

# A Second Look at PRE-INSTALLED HARDWARE

By Scott T. Wesley

**Like most of you, I sell doorknobs for a living. We are not normally well versed in management of what is essentially a “market pull” manufacturing process. Most of us have a long history with our hollow metal or wood door shops. We have familiarity with effective flow of stock or special order material into and out of our metal shop. Your understanding and management of the process to get correct door jamb parts into your shop to be assembled into a new single finished frame assembly is a valuable skill that you already possess. Leverage those skills that you already have in place to start a lean Pre-Hardware installation (PI) assembly process.**

I am often asked about improvements in efficiency, return on investment (ROI), and other manufacturing-related questions about our PI

**An undressed door at the beginning of the line, using mechanical lifting assists.**



**Parallel lines; hardware rolls in tubs on the left as the doors move up the line on the right.**



process. These are questions your CPA or banker might ask of you. When we started doing PI, we didn't bring in an accounting firm or focus group contractors, commission a study or any of those due diligence items that the local business school would expect us to do. No, we went with our gut.

### How We Started

As a test, we set up a pair of saw horses in our shop and had at it. I grabbed a couple of my field installers, and we installed a panic device, door closer, and a kick plate while I observed. It took longer than normal for our field installers because they were not used to installing things on a horizontal plane rather than standing up vertically. Though they initially balked at the idea, I could immediately see the bigger picture. Less time in the field and more time in the shop would yield greater productivity. My gut told me that this was the way we needed to go. There are too many distractions in the field that make things cumbersome. In your shop, you can refine your process; you can make it lean. Everything we do is intended to take time and effort out of the assembly process.

We cut down on footsteps by running a parallel roller conveyor line to our rolling PI work tables. Doors roll down the production line from one roller table to the next while the hardware tub rolls down the parallel roller conveyor with it. This line carries the plastic tubs in which we place all the hardware for the specific door being

dressed. Hopefully, by the end of the line, there are no hardware items left in the tubs. There should only be loose items like a wall stop, screws or weather strip.

Each door leaf moving down the line has a printed hardware set from the opening schedule to confirm the product being installed. These are our "Kanban" style visual cues that we currently use to make sure we get the opening right the first time.

As you would find on an assembly line, our process will have more than one person attaching a different hardware item to the door. One installer does not follow the door down the line but stays on one table to attach, for example, the hinges and the flat goods before moving it down the line for the next installer to attach the closer, and finally, a table where the lock is attached. This allows for each of those installers to become an expert and efficient in the install of the various closers or locks that he will see the rest of the way as the entire project moves through the line.

Your least senior installer would be at the hinge or flat goods table; your most senior installer should get the most difficult item.

### For Us, PI is Not a Gimmick

So from that first attempt at PI, we have now grown to PI being an integral part of the way we go to market. For us it is not a gimmick. Our top customers prefer receiving their projects with the hardware already attached. It works on so many levels for them, too. We become a much more important partner for them. We are not just a material supplier who ships them cardboard boxes of "stuff" that, in many cases, they are not qualified to install correctly.

In the age of the internet, Amazon and BIM, I fear that anyone will ultimately be able to download a material list and beat you on a quote of "stuff." We are not striving to be the low-cost provider. We do not want to fight based on price alone. Delivering fully dressed doors helps you become more valuable than just your delivery truck that pulls up on their project with boxes of materials. PI diffuses so many problems for the general contractor. You become a solution rather than a problem for them.

As our organization became sold on making PI integral to our mission, it allowed us to grow from those saw horses into where we are today. From the beginning of our line to the pallet



**A fully dressed door makes its way to an awaiting skid, with assistance from mechanical lifter.**

Having our people less physically stressed certainly cuts down on injuries and mental mistakes. A tired installer is one who opens you up to installation errors. The nagging mental errors such as reading the template incorrectly are minimized. It's very hard to measure the errors that don't happen due to an installer's fatigue.

We can state that our turnover in that department has waned. I can say that we have fewer recordable injuries, and fewer dinged-up doors attributable to a human lifting "oops." We do appear to be making fewer silly errors, but that could be a function of the ability to hang on to installers, and with greater experience they just do less dumb stuff.

We normally use four inside and six outside field installers, who hang the dressed out doors on projects. We can throw everyone in the shop at a project by reallocating our human resources from inside to outside. So obviously, I am a big fan of automation. We could operate the PI shop with just one installer remaining inside, because there is no need to have lifting assistance from beginning to end. We handle the same volume of doors with three or four on our line today that took six to accomplish without the mechanical assistance in place.

### **Space Commitment**

Another big issue to consider as you venture into PI is the space commitment you will have to make. You become the contractor's hardware room. You will exponentially grow the space required for the skids of doors for a PI project. You will have to purchase and store styrene foam spacer blocks, which we prefer—3" x 4" and 5" x 6"—or devise some other palletizing method.

