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NEWSLETTER

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Expanding and Moving
in 2018



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Apogee History: Expanding and Moving in 2018

By Tim Van Milligan

This newsletter article is a little different from the articles we typically write. It's a bit of a history of our move to the new location and what thoughts were going through my mind. The reason I decided to write this one was to share a record of Apogee's history. It's my dream that the company will last a hundred years or more, and I suspect that future owners will appreciate a little perspective on the early history of the company. This particular article covers the events surrounding our 2018 move to 4960 Northpark Drive, Colorado Springs.

This is the fourth location for the company under my direction. Ed LaCroix, the founder, had two locations for Apogee - one in Minnesota and one in Arizona. I took over the company in 1994, while he was living in a small apartment in Cañon City, Colorado. In 1996 the company moved with me to the basement of a townhouse in Northwest Colorado Springs. In 1997, the company was moved out of the basement into its first commercial space at 630 Elkton Drive (**Figure 1**). Around 2003, the company had outgrown that facility and moved down the road to a space of 2600 square feet. In 2007, that space was too small, and I moved it again. The next facility was 6000 square feet and was located on Fillmore Ridge Heights (**Figure 2**).

That move was significant because it was the first time the building had to be modified to accommodate the needs of the company. The tenant improvements included two new offices and a special workroom where the loud equipment was operated, so it could be isolated from the rest of the building. This included our vacuum form machine with its dual vacuum system, a belt sander with a shop-vac that collects the dust, and an air compressor to assist with the removal of parts from the vacuum formed plastic.

Doing tenant improvements was a high-risk undertaking for the size of Apogee at the time. The risk is that you never know what might happen in the economy and for the sales of model rockets. And we almost didn't survive it... When we entered the building on Fillmore Ridge Heights in 2007, our staff was at seven people. A year or so later, we were down to three.

But we kept developing our customer service systems, and eventually, the economy turned around and sales

steadily rose. By 2018, we were back up to a team of ten people.

Around early 2016 we were starting to feel a little confined by our facility in Fillmore Ridge Heights. There wasn't enough parking for our staff and customers, and we couldn't store all of our inventory inside the building. We even bought a 10 by 40 foot shipping container to store tubes and parts. Other stuff was moved into a barn at my house.



Figure 1: Tim poses with his dog and Sat V kits at the first commercial location in 1997.



Figure 2: Our Fillmore Ridge Heights location.

But with the national elections coming up in November of 2016, there was a lot of uncertainty about what direction the economy would take. At the time, there was also a real estate slump going on in Colorado Springs, so we thought that after the elections there would still be some time to make a decision on moving.

The optimism amongst the business community changed immediately after the election. Apparently, a lot of business owners were in the same situation that we were in, and they were also waiting out the election. The real estate market went from dead to smokin' hot overnight. We waited too long to make our move, and suddenly we couldn't find a place to move into.

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The other factor driving the real estate market in Colorado was the legalization of marijuana. The growers also wanted warehouses to turn them into marijuana grows. Apparently, it is economically justifiable to use grow lamps instead of building greenhouses. The grows were buying up properties without even looking at them. They just needed floor space.

We worked with our realtor for over a year to find a new building. We only found it because the realtor heard through the grapevine that a building was coming on the market and wasn't listed yet. Because it wasn't listed, the "grows" didn't know about it either. A building on Northpark Drive (**Figure 3**) was occupied by a restoration company that was looking to downsize into a smaller building. When we heard it was available, we jumped on it. We knew it wouldn't be on the market long, because the real estate market was that hot. To be honest, we probably didn't get the best deal on rent. And it wasn't the optimal building. But it was nearly twice as big as the one we were in on Fillmore Ridge Heights.



Figure 3: Available building on Northpark Dr.

We signed the letter of intent in December of 2017 with our desire of taking over the lease in March. After the holidays, we hired an architect to help figure out how to build out the building.

At this point, the race was on. First, we would need financing for the building improvements that we wanted to

make, so it was off to the bank to get a construction loan. Fortunately, that was the easiest. We had a lot of good things going for us. The big ones were that Apogee Components was a debt-free company, we were in business in the state of Colorado for over 20 years, and our landlord never got paid late. Our credit score was spotless.

