installation of a door lock, the securing of the hinges with bolts that can't be removed from outside and the completion of the bins on the doors (*one of which has been installed so far*).

Drawers from Pellow Hardware (October 2005):

One job that I undertook this week was to incorporate a set of drawers that were used in the old Pellow Hardware store in Hearst into a cabinet in my shop. The corner just inside the door where I had screwed a bunch of parts bins to the wall had to be refurbished because the screws holding the bins in place were pulling out of the thin plywood. So, I removed all the bins and screwed some thicker plywood to the wall



The 15 drawers at the top of the cabinet are those from Pellow Hardware. The ones at the bottom are metal drawers from Lee Valley Tools that are designed to easily slide into easily-made saw-kerfs. In these pictures, except for one (*blue, midway up to the left*) bin, I had not yet re-screwed the bins to the wall.

Wall around Dust Control Unit (November 2005):

The last wall that encloses the dust control unit has been completed and the insulated door to the closet has been built. All that remains is to build and install a door. The enclosure reduces the noise appreciably.

I was concerned about providing sufficient ventilation in the room and ended up installing four different home-made vents with different designs.



This week, I finished the door for the closet around the dust control unit in the shop. It really helps to reduce noise, more so than I had expected. Here is a picture:



Since the door to the closet will seldom be opened, this seems like a good place to keep the scroll saw. I originally kept the scroll saw in front of the space heater but that resulted in too much crowding.

Protecting the Space Heater Top Against Myself (January 2006):

On the last day of January about 8:30, when I opened the door to my shop, I was greeted by a yucky smell and hazy atmosphere. The cause was this:



I had left a plastic dustpan on the space heater last night and overnight part of it melted. I am really lucky that this is all that was damaged. I shut off the heater, and then it took about an hour to adequately scrape the hardened plastic on and out of the heater. I don't trust myself not to do something like this again –the flat surface is so tempting; so I rigged up this mesh at a 45 degree angle over the space heater vent:



I also bought a metal dustpan.

Bookcase (*January and November 2006*):

In January I built a bookcase for the shop. It has allowed me to transform my woodworking book/magazine clutter to book/magazine order. See the first picture to the right.

Well that did not stay neat very long, so in November I extended the shelves to the ceiling, as shown in the second picture to the right. We will see just how long I can keep things under control with the higher selves.



Chip Control on Pocket Hole Jig Unit (February 2006):

A little while ago, Ethan was “helping” me drill some pocket hole holes and he observed that we were making a lot of chips. Once we had finished, he spent considerable time attempting to gather the chips and dust up. This encouraged me to make a little “house” that pressure fits onto the pocket hole jig and into which I can fit a shop-vac hose. It really works well. Ethan agrees!



A JessEm Table Saw Miter Gauge (February 2006):

I saw this at the Toronto Woodworking show and could not resist buying it. I did however, resist, buying a very nice sliding table produced by the same manufacturer. It would have been twice the price –maybe later on I will wish that I had not resisted. JessEm is located in Barrie Ontario ⁴ and they make all their tools there. They have only been around for about 10 years, but their tools are well known for both innovation and quality. The item I purchased is called a Mite-R-Excel:



⁴ I am sorry to have to report that, in 2007, JessEm packed up and moved to North Carolina.

Projects: (some big, some very small)

The best way for me to judge my shop is how it has accommodated the projects that I have been working on there. So, I will describe a few projects:

TV Cabinet: (November 2005 and January 2006):

early October 2005: I am going to help Terry and Peggy West build a sliding glass door cabinet to place under their TV and we spent time discussing just what to build (*from a magazine plan that I will modify*) and when to build it. The plan that I am going to adapt is in issue 163 (*June/July 2005*) of Wood magazine.

mid November 2005: We got a good start upon Terry's cabinet this week. On Tuesday I went to Century Mill Lumber about 25 kilometres north of our house and purchased the oak boards and plywood that we will need. Wednesday and Thursday, I jointed and planed the majority of the boards.

Terry arrived Friday morning. He and Peggy stayed with their daughter Virginia rather than at our place. Terry spent most of the day, Friday, Saturday, and Sunday here, and Peggy was here Saturday afternoon (late) and evening. Following is a picture "essay" on "crafting" of the cabinet:

(1) Terry with a "raw" oak board to the left of the picture and three processed, glued and sanded, oak boards to the right of the picture.



(2) The first step in preparing an oak board is to smooth one edge and one side on the jointer. The corner between the two sections is 90 degrees.



(3) Now the other side is planed to the correct thickness. The planer insures that the two sides are parallel.



(4) The chips from the jointer and planer fill up the bin on the dust controller very quickly.



(5) Some of the wider boards are cut into narrower pieces with the scroll saw before they are planed. This process is called "re-sawing". For instance we needed some pieces 1¼ inches thick and others ¼ inch thick, so after jointing a piece that started out as 2 inches thick I cut off a piece slightly more than ¼ inch as shown in the picture to the right. This is the first time that I used my new bandsaw with wood this hardness and size and things did not go well. As a minimum I need a much better blade than the "factory" blade. I probably need a more easily adjustable fence as well. Most of all, I need to practice!

(-) As mentioned above, I did most of the jointing and planing before Terry's arrival. But I did save one "raw" board and, when Terry arrived on Friday morning, I had him go through all the steps of "dressing" a rough board to size.

(6) Terry's next job was to cut all the pieces of plywood to size.



(7) Narrow strips of oak are glued to all the exposed plywood edges.



(8) Here I am with the results of our efforts at the end of work on Friday. The three glued together oak boards will form the top of the cabinet. The plywood will for the cabinet case and will not be seen nearly as much as the boards. However, it is very good and very expensive plywood.



(9) Many holes had to be drilled into the plywood before assembly of the case.



(10) And, of course, there was lots and lots of sanding to do.



(11) Grooves (called rabbets) were routed at the edges of the plywood case sides.



(12) And a lot more oak strips were glued to the front edge of plywood pieces.



(13) Terry got to cut some pieces to length using the table saw (*very carefully because of the unguarded blade*).



(14) Late in the afternoon, we had a visit from Rowan (*Terry's grandson*) and Virginia (*Terry's daughter*).



(15) Rowan is only a year and 5 months old, but already he can hammer (and say the word).



(16) Gluing and clamping the case together is difficult. We called upon Peggy for help.



(17) It's now Sunday morning and I am rounding over the corners of the top with my router.



(18) While Terry is back to sanding.



(19) And a little later I routed chamfers into the stiles using temporary stop jigs clamped to a bench.



(20) Terry left mid-afternoon Sunday and, before he left, we glued the case's middle divider and, as well, the stiles and rails to the case.



(21) After Terry left and the glue had dried for a while, I glued the door stops to the stiles. The 1/8 inch Veritas spacer block came in handy for setting the door stop back the appropriate distance.



(22) The corners of the base had to be cut at a 45 degree angle, an easy task for my table saw.



(23) The hole and the hold down clamp on the bench came in handy for sawing and drilling the corner braces to be used on the base.



(24) And finally, for the first phase of this project, here is a partly assembled cabinet. The base and top have not yet really been joined to the case, the glass doors have not even been started, and we have not even selected the finish to use, but one can get a pretty good idea of how it will look.



mid January 2006: Terry spent most of the days Thursday through Sunday working in the shop with me. I will resume the picture essay.

(25) The shop has been tidied up a bit and the cabinet parts are laid out awaiting Terry's arrival:



(26) Lacking a narrow blade for my bandsaw, I made the cutout at the front of the base with a jig saw. It did an OK job and Terry easily cleaned up the cut with a sander. In the picture below Terry is sanding a curve with a rounded attachment on the Festool Linear sander.



(27) The frames for the two sliding doors were made with notches for half-lap joints at the four corners. Lacking a router table, I decided to cut the notches on my table saw.

The way I did this is not really very safe and could easily have resulted in kickback. I really should have used the bandsaw but did not think of it at the time.

(28) The notches had to be cleaned up a little bit with a chisel, and then Terry was able to glue and clamp the door frames.



(29) While all this was going on we were treated to *(sequential)* visits by Isla and Ethan. I set them to work augmenting the art on the shop walls.

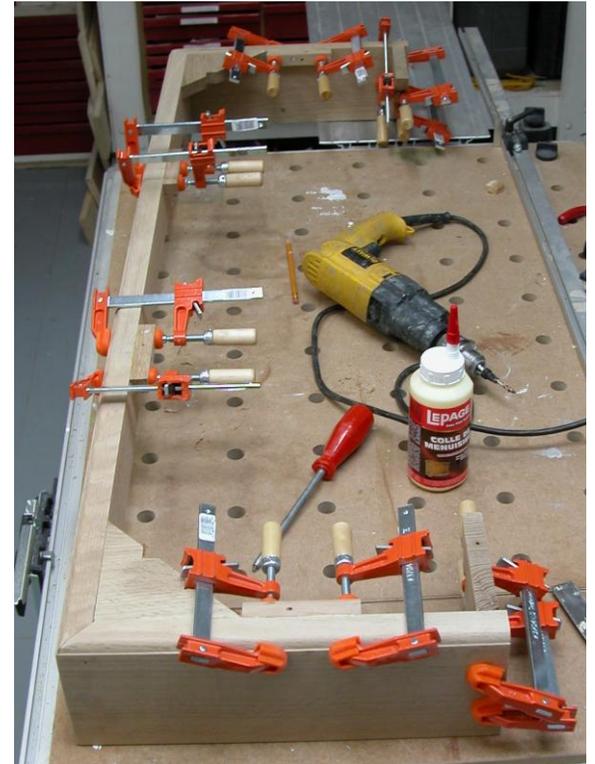
(30) Terry decided it was high time to start studying articles about finishing methods with oak.



(31) The plans called for biscuit joints at the front corners of the base, but I don't have a biscuit joiner, so we resorted to the use of large Miller dowels after the corners had been glued up.



(32) All the small clamps that I got for Christmas came in handy when gluing and screwing the cleats and braces to the base.



(33) With a drill press, I drilled part holes into the doors for handles, wheels and sliders. In the photo below left, I am installing a wheel and in the photo to the right below, Terry is trying out the sliding doors.



(34) Next we checked that the glass fit and that the mullion pieces fit approximately.



The mullion pieces should be slightly too long and they are.

(35) Half-laps were cut into the mullion pieces.



(36) Then, the mullions were checked for exact fit:



(37) Finally it is time to attach the base to the cabinet.



The offset chuck on my Festool Drill proved to be useful.

(38) Meanwhile, Terry was experimenting with dyes.



(39) Next, I screwed the cabinet to the top –using expansion slots with washers on the screws.



(40) Terry finally bit the bullet and started to apply the dye of his choice to the cabinet.



The bad news is that the colour looks somewhat different than the sample -the good news is that we like it even better than we liked the sample.

(41) Here we are with the cabinet just before it leaves the shop.



(42) Here are the cabinet and unattached parts ready for the trip to Ottawa:



Terry will finish up the job in Ottawa with dye on the small parts, then shellac and lacquer on everything. It is supposed to be ready for a party that Terry and Peggy throwing in early February. I plan to be there and will take a picture or two of the finished cabinet in its home.

early February 2006: On Friday we went to Ottawa and stayed overnight with Terry and Peggy. They had a party with about 50 guests. The party celebrated the recent house renovation, a new painting acquisition (*with the artist in attendance*) and the new cabinet. Terry did a great job on the cabinet finishing and it looks great. We both received several compliments.

When last seen in mid January the cabinet had one coat of dye on most parts and was leaving my place in the back of Terry's van. After Terry took it home, he applied another coat of water based dye, two coats of Lee Valley clear shellac, two coats of Old Masters (natural) gel stain, and three coats of Deft Clear Wood Finish (semi-gloss). I was amazed at just how good it looked. The cabinet is certainly the best furniture that I have ever been involved in making.

I will display three final pictures of the cabinet:

(43) A view from the front:



(44) A view showing the cabinet's top

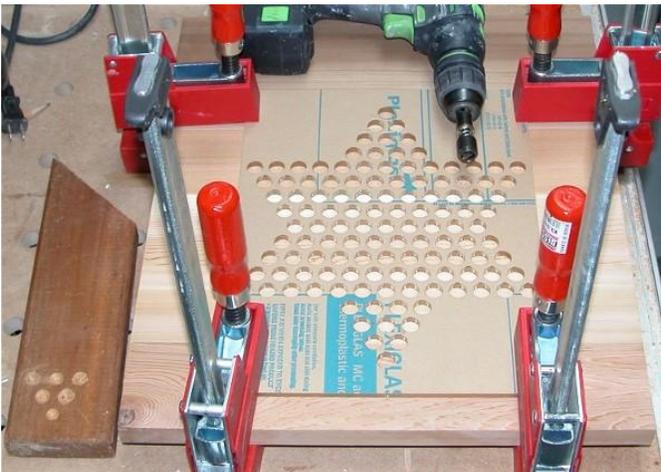


(45) A view showing the cabinet in position in a room that is little more than a wide hall.



Chinese Checker Game: (December 2006):

Three days before Christmas we received notification that the main gift that we had ordered for *Isla* (our granddaughter) was not going to arrive. Recently, I had bought a template and special drill bit for making Chinese checker games and Margaret suggested that I make a game for Isla. I decided to give it a try. What to use for wood? I wanted to use what was "on hand" and considered and rejected a few things such as poplar. Finally, I remembered the scrap cedar salvaged from Margaret Li's deck that I built in Bellevue Washington a few years ago. There were just enough larger pieces left to make a board. Here are some pictures showing the construction process (with comments below each):



The wood to the bottom left is a piece of scrap similar to that used for the board. Five test holes have been drilled into it. I planed down then glued together six boards. The template is clamped onto the boards and the special drill bit is in the drill.



Routing grooves into the board



Cedar sides were attached to the with a dowel glued into each board. Then the game board was sanded. The special drill bit to the right was used to sand the marble indents.



The finish really brings out the different cedar colours.



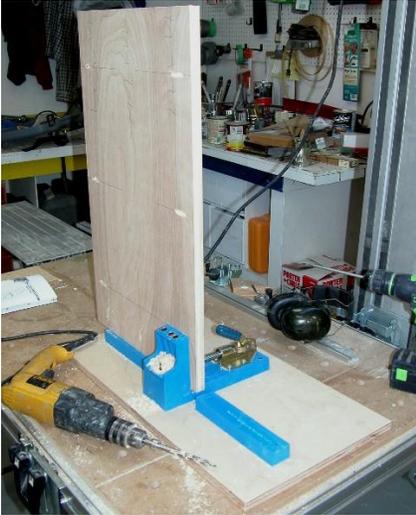
Here is the finished board (on Christmas Eve morning)

On Christmas day, Isla was quite appreciative of the Chinese Checker board (*but, perhaps, more taken with the marbles in the purple bag*):

Bedside Table: (January 2006):

Week 1: I spent most of the week reading about and fooling around in the shop experimenting with pocket hole joinery. I quite like it and, in particular I like the fact that after you have glued, clamped, and screwed a joint, the clamps can be removed right away and you can move on to the next joint. I decided to build a bedside table for our guest/sewing room from some plans in the book that I got for Christmas. The book, entitled "The Pocket Hole Drilling Jig Project Book" was written by the late Danny Proulx of the Ottawa area and it is quite excellent. I will, no doubt, make other items in the book and will purchase some more of his books.

