

Special Report: Training

By LARRY STEWART, Executive Editor

Production Heroes

Take the Textbook To the Trench

One hint that helps fill a bucket, pile spoil or load trucks five seconds faster can add a third to profits

It's too easy to settle for the usual way of digging trench when soil conditions or limited right of way challenge the textbook prescription for setting up a job. It's a mistake to throw out the textbook in less-than-ideal conditions, though, because even tiny improvements in production can add up to significant profit gains.

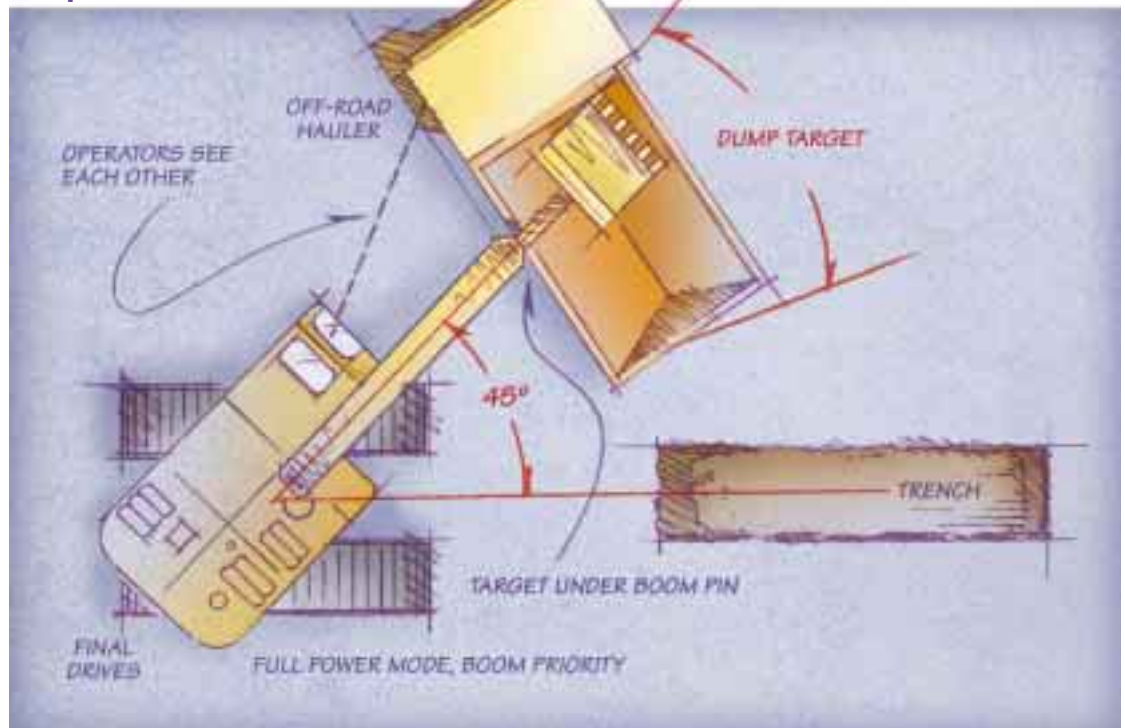
Consider this real-life example shared by a *Construction Equipment* reader. The contractor isolated the excavator cost in a 4,985-foot pipe-laying job. The estimate assumed a 76,000-pound machine would dig a foot of trench every minute and 41 seconds, at a cost of \$2.26 per foot. A minor improvement in digging methods that trimmed

The ideal setup for loading spoil in trucks puts haul units close to the cut where bucket swing is short and through the end gate. Dump as it swings, smoothly filling the truck body and unloading the excavator before it must reverse the swing direction. Place dump targets just off the end of the boom, so extending the stick to dump also positions the stick to begin the next cut. You'll seldom see all of these conditions on a trenching site, but managing any glimmers of these elements will boost productivity.

just 5 seconds from each excavator cycle (a 5-percent change) would cut nearly a day from the project. More significantly, it would boost gross profit on the excavator portion of the job 33 percent higher than the estimate.

Almost anybody can improve their productivity by 5 percent. Programs such as Standards Based Operator Training (SBOT) from Caterpillar Equipment Training (CET) and VISTA Training's TIPS from the Pros videotape series recognize the value of refining experienced operators' skills. They

Glimpse of Perfection



focus on advice that will improve production with each cycle, but emphasize how to do it safely.

It's clear that any excavator operator should get OSHA's competent-person certification for trenching. The operator will be first to notice variations in soil conditions that require a change in trench shoring or sloping to keep people safe.

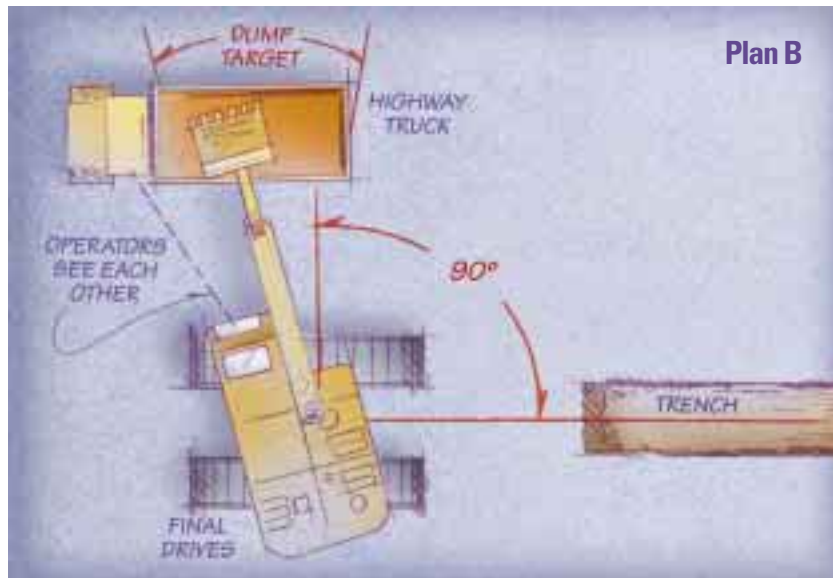
Before starting work on any site, the utilities need to be located and potholed to confirm their depth. VISTA's TIPS From the Pros series recommends walking the site to look for hazards like drop-offs, soft spots, and power lines. Climb down from the machine every now and then during the day to look at what's around behind.

Merle Hermsen, operator trainer at John Deere, pays particular attention to maintain-

ing solid footing.

"Make sure the machine's setting level," he warns. "If you're working across a slope, bench up the downhill side so the trench walls will be straight up and down. If there's a hole behind you, swing around with a bucket full of dirt and level it off before you move back."

Everybody recommends inspecting a machine before starting to work. But Tom Brady, training coordinator for Cat's SBOT program, suggests that the best time for a really thorough once-over is probably at the end of the day. If you find a leak or a loose or broken part, there's a chance to fix the machine before the next morning. Grease will flow into warm joints much more easily, too. Then morning walk-arounds boil down to checking cold fluid levels and making sure the machine hasn't been damaged in the night.



The best hope for most developed trenching sites pulls trucks alongside the excavator where they can be loaded over the tailgate. If the tailgate is placed at about 90 degrees of swing, you can extend the stick back into the digging position while dumping over the truck bed.

When right-of-way limits force trucks to back in behind the excavator, switch power modes to swing priority and load over truck side rails. If spillage slows production, working with less-than-heaping buckets may help. If you can angle trucks enough to load over the tailgate, it will cut cycle time significantly.

