

Prevent Errors With a Quality-Control Checklist

by Jud Aley

At my remodeling company, we rely on many forms and checklists to run our jobs. The one we use most is our quality-control checklist. This form began as a fairly simple scheduling template that I picked up from a management book. It included reminders about when to call subs and schedule material deliveries and so on.

We used the original template for a while but found that it had little effect on our projects; it really wasn't much more than a listing of the events that have to occur for a job to be completed. I needed something more comprehensive, a checklist that told lead carpenters exactly what construction details and job-site procedures I wanted them to use.

Construction Details

Like many remodelers, I prefer to use certain construction details, so I started adding notes to the form about how to do the work. Perhaps a construction issue would

come up during a meeting with clients, or I'd think of something in the middle of the night — and then I'd write myself a note and add it to the list later on. If an idea came to me while I was driving down the road, I'd call my answering machine and leave a verbal note there.

Over time I added quite a bit of information to the template — so much that it has now become our quality-control checklist. The first items I added were flashing and waterproofing details, because even small leaks can cause a lot of damage. I've learned this the hard way and do not want my subs and employees to repeat mistakes I already know how to avoid.

Shower pans. For example, I've seen plumbers lap shower-pan liners the wrong way and then tell me the shower won't leak once the tile is on. A mistake like that is hard to miss, but many smaller errors can be detected only by leak-testing the pan.

I want the leak-testing to be done right, so the list

Item	X below if required	Description	Date Required	Production Dept.	Client Selection	Estimating/Sales Dept.	Date Completed	Lead Carp/PM initials to confirm completion
238		Confirm with plumber and production manager on site and in person that vinyl liners for shower benches, shelves etc... are properly installed and FULLY LAPPED over vinyl shower pan so any seepage runs into pan liner. PAY PARTICULAR ATTENTION TO CORNER DETAILS where vinyl laps over the edge of shelves and benches or turns a corner. Often the plumber will cut the vinyl at these points to make installation easier for him/her. Unless this is properly detailed with "Vinyl Corners" it will create an avenue for water leaks.						
239		Water-test every vinyl-lined shower bench and shampoo shelf. At a MINIMUM pour (3) 5 gallon buckets of water on every vinyl-lined bench and shelf. Be sure to sign your initials to confirm that you have completed this quality-control test and all benches and shelves are leak free.						
240		After completing above, plug shower drains and fill shower pans with water for long-term multi-day leak test. Ask the production manager for the proper drain plug. DO NOT use a rag to plug the drain for this test.						
241		NOTE: Do not fill shower pans at the end of the day or on the last workday of the week. Start test in the morning so if there are any severe leaks you will know about it by the end of the day and minimize potential damage in an occupied home.						
242		Do not allow anyone to stand or work in an unprotected shower pan at any time.						

This section of the checklist — items 238 through 242 — pertains to vinyl shower-pan liners. The lead carpenter is expected to perform these tests and inspections and confirm that he did so by writing the date and his initials in the far right-hand columns. An earlier item reminds the lead to install blocking for the pans during the framing stage.

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reminds leads to use the proper-size drain plug (not a rag); to test the benches and shampoo shelves; and to fill the pan in the morning so that if there's a severe leak someone is there to fix it (see checklist section on previous page).

Addressing this topic on the checklist shows that I am very serious about these issues and that there is no excuse for building a shower pan that leaks.

Frozen pipes. Another example of a quality-control item is pipes in outside walls.

I don't care how much insulation is in the walls or how much pipe insulation is wrapped around the pipes; it has been my experience that if you put pipes in the wall in a cold climate like ours, sooner or later they will freeze and burst. Then I end up getting an irate call from the client (usually on a weekend) and

have to spend time and money fixing the problem — which could have been avoided by placing the pipes in the floor cavity and not in the outside wall.

For this condition, I added the following item: "Lead and production manager confirm *no water pipes in outside cold walls or cold floor overhangs* that may freeze in the winter. Pipe insulation is *not* an acceptable alternative to this."

Electrical boxes. Although they're not as dire as leaks, I also have a problem with electrical boxes that are installed too close to the trim. They look bad, and sometimes the only way to get the cover plate on is to trim the edge. Personally, I like to see an inch or so between the top of the wainscot and the bottom of the cover plate.

After running into this issue on more than one occasion I added this item: "Con-

firm layout of electrical, cable, and phone outlets, and switches in walls that will be tiled. If switches/plugs are above tile wainscot, be sure the bottom edge of their cover plate is a minimum of 1 inch above wainscot. *Cutting the bottom edge off the cover plates is not an acceptable solution to lack of planning and poor layout.*"

How We Use the List

The checklist exists as a spreadsheet on my computer. At the beginning of each job, I print out a copy for the lead to keep and use on site.