Below are a few pictures of the early stages of construction:



Week 2: The bedside table is now ready for finishing:



Although this is just a bedside table, it has the components of a cabinet of almost any size, so I learned a lot in building it.

Week 3: I finished the bedside table project. Here are some photos:



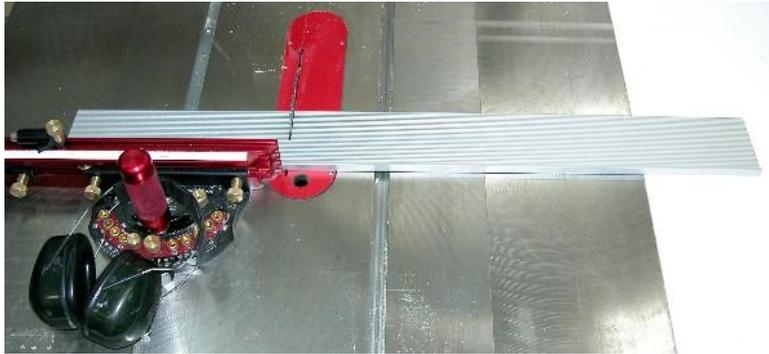
Drawers Using Veritas Mini Sides/Slides: (March 2006):

Week 1: I made good progress on the drawer units that I am making for Kathleen for her birthday present from us. The two cases have now been finished and the drawers are well on their way. The drawers are being made using the Veritas Mini Sides/Slides from Lee Valley. One buys these as 3 foot long sections of aluminum formed as shown to the right. The drawer bottoms slide into grove on the felt bottom of the picture and the protrusion on the right bottom slides along a groove that are cut into the case using a "regular" table saw blade.



Here is a picture essay covering drawer construction using these things:

01) The aluminum is cut to the desired length for ones drawer sides. In my case, this was 30 centimetres (*which allowed me to get three sides out of one piece with very little waste*).



02) Twenty four drawer fronts and backs (*350 mm by 95 mm*) were cut out of 12 mm baltic birch. The stop on my new JessEm miter guage came in very handy for this and, as shown in the photo below, it also made removing small triangles from each of the bottom corners a breeze.



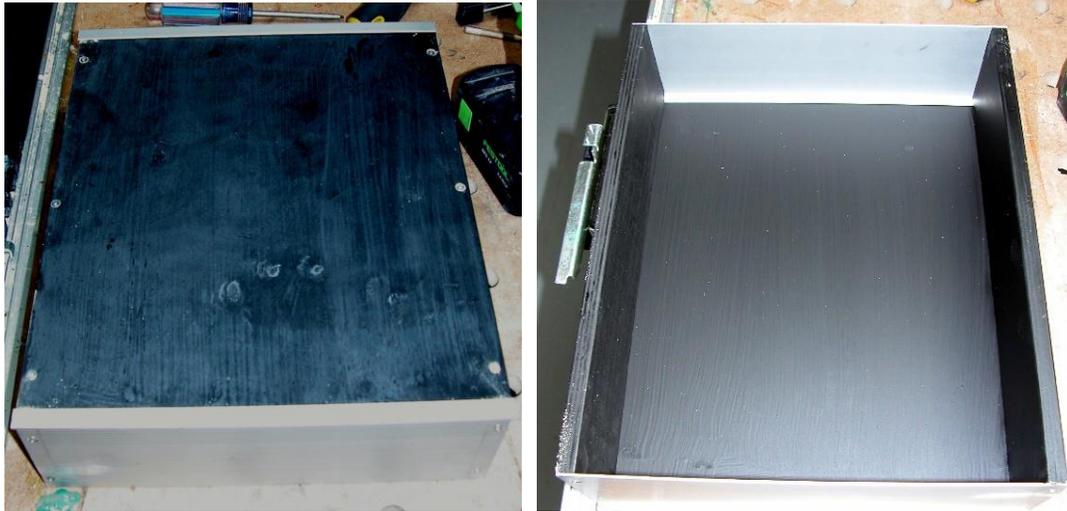
03) Four holes were drilled into each of the 24 drawer sides using a #4 (Imperial) non-ferrous metal countersink bit from Lee Valley (66J40.04).



04) As shown in the picture to the right, the fronts and backs were attached to the sides using #4 5/8 inch flat head screws with a #0 Robertson (*non-power*) screw driver. Before they were attached, the backs and fronts had been painted with two coats of flat black Tremclad paint.



05) Next, as shown to the left below, the drawer bottoms (*made of scrap 6 mm G1S fir plywood and pre-painted with the same paint as the fronts and backs*), were screwed into the fronts and backs with #5 5/8 flat head screws (#1 Robertson).



The picture to the right above, shows an assembled drawer

06) I tested the drawers in several of the slots in the two cabinets and they fit perfectly.



07) False fronts will later be screwed onto the drawers. In the picture to the right, the front edges of the false fronts (*made from 12 mm baltic birch scraps and cut to 110 mm by 365 mm*) are routed with a 45 degree chamfer bit.



08) I am painting the false fronts six of the seven colours of the rainbow. The photo below shows some of the handles drying. I screwed a long bolt into each handle fastened a clamp to each bolt. This made it easy to paint the handles without having to touch the wood with anything but a paint brush.



09) The photo below shows the orange false drawer front being attached to its drawer using the method that I learned from Danny Proulx.



Notice that the red and yellow drawers already have chrome label holders attached. I bought these from Lee Valley (*catalogue # 01W35.11*).

Week 2: This week I modified the drawers in order to install stops. I had not considered this when I built the drawers but **Margaret** hit upon their absence right away when she checked the unit. **Steve Clardy** on one of the Internet forums also mentioned it. The normal techniques for stop blocks should be designed in, not added as an afterthought, so I wracked my brain for a while. The main difficulty was to come up with something that would work for both top and bottom drawers. Finally, in the middle of the night, I thought of something.

11) For each of the 12 drawers, two holes were drilled into the case back centered on the drawer. Thin flexible wire was then looped through the holes and tied on the inside.



12) Each wire was threaded through a hole in the middle of the back of a drawer then looped around a screw so that the drawer back halts about 5 centimetres from the front.



13) Here are all the drawers ready for use.



Basement Stairs: (March 2006):

As part of the major renovation of the basement at my daughter Kathleen's place, I had to fabricate replacement stairs and most of that work was done in my shop. The wood used to make the stairs was construction grade 2 x 10 spruce. I did get to "cherry pick" some good boards.

01) The first task was to reconfigure my Festool multi-function table (MFT), so that the fence was at a 45 degree angle to the guide rail.



Notice that one end of the fence had to be held in position with a hold-down clamp. My Nobex square with stops at 45 and 135 degrees in addition to the "regular" 90 degrees came in very handy here (*and also in many of the following steps*).

02) A 45 degree cut was made at one end of the stringer.



03) Grooves for the steps were cut with a router. The grooves were too wide for my router bits, so two passes were needed for each groove. For each groove, first the bottom (rightmost on the MFT) position was marked then, with this as a reference, lines were marked to the left to be used in order to position the guide rail for the two cuts.



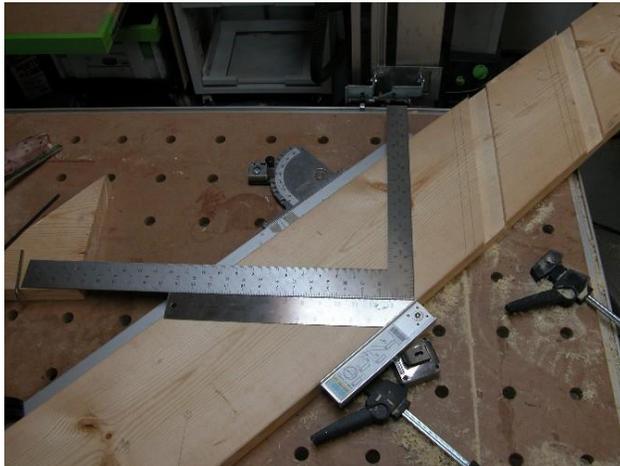
04) The guide rail was positioned on the line drawn for the rightmost cut.



05) And the cut is made with the router.



06) The bottom of the next groove is measured. In order that any errors in one groove did not propagate themselves to the next groove all these measurements used the bottom of the stringer as a base-point.



07) With one stringer completed, the MFT had to be reconfigured in order to work on the other stringer (*which was a mirror image of the first*).



08) Having cut all the steps (*again from 2 x spruce*) and the *risers (from construction grade 1 x 8 pine)*, I then did a dry assembly in the shop. Everything fit well!



09) Nothing is level in Kathleen's basement, but with much trial and error, I was able to install the steps and they are level.

Miscellaneous:

Percentage Breakdown of Cost by Component:

Marty Walsh (who is building a much much bigger shop than me but is using some of the techniques and materials that I used in my shop) suggested that it would serve as a good guideline for others if I calculated the percentage that each shop component contributed to the overall cost of the shop. I guess Marty wanted to give me something to do, because calculating all this took longer than I thought it would. Here are the results of those calculations:

Component	Cost ⁵	Percentage of Total
Permits, Inspections, Deliveries:	556	2
Piers, beams, joists, and insulated sub-floor:	4,417	16
Exterior Walls (insulated):	4,113	15
Roof (insulated):	2,696	10
Interior Floors, Walls, and Ceiling:	1,923	7
Doors, Windows and Skylights:	3,219	12
Electrical:	3,216	12
Dust Collection System:	3,217	12
Heating:	2,728	10
Interior Shelves, drawers, pegboard, etc:	611	2
Unused or Wasted:	260	1
	26,956	99

A few Facts about the Shop:

Location: A separate building very close to the house

Interior Space: 431 square feet

Height: Cathedral ceiling 10 feet at peak, 8 feet at one side, 6.5 feet at other side

Floor Material: Two layers of plywood painted grey

Interior Wall Material: 6 mm Virola plywood painted white

Ceiling Material: 6 mm Virola plywood painted white

Insulation: Roxul Flexibatt (*rock wool*) R21.5 in floor, walls, and ceiling

Exterior Walls: Rough sawn pine board and batten stained grey.

Roofing: Asphalt shingles -blue

Electricity: 100 amp service

Lighting: Three skylights, eleven four foot double T-8 C-50 fluorescent lights, and three incandescent lights.

Water: none

Heating: Propane space heater and woodstove

Air Conditioning: none

⁵ In Canadian dollars

Follow-Up in November 2008:

It's two years further on and time for another update. I continue to enjoy the shop and to make tweaks to it. But there have been a large number of other projects that have taken me away from Shed #2 so I have not utilized it as much as I did in the year and a half after it was built.

Some Changes and some New Tools:

Looking back upon the last two years, I see that there have been many improvements to the place. I do have a few new tools, but not as many as I anticipated. It appears that I did a good job with my initial tool acquisitions back when I was building and populating the shop.

Two Additional Sheds (mid September to early November 2007):

Week 1: This week I started to build a wood shed north of Shed #2. As well as serving as a woodshed, the building will hide the inevitable junk that we collect.

First here is a before view of the area where the shed is to be built. It will be right beside the enclosed garden that used to be occupied by strawberries –and which will, next year, be occupied by strawberries again⁶.



Then shed will be long (*about 3 metres*) and skinny about (*50 centimetres*) and quite high for the other dimensions (*about 230 centimetres at the front*). It will be enclosed on three sides but the front will be open. It will be designed to hold a single pile of wood in the bottom portion with a shelf near the top for storing boxes of kindling.

The structure will be supported by four posts each, in turn, held in place by a metal post supports. This following picture shows a post support being driven into the ground:

The new shed will have the same pine board and batten siding that was used on the other two sheds. The wood is inexpensive, fast to install, wears well, and looks good. I pre-stained the boards. I learned from the mistake I made when constructing the shop shed, and this time put shellac on the knots before staining the boards.



The floor of the shed is going to be some interlocking brick from the sidewalk that I removed from the front of the house.

⁶ The strawberry garden was not planted in 2008. Now I am trying for the spring of 2009.

I cut notches into the posts to hold vertical boards. The really long and really strong blade on my jig saw made this task quite easy:



In spite of taking lots of care to measure and determine to proper location of the post supports, one of them was a couple of centimetres out of position. It was possible to overcome this by notching the post and driving in a wedge in on the opposite side:

The three lower cross pieces on the back wall are simply there to provide something into which the boards and the battens can be screwed. I cut a 2x4 into three pieces to provide these. The upper cross piece is a 2x4 because it needs to support a shelf:



I'm pleased to say that all the sides are square and all the posts are dead-level:



Now that all the posts, cross pieces, and roof are in place, I could start to install the pine siding.



Week 2: It did not take long to finish the woodshed this week. The rest of the wall boards and the battens took a couple of hours, the roof took about three hours, and the floor took about three hours.

Here is a view of the expanse of sheds in our back garden, this time with the woodshed completed:



And here I am starting to pile firewood in the shed:

The box on the shelf is a simple one made with butt joints from leftover 1 inch by 12 inch pine boards. I plan to make several such boxes and to use them to store small cutoffs and kindling both on the top shelf in the woodshed and near the stove in the shop.

Since this shed was so simple to build, so inexpensive, and so useful, I plan to make another one. It will be hidden in behind the one that I just built and will be about the same length but twice as wide and slightly higher. I might put a front door on part of the still-to-be-built shed. It will be used for firewood storage, for wood storage, and for partly completed project storage.



Week 3: I did get a start on the second shed. In the picture below, the earth where the new shed is to go has been turned over and leveled:



I got a little fuzzy (*blame it on fact that I was ill in bed for 4 days and have not fully recovered yet*) when measuring and cutting some of the notches and cut a few on the wrong side of the line. Here is how I corrected the error:



To the right is a picture of how much got done on the shed by the end of the week. This woodshed is going to be A LOT LARGER than the first one.



Week 4 (roughly a month later): I got back to the shed job this week. Below to the left, the siding and roof boards have mostly been installed and I am starting to work on the floor:



I am using up old bricks removed from other places on the property and I do not have enough of any one kind to do the floor. Thus, the middle joint as shown in the photo to the right above.

