



MACHINE CONTROL: JUST SPIN OR THE REAL DEAL?

By George S. Smith

General contractors read every day about how they need to add machine control to their big iron, how much time it can save on every facet of every job, and how much money it can drop to their bottom line.

How much of the spin is marketing fluff and pabulum, and how much is fact?

Here are some things to consider:

- Less than 10 percent of the heavy construction equipment in the world is outfitted with any type of machine control.
- Machine control technology is advancing exponentially every day, creating innovative applications for savings in time and money unparalleled in the industry.
- Some experienced heavy equipment operators resist the change to machine control and in-cab monitoring of cuts and grades. Once exposed and trained in the art of machine control, they would never go back.



Above: Larry Cox of Heber Springs, Arkansas, grade checks in front of a machine-controlled grader.

Left: Becco Contractors of Tulsa, Oklahoma, uses machine control to its advantage.



ABOUT the
AUTHOR



George S. Smith is a longtime newspaper reporter, editor, and publisher who has worked at three major companies as an internal and external communications manager. He is the senior manager for corporate communications for Topcon Positioning Systems.

- Once introduced to the opportunities of measurable savings on every single phase of every job provided by machine control installation, contractors never long for the “good old days.” In many cases, the good old days included blue-topping, placing stakes all over a jobsite, and spending days on a job phase that can now take just hours.

The biggest obstacle to a contractor signing up for a full-blown, top-of-the-line machine control system for a dozer, grader, or excavator is, well, money. The best systems on the market are, at first glance, expensive.

But the overriding questions on any piece of construction equipment should be: What is the return on investment? How long will it take to recoup the cost of the equipment by jobsite savings?

QUICK PAYOFF

Simply, using satellite signals to create precise positioning of heavy equipment was conceived, designed, and created to reduce costs. If modern technology did not save time, labor costs, and wear and tear on machinery—plus, most important these days, save on fuel costs—there would be no need for around-the-corner technology to exist.

Believing that new equipment can enable users to work smarter and faster is a crucial consideration when trying to make a decision about machine control capabilities—or any other technology—to a company’s fleet.

Simple question: If you could put more money in the bank from every cubic yard of dirt moved, would you do it? That’s precisely what modern machine control technology is designed to do: Increase bottom line dollars.

Every company monitors productivity in its own way. Cost per hour, fuel usage, material ... the list varies from business to business.

In the simplest of terms, when utilizing satellite signals for positioning equipment, an operator will be performing the same functions of a two- or three-man survey crew. The logical follow-up question is: What is the cost of the survey crew versus the cost of a single rover operator?

What is the payback? It all depends on the business skills (planning, setting up job functions, etc.) and the size of each project.

John Pettigrew, a dozer operator for Becco Contractors of Tulsa, Oklahoma,

is a 40-year veteran of pushing heavy equipment around jobsites. He has decades of experience in every conceivable jobsite situation and knows how long it should take to complete a specific task. He started using 2D machine control 7 years ago and recently switched from the GPS-only system to GNSS (Global Navigation Satellite System) machine control (dual-constellation reception from both GPS and GLONASS systems).

“Using millimeter GPS machine control cuts the average operator’s time on any specific phase of a job by half,” says Pettigrew. “I used to have to wait [for hubs to be set and lining out the equipment], but now all I do is wait for them to set up a base station, and I’m off and running.”

Pettigrew’s experience is not unusual. Larry Cox of Heber Springs, Arkansas, runs a family construction company. He and his two sons started working on a large sports complex (eight baseball fields, five soccer fields, and four parking areas) and found out that he needed new technology on the jobsite.

Due to the abrupt changes in elevation on every part of the 45-acre site, Cox knew he needed more muscle in solving the potential grading problems. He did his research, comparison shopped, and purchased a Topcon GR-3 satellite receiver, HiPer Lite + receiver, and 3D machine control for his grader.

Then it started raining. Over the next year, it rained more than 130 days, and that didn’t include drying time.

The world’s best GNSS equipment won’t do a contractor much good if the crew can’t get on the site to work. “When the rain finally let up, we were able to get on the site, set up quick, and get to work,” says Cox. “There’s no way we’ll make up all the time lost. But I can tell you we’re doing dirt work twice as fast or more than we’ve ever done it before. It’s saving us time and money. And we’ll pay for the equipment on this one job.”

As with any business decision, there are no guarantees of exact bottom line success if a contractor decides to accept the challenge of working with true multi-satellite constellation precise positioning equipment. What an operator can save depends on the three most crucial aspects of any business: personnel, equipment, and monitoring and evaluation of every phase of the operation.

For those contractors still thinking about the possibility of adding machine control to their fleets, the question is no longer if they will do it, but *when*? ♦



Why Go Paperless?

- 1 Would you like to have instant access to corporate documents and files, even from remote locations?
- 2 Have you ever needed a document but could not find it?
- 3 Are your electronic documents, emails, and files scattered around your network?
- 4 Do you know how much job cost is “out there” waiting for approval and posting?
- 5 Are your corporate documents “safe” in the event of a disaster?
- 6 Are you spending too much money on Fed-Ex, UPS, or other courier services?
- 7 Are your project managers spending too much time processing paperwork?
- 8 Are you using valuable office space for file cabinets and boxes?
- 9 Are you spending too much time and money on preparing backup support for audits, T & M Billings, vendor requests, etc.?
- 10 Would you like an electronic time collection system without changing your field processes?

www.paperlessenvironments.com

TF:(866)431-4695