We also needed a plan for the building, and to find a contractor that was available to do the improvements. Our schedule was that we wanted the contractor to start work on the 14th of March, and be done with the building by May 1, when our lease was up at the building on Fillmore Ridge Heights.

Our plan was to add seven offices in the building; six of them were to go inside the current warehouse area. We also wanted our workroom for the loud equipment (that worked really well in the previous building), and to add a small studio where we could continue to make our YouTube videos.

The architect came through for us. That was a great decision to hire a professional. They drew up the plans for what we wanted and sent them out to the right mechanical and electrical engineers to fill in all the necessary details. They walked the plans through the building department and got us the permit to begin work on the 14th of March. I only had to interface with them a few times for minor items later on during the construction process.

When we did tenant improvements on the Fillmore Ridge Heights building, we just let the previous owner take care of all the details and the entire construction and financing process. They did a good job, but it wasn't that big of a project. This project would be much bigger. I felt much more involved and had a sense of control over it. But it was also a scary process because I've never been through it before.

Finding the contractor was much more difficult. With the real estate market so hot, all the

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contractors and their subcontractors were extremely busy. They would have to run a really tight ship to make the deadline. We didn't decide on which contractor to use until March 12. It was then that I realized that there was no way they could start work two days later and finish the build by May 1 when our lease was done. I went to my landlord hat in hand and begged for one more month at Fillmore Ridge Heights.

Fortunately, the landlord was just beginning the process of hiring their own realtor and hadn't yet listed our current building. In my opinion, Apogee was also a really good tenant, as we took good care of the building and didn't make any problems for the owner. We never called them in the middle of the night to complain about anything. So we got the extra month we needed to allow the contractor to finish the improvement. However, that meant another month of paying leases on two buildings. So I was beginning to feel the financial pressure for the move.



Figure 4: Pluto (the company pet) inspects the demolition process

The contractor was able to get into the building about a week after our initial estimate. But the work was limited to demolition. There were some walls that had to come

down that we didn't need, plus all the carpet and wallpaper had to be removed (**Figure 4**). Demolition is fun because it happens so fast. It looks like a lot is happening in a short amount of time.

There really wasn't a lot of demolition that was needed. The building is one of those steel warehouse buildings that is really just a shell. It was mostly warehouse and a small office area at the front. The previous tenant used the warehouse to park his trucks inside, so it was very rustic when we took over. But it was also pretty dirty with the trucks parked inside. I'm still finding corners and such that need cleaning out!

At the beginning of the process what we didn't know was that the contractor was having a hard time getting supplies. Because of the building boom in Colorado, things like the metal framing studs and drywall were in short supply. And some parts, like the lights, had to be special ordered and they had longer lead times.

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In the building on Fillmore Ridge Heights, we had 8-foot long fluorescent lights throughout the building. I can tell you, I changed all the bulbs in the building at least twice and swapped out nearly all the ballasts. Standing on a 14-foot tall ladder while balancing an 8-foot long tube of glass in one hand is not my idea of a fun time. The new building had LED lights in the warehouse (**Figure 5**) which was a bonus in my mind. I wanted to extend that feature into the office areas as well, so we had to order the lights. Incidentally, as I type this, we're still waiting for one fixture and a special dimmer switch to come in and get installed. I also wanted LED lights because I want the lower electricity bill. I know they are expensive, but I plan on being in the building for at least a decade, so I anticipate that the investment in LED lights will pay for themselves.



Figure 5: LED lit warehouse

I'm sure I'm not the only one that has a love-hate relationship with my contractor. I love the completed work that was done. But there were some times when I was frustrated by the process. During the bid process, before we hired them, we walked through the facility a few times and I pointed out the things that I wanted to be done. The contractors made notes, and I thought that was enough. I

assumed that they knew what I wanted and put it in the bid accordingly. But that wasn't what happened. They bid on only what my architect had on the official plans, not on the "notes" they made during the walk-throughs.