In the background, that's my water cooled tile cutting saw doing duty (*with difficulty*) as a brick cutting saw.

Here is the (almost) finished shed as it was a late Sunday afternoon:



I have already started to store stuff in it.

And here are all four sheds as viewed from an upstairs window in our house:



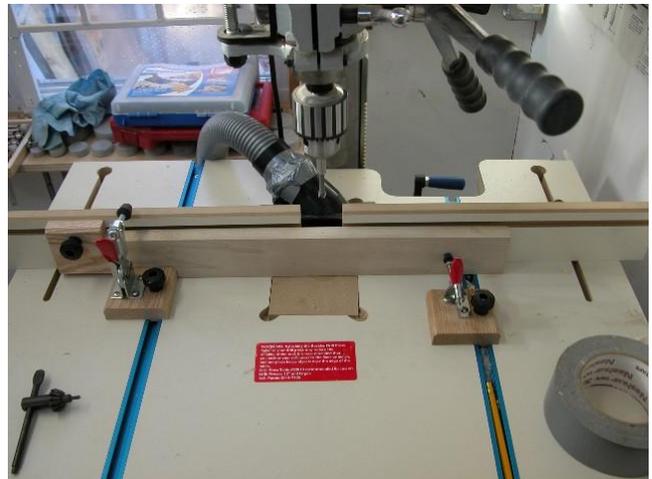
Drill Press Table (January 2007):

Before Christmas, I purchased an after-market drill-press table and fence from Rockler (*I had to use up my 2006 tool budget somehow*). This week, I installed the unit. The table is quite substantial (28.5" x 21" x 1.25") and appears to be well made. I checked it with my Lee Valley straight edge and it is dead-flat. It is good to be able to easily hold much larger pieces of wood. And often, such as in the picture to the right, I can now eliminate clamping altogether.



Attaching the table to the drill press and assembling the fence were both quite easy to do and they appear to be quite secure. I like the fence and am sure that I will use it a lot. I also purchased a vacuum attachment, an a set of blocks and hold-downs. They came with no instructions and I needed to look at the picture in the catalogue in order to figure out how to assemble them. The stops and hold downs are moderately useful but I except that I will, more often than, not have to resort to separate clamps.

I needed to put duct tape on the dust port in order to connect it to my Festool vacuum. Once I did that the chip collection was so-so. But, I am glad that I have it because, once the work is removed, it is easy the sweep the chips towards the opening where they get sucked up.



Router Table and Triton Router (January 2007 and December 2007):

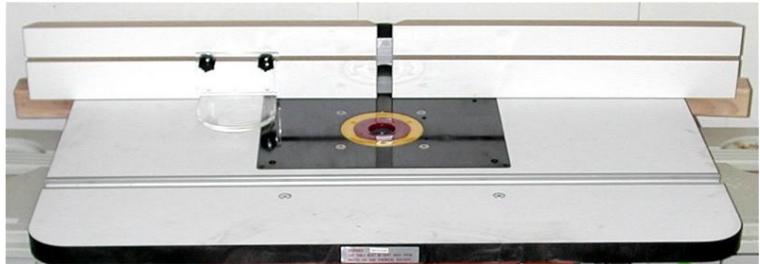
(January 2007): For the last two years, I have been dithering about whether or not to get a router table, a shaper, or neither. Then there are the follow on questions:

- 1) Which brand of router or shaper?
- 2) If a router, make or buy a table.
- 3) If buying a table, which one.

This week, I finally made these decisions.

Recently, I have been hearing really good things about the Triton 2.25 hp router. **Bill Esposito** (*who is my favourite on-line reviewer*) has a very thorough review of the router by at: <http://nhwoodworker.com/triton2/index.html>. He really likes it. And, in a recent review of table mounted routers in Fine Woodworking, it won hands down. And, what really tipped the balance, was my visits to **Rick Thom** this week. There, I used his 2.25 hp Triton router. The main thing that I had been concerned about was whether or not the router would have enough power. So, I tried routing a piece of oak using a 1.5 inch straight bit at a depth of over ½ inch on Rick's router table. The router did this with absolutely no slow down. That's sufficient power for any job that I will be throwing at it.

The first thing that I did after leaving Rick's was to visit the nearby Busy Bee Tools and purchase the router for \$200. Rick has his router mounted on an inexpensive (\$125) router table top (model B1680N) from Busy Bee for which he has made a cabinet. That table top worked well for me today, so I decided to buy one of those as well. The only problem is that the table top is out of stock, so I have a deposit on a top that they tell me should arrive by the end of January. I think I will build some sort of rolling table that will accommodate the router table top, a spindle sander, and some sharpening equipment. Here is a photo of the router as well as one of the table top:



Someone in something I read said that the router reminded him of a Sumo Wrestler and I can certainly see what that person means.

(December 2007): Here is a picture of the router table mounted on top of a small cabinet that I made:



The fence is held in place by a two wooden clamping blocks, one at each end of the fence. These proved to be inadequate and the fence shifted when pushed. Rick dealt with this by also using a couple of quick clamps to hold the fence in position. I glued sandpaper strip underneath the table along both sides and this helped quite a bit –but when I really needed to be sure, I also need to use auxiliary clamps.

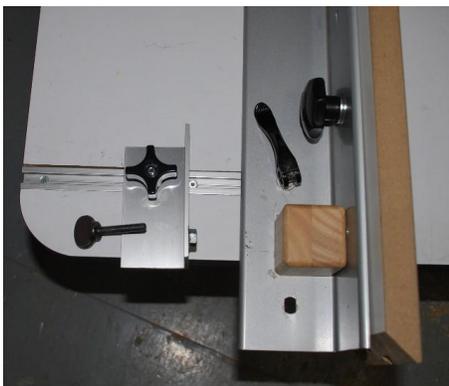
This week, we got together at Rick's place to make some improvements. The first thing that we did was to install two 10 inch strips of t-track near the edges on the back of our tables. In the photos below, Rick is attaching a template then routing one of the grooves in his table top:



We installed the t-track in the grooves using glue and screws, drilled holds through on the horizontal surface at the back of the fence and installed a cam locking mechanism for each track. Here I am tightening a cam lock:



We found that, with applying only very little pressure to the handles of the two cam locks, the fence held very solidly. Next, we acted upon a suggestion by Mack Cameron, we next built a micro-adjust gizmo to fit into one the tracks. The micro-adjust is a short piece of aluminum bent at a right angle and fitted (1) with a knob to hold it in place on the t-track and (2) with a thumb screw threaded through the aluminum. The thumb screw is used to push against the wooden block screwed into the back of one end of the fence. This is best shown by a couple of pictures:



In the first picture, the thumbscrew has not yet been threaded through the micro-adjust and the micro-adjust has not been tightened onto the track. In the next picture, the micro adjust is fastened in place on the t-track behind the end of the fence that we want to adjust and the thumb screw pushing against the wooden block in order to adjust the position of the fence. Here is a picture of my table top with the modifications complete:

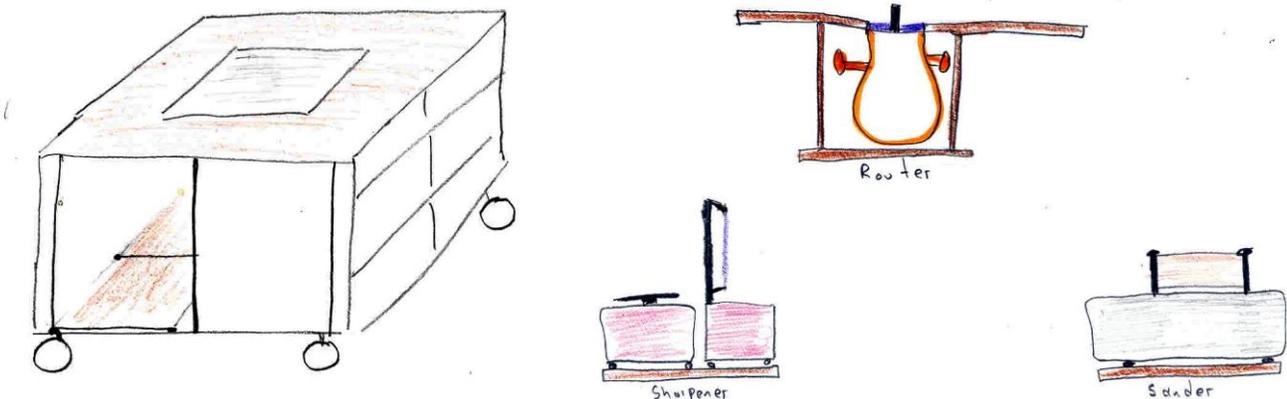


Mobile Shop Cart (January and February 2007):

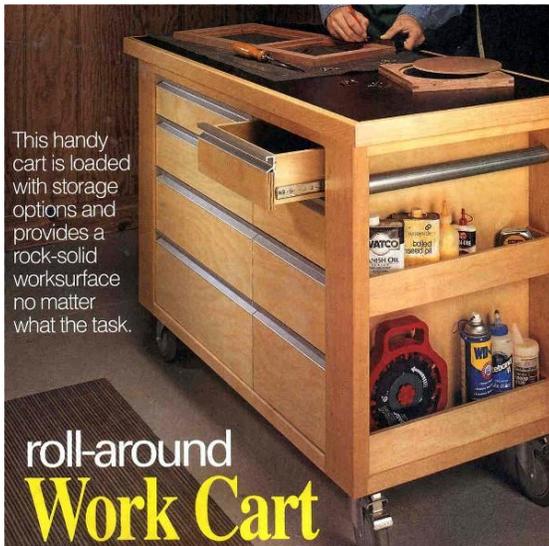
Week 1: I purchased a new tool this week -a Ridgid combined spindle and belt sander. Here are a couple of pictures taken from the web:



I decided on the plans for a mobile cart for the router and other tools this week and got a good start on the construction. Here are some conceptual drawings that I did early in the week:



The cart will fit under the Festool Multi-Function Table which means that it can not be very high. The middle of the top surface will be an indentation into which the bases of various tools will fit. The sander will be stored in the cart itself. The sharpening tools and the router table insert will be stored elsewhere. I later found this cart in a ShopNotes magazine that I will base the cart upon:



Unfortunately, my cart will have to be about 8 inches shorter and about 10 inches less from end to end.

Week 2: During the first three days of the week, I built the carcass of the cart for the shop and I am able to test it out. Below is picture of the cart carcass under my Festool Multi-Function Table (MFT):



I am going to have to put the MFT up on blocks in order to accommodate the cart. But, that's not a bad thing because I would like the MFT to be a little higher anyway.

The cart carcass is made of 18 millimetre thick Baltic birch plywood. There are double thicknesses on both the top and bottom. The following parts will be added:

- Hardwood trim on all edges
- Two layers of $\frac{3}{4}$ inch MDF on the top and some $\frac{1}{4}$ inch tempered hardboard on top of that.
- A square indentation will be cut into the top layer of MDF and hardboard and this "slot" will accommodate the base of all the tools to be used on the cart

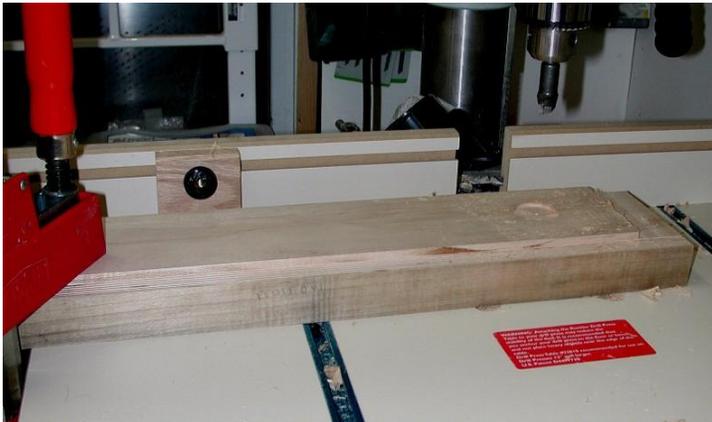
- Shelves on both ends as well as on a portion of the back
- Drawers in the smaller of the two openings

Week 3: Early then, again, late in the week, I worked on the cart in the shop. Here is an account of progress showing some of the steps in the construction:

01) All the plywood edges of the cart were trimmed with hardwood. I used a couple of large rough-sawn boards (*probably Beach*) that a neighbour gave to me last winter for helping him clear and clean up his basement and garage. In the photo to the right, I am preparing to put one of the boards through my planer.



02) The corner posts are substantial. In the following photo I am drilling a hole into one of the posts to support a handle:



And here two posts and their enclosed handle are being installed:



03) The cart will be heavy (*about 200 pounds without tools or contents*) so I installed 4 rotateable and lockable casters each able to hold 125 pounds.

Three of the four screws holding each caster are screwed into the hardwood framework.

04) There is a double layer of $\frac{3}{4}$ inch MDF on the top with a rectangle cut out of the middle of the top one of these.

05) I have a profiler attachment for my Festool linear sander that makes it very easy to sand the dowels (*which were recycled from a previous life*):





06) I attached a layer of ¼ inch hardboard on top of the MDF. The idea is that this can be replaced in the future when it gets beat up. The plans suggested that I do this using double sided tape. I did try this, but it did not work very well; I subsequently screwed down the hardboard from the top surface with slightly countersunk screws.

07) Here is the cart with the insert that will be used when the cart is being stored and when it is being used as an assemble table, etc.



08) Here is the cart with the spindle sander insert:



09) Here is the cart with the partly completed router table insert:



The wood on top of the router cabinet is just there to give me a feel of the location of the table top and the fence.

Week 4: I finished the mobile cart this week. First of all, here is a picture of the finished cart stored under the Festool Multi-Function Table:



Now, I will continue the description of the construction steps picking up with the numbering where I left off at the end of last week's update.

10) Locking slides were installed for five small drawers. The small chuck adapter on my drill came in very handy here:



11) Lee Valley had some roller strips on sale this week for \$3.50. I bought some to try them out in support of the sander insert:



They make the sander really easy to slide in and out. I went back and bought 17 more roller strips.

12) The cart was finished with two coats of Spar Urethane. The top had an extra coat of urethane followed by three coats of Johnson Past Wax.



