

A Contractor with All the Skills



Getting around the country to multitudes of work sites we hear a lot of interesting stories. Few are as remarkable as that of Jim Bassett of BassEarth based at Eltham, Victoria.

In our last issue we ran an article whose theme was that owner operators should not hold back from tackling GPS. Indeed, a major contractor we spoke to at that time expressed the view that owner operators are in a better position to benefit from GPS than many larger earthmoving organisations. And a dozer operator recommended that younger owners who planned to make a career in the industry should grasp the nettle and take up this technology.

Jim Bassett's story, in a nutshell, relates how an operator has kept his family business small and manageable, but added an extraordinary depth of expertise. By doing so, he's created secure demand for his services and opportunities for the future.

Pioneer in Laser

Jim admits that this all stemmed from boredom. "I'd been sitting in a yellow cab for thirteen years," he says, "and I thought 'there must be more to life than this.'" He threw himself in at the deep end with a dual grade laser to

guide his traxcavator, at a time when they were so new that others on his sites asked 'what the hell is that?'

Jim Bassett set out to achieve full automation of the blade of the traxcavator, and worked closely with Laserbeams on the hydraulic controls. It's commonplace these days, but it was cutting-edge stuff then.

Says Bob Bent of Laserbeams, "Bear in mind that this was sixteen or seventeen years ago. I believe Jim was the first in Australia, and possibly the first in the world, to use an automated traxcavator blade."

"I certainly recall that we asked Caterpillar in the U.S. if they could give us some guidance—the reply came back that they'd never heard of it, but if we found out how to do it, please let them know."

Successfully applying these methods set BassEarth on the path to becoming a specialist constructor of high-precision surfaces, in such applications as prep work for concrete slabs.

Acquired Survey Skills

Phase two addressed the delay and expense of waiting for surveyors. Jim decided that he needed to become his own surveyor, and a remotely

controlled GTS801A Topcon robotic total station from Laserbeams got him out in the field doing his own set-outs. He's quick to acknowledge the help and encouragement he received from Bob Bent and the rest of the Laserbeams experts—and to admit that at times he made a welter of it.

But it wasn't just advice that moved him forward. Jim attended formal training classes at Laserbeams, and engaged their surveyor Mark McKinnon in one-on-one sessions.

"I was surprised how quickly Jim moved on from the survey total station to a full LPS system using a GRT2000 machine control robotic unit," says Bob Bent.

Digital Models for Machine Control

A major shortcoming we encounter on many LPS and GPS job sites is the quality of the digital models used to drive the systems. As with anything to do with computers, the principle applies, 'garbage in, garbage out.' Design engineers are either unwilling to supply the digital data because they feel it extends their responsibility to the execution as well as the design phase, or their data simply hasn't been produced in a suitable format.

In a most uncommon step, Jim Bassett decided to confront this issue head-on by learning how to handle *Civilcad*, the Topcon software component of machine control.

That's a bit like going into the concreting business, and deciding that to control it properly you need to manufacture your own cement. Jim admits that he drove the Laserbeams guys nuts with his never-ending questions, but from all accounts he's now a dab hand at *Civilcad*.

This of course puts him in a unique situation to create his own models or fix up the deficiencies of others. Everything he needs is in-house, so to speak.

Onwards and Upwards, to GPS

Bassett has taken the obvious next step, and is now using GPS, in the form of Topcon's latest and smartest Hiperlite rover that offers Bluetooth wireless connection between the GPS receiver and data collector.

Not doing things by halves, he went for the added Glonass capability unique to Topcon, increasing by 40% the number of available satellites and hence the accuracy and re-acquisition time.

With minimal training, the rover is currently in the hands of a site foreman who is using it to identify the depth of cut needed by a couple of excavators. It's a critical mission, because the excavation is in solid rock, and the last thing the contractor wants to do is to over-excavate. GPS will then control the placement of four compacted sub-grade layers of 150mm.

Design and Construct of Scoop

When we called on Jim Bassett he was working for Hilbert Constructions in the centre of Caulfield Racecourse, putting the finishing touches on a large dome-shaped grassed carpark with a training track running around its circumference. As with so many jobs



these days, what would have been a complex stringing job is now a piece of cake with automatic blade control by laser.

We've recently reported on the return to favour of towed scoops. Jim Bassett, along with Rob McMahon and a few others, is a strong believer that Bob Le Tourneau was on to a good thing back in the 1930s, and that these are far more efficient on certain civil jobs.

But as with everything else he does, Jim wasn't satisfied with someone else's idea of the optimum scoop. So after travelling far and wide (as far north as Townsville) and looking at every scoop on offer, he decided to avoid compromise by designing and building his own.

We'll bring you a more detailed story about that in our next issue. 

