The ONE-MAN CREW

by Tim Faller

One person working alone is usually the most efficient way to build, but it takes special management policies to make it work

We have all joked about the inefficiency of a stereotypical road crew, with two people leaning on shovels while a third does all the work. But when we stop to think about it, our own practices aren't much different: Too many workers on one job creates labor cost overruns, and not enough workers creates a slowdown. In the remodeling business, labor mismanagement can break any budget and ultimately cause business failure. We're all looking for ways to manage our crews for maximum production, and regulating crew size is one way to do it.

Two's a Crowd

Holding the line on the labor budget often determines the success of a remodeling company. The smaller the crew size, the better your chances are of producing a quality product and making a profit. This holds true right down to a one-man crew. If a job can be physically handled by one person, productivity will be greater than if two people are assigned the same job.

Ownership. The reasons for this lie more in human nature than in job skills. As a carpenter working alone on a job assumes more responsibility, his sense of "ownership" grows. This sense that the success of a job directly depends on his or her performance increases productivity. Carpenters find the challenges of ownership hard to resist because they have traditionally been considered a dispensable part of the team.

Who's in charge? When two people are assigned to a single task, one of them inevitably becomes the supervisor and the other the supervisee. When one takes time away from work to look over another person's shoulder, productivity suffers. It's reasonable for the lead carpenter to inspect the work at various intervals to ensure quality control, but that is vastly different from two people running baseboard and both of them checking to see if the miter fits. Stopping and starting to answer questions, check work, or simply talk about what you did last night wastes valuable production time. And as crew size increases, coffee breaks seem to consume more time, and each day's startup and cleanup take longer as well.

People skills. Carpenters are usually not good managers. They spend years learning their craft, but almost no time at all learning how to handle people. Good carpenters can often bring out the best in themselves, but not necessarily in others. Matching tasks to people of varying abilities and motivating them to stay within the budget while still producing a quality product are skills that must be learned. Carpenters should receive some training before they are asked to manage other workers. Personality conflicts, prejudices, and bad moods complicate matters, and inexperienced managers will tend to throw up their hands and quit trying. The minute you hear your carpenters say things like "this is not in my job description," you know you're about to throw away large chunks of money from your labor budget.

Over the years, we've had people who are excellent craftsmen, but poor managers. In one case, on a large job that required three or four people, the lead carpenter didn't produce anything himself because he couldn't let the rest of the crew do their work without constantly looking over their shoulders. In another case, a lead carpenter got it exactly backwards, assigning a helper to hang a door and giving himself the job of tearing out a tile wall. But the classic example is the carpenter who left a helper to set cabinets while he took lunch orders and went to the store. This is mismanagement at its worst: $20 an hour goes shopping while $13 an hour works.

Numbers Don't Lie

Maybe some figures will help to illustrate more clearly how this affects the budget. Start with a crew of one carpenter at a cost of $20 per hour. When you add a $13-per-hour helper to the crew, you increase your labor cost by 65% to $33 per hour. Assuming that you get maximum production out of the carpenter working alone, the value of adding the helper can vary considerably (see Figure 1, next page).

In the best of circumstances, both will produce at full capacity and you will get $33 worth of production for your $33. It is more likely, however, that at least some of the time the helper will simply "hold the shovel" while the carpenter works. In this case, you will spend $33 for just $20 worth of production, which works out to about 61¢ on the dollar.

This means that for every production dollar you spend on the two-man crew, you will get between 61¢ and $1 worth of work — often closer to 61¢. (In the absolute worst scenario, the helper works and the carpenter holds the shovel, in which case you get a mere 40¢ on your production dollar.)

The fact is that each additional person on a crew tends to lower the crew's productivity. So unless the additional person is absolutely necessary on a job, the risk to the budget is too great to keep him on. On an average job, losing $10 to $20 out of every $100 spent on labor could add up to a large sum of money.

Managing More Than One

One person can handle an enormous amount of work, includ-

Crew Size vs. Productivity (or "Too Many Hands Make Costly Work")

Original crew	Cost of crew per hour	Cost of added worker per hour	Cost of new crew per hour	Value of production per $100 spent	
				Worst case	Best case
1 Carpenter	$20	$13 (plus 1 helper)	$33	$61	$100
1 Carpenter 1 Helper	$33	$13 (plus 1 helper)	$46	$72	$100
1 Carpenter 1 Helper	$33	$20 (plus 1 carpenter)	$53	$62	$100

Figure 1. *In general, the larger the crew, the less efficient the work — particularly when you add to a crew just to keep another worker busy. The worst case scenario assumes the added worker stands idle while the core crew works efficiently.*

ing tasks that have traditionally been done by a crew of two or more. Almost all of the work on small additions, for example, can be done by one person. Even kitchen cabinets, which are almost always installed by two people, can be leveled, fitted, positioned, and screwed in place by a lone carpenter skilled in the use of jigs and temporary supports. If the countertop requires two people, send a helper, but only after the cabinets are in place.