That's what frustrated me throughout the process. I was really miffed to find out that the outer walls in the offices were not going to have sheetrock put up because they already had an inner metal wall. I was told that it was the architect's fault for not putting that on the plans. I ended up paying extra for the walls of my offices to look like office-walls rather than warehouse walls. I'm not happy about the extra expense. But I learned a lesson. Never let the contractor take the official notes of a meeting. Have your own note-taker, and get them to sign them before taking action.

To be fair, I made some mid-stream changes too. I learned that in the construction business, these are called "change orders." I put in five separate change orders to fix the things I didn't anticipate would be needed. The first one was ripping out the carpet and wallpaper in the one office that we didn't add to the building. Fixing it up cost a lot, but I don't regret it one bit. None of the change orders do I regret.

Okay... I do regret not going far enough with one change order. Once all the LED lights were installed in the warehouse, I could sense dark areas. I added another row of lights to try to take care of the problem. But now that all our shelves are in place, we do have some dark areas that remain. So I do wish I would have added some extra lights to the warehouse. Another change order I made was after all the electrical outlets were installed, but before the sheetrock was put up. As we were walking around the building looking at the location of the electrical and ethernet outlets, I realized that we didn't have enough plugs.

When we moved into the Fillmore Ridge Heights building, I had a lot of extra outlets put in. And I never regretted it. You are always looking for

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extra outlets to plug things in. It has gotten worse with battery-operated devices like cell phones because you're always looking for a place to charge them up. I knew we'd run out of places to plug in electrical things, so I gave the contractor the change order to add in more outlets.

Unfortunately, this change order had a cascading effect. The electrical panel didn't have enough room for the extra circuit breakers that would be needed. So the change request had to go back to the electrical engineers to find a solution to the problem. The end result was that a second electrical panel had to be added to the building (**Figure 6**). But the process of getting this all approved meant that the sheetrock couldn't be put up per the schedule and that everything after that was being delayed.



Figure 6: The second electrical panel being installed

It took several weeks before the plans were approved because of that one change order for more power. The cascading effect caught us by surprise because we were making plans for the move.

The contractor informed us that the delay could potentially push back the move-in date to somewhere in the early part of June. With this news, I again went back to our landlord with the intention of asking for another month on the current lease.

By this time, however, the landlord had hired a realtor and was actively showing the building to other businesses. And they already had one business that made an offer. But they absolutely needed to move in on June 1. So we were officially informed that we could not get an extension on the lease.

This put us in a bind. If we couldn't move into the new facility and had to be out of the old one, we would be essentially homeless. We had to prepare for the possibility that we would have to move out all of our possessions into semi-trailers and sit and wait for the contractor to finish up.

The one "absolute" priority that we had internally for the move is that our customers would not be noticeably affected. We were able to accomplish this feat before during the move in 2007, and we felt we could (and should) do it again. We just didn't want to shut down operations where our customers couldn't get the supplies that they needed. We were going to keep shipping products right up to the second that the moving vans had to be loaded. So if we were going to be homeless on June 1, we weren't going to load up our sales-floor inventory until the last day of May.

Since we knew in December that we'd be moving, the game plan was to stock up on inventory that we produced in-house (the Apogee product line), which would allow us to shut down the production lines long before the move. And that is what we did. We pumped out a lot of inventory and loaded it into boxes. Our general

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rule was to make a 6-month supply of the items that were being assembled. That would give us a cushion of inventory in case we couldn't get set up in the new building quickly enough.

Based on a move date of late May or the beginning of June, we felt that we could keep the production lines running until the end of the day on Friday, May 11. We called that our "Code Red" day. It was full-speed ahead until the "Code Red" day, and then we'd switch from production to packing for the move.

Personally, I started packing up my office long before the Code Red day. I have a lot of knick-knack stuff, and I wanted to try to organize it so that I could find it later after the move. I had moving boxes in the middle of my office floor for about two months. We'd have customers come into our building and see the boxes, and they got the hint. I think it also gave a sense of urgency to our team here at Apogee. We were serious about moving.

The other reason for my starting to pack early was that I had to reserve some time to build rockets with my daughters for our trip to the World Space Modeling Championships in July. These models are highly complex and take a long time to make the components and assemble them into rockets. I was packing up my office, but I was going to wait until as late as possible to pack up my building supplies. As it turned out, I waited so long that other people in the company packed up my building area for me. And they did a great job too (Figure 7).