It's long and very detailed, but there's nothing on it I wouldn't do myself if I were the one running the project. It's basically an instruction manual that helps lead carpenters — who may not be as experienced as I am — get difficult details right, inspect what needs to be inspected, and

	X below if required	Description	Date Required	Production Dept.	Client Selection	Estimating/Sales Dept.	Date Completed	Lead Carp/PM - initials to confirm completion
302		Phase meeting #4—pretrim						
303		Confirm appliance selections for cutouts						
304		Install overhead doors						
305		Interior doors & millwork package delivered						
306		Confirm that fireplace mantels will meet code-required clearances at above the firebox and at the sides of the firebox.						
307		Confirm with production manager that millwork & trim are in house for 5-day acclimation period prior to installation						
308		Start interior trim						
309		Set interior doors & trim						
310		Order cabinets or build cabinet bodies						
311		Order cabinet doors (if not job-built)						
312		Install crown, closets, base & window trim						
313		Trim stairway & install handrails						
314		Hang cabinet doors						
315		Provide interior paint color samples						

The notes in the checklist are color-coded so that different types of tasks are easier to identify. Blue items have to do with customer selections and are important to track because they require lead time. Scheduling reminders are in black, material-ordering reminders are in orange, and standard operating procedures are in red.

stay on top of scheduling and ordering.

Not every line or column gets used on every job. At the beginning of each project, I go over the list with the lead; if a line item does not apply, we strike it through with a pen. Anything we don't strike through is required on that job.

If I want to remind the lead that a particular item is especially important, I'll put an "X" in the column labeled "X below if required."

Dates. Schedules are often fluid on remodeling jobs, so we rarely use the column labeled "Date Required." But we might use it when an item needs to be selected by the client or when we need to order something with a long lead time.

Who is responsible. The next three columns — "Production Dept.," "Client Selection," and "Estimating/Sales Dept." — have to do with who is responsible for making a decision or dealing with a particular item.

We don't use these columns all the time, but when I want to call attention to something I'll put an "X" in one of them. The most frequently used of these columns is the one for client selections.

Completed items. The last two columns — "Date Completed" and "Lead Carp/PM initials to confirm completion" — are used only some of the time.

For instance, the lead wouldn't fill them in to confirm that he had finished installing the baseboard — I can tell that by looking. But he would fill them in to indicate that he inspected something that might not be visible when work is complete, or that he performed an important action that would be difficult to confirm later on.

Input from leads. The checklist is very detailed, but that doesn't mean my leads are like robots — there are plenty of issues they have to figure out on their own. It's just that there are certain problem areas I know how to deal with, and I don't

want the crew to invent solutions that may or may not work.

If we encounter a new situation, I may add something to the list, and if the lead can convince me there's a better way to do something, we'll change the instructions for that task.

Otherwise, the default position is to do it my way.

Our checklist contains 400-plus items and prints out to about 20 pages. That's a lot of items and a lot of pages. But face it: If you do a whole-house remodel or an addition with a kitchen in it, the number of decisions, details, and scheduling issues that you deal with will come to many times that amount.

There is no need to page back and forth through the checklist because tasks are listed in the order they'll be done.

At the suggestion of one of my leads, we recently began color-coding items. Job-scheduling items are in black, client selections are in blue, and material-ordering items are in orange (see checklist section on previous page).

Standard Operating Procedures

Even after we began using this checklist, there were times things weren't done the way I wanted. When asked about it, lead carpenters and subs often replied, "Well, I guess you could do it that way, but I've never had a problem with it this way" or "Oh, yeah, that's right. I forgot. Next time I'll do it that way."

After hearing those kinds of comments, I added a paragraph at the top of the list reminding leads that certain items fall under the category of company standard operating procedures (SOP) and are not optional. To make those items stand out from the rest, I color-code them in red.

Subs. One problem I've run into with lead carpenters is that they are sometimes hesitant to tell a sub he needs to do

something our way, not the way he's used to doing it. Since leads want to get along with the subs, they sometimes let certain details slide.

The checklist makes it easier for leads to enforce the rules; if the sub complains, the lead can show him the list and say, "Nothing personal, but this is company policy and my boss will come down on me if we don't do it this way."

The End Result

We started using this checklist a couple of years ago, and I can definitely say that it has helped. There have been far fewer cases in which I've arrived on site and had to ask someone to rip something out because it isn't right.

My leads like being able to skim through the list to see if there is anything they forgot to take care of. Once a week I visit each job to review the list with the lead. I can't say the leads enjoy the documentation part of it, but I think they see the value in it.

Many of the items the checklist contains would be second nature to a lead with 20 years of experience. I've found that if a lead is a good carpenter and refers to the list often enough, he can run a fairly complex job even if he has only five years of experience.

The Production Schedule & Quality-Control Checklist — as we've formally dubbed it — has been helpful as a sales tool as well. It impresses prospective clients and shows a level of organization and systemization that few contractors have. In short, it gives prospects confidence that they'll receive a quality job.

To download a copy of the entire checklist, go to <http://www.jlconline.com/quality>.

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