13) Here is another photo of the cart under the table:



14) Here the cart is being used with the work table insert:

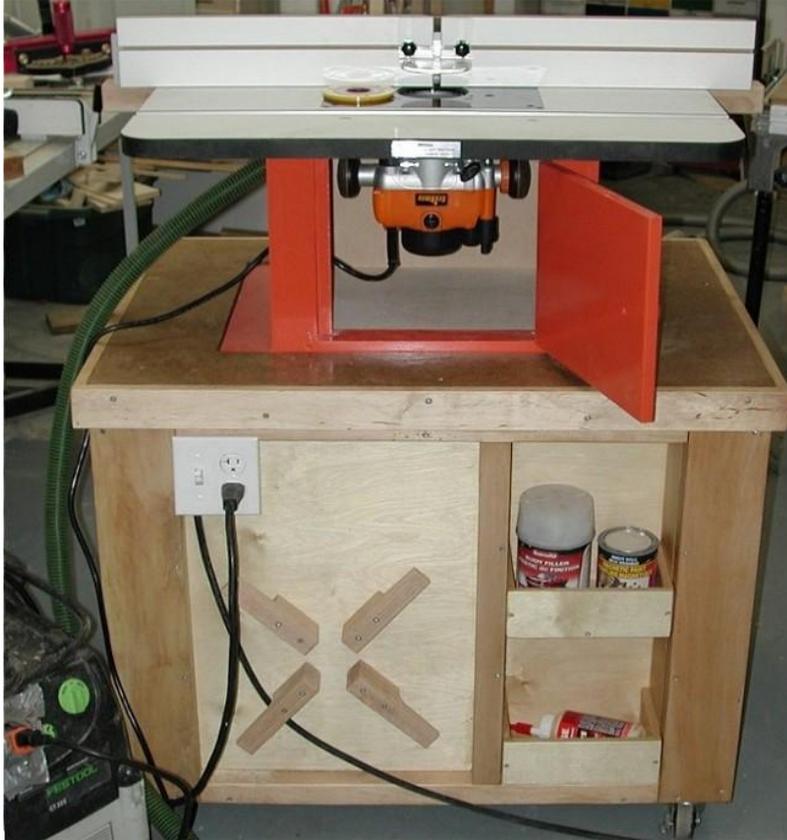


Notice that shelves have been installed at the end of the cart. There are also shelves at the other end and on a portion of the other side.

15) Here is the cart being used to support the spindle sander:



16) And here is the cart being used to support the router table:



Notice the electrical installation. I couldn't find a 20 amp power bar so I had to wire up my own. The cord holder was constructed as per the plan for the cart in Shop Notes.

17) Here is one of the drawers that has been customized to hold router bits.:

18) I still need to build a spot to hold the router table top when it is not in use. In the next week or so, I will build a cabinet in the spot shown below:



that will extend the bench and will be used to store the router top, some Festool systainers, and some other tools.

19) This picture showing the router cabinet in more detail.



One good thing about the Triton router is that the hose from my Festool vacuum fits the router's below the table dust port. The result of this happy combination is almost no dust within the cabinet.

Shelf/Cabinet/Bench (February 2007):

As I said above "I still need to build a spot to hold the router table top when it is not in use. In the next week or so, I will build a cabinet in the spot shown below:



This week, I built that shelf/cabinet/bench unit. Here are a couple of pictures of the finished, definitely purpose built, and somewhat convoluted unit:





Not only is this to be used to store the router table top, but it is to be used to store a couple of bench machines that did not have a home, to store three Festool systainers, a column of Veritas drawers, and some other odds and sods that previously did not seem to fit is well anywhere.

Here is a series of pictures depicting the construction:

01) I started by building three units. They were made mostly from 18 mm thick Baltic Birch.



02) My shop assistant of the day, Isla, applied Varethane to the units:



Isla is also my resident shop "artist" and she can't resist drawing something on everything that she works on.

03) Next, I added some parts, making the section seem even more convoluted:



It is beginning to look a bit like an abstract sculpture.

04) Next, a simple plinth was installed:



05) Rollers were installed on both side units and the units were tested for fit on the plinth:



06) Two drawers to hold Festool systainers were installed, the middle shelves were fitted, and the router table top was tested on the rollers:



07) The sections were screwed to the plinth and a drawer was installed in the middle section:



08) The bottom part of the bench top was screwed on:



09) The top part of the bench top (consisting of ¼ inch hard board over ¾ inch MDF) was glued-up:



This was subsequently screwed (*but not glued*) to the plywood top, three coats of Varathane were applied, followed by three coats of paste wax.

Workbench (March 2007 to March 2008):

Week 1 (March 2007): On Tuesday morning, **Rick Thom** visited my shop for a couple of hours and he gave me some good advise about building my woodworking bench (*which I going to model upon the bench that Rick built a couple of years ago*). Here are two photos of Rick's bench:



Rick's bench is certainly sturdy enough, yet it can easily be moved. As soon as I saw it about a year ago, I resolved to make a bench modeled upon Rick's. Like Rick, I want to build a practical and useful bench but spend as little money as necessary on it.

Early in 2006, I helped my neighbour Norm clean up his basement and garage and Norm gave me quite a lot of hard maple scrap that he had been saving for years. There are lots of pre-drilled holes in the wood, but I managed to cut around them and come up with these boards to be used for my bench top:



I generally work in my shop from late October to early April and outside at various projects from mid April to mid October. Making a woodworking bench was supposed to be one of the projects that I got to early in the current shop session. Well, better late than never –I got started on it last week and it will be the last major project of the session. In fact, I have already started some outside projects, so the bench project will probably drag out for some time as a “rainy day” task. I did get a good start this week. Here is what has been done so far on the bench. As usual with my project descriptions, I will number the steps and include a lot of pictures.

01) The first step was to joint two sides of the salvaged maple boards. The shop undergoes somewhat of a transformation in order to use my jointer. The good news is that it is really easy to move my equipment to accomplish such transformations.

02) The boards have now been jointed on two sides and are awaiting the planer:



03) The boards have now been prepared on all four sides and the thickness is marked on each board:



04) The boards have now all been cut to length and dry assembled:



The size of the top (*without a skirt*) is roughly 150 centimetres by 50 centimetres by 5 centimetres.

05) The boards for one half of the top are laid out and ready to glue:



After some research, I decided that my best bet was Titebond III glue. Once the glue has been applied, one has 10 minutes to work with it, so I needed to move fast. The combination glue bottle and roller that is shown in the picture helped quite a bit with the speed and the quality of the glue application.

06) Here the boards are all clamped together (*just a little over 8 minutes from when I applied the first glue*) :



07) After leaving the two glued up segments for about 18 hours, I ran them both through a planer:



08) Here the two bench top segments are first awaiting glue up, then after glue up:



09) I cut the two ends straight using my Festool circular saw on a clamped rail:



The blade was not quite large enough to cut all the way through, but the small remnant was easily removed (*as were the burn marks*) with a sander.

10) And the last photo of this report (*to the right*) shows me sanding the top. I used 80 grit paper and that certainly will be good enough for now. Later on after the dog holes have been drilled, and before a finish is applied I will do a better job of smoothing the top.



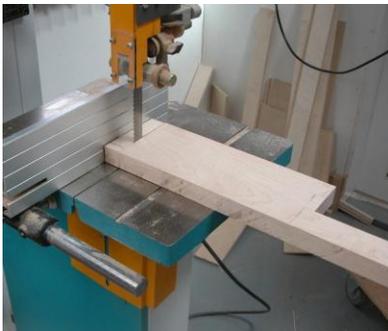
Week 2 (April 2007): Continuing on:

11) Tenons were routed at both ends of the bench-top slab.



12) The two side aprons are made from 6/4 maple that I had to purchase. After jointing and planing, they ended up about 3.5 centimetres thick and 13 centimetres deep (*that's about 1 3/8 inches by 5 1/4 inches for folks who prefer to use Imperial*). The aprons were then cut so that the end portions are the same depth as the end caps but the middle parts are the same depth as the bench slab (to facilitate clamping).

Tenons were cut at both ends using my bandsaw:



The interior corners were rounded with a jig saw:

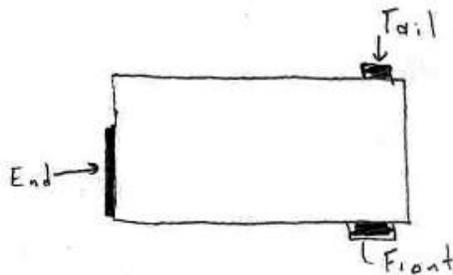


The hole in my old bench was created just for tasks like this.

The curves were smoothed with a spindle sander:



13) I have now decided what to do about vises for the bench. There will ultimately be three of them and they will be positioned roughly as shown in the primitive diagram below:

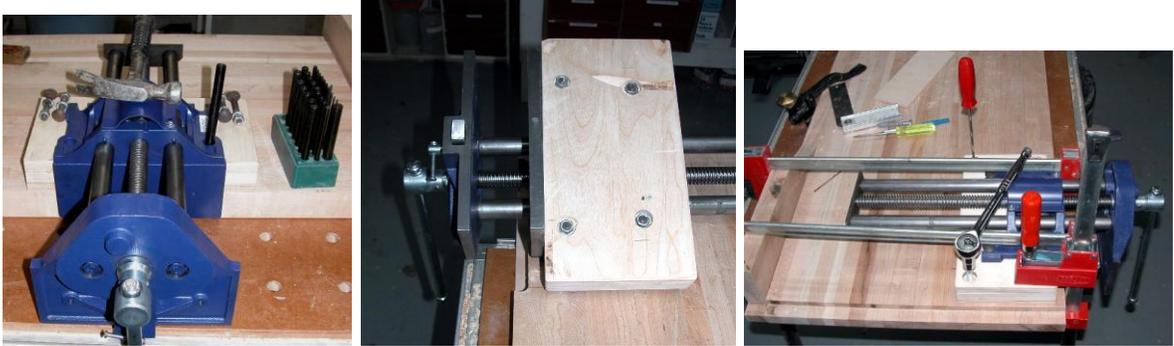


I purchased both the End Vise and Front Vise (*a Record clone*) from Lee Valley (*catalogue numbers 70G08.10 and 10G04.12 respectively*). They are both made by a company called York in the Czech Republic and appear to of good quality.

The tail vise I will leave as a future project. It should be easy to add.

14) The next step was to install the front vise. There are several different ways that it can be installed. I opted to install the vise behind the apron. A spacer has to be used to bring the level of the jaws close to the level of the bench. My spacer is made of 3 pieces of 18 mm Baltic Birch glued together. I decided to bolt the vise to the spacer then attach

the spacer to the underside of the bench with four lag bolts:

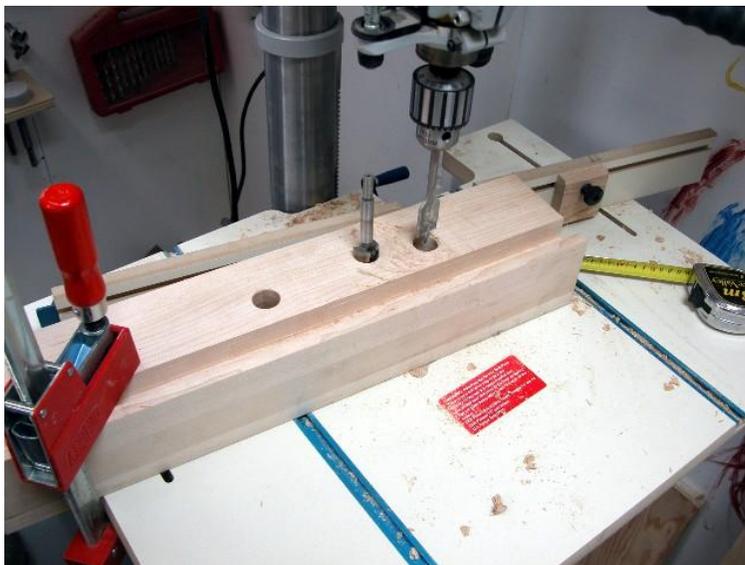


It was necessary to cut a mortise into the bottom part of the table top to accommodate the back jaw of the vise:



The distance from the top of the back jaw to the top of the bench is about 1 centimetre. I put a piece of Baltic Birch on the front jaw that will be level with the bench top.

15) The two end caps are made from laminated maple from various sources. They are fairly substantial being 9 centimetres thick and 13 centimetres deep (*that's about 3 1/2 inches by 5 1/4 inches*). Before installing the cap on the end that is going to have the vise, I used a drill press to make holes at the appropriate spots:



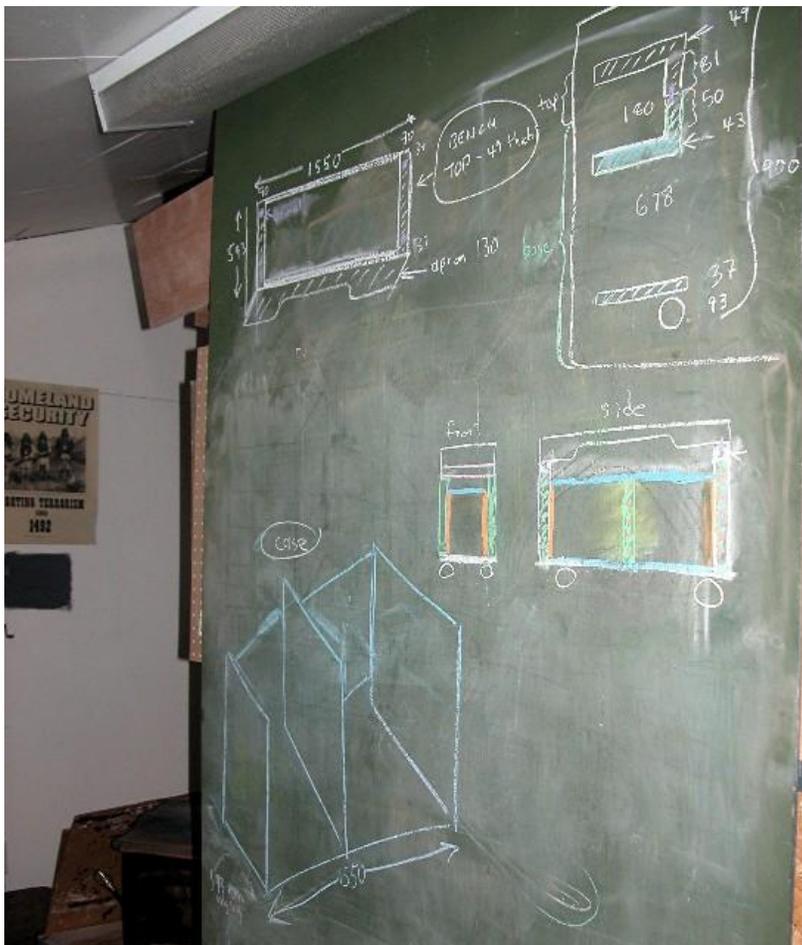
Notice also that a long mortise has been routed into the cap.