Figure 7: Apogee team packing up display area for the move

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On Monday morning, May 14, the first semi-trailer was delivered to our parking lot (Figure 8). The plan was to load it up, and move it to a storage lot while the next one was delivered and loaded. That first semi-trailer took almost a full week to be loaded. We stuffed it to the roof with boxes, using up every cubic inch of usable space. Besides being careful of loading it up, we also had regular customers to keep satisfied. The nightmare we wished to avoid was to sell an item to a customer and find out that the box containing the item was already loaded in the semi-trailer.



Figure 8: Loading up the semi-trailer

And actually, that happened one time. The one item we don't keep on the sales floor (where parts are pre-packaged and ready to ship out to customers) are decal sheets. Normally, decal sheets aren't an item that we sell individually. But we forgot about the Saturn V kit decals. That item we do sell separately and one customer had ordered one. Oops... It was an embarrassment, and fortunately, the customer understands our situation. Apogee Components indeed does have the best customers!

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While we were loading up the truck, we were keeping close tabs on the progress of the construction. By now the electrical issue was being resolved. The new breaker panel hadn't been installed, but the boxes and the wiring had been installed. So the sheetrock was going up and the painters were starting their work. I have to give credit where it is due, and our contractor did step up big-time. He got his sub-contractors to work longer hours to try to make up the loss of a few weeks. Everything was going along good, and the schedule was beginning to look better.

The last step was to get the certificate of occupancy from the city building department. The only outstanding issue was the fire alarms in the building. Since it is an old building, the city required that we bring the fire monitoring system up to the latest standards. This was not anticipated and caused a bit of panic. It required another permit and set of plans that had to be approved by the city, and a new contractor to install all the monitoring equipment. Of course, the monitoring system had to be ordered which caused a few more days delay before it could be installed.

The final issue was with the building inspectors. We were now in the last week of May, which was the Memorial

Day weekend and the start of the summer vacation season. The city had three inspectors, and two of them were scheduled for a vacation that last week of May. So the contractor was trying to fly through the last details and get the building ready by Tuesday, May 22. That was only one day past the original schedule that we agreed on when we started the construction.

Hearing this good news, we switched our moving plans. We canceled the delivery of the next semi-trailer and instead ordered a U-haul (**Figure 9**). We originally planned to have a Ryder truck with a lift-gate for that last week in May to move the shelves and the sales floor merchandise anyway. We kept the lift-gate truck on order because we had some heavy and bulky equipment to move that we couldn't lift into a U-Haul by hand. But we went ahead with a U-Haul to get the shelves taken over to the new building sooner.

The distance between the old and the new building was less than three miles, so making multiple trips in a day wasn't a big undertaking.

Unfortunately, the fire alarm monitoring system was not ready on Tuesday as anticipated. So the final inspection was put off until Thursday. Now the move wouldn't start until late Thursday morning.

Go For Launch

The code my contractor gave me for when the certificate of occupancy was in his hand was "go for launch!" Kinda cool, wasn't it? That did indeed come on Thursday morning. Again, I have to declare that the contractor came through and there weren't any issues with the city inspectors. They had enough experience in the trade to anticipate all the things that the city inspectors would be looking at, and the construction came through with flying colors.



Figure 9: The U-HAUL has arrived to begin the move.

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We actually didn't start moving at the go for launch moment. We took some time to celebrate the process. We basically took everyone over to the building to look at the results of the construction process. The team did have a look at the building before the demolition began, but during the last three months, they only saw pictures of what was going on at the other building. Seeing it with your own eyes was very special. It was like a group of kids in a candy store. Everyone was running around feeling the new walls and turning on and off all the light switches.

It was only after lunch that we picked up the U-Haul truck and started loading up the shelves and taking them over to the new building.

Our plan at this point was to get the shelves over, and then bring over the semi-trailer with most of the back-stock inventory and start setting up the production areas (**Figure 10**).

This was the physically exhausting part of the moving process. We worked until we were tired, and then went home spent.

