

Challenger Auto-Guide boosts farm productivity and profits

Challenger tractors equipped with sophisticated Auto-Guide Satellite Navigation Systems are reaping big rewards for farmers. Increased operating speeds, reduced overlap and underlap and higher daily working acreages are all delivered by the system, which is designed to automatically steer the tractor.

With accurate, 24 hour-a-day tractor operation now possible, a much higher return on capital investment is possible using the Auto-Guide system.

“Using Auto-Guide virtually eliminates skips and overlaps” according to Challenger Product Manager, Rowan Bennett

“The number of rows per field is optimised and input costs of labour, fuel, machinery, chemicals and seed are all greatly reduced,” Rowan says.

Tractors using Auto-Guide can be operated at higher speeds, during darkness or in undulating paddocks. Hands-free steering reduces operator fatigue, with much less stress than operating with foam markers or light-bar systems, leaving more time to monitor and improve the actual performance of the equipment.

Different levels of accuracy are possible, depending on the demands of the farming operation:

- A sub-metre system, which is good for broadacre work, has a static accuracy of 75-100 cm (20 cm pass-to-pass) and uses the OmniSTAR VBS satellite system.
- A decimeter system, with static accuracy of 10 cm (pass-to-pass accuracy 2.5-5.0 cm), uses the OmniSTAR HP satellite or local base station. For applications where more accuracy is required, such as seeding or post-emergent work, the decimetre option is ideal.
- For high-value crops, a centimetre system with accuracy of one cm is available with a local, fixed base station. The base station is the smallest and most portable in the industry.
- A new optional addition called Auto-Guide Companion adds additional time saving features to the Auto-Guide system for mapping, wayline management, base station management and troubleshooting.

“One real advantage of the Auto-Guide system is that an upgrade to a higher accuracy system can be performed as farming practices change, without removing or replacing any of the original hardware,” Rowan says.

Auto-Guide uses a combination of GPS, selectable methods of Differential GPS and Real-Time Kinetics (RTK), sensor augmentation, communications and guidance software to automatically steer the tractor accurately.


The easy-to-use system is controlled through Challenger’s on-board display.

The operator sets the desired operating implement

width on the display and presses the waypoint button as the first pass across the field commences, to mark the first reference point. When the end of the first pass is reached, the button is pressed again to mark the second reference point. The system automatically creates a theoretical line between the two points. Then when Auto-Guide is engaged, the system automatically steers the tractor parallel to the reference line, if engaged within three metres of a calculated implement pass. The system will continue to guide the tractor back and forth parallel to the reference line.

“To resume manual steering, turn the system off with the Auto-Guide engagement switch, press and release the inching pedal, or simply resume steering with the steering wheel,” Rowan says.

The Auto-Guide immediately disengages and returns full control to the operator.

The Auto-Guide system, developed by Challenger in conjunction with Beeline Technologies, is fully ISO11783 compliant. The ISOBUS design of these tractors also provides links to Beeline and AEM systems. 



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