I used two bed bolts from Lee Valley (*catalogue number 05G17.01*) at each cap and apron joint:



They pull in the cap nice and tight but allow for wood movement. With the caps and the aprons, the overall dimensions of the bench top are about 59 centimetres by 165 centimetres (*or approximately 23.5 inches by 65 inches*)

16) I have started to plan for the base, but have done no work on it yet. As usual, my initial plans are scribblings on the chalkboard:



I expect that these diagrams do not make the design completely obvious to everyone so I will attempt to put things into words. Here are few details:

- The bench will be supported by a cabinet on wheels. The design for the cabinet will be much like my recently completed general purpose cart (see the thread: x)
- The cart will be just about the length and width of the bench.
- There will be a raised hardwood section at each end of the cart that will fit under the bench caps. The bench top will be lifted onto the cart and will be held in place by gravity as well as some loose fitting dowels.
- There will be a 13 centimetre (*about 3 1/2 inches*) open space between the bottom of the bench and the top of the cabinet in order to accommodate clamps, hold downs, etc.

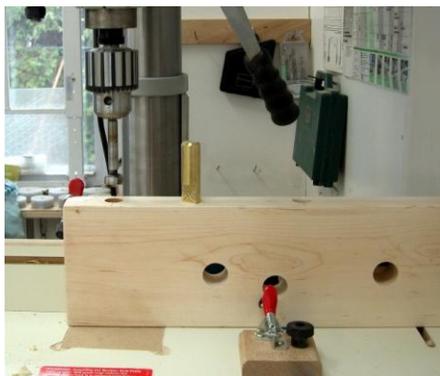
Week 3 (April 2007): It rained heavily Thursday afternoon and Friday morning, disrupting my outside work but giving me an opportunity to work on my workbench again. The first task was to install the cap on the other end of the bench. That done, it was time to turn my attention to the end vise. I will pick up there and carry on with the numbering from the last report.

17) A plate was made out of laminated maple and drilled to accommodate the spindle and the two guide rods. Next, the vise instructions suggest that the face of the plate should be at a 2 degree angle so that the top jaws of the vise close first upon an object. I made two false attempts to create angle, first with my jointer and second with my bandsaw. In the end, I used my table saw and it worked well. Of course the blade was not large enough to handle the 13 centimetres wide (*about 5 inches*) cut. I made a cut as deep as possible, then moved the table saw fence to the other side of the blade, inverted the wood and completed the cut:



This operation resulted in some burning, but the burns were later easily removed with a sander.

18) Stop holes at the correct depth for Veritas Wonder Pups were then drilled into the top of the plate:



19) Next, the vise was temporarily bolted to the bench top and the bench top was flipped over (*well it's getting heavy so it wasn't exactly "flipped"*). I installed the aprons slightly proud of the bench top so, after flipping, the next step was to plane them close level. I am not a woodworking purist, so I used my cheap Ryobi electric planer to do this:



20) Holes were drilled into the bench top to allow the top of the carriage bolts holding the end vise to be recessed, then the bolts were reversed and properly installed (*with lock washers and nuts below*):



The holes in the top will later be filled with Bondo (*auto body filler*). I told you that I am not a purist.

Week 4 (June 2007): It's been over a month since I last worked on the bench, but earlier this week some heavy rain forced me back into the shop for a couple of hours.

21) I am now drilling the dog holes. This is being done using recently purchased jig that keeps the drill at a 90 degree angle (*kind of a poor man's drill press*). The jig is OK but somewhat flimsy for my heavy drill. It needs to be clamped into position and clamping can be a bit tedious. Complicating things further is that, at the same time, I am clamping a sacrifice board to the underside of the bench in order to reduce tear-out when the auger bit emerges on the underside. Here are a couple of photos:



With all the setup, the task is going to take me a long time. So far, I have worked at the job for almost two hours and only drilled 4 holes. About 20 holes remain to be drilled and I expect things to speed up a bit –but not a great deal.

Week 5 (January 2008): I got back to the construction of my woodworking bench this week (for the first time since last June). I'm going to continue the numbering from the earlier steps.

22) The first task at hand is to finish drilling all the dog holes in the bench top. I made a simple jig that speeded up the process:



Compare this to the clamping both on top and underneath the bench that I was doing before -as per the photos I showed above. This time I am screwing a temporary sacrificial piece of wood underneath the spots where the drill will emerge. Things are going much faster and about half the holes are now drilled.

Week 6 (January 2008): I worked a little bit on the woodworking bench and almost all the dog holes are now drilled. There was a problem because the jig from Lee Valley that I was using

broke due to metal fatigue. I will probably take it back. I devised my own simple jig which seems to work OK.

23) Holes are being drilled with the home-made jig:



Week 7 (February 2008): I built the core of the base cabinet for my woodworking bench this week. This base cabinet will be very much like the mobile cart that I built last winter.

24) I experimented with using my router table to cut a long (*almost 5 feet long*) rabbet along the edge of a couple sections of plywood. I would normally cut this using a router on a guide rail, but I wanted to try this technique.



It worked well:



25) These two sheets also needed several dados which were routed in the normal way:



26) I had a bad day resulting a series of transcription and calculation errors. The first two errors resulted in the base cabinet being 10 centimeters too wide and 4 centimetres too short. I dealt with the too wide by cutting off a complete cross section, Most of this was accomplished with a guided circular saw:



but, for some parts, I needed to use a good old hand saw (*as shown to the left below*):



The cross section is that was removed is shown to the right above. The third mistake that I made was to remove a 12 centimetre wide portion rather than 10 centimetres leaving the cabinet two centimetres too narrow.

27) Five substantial legs were made by laminating pieces of maple. Here is a photo of them dry fitted onto the cabinet:



After the picture was taken, I compensated for the loss of two centimeters in width by laminating more maple onto the three legs on the right hand side. I compensated for the fact that the cabinet was 4 centimetres too short by increasing the distance that the four corner legs projected beyond the cabinet.

The four corner legs will hold the bench. Notice that the legs are higher than the cabinet. This is so there will be space between the top of the cabinet and the bottom of the bench in order to accommodate things such as hold downs inserted through dog holes on the bench.

28) Now we get to mistake number 5. The legs were supposed to project 95 mm above the cabinet top but I forgot that I would be adding a layer of $\frac{3}{4}$ " MDH as well as one of $\frac{1}{4}$ " hardboard on top of the double layer of plywood. Once this has been done the legs will only project 70 mm. I will correct this by adding shims that fit between the legs and the bench top. In fact, I think that I will make this a feature whereby it will be possible to have the bench at different heights by adding zero, one, or more shims.

Week 8 (February 2008): I got quite a bit done on the bench this week and figure that it should be completed by this time next week. Continuing on with the construction "story":

29) I drilled a series of eight dog holes into the three legs on one side of the bench. In the photo below the edges of the holes are being slightly rounded using a 1/8 inch roundover bit. The same thing will be done with the dog holes in the bench top.



30) The maple portions of the bench are being finished with Tung Oil. I like Hendrik Varju's bench and had planned to finish mine like he had done –that is using 7 layers of Tung Oil mixed with a slight amount of Japan Drier. That was going to take a LOT of time

and, after some reading and some discussion with others, I decided to opt instead for one coat of Tung Oil Sealer followed by three coats Polymerized Tung Oil. That does not take quite as long and the temperature need not be as high for the curing. Hendrik warned me as follows when I told him what I had decided to do:

I'm not against polymerized Tung oil, but it isn't just regular Tung oil with driers added. It has been heat treated, effectively turning the finish into more of a varnish-like finish. It's much harder than Tung oil and while that might seem better, it can crack and peel when you pound heavily on the bench. Keep the finish very thin or it is even more likely. I prefer multiple coats of regular Tung oil which doesn't build up a hard film. It can be recoated at any time and it never cracks or peels off.

All sides of the maple need to be finished. The oil is rubbed on left 10 minutes then rubbed off. Then one waits for 24 hours, smooths the surface with very fine steel wool, then does the next coat. The photo to the right shows the underside of the bench after the Sealer coat plus one coat of Medium Luster Tung oil:



31) After 3 coats were applied to the back, the bench was flipped over (*well, weighing what it does, not exactly flipped*), the edges and the dog holes were rounded over with a router, then the top and sides were sanded extensively using a Festool Rotex sander with 80, 120, 180, and 220 grit paper:



32) Next the bench top was sealed, then finished with 3 Tung oil coats. In the picture to the left below sealer is being applied to the interior of a dog hole using a bottle brush.



And in the picture to the right above sealer is being applied to the entire top.

33) Returning to the base cabinet. First of all, all plywood parts were finished with two coats of Spar Urethane.

All five legs were bolted to the carcass using a couple of 5 inch lag bolts per leg:



34) Then casters were screwed to both the legs and carcass at each of the four corners:



Week 9 (February 2008): I almost finished my workbench this week.

35) First of all, I completed the three coats of polymerized Tung oil on the top. I am very very happy with the result –**it's the smoothest finish that I have ever applied to anything.**

36) Next, a layer of ¾" MDF was glued and screwed to the top. On top of that I screwed ¼ hardboard put on a coat of Spar Urethane then two coats of Johnson's Paste Wax. I don't expect to use the cabinet without the bench-top attached very often, but I am now prepared to do so.

37) The next thing I needed to do was to devise a method for attaching the cabinet-base to the bench-top. I thought that the hardware used to attach bed rails to head and foot boards would do the job, so I bought a set of four attachments intending to place a set at each of the four corners. Here is a picture showing the two components at one of the corners:



In the picture above, the bench top is standing on its side and the hardware is attached to the underside. The two projections on the underside of the bench slide into the slots in the companion hardware attached to the leg. This would have worked well if the bench were not so heavy or if I could always count on help when I wanted to remove the top – but I want to be able to insert and remove the top all by myself. What to do?

I like the way that the hardware shown above establishes a precise position for the top- on the leg, so I decided to keep the hardware for one corner. It's possible for me to position one corner by myself. Once that corner is properly positioned, it is easy to move the top to an appropriate position on the other four corners. After much thought, I came up with the idea of using barrel bolts on the other three legs and drilling holes to receive the bolts on the underside of the bench. The bolts can be slid into place after the bench top has been placed in its desired position. The picture to the right shows a barrel bolt on one leg and a receiving hole drilled on the underside of the bench (*which is, again, standing on its side*).

I am using a large barrel bolt (*the one shown*) on one leg and smaller barrel bolts on the other two legs.



38) On the side of the bench where the vise is mounted, I am installing 8 home-made drawers. On the non-vise end I installed a bank of Veritas so called "toolbox trays" and to the right of that there will be a couple of cubby holes.



The home-made drawers in the picture are not yet finished or mounted.

39) On the other side of the bench, I placed the three legs that have dog holes.



40) Some time in the future I might build a leg vise on this side. But, for now, I am planning to experiment with Veritas surface clamps, one of which I have already. It is shown in one of the do holes in the left leg. To the right is a picture from the Lee Valley web site showing the clamps in use. Perhaps, with a few of these clamps I will decide that a leg vise is superfluous.

I did hit a snag. The end vise is not working properly. Like the technology started by Record, it is supposed to be "quick release" which means that turning it a couple of turns anti-clockwise frees up the vise so that it can be pulled or pushed to any position. Turning a quick release vise a couple of turns clockwise then engages it and allows one to tighten the vise again. Right now I can only get the vise to engage again



sporadically. On Saturday morning I took the vise into Lee Valley and left it to see if some expert there can determine what the problem is.

Week 10 (March 2008): I finally finished my woodworking bench this week. First of all, someone at Lee Valley found that the problem with my vise was that the manufacturer had left a glob of paint in the works. Now that the glob has been removed the vise works well.

41) I installed three shelves with $\frac{3}{4}$ inch holes to hold bench dogs, hold downs, clamps, etc on one side of the bench. The offset chuck on my Festool drill came in handy again. It's not something I use a lot, but when I need to drill or screw close to a wall, I really appreciate the chuck.



I decided, for now at least, not to make shims to raise the height of the bench. Someone at the Festool Owners Group forum told me that: "To determine the correct height of your own personal bench, stand erect with your arms down straight by your side, as if you are "at attention". Without moving your hands, stick your thumbs out straight and they should sit on top of your workbench." I took your test as shown in the photo to the right and the current height is bang on.



Here is a picture of the underside on the bench-top resting on its side on the base-cabinet. All the barrel bolts are installed and all the holes are drilled



It takes about a minute for me to install the top and about the same amount of time to remove it. The top is heavy but not so heavy that I can't do these operations by myself.

The shelves for the bench-dogs, hold-downs, etc. work well. Here is photo of that side of the bench:



And here are a couple of photos of the other side of the bench:



Notice that there is a bank of Veritas "toolbox" drawers on the end. I have these things all over the shop and they are very handy. There is a hole (*14 cm wide, 49 cm high, and 34 cm deep*) beside the drawers that I have not yet decided how I am going to use.

And, to complete the 'tour around the bench', here a photo of the vise end:



The wooden drawers are mostly empty at this stage. In fact, the picture below shows the only contents of any of the drawers:



By the way, that's the only hand plane that I currently own and it was my Dad's. Over time, I plan to put drawer liners and dividers into them and, of course, to acquire more quality hand tools.

Being mobile, there was a minor concern that the bench would not be solid enough. So, I tested it with a few different tasks –such as the planing shown below:



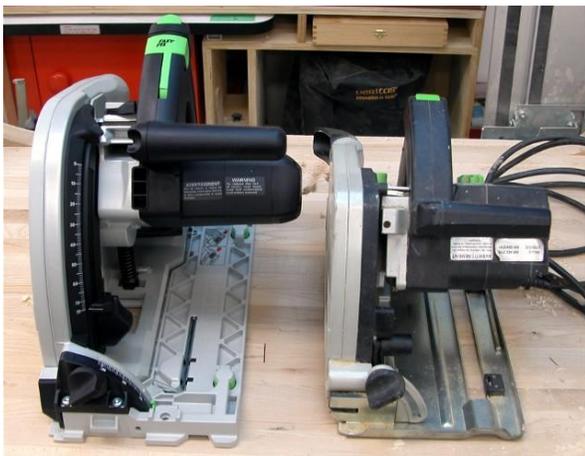
No problem -It's solid and stable!

The final dimensions of the bench, without vises, are 88 cm high by 60 cm wide by 165 cm long (that's approximately 34.5 inches by 23.5 inches by 64 inches).

Over time, I expect to make a few additions and modifications to the bench. For example, right away, I see that I need a few higher up dog holes on the vertical plane. But, the important thing is that, at last, I have a real woodworking bench tailored to my specific needs. I am a "happy camper"

Upgrade of Festool Plunge Saw (April 2007)

I have been thinking of this for some time, and I finally did it. I ordered the larger version of the saw (with a 75 mm plunge), it came yesterday, and I opened it this morning. Attached are a couple of pictures of the new saw beside my older one.