But some portions of a job, such as installing the rafters and sheathing, require a second or third person. Whenever it is necessary for more than one person to be on the job, follow a few simple rules.

Matchmaker. Until the lead carpenter has demonstrated an ability to manage people, take responsibility yourself for matching people to specific tasks and defining each person's role. This will help the lead carpenter learn how to use individual workers effectively; it will also eliminate power struggles or the jockeying for position that often occurs when two carpenters are assigned to the same job.

Get in and get out. If needed, additional people should be sent to the site as close as possible to the time they are needed and taken off the job as soon as they are no longer useful. This complicates scheduling, but it can save the bottom line. Too often we leave people on a job long after the need for them is satisfied simply because we have nowhere else for them to work. The harsh reality is that if you don't have a place for someone to work productively, you should give them a little time off.

Request forms. Finally, use a weekly request form to handle changing manpower requirements (see Figure 2). These forms should be turned in one week in advance to give office personnel time to evaluate the situation. Using forms will also force your lead carpenters to plan their manpower needs more carefully.

Time and Space

The time frame in which a job must be completed often affects manpower scheduling. Even though one carpenter working alone will be better for your budget, time constraints may require a larger crew. Two people can complete a job faster than one, but the trick is to maintain efficiency. The best way to do this is to divide the job into smaller tasks and create several one-man crews. This gives each person ownership of a piece of the job and encourages working independently. For instance, while a mason lays block for the foundation, a carpenter can take care of the interior demolition. A large project can be organized by room or by individual tasks, like all door trim or all baseboard. Make lists of tasks so that each person can move quickly from one task to another without having to stop and think about what comes next. Write this list down on paper (not a scrap of 2x4) and post it on a clipboard where everyone can see it and check off tasks as they are completed.

The size of the workspace also dictates crew size on many remodeling jobs. Whoever is responsible for scheduling manpower must take into account that only a certain number of people can work in one space at a time. Kitchens and baths are usually too small for more than one worker, and you waste money when you have two people working in a one-person space.