You will need to figure out the best way to move them around your warehouse, in your truck, and around the job site. Much thought must go into

at the end of the line, there is no need for human lifting. Everything requiring a lift or a spin or a move to another area can be accomplished by the push of a button or a roll from table to table. I cannot tell you how many people we churned through as our door count climbed but our use of technology did not. New hires quit at lunch on their first day, *"this is not for me."* You will wear out your installers if they must do all the lifting of fully dressed-out doors.

We recently completed a PI of 500 doors in five days. You could imagine how tired your staff would be at the end of those days if they had to do all the lifting themselves. We have had mechanical lifting in our PI shop for over a year now. Our guys go home with a smile on their face rather than with heating pads on their backs.

It took several years before we committed to the nearly six-figure

financial commitment to automate our production line. I wish I could tell you that once again we did a time study and a financial analysis of the cost benefits associated with a manual line versus a fully automated line. Again, I sell doorknobs. It was much less scientific than that. In fact, we initially believed that incorporating mechanical means to lift and flip doors might slow us down a bit. That happily has not been the case.

My son, on summer break from the University of Kentucky, was working in our Lexington, Ky., PI operation. He's a strong kid who is very athletic. After the first week on the job, he returned home to Louisville for the weekend. His first words to me were, *"Dad, you're killing these guys... and my back is killing me right now. I hate it."* Out of the mouths of babes! The equipment purchase order was placed the next week.

the logistics of getting the doors and hardware into your facility and out to the door opening. It is complicated, but it does help you figure out just how much grief you have caused your customers over the years.

Your project managers and those who add detail to your hardware schedules are critical and must do a solid job getting that correct level of detail to your PI shop. If you don't have the correct degree of opening on a door closer or the correct mounting application, you will have messed up an expensive door. It is not good enough to simply attach every hardware item to the door if you place the hinges on upside down, the kick plate on the wrong side or set the wrong degree of opening on the closer. Your shop foreman should be very detail oriented. If you do not have a special person to organize, then you may want to rethink how aggressively you venture into the PI process.

## Video Marketing

I hope by now that I have convinced you to spend a lot of money on warehouse space and automation. Allow me to suggest a less costly sales tool that we found to be effective to promote PI—the creation of a sales video or sales literature to help put to the words into pictures. In doing research for this article, I visited as many distributor websites as I could find to see how many of you are actively offering the service and how you promote it. Frankly, there are not as many of you bragging about it as I had expected. Maybe some do not wish to make it public for competitive reasons in your area.

I stumbled across an animated sales video created by one of our Canadian neighbors to the north. They use it to explain why they offer PI as an option. It is very well done and frankly, I wish I'd thought of something like that myself. I'm not sure if they would want me to name them directly here, but with Google, you can certainly find them if you look hard enough. The point is that this is a great way to explain to the contractor and the architect the value of the service you can provide them with PI. It opens the conversation for you. The animated sales videos like one you would embed in your website could likely run as little as \$2,500.

Our sales video was produced by a local advertising agency. It was professionally done, and we use it in conjunction with 'lunch and learn' events held at the contractor's office. We spent nearly \$12,000 of our advertising budget to create the video; an unusually high advertising expense for us, but the first time we presented it to a general contractor, we walked out the door with a nursing home project. The video paid for itself several times over.

Our website ([schillerhardware.com/about/](http://schillerhardware.com/about/)) includes a link to part one of our three-part sales video. We produced it

many years ago, back when we had to lift doors manually. Though it needs updating, it still works today as a valuable sales tool.

You cannot expect the contractor without previous experience receiving your pre-installed pricing to understand what you are providing him. He has a carpentry price; very difficult to compare when you are doing much more for him than carpentry service. The carpenter bid and your bid offer the same outcome, a door that swings in the opening. You need to show him that your way offers him so much more at the end of the project. Your way is greener. Your way cuts down on errors. There are many intangibles that add value. Take the opportunity to explain how and why that it is. Put those dollars in your pocket.

For those who are experiencing the boom in the use of electrified hardware, PI of electrified locks, panic devices, and all the rest are made easier by bench testing or commissioning them in-house. Our normal installers are carpenters and not electricians. Having an in-house access control department helps smooth out the install and knowing that when the lock leaves your shop, the wires and lock all work.

These items will take more time and effort to install, so we have another area equipped with power supplies and the tools needed to deal with electrified hardware. It's also a fantastic training ground for estimators or project managers to get a firsthand view of what it takes to install electro-mechanical product. It is good for them to appreciate options such as quick connect cables that may cost you a bit more on the product cost side, but the labor savings on the install can be significant. That extends to the correct screws and several other issues where saving a buck on the product cost side while costing your installers two bucks in labor on the other end.

It was an honor for this doorknob salesman to write in the January 2015 *Doors + Hardware* about our challenges associated with pre-installation of hardware. Based on emails and phone calls that I received, there were quite a few of you who share this journey. Most were new to preinstall (PI) or were just curious if PI could work in their markets. So as not to retrace too much old ground with this latest article, I encourage you to dust off your January 2015 issue. There may be something in it that I did not touch on here. ■

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