By Friday morning one side of the old building was empty. But if you looked at the other side, you would have never



Figure 10: The early setup of our production area in the new building.

known we were moving. That side of the building contained our sales floor, which we vowed not to touch because doing so would interrupt the shipping of merchandise to our customers. We didn't touch that side until the middle of the afternoon on Friday. We have a shipping guarantee; to ship out all orders that day which come in by 2 p.m. The plan was to shut off the computers and start moving them over right at 2 p.m. so that no customers would be interrupted. But I got launch fever and told the team to shut down at 1:55 p.m.

Wouldn't you know it... One more order came in at 1:59 p.m. And we didn't know it until later that afternoon when we checked the daily log. By that time we had begun to pack up the shipping stations and it was too late to get that one order out the door in agreement with our shipping guarantee.

We'll always remember that one last order and how we failed to live up to our guarantee to that customer. It only happened because I gave the order to shut down 5 minutes early.

As it happened, that weekend was the Memorial Day holiday weekend. The staff (did I mention we have the greatest team here at Apogee?) volunteered to come in over the weekend and move the remaining items in the old building. They didn't have to. They volunteered to put off any plans they had for the holiday weekend and help move so that by Tuesday morning we'd be up and running at full speed.

We worked from 8:30 a.m. to nearly 8 p.m. on Saturday moving the sales floor and setting up workstations and computers. It was long and physically exhausting work. At the end of the day, the sales floor had been entirely moved and set up in the new building. We didn't have to work anymore over the weekend, which meant everyone was able to salvage a good part of the holiday.

When we came back to work at the new building on Tuesday morning, in the ship-

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ping department, we were able to pick up pretty much where we left off on Friday afternoon. That one order we missed on Friday did go out, along with all the others that came in through our website over the weekend.

Technology Issues

While it wasn't perfect, I'd say that the physical part of the move went very well. There were a few minor hiccups in the process. Everyone was stressed, and we had to stop occasionally to reassess things when communication broke down. But I was personally proud of our team and how we got things done ahead of time.

The biggest issues were getting the I.T. systems set up in the new building. We tried to schedule Comcast to get the new building set up by Friday afternoon. We had basic internet, along with Wi-Fi working. But we didn't have the dedicated static I.P. address that we needed in order to set up our accounting system. We had to start out on Tuesday morning relying on Wi-Fi to take care of customers. We don't like Wi-Fi here because it isn't as fast as an internal ethernet system. It took a good week to get the ethernet system running and to get Comcast to fully install all the I.T. systems and phone lines in the building. We're happy at this point because we are back to having all technology working properly.

What's Next?

Unpacking all the boxes is still an ongoing project, as anyone that has ever done a move can tell you. I personally have a lot of rocket stuff to unpack in my new project area. Even though that is ongoing, I'm happy to report that

I'm back to building rockets again. Of course, I'm still in the middle of the project of getting ready for the World Space-modeling Championships. There is always something else that could be done to get ready for a trip like that.

While I'm getting ready for a trip overseas, the rest of the team is still organizing the new building. Our plan is to expand into carrying more rocket kits and parts. That was the whole reason to move, right? A week ago we had a staff meeting where I talked about all the stuff I wanted to start working on, and it was a list that seemed was three pages long. It was a big list, and I'm sure I won't get to a third of it by the end of the year. But it is exciting to dream about it.

About The Author:

Tim Van Milligan (a.k.a. "Mr. Rocket") is a real rocket scientist who likes helping out other rocketeers. He is an avid rocketry competitor and is Level 3 high power certified. He is often asked what is the biggest rocket he's ever launched. His answer is that before he started writing articles and books about rocketry, he worked on the Delta II rocket that launched satellites into orbit. He has a B.S. in Aeronautical Engineering from Embry-Riddle Aeronautical University in Daytona Beach, Florida, and has worked toward an M.S. in Space Technology from the Florida Institute of Technology in Melbourne, Florida. Currently, he is the owner of Apogee Components (<http://www.apogeerockets.com>) and also the author of the books Model Rocket Design and Construction, 69 Simple Science Fair Projects with Model Rockets: Aeronautics and publisher of the "Peak-of-Flight" newsletter, a FREE e-zine newsletter about model rockets. You can email him by using the contact form at <https://www.apogeerockets.com/Contact>.



Figure 11: All moved in with new signs installed