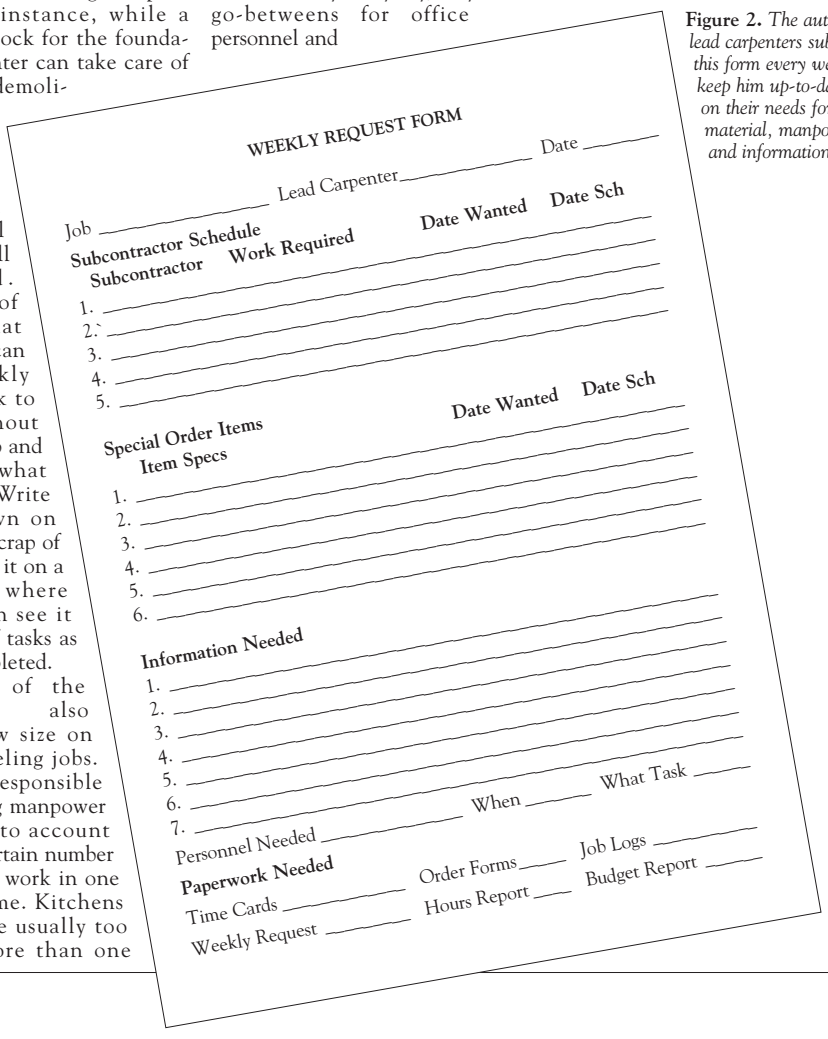
Lead Carpenter

A one-man crew works best, but only if you don't juggle your personnel too much. We solve this problem by using lead carpenters on every job. These people can have a variety of titles, but whatever you call them, they carry the job from start to finish as on-site working supervisors.

Because lead carpenters are on the site all day every day, they act as go-betweens for office personnel and help the company respond to the client quickly and effectively. In the traditional management approach, in which a series of different crews moves through the job, the client doesn't feel comfortable enough with any one person to discuss problems or ask questions. When this happens, clients tend to bury their concerns until later. In the meantime, small problems may grow into major points of contention.

In addition to performing a substantial amount of the actual construction, the lead carpenter is responsible for ordering material, setting the schedule, calling subs, and finishing up all punch list details. This frees up the production manager or company owner to focus on other aspects of the business — company growth, job costs, special-order items, change orders, and customer service — instead of having to be on the job to ensure the work is being done.

The biggest problem with this system is that as a job nears completion, the lead carpenter will become anxious to move on and will "forget" the details. The temptation is to leave punch list items to another carpenter while the lead starts a new project. But if this is allowed to happen, the job may drag on for several weeks after it


WEEKLY REQUEST FORM

Job _____ Lead Carpenter _____ Date _____

Subcontractor Schedule

Subcontractor | Work Required | Date Wanted | Date Sch

1.
2.
3.
4.
5.

Special Order Items

Item Specs | Date Wanted | Date Sch

1.
2.
3.
4.
5.
6.

Information Needed

1.
2.
3.
4.
5.
6.
7.

Personnel Needed _____ When _____ What Task _____

Paperwork Needed

Time Cards _____ Order Forms _____ Job Logs _____

Weekly Request _____ Hours Report _____ Budget Report _____

Figure 2. *The author's lead carpenters submit this form every week to keep him up-to-date on their needs for material, manpower, and information.*

should have been completed. It's better for both morale and the budget when the lead carpenter stays on the job until all the details are finished.

Motivation

Every carpenter is different, and you must find out what motivates and challenges each person. Some carpenters are spurred by a compliment, others by fear. Approaching each person on a level that they will understand and respond to will result in greater productivity.

Responsibility. In our company, we introduced financial incentives to try to boost productivity, but it had only a marginal effect because the carpenters felt they were already working as well as they could. Since money was tight and we couldn't raise wages, we abandoned the bonus system in favor of giving the carpenters more responsibility for the jobs they were doing. The jury is still out on this plan, but it has created lots of enthusiasm and we expect to see greater profitability.

Freedom. When you give people responsibility, you must also give them the freedom to get the job done in their own way. If you micromanage, it will drive your carpenters crazy. As long as they build safely and according to plan, we allow them the freedom to use their own techniques and abilities, including problem solving. Not only does this improve morale, it also makes good use of an individual's experience to help get through the tough situations that come up regularly.

Information. For this system to work properly, however, you have to provide your lead carpenters with as much information as possible. They should have all the paperwork associated with their projects, including budget, contracts, and price lists. This also means telling them how much profit you expect the job to generate, and how you plan to earn it. This is an issue of trust, but if a person believes they've been entrusted with inside information, their production will improve. And the more they know, the easier it will be for them to make decisions that will be good for the company.

Quality control. At the same time, you have to maintain quality. Make regular checks and learn how to correct without criticizing. Use a checklist at each major step in the production process to inspect the work for conformance to the plans and specs. This will eliminate many problems down the road.

Attitude. Your enthusiasm can be catching. The way you or your field supervisor approach troublesome jobs will affect the attitude of the lead carpenters. If they are beaten down by the problems on their jobs, it will show in their work. The first rule should be "no bad-mouthing the client," no matter how hard the job becomes. I've had carpenters describe their projects as "the job from hell," and I've heard clients called worse; it has always had a bad effect on morale. An optimistic attitude will also leave its mark.

The lead carpenter concept creates a new class of carpenters who no longer feel expendable. Because they are a critical link in the success of the company, they have a more positive, optimistic outlook on the job. This leads to improved efficiency and better productivity. ■

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