About two weeks after the new saw arrived, I sold the old AFT 55 (without a rail) for \$225 on the Canadian Woodworking forum.

New Table (February 2008): Having just installed new countertops in our kitchen, one of the dilemmas we faced was what to do with the old breakfast table –shown in the photo below:



This is a heavy (87 pounds) and well built Formica table top. I certainly could not bring myself to throw it out. Margaret and I discussed several potential uses for it both here, at camp, and at our children’s houses. One Wednesday, I figured out a way to use it in my shop. The shop is very very crowded but, if I could find a place to fold it up and down, the table would come in quite handy.

Because of the weight, I needed strong legs but the legs should not take up much space. A pair of these legs from Lee Valley (*catalogue # 05K48.01*) seemed to meet both requirements. The leg on the right is upside down showing the bottom pad with a threaded 3/8 " hole in the middle. I made wide bases out of oak scraps and attached them to the bottoms of both legs. I attached each leg to the wall studs with a single lag bolt. The table is attached to the wall with two strap hinges.

Here is picture of the table in the folded up position (*held up by two rotating wooden doohickeys made out of scrap*):



And here it is folded down:



I like the position right in front of the window and I am sure that the table will be used A LOT.

I discovered today that the table is great for children's projects. Ethan spent most of Sunday morning with me in the shop. He made a boat, a dock for the boat, and a wooden valentine "card" and he did all of the planning, assembly and painting at the table. Here he is painting the boat:



Another Shelf (March 2008):

Now that the workbench is finished, I have a lot of incentive to tidy up the shop so the bench's surroundings are worthy of the bench. The biggest problem by far is clutter and the worst of the clutter is all the probably useful pieces of Baltic birch that I have been accumulating. I devoted one of the bench drawers to the small pieces and built this special shelf over on of the windows to hold the up to 75 cm long pieces.

I am amazed that I am still able to find room for things like this in the shop and I am proud of the shelf support brackets that I made out of scrap wood. Brackets of the type and size that I made cost at least \$15 each.



Storage for Small Drill Press and for more Systainers (November 2008):

As I observed in early November: "There is a section of wall at the north end of the west wall that has not been fully utilized. It is mostly used to hold the carrying box for my Festool rails but the rails now mostly reside in the garage and the box is has seldom been used during the last three years "



I decided to put the box in the garage and to use the wall space for cabinets to hold the small band saw as well as some systainers. Here is the portion of the used to hold the band saw:



I had a few systainers that had to sit on the floor due to insufficient drawers. My inventory is 19 systainers and there were only 14 drawers. One fits on the vacuum leaving 4 to kick about somewhere. I figured that there was room for at least 8 more shelves to the right of the space that I used to store the small bandsaw. In that these shelves will not be rolling around, I decided on a minimalist design, actually little more than a tray where the sliders form the sides of the tray.



I decided to pre-drill holes in the carcasses in order to accommodate different configurations of systainers. Here are three different ways that the shelves can be organized:



sys1-sys1-sys2-sys2-sys1



sys1-sys1-sys2-sys4



sys2-sys2-sys2-sys3

Here is the current set up of the drawers:



I now have 4 shelves free for future purchases.

Projects:

Looking back over this two year period, the vast majority of the projects that I tackled were either improvements to the work shed/shop as described above, were outdoors (*such as the major landscaping changes in Toronto or the backhouse and docks at Pellow's Camp*), or were interior renovations. So, I will only describe two major projects and will mention a few other ones.

Christmas lawn ornaments (December 2007 and April-May 2008):

Week 1: I got a good start on the Christmas lawn ornament project this week. But, it is time consuming (*my guess is 25 hours so far*) and there is still a LOT to do. I will document the steps taken:

01) The full size patterns that I purchased appear to be quite good. The pattern is placed over graphite paper over the sign board. I started to trace the outline with a pencil but Margaret suggested that I should be us a pattern tracing wheel instead. She lent me one from her sewing room and, after a false start or two, I found that it words very well – certainly faster and better than tracing with a pencil.



That's the pattern tracing wheel with a green handle in the picture above.

02) The lines imparted to the underlying wood by the graphite were faint but sufficient to be able to cut along them with a jigsaw:



I used a very fine blade (20 teeth per inch) for cutting and it worked well –able to make very sharp turns and to cut quickly when sharp. But this is a big job and, by the time, I

was finished I had worn out four of the five Festool blades of this type that I own. This is a 5-pack that I purchased three years ago and I was still using the first one when I started the job. I hope that I can find similar Bosch blades somewhere because I am not likely to be placing a Festool supply order for quite a while.

03) Most of the edges of most of the parts are supposed to be rounded over with a 3/8 inch round-over bit. I experimented using my hand-held router both with a large part (*shown below*) and an with an intermediate-size part clamped to a table.



It worked fine for the large part but the clamp-route-rotate-clamp-route-... procedure was too tedious for the smaller part. I will try them in my router table. The really small ones will just have their edges sanded.

04) I am finding that the best set-up for cutting out the smaller parts is to clamp the board to my unfinished workbench using a Festool quick-release hold-down clamp.



I am surprised at just how well and steady this holds the sign-board, even with the large overhangs such as that in the photo above.

05) Part of the reason for the steadiness mentioned above is the solidness of the sign board. At first glance, it appears to just be paper glued to fir ply. But, it is heavier, there

are very very few voids, and there are never any chips along the cut line. I also did an experiment where I submersed a piece underwater overnight and then dried it for 8 hours. After that, I could not tell the soaked piece from a regular piece. Another feature of the sign board is that fewer coats of paint are required to seal the edges.

06) The really small parts were cut on my scroll-saw



07) Friday, I decided to make two of each figure and set an objective to have all the parts cut by Sunday night. I made it:



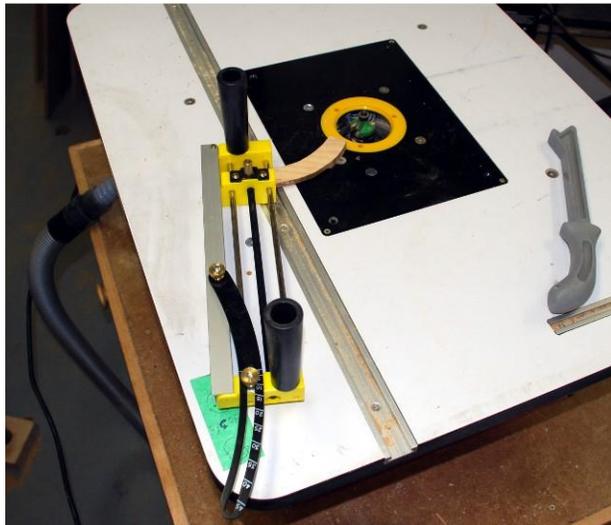


There are 132 parts. I managed to cut all this from 2.5 sheets of sign board. That's half a sheet less than it would have taken if I had always adhered to the cutting diagrams that came with the pattern.

Week 2: Carrying on from last week:

08) On Monday, I rounded over, sanded, and put the first coat of paint on all the parts for the two snowmen. I also purchased a set of solar powered spotlights at Canadian Tire –I think that they work Ok but will need to wait until there is an ornament to shine a light on before deciding for sure.

09) I used the router table for all parts except the main snowman part, the main snowwoman part, the main child part, and the main Father Christmas part. In order to handle the small parts safely, I visited Lee Valley and purchased this small parts jig. It's fiddly to use, but, it did the job on the half dozen parts that I tried it with.⁷



⁷ Later on, I decided that the jig was unsafe and I returned it to Lee Valley.

10) I used these two sanders to “finish” the back of each part:



The sander on the right was used to smooth over the edges and the one on the left (*which has a simple linear motion only*) was used to smooth the surfaces.

11) Some of the parts are just too small to round over with a router. What to do? I set my Festool Deltex sander (*which is reasonably aggressive*) upside down into a Record mechanics vise and gripped it lightly there:



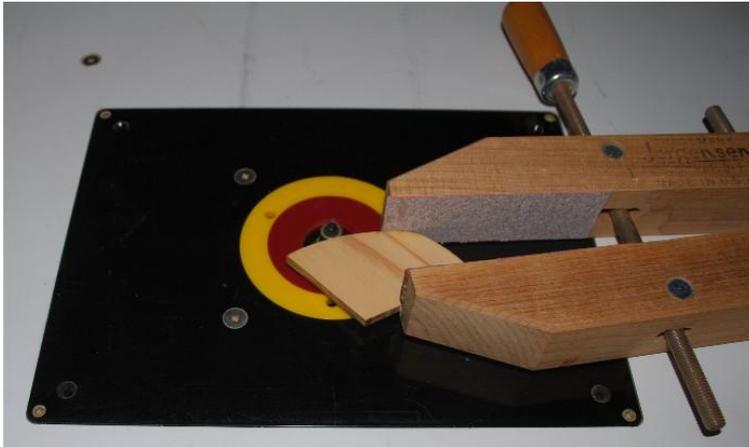
Sanding this way was slow but faster than completely doing the job by hand.

aside: looking at all the pictures of this project so far, I see that there is a Festool tool in half of them (*and I have even used a couple of Festool tools not shown in any pictures*). One might think that this is a Festool ad but it isn't –that's just the brand of most of my hand-held power tools.

12): On Tuesday, I put two more coats of paint on the snowmen parts and rounded over and sanded all the parts for all the figures. I also purchased some paint that I thought would be the right colour for Father Christmas and painted one of them to try it out, but it is too red. What I am looking for is a dark Burgundy, and it appears to be hard to locate paint of this shade –even with all the mixing and colour-matching equipment out there.

13) The small parts jig proved to be a disappointment. The two clamping surfaces are strictly parallel, and they are not good at hold really odd shaped pieces. I found one of two things. The ratcheting mechanism would slip when attempting to tighten the jaws around the part or the jaws would tighten on the part but they would be gripping such a small portion of the edges that the router would tear it loose in action.

aside: As a result of these problems, I started a thread on the Canadian Woodworking forum about the problems that I had with the small parts jig from Lee Valley and how it was neither effective nor safe. Rob Lee was an active participant in the discussion and Lee Valley may stop selling the thing. If they continue to sell it they will probably warn up-front that it is only intended for use with rectangular pieces. Several suggestions were made in the thread. The one that I liked best came from someone named Arthur. He suggested: "*How about a woodscrew clamp--no need for parallel surfaces to clamp on*". Both Ken in Regina and I suggested augmenting the clamping surface with sandpaper. I glued strips of 100 grit Norton sandpaper to the clamping surfaces of a 10 inch Jorgensen woodscrew with 3M Super 77 spray adhesive:

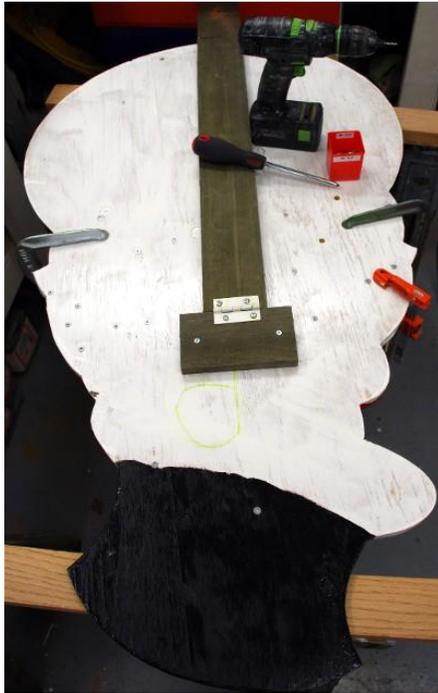


I tested this with about 20 pieces of various shapes and sizes and with 4 different router bits. The routing job was good and nothing slipped.

14) Holes were drilled through the main snowman part in preparation for screwing all the sub-parts to it:



15) The sub-parts were clamped in place a few at a time then the figures was flipped over and screwed together from behind. A brace on a simple hinge was also installed.



16) The snowman was placed in our front garden and a solar powered spotlight was placed to shine upon it:



All the parts have been painted with Tremclad gloss rust paint -three coats on the front and sides and one on the back. I think that this should be sufficient but, if not, it will be easy to takes things apart and repaint them.

17) In looking around for the best colour for Father Christmas, I spotted my Inca Miter Express. That colour would be perfect. Home Depot has attempted to match it with CIL external semi-gloss –they don't have a gloss base that can be tinted dark red. The match is not perfect but it is close enough:



This paint, unlike the Tremclad, will need to be covered with a couple of coats of gloss spar varnish.

Week 3: Carrying on from last week:

18) On Tuesday, I completed the snow-lady. So, our snow man has company.



By the way, the lonnggg necked Vise Grip clamps that I use with some pocket hole joinery came in really handy for clamping some of the parts of the snow lady:



19) By Wednesday, they had a child:



Mid week, I picked up Isla and Ethan from school one day and surprised them with a set of snowman figures in their front yard. They were a big hit both with the children and with Kathleen.

20) Also midweek, Father Christmas joined the party in our front garden:



21) On Friday, we took Father Christmas' twin along with a lot of other gifts to Carleton Place. He was well received, but I think that the snow family would have been more popular. I will probably make them a snow family in the future. Also, Isla and Kathleen would like a fourth child for their snow family and I will probably make them a variation of the child –I think that I can “tweak” the pattern fairly easily.

Week 4 (March 2008): This week, I started making birthday presents for Kathleen, and for Kristel. Kathleen is going to get another member to join the Snow family. Kristel will be getting

a complete Snow family. She liked her Father Christmas that I gave her but it was obvious that she would have preferred a Snow family.

22) I am making up a pattern by based on the existing Snow child but making this one a little larger, facing the other way, without a dropped mit, with a left-right reversal, and with a different colour scheme.



Isla will be happy, because she right away thought that each member of her family should have a representative member in the Snow family.

23) Here is a photo of the Snow people who are currently under construction:



They look like gingerbread cookies with frosting on the edges.

Week 6 (May 2008): Early in the week, I worked quite a lot on the Snow family of ornaments that I was planning to give to Kristel for her birthday.

24) Here is a photo of all the paint cans, that I was using at the same time:



25) But, I ran out of time so switched to plan B. Plan B was to spruce up our Snowflake figure, put a new improved support frame on the back and take it. Here I am with Kristel just after she has been presented with him:



Week 5 (May 2008): Today was Kathleen's birthday and we celebrated it at our place.

26) I placed the new member of the Snow family accompanied by the other family members on the back lawn.

Kathleen was surprised and happy but the best reaction, by far, was from Isla. Isla saw the figures from the kitchen window, ran outside, and



greeted the little girl figure with the words "Hello me".

