

A GRADERMATE SOLUTION TO AUTOMATE YOUR EXCAVATOR

Gradermate's new automatic hydraulic grade control system.



GraderMate is a new automatic hydraulic grade control system, developed and manufactured by a family company in South Australia. The family has been working in the automation industry for over twenty years, and saw that automation was rare in the construction industry. After purchasing an excavator, they saw an opportunity to use their automation experience to develop a system specifically for excavators. The result was GraderMate.

GraderMate has been designed to fit to excavators, to control the hydraulics, enabling

them to easily create flat surfaces, slopes, trenches and profiles, with the press of a footswitch. The driver selects a type of surface using a touchscreen tablet, moves the bucket to the desired position, and then presses the footswitch.

A great source of joy for the family has been watching first-time users of GraderMate smiling whilst operating the system; grading perfectly flat surfaces effortlessly. They find people are surprised at how easy it is to operate, and its accuracy. Users were also pleased they didn't have to access complex menus on the tablet.

Peter, one of the sons involved in development says, "We appreciate that there are many experienced operators with high level of skills beyond grading, such as being able to visually discern where to move soil quickly. We want to provide these experienced operators with more convenience and less mental fatigue, while enhancing the abilities of less experienced operators."

Referring to the unique footswitch operation, he says, "Our system is independent of the joysticks. You can use the machine as

you normally would, but when you press the footswitch the machine takes over. It's hands-free."

The tablet interface is simple to use, and was designed for minimal interaction. It allows operators to maintain awareness of distances and depths on screen during operations, and they can keep track of their machine and bucket level at all times without leaving the cab.

GraderMate works by keeping track of each joint of the excavator with gyros, in order to control the hydraulics to make the desired grade.

Important to the developers was using high quality components to ensure endurance and reliability of the system. Their experience in automation, enabled them to design and manufacture all circuitry and software in-house. The hydraulic manifold, gyros and motion controller are encased in anodised billet aluminium, and the touchscreen tablet is contained within a billet aluminium holder. These were all manufactured by a local engineering company in South Australia.

For more information on GraderMate, visit GraderMate.com.