Oak Display Cabinet (December 2007 and January 2008):

Week 1: Three days before Margaret's January 1st birthday, on January I started work on the carcass of the oak display cabinet that I plan to give to Margaret on Tuesday. The carcass is completely made of sheet goods.

(1) In the picture below, the back (made of nominal ½ inch red oak veneer) is being trimmed to size using a guided circular saw:



(2) In the picture to the right, shelf support holes are being drilled into a side (made of nominal $\frac{3}{4}$ inch red oak plywood) using a home-made template:

(3) Next dados and rabbets are being routed into the sides using a guided router:



(4) I actually finished construction of the carcass on the morning of January 1st. Here is the glue utilizing 18 clamps:



(5) Here are a couple of pictures, the first showing a simulation of the finished cabinet in our hall. I first presented Margaret with this picture then I took her to the shop and showed her the real thing as so far as it had been built, that is what is shown in the second picture.



(6) On Wednesday and Thursday, I spent considerable time with the **Dowelmax** that Margaret gave me for Christmas trying out various joints. They all worked very well.

As part of my research, I spent a couple of hours looking at the DVD where Jim X shows how to use the Dowelmax. At one point, Ethan was in the room with me and wanted to know what I was watching. When I told him it was about a tool that helped joining pieces of wood together, he said that he wanted to watch. I thought that he would listen and watch for about 30 seconds but, no he watched and entire segment and got right into what was being shown. Here for example, you can see that Ethan is using his hands to simulate what Jim's hands are doing on the DVD. I am very happy with the Dowelmax, so happy indeed that I plan to use it rather than mortise and tenons in the cabinet's glass door.



(7) Once happy that I understood the Dowelmax, I moved on to building the face frame for the display cabinet. My first real project was a good test—attaching a solid oak face frame for a display cabinet to a oak plywood carcass. 32 dowels spread over 13 feet had to be in the right place for a single glue-up.



Everything was in the right place and the face frame fits very well.

I have a couple things to say about the face frame. First of all it is not a complete face frame because both the top and bottom rails are missing. I was too much of a wimp to attempt to attach those as well as the stiles to the carcass in one BIG glue-up. So, I added them later. This necessitated connecting the rails to the stiles with something other than dowels. Hidden pocket holes proved to handle this job very well as shown in a photo to the right of the back side of a rail drilled with both pocket holes and dowel holes. The other thing is that the plans did not call for the middle cross-piece. I felt it was needed in order to keep cabinet sides in alignment. The cross piece attaches to the stiles with two dowels at each joint. That appears to be very strong and has convinced me to construct the door frame using dowels rather than mortise and tenons.



(8) Another change that I made was to add a couple of extra pieces at the bottom back to sit on the floor and distribute the weight better. The photo below shows them being glued into place.



Of course, they were later screwed as well.

Week 2: The hall cabinet, without a door, is now in the hall. Getting to this stage took less time than I expected it to but changing electrical outlets and circuits took a LOT more time than I expected it to. Carrying on the numbering from last week:

(9) I inserted Brass sleeves (116 of them) into all the shelf support holes (as shown in the picture to the left below). This adds to the professional look of the cabinet and makes it much easier remove and insert the support paddles.



The picture to the right above shows three 12 volt lights being installed at the top of the cabinet.

(10) To the right is a picture of the cabinet in the hall. Of course, it still needs a door.



Week 3: The cabinet has now been finished. I am happy with the job. It's really only the second piece of fine furniture that I have made –the first being Terry West's TV cabinet. The bedside cabinet that I made for our guest room came close – but I screwed up the top.

(11) Mack Cameron told me that, once he started to use his Dowelmax, he decided the mortise and tenon joints were a thing of the past for him. I decided to give this a try on the glass door of a display case that I am making. Normally, I would have used mortise and tenons in all six joints of this door:



Instead, I used two 2 inch dowels at each joint. The door went together fast and well and it passed the strength test that I gave it. My strength test was to stand on the middle rail for about a minute with the two stiles supported about a foot off the ground (*before installing the glass* 🍷). The rail is 2cm thick, 7cm wide and 65cm long.

I wouldn't go so far as Mack and say that I won't be using mortise and tenon joints any more, but I will say that their use will be an exception.

12) Below are some pictures of the cabinet with the door attached. The cabinet looks good, but I can't seem to get a good picture of it.



Bowl made with my Scroll Saw: (September 2007)

I made this bowl out of walnut and poplar:



The poplar layers in the middle are cut from one piece of wood and the pieces are then glued together. My scroll saw is a good one, I enjoy using it, I appear to be good at it, and I can fairly quickly make items on it which are appreciated as gifts, but the saw mostly gets ignored and gathers dust. You figure it out, I can't.

Life Size Log Construction Kit (*Ongoing -Started July 2007*):

This kit which currently contains over 160 pieces was built almost entirely from re-cycled material, primarily old cedar fencing. I designed most of the pieces jointly with Isla and Ethan. It is an ongoing project and additional pieces are already in the prototype stage.



In October 2008, this project "won" the project of the month award on the Festool User Group forum. The prize was a Festool tool of my choice –up to \$400 and I chose the MFS 700 Multi-Routing template.

Corner Shelves (April 2008):

Ethan has a very small bedroom but some of the limited space in that room was unused. I designed and built this set of shelves to exactly fit into the corner behind the door. It is built in two main sections sitting on top of a plinth. Each section has 43 pieces and the plinth has 7 pieces. Because of the angles, there was a lot of fiddly cutting and gluing. All the material is Baltic birch plywood and it was painted with a primary and three coats of semi-gloss oil-based paint.



Train Table (May 2008):

Off and on for the last couple of weeks **Emrys Evans** and I have been building a train table for his grandson Evan (*almost 3*) in my workshed.



Terry West and his grandson Rowan (*almost 4*) were here Sunday morning and they got to “test” the table:



We put down a temporary sheet of plywood and set up Rowan’s train. He was very happy with the table, in particular all the compartments in the drawers.

After Emrys and I completed construction the next day, he took the table home to be painted. Here, about a month later, is Evan playing on the painted table:



Emrys certainly did an excellent job with the painting!

I am very happy with the plan that we devised for the table and, in particular, I like the narrow shelves on the two sides for holding temporarily unused pieces.

Small Shelves for Newborns (October 2008):

Week 1: My niece Melissa gave birth to a baby boy about a month ago and I have been working on a gift for him. Since his second name is that of my brother Bruce, I want something that incorporates that name. This is a prototype that I came up with:

The real thing will be made with walnut letters and shelves mounted on cherry.



Week 2: I completed the shelf for my grand nephew Joey this week and I am somewhat happy with it. I really like the knobs. There are three things that I don't like. The first is that I did not do a great job of cutting the walnut for the shelves out of a big walnut plank. They are not of uniform width.

The second is that some of the glue squeezed out and I did not get it all removed before applying the finish. The third is that, because of all the letters, I could not really do a rubbed finish so I used two coats of Varethane semi-gloss and there are a few drip marks.

My hope is that I will be the only one that notices all these imperfections. In the hope that Joey will be able to make use of this past his childhood, I enclosed three replacement cherry knobs to be used when (if) he grows out of the happy faces.



Week 3: Margaret was quite taken with the shell that I made for Joey and she asked me to make similar ones for I made three shelves for three babies that arrived in September/October. These ones are simpler and are made out of pine but they are quite nice even if I do say so myself. A picture of the project at about the half way stage is shown to the right.

Dylan is one of Emrys and Ruth Evans new grandsons (via their daughter Julia). The second baby, Owen, is also their grandson (via Erin). The third child, Kaylee, is David and Pauline's son Simon's new daughter.



From the East:



From the north-east:



From the north-west looking over our neighbour's fences:

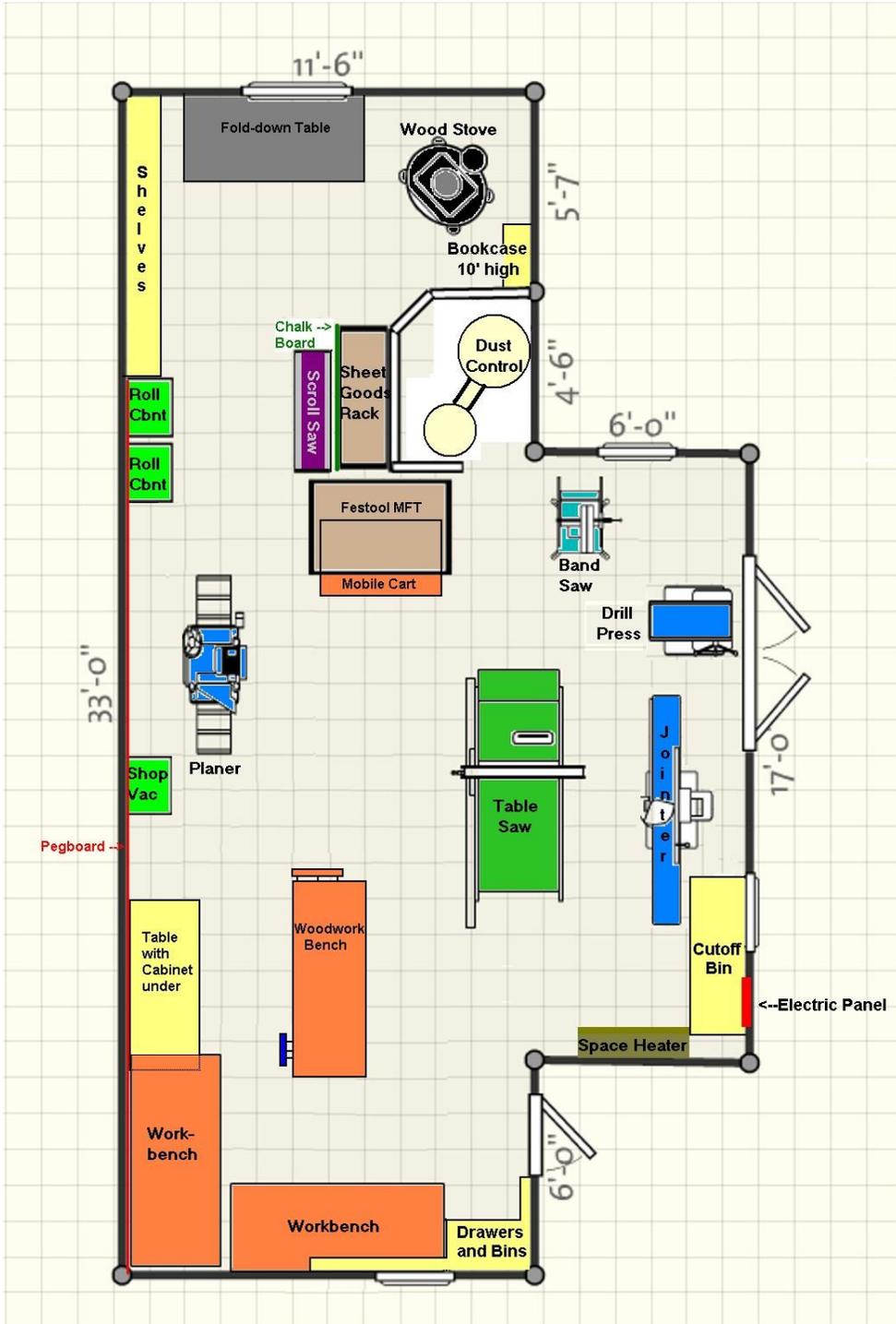


And here are the ramps that fit over the steps to move large stuff in and out of the shed:

The funky art on the inside of the double doors (*and throughout the shed*) is courtesy of my granddaughter Isla who was 4 when she decorated the place.



Shed Layout Plan:



Interior Tour:

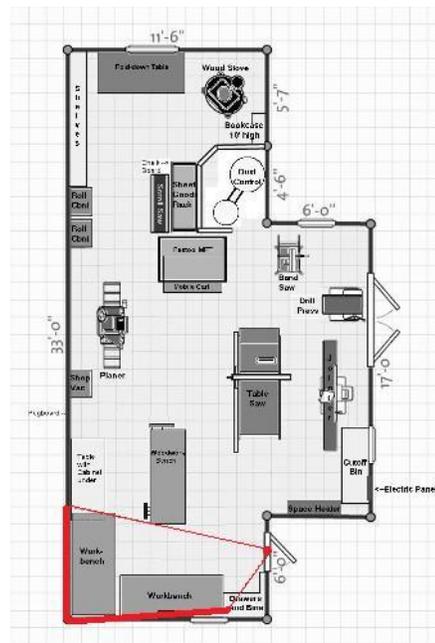
The tour starts by entering the main door:

This door is about four metres away from the back door of the house and the house, deck, and shed are all at the same level. There is no running water in the shed, but both a loo and a laundry room sink are located just inside the house.

Along with each interior picture there is a map with a red dot demarking where the photo was taken and red lines showing the area covered.



Inside the main door looking straight ahead:

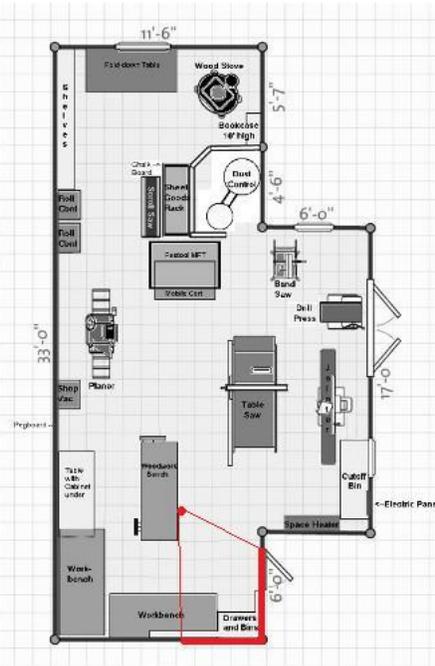


I built these benches many many years ago out of spruce and plywood, one of them (*the closest one*) moved to Seattle and back. They (*and their sibling in the basement*) are still serving me well. I am forever making modifications to the benches such as adding drawers and drilling $\frac{3}{4}$ inch holes for hold downs. They take it all in stride. Behind the back bench is the start of a 24 foot by 2 foot run of pegboard. I was not a big fan of pegboard and was not planning to put much into

the shed, and then part way through the construction, I discovered Talon hooks that can be installed and removed quickly but which stay in place when in use. My plans changed quickly. Here I a photo showing a 16 foot long section of the pegboard:



Inside the main door looking back into the hardware storage corner:



Colourful isn't it!

There are about 100 removable plastic bins that hook to plastic supports screwed into the wall.

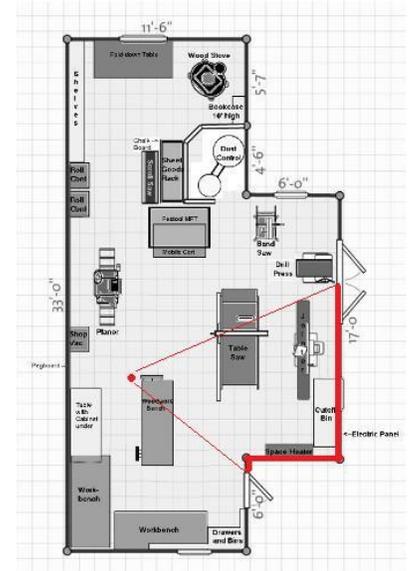
The unit with 15 wooden drawers just below the plastic bins is the sole item that I inherited from my Dad's hardware store. My Dad made all these drawers and there were at least 300 of them of this size in the store plus maybe another 200 of larger sizes. I can remember serving customers out of them when I was about 10 years old. All 500 drawers were orange then.

The red drawers at the bottom and on the right side of the work bench are the ubiquitous Veritas metal tool trays made and sold by Lee Valley.

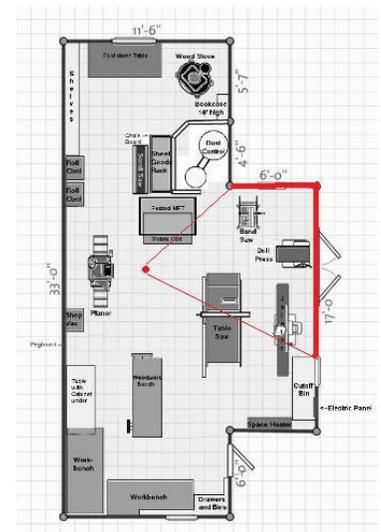
Above the door are some wood storage racks currently filled with rough sawn cherry.

The Eastern Jut:

South Portion:



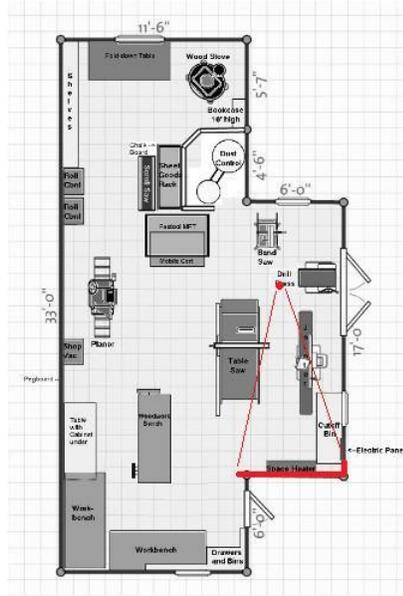
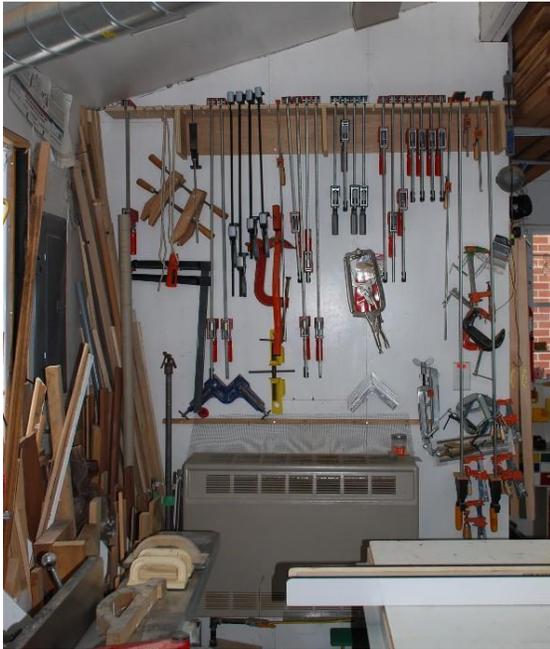
North Portion:



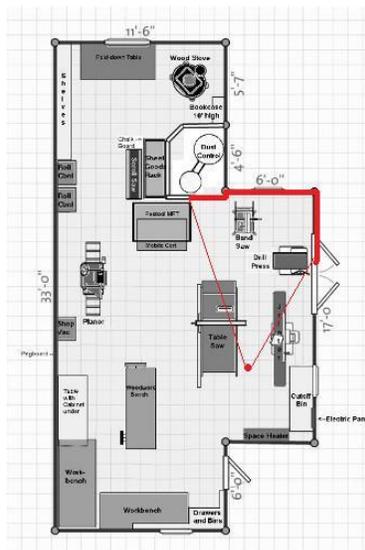
This is the area that houses most (*that is, four out of five*) of the large woodworking machines in the shed. It has the most natural light and the most overhead space. Of course, all the machines are on mobile bases.

Two more views of the Eastern Jut:

The South Wall:

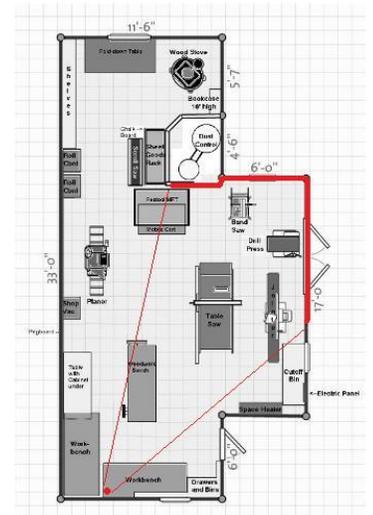


The North Wall:



The space on the south wall above the propane space heater, which can't be used for anything wooden, is a great place for clamps. Notice the metal mesh extending up at a 45 degree angle from the edge of the space heater –that's to prevent me from leaving anything burnable on the top (as I did with a plastic dustpan last winter). On the north wall, a shelf high up above the window is used to store Baltic birch plywood remnants.

East Side taken from up high: (standing on the bench at the south end)



One thing that can sort of be seen here is just how high the drill press is on the home made mobile base. The base adds 6" to the height and I don't like that. I am thinking of a base design that only adds a couple of inches and might get around to trying it soon.

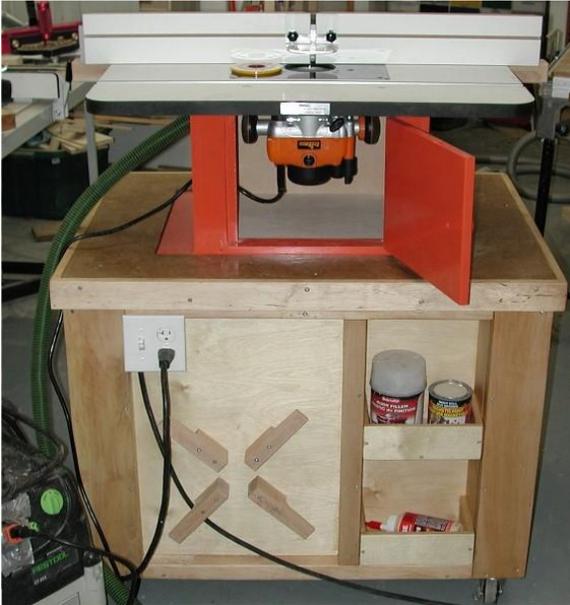
The General International roller stand that is just in front of the drill press is very handy and can quickly be converted for use with the table saw, the band saw, the jointer, the planer, and the Festool Multi-Function Table (MFT).

On the left side of the photo, observe the MFT. If necessary, this table can be folded and put away or taken to an off-site job. Underneath the MFT is a mobile shop cart that is used in many ways. One of these ways is as a base to support the Ridgid oscillating sander as in the picture to the left below:

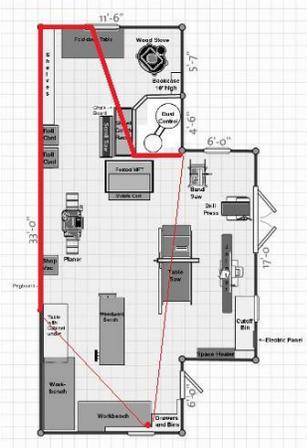


Another use is simply as a work table as in the picture to the right above.

Two other tools that are commonly supported on the cart are my router table and my small band saw. As with the oscillating sander, these are both mounted on bases which fit into the indentation on the top of the mobile cart.



West Side taken from up high: (standing on the bench at the south end)

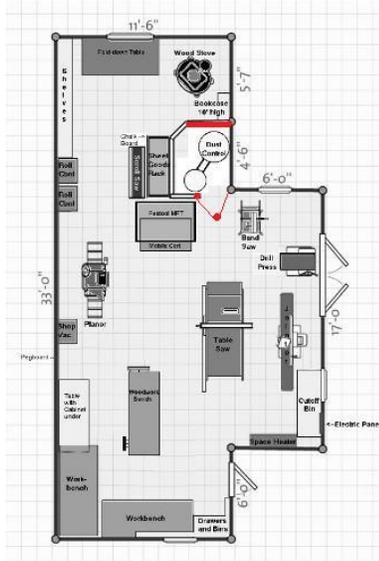


From here you can see the other major machine, a planer near the wall. And, last but not least the systainers for a few of my Festool tools can be seen. Beyond the systainers is a portion of the "Relaxation Alcove". Astute folks will have noticed that there is no wood lathe. A wood lathe might happen some day, but I expect that day is a long way off.

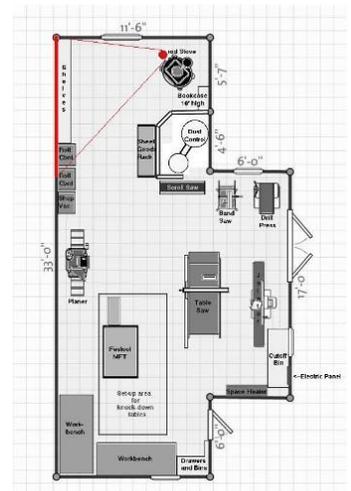
Looking into the Dust Controller Closet:

The closet is insulated to cut down on the noise and it is well ventilated.

As you can see, I have some other stuff crammed into the closet as well.

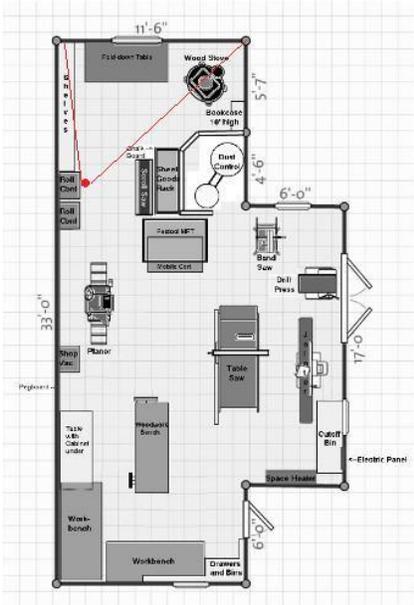


North End of the East Wall:



We see some more pegboard, some shelves for Festool systainers (some of them in two mobile "sysports"), a handy set of shelves, a Bosch Power Box, and fold down table.

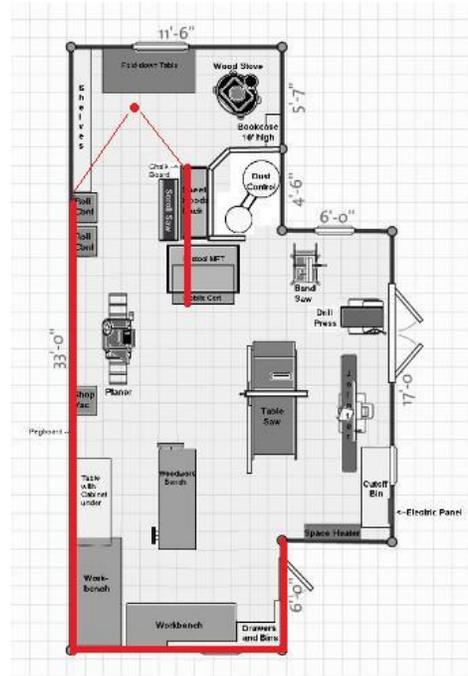
North Wall of the Relaxation Alcove:



As well as an extension of the house alarm system into the shed, the shed windows of are protected by bars. The table can be folded up in order to provide more floor space:



Looking South from the Relaxation Alcove:



Notice the chalkboard that is painted on the side of the sheet goods storage rack. I do most of my rough plans on this board. Standing in front of the chalkboard is my Excalibur Scroll Saw. I don't use this as much as I would like (*and really do plan to do in the future*) to and, most of the time, the only notice that I take of the saw is to move it out of the way.

Planning to Accommodate Change:

Knowing me, there will always be some changes that I want to make to the shed. To this end:

- There are five two metre loops of #10 wire buried behind plate in the wall (*pointed to by the red arrow in the photo to the right*). This will allow me to locate a 240 volt receptacle almost anywhere in the shed.



- There is an unused wye to allow for possible future extension of the dust control duct work:



Also, it would not be hard to move any of the existing duct work.

- Almost everything big is mobile.

Exterior Storage:

Helping me to keep the shed as uncluttered as possible, there are several places outside the shed where I can store wood and other stuff.

- Racks on the 40 foot long back wall:



- Lumber storage rack in garage:



This can take boards up to 12 feet in length and is accessible from either end.

- Baltic Birch plywood storage rack in garage:



Also, currently, some cherry is stored above the rack.

- The garage is now the place that I make most of the initial cuts on sheet goods. I use a pair of knock down saw horses, foam glued to a 4x8 sheet of plywood, Festool guide rails, and a Festool TS75 plunge circular saw. All these plus a lot of plywood are stored in the garage.



- Garden Shed:



There is some space in here for large packages of fasteners.

- Shed #5



The main purpose of this shed is to hold firewood but I find that I am also storing, tools, wood, and some work-to-do in it.

- And there is always the old shop space in the basement, but I am slowly moving stuff out of there to other locations. There is still one bench down there and the bulk of my painting supplies are still in there. I'm not going to take a photo of the place.

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Frank Pellow was born in Hearst Ontario and currently lives with his wife Margaret in a house in front of his shop in Toronto Ontario.



Frank's professional career as a software developer lasted from 1964 to 2003. He worked for several companies but managed to fit in 25 years with IBM and 6 years with Microsoft. He was based in Canada for most of that time, but also spent 6 years in the USA and 4 years in the United Kingdom.

Frank and Margaret have been married since 1966. They have two daughters (Kathleen and Kristel) and have had six grandchildren (Christian (*deceased*), Isla, Leah, Brooke, Ethan, and Jamie).

As long as Frank can recall, he has always done woodworking and construction. Now that he has retired, he has been able to build his dream workshop. Frank hopes that he will enjoy using the shop as much as he enjoyed planning and building it.

fpellow@sympatico.ca