a measure of Success

DELTA SYSTEMS INC.

SCAG POWER EQUIPMENT

"We have had headaches with these modules for years. Delta worked with us and helped fix our problem."

Todd Wanie, Manager of Product Development, Scag Power Equipment

They can be used up to 16 hours a day, 6 days a week, and sometimes all year round. They are used in sweltering heat, freezing cold, and occasionally in heavy rain. They encounter sticks, rocks, sand and other debris on a regular basis. And if they break, you lose money. What are they? Commercial mowers. In the world of commercial mowing, time is money; so, high reliability is the name of the game. If the mower's not working, you're not working, and you're losing money.

The Challenge

Scag Tiger, Cub and Wildcat zero turn riders utilize an electronic control module that monitors the safety system of these mowers. If the module detects an unsafe condition, such as an operator getting out of the seat while the blades are running, it shuts the engine off. Scag wanted to improve the durability of their module. Much effort was put forth to find an improved module design that could withstand the challenging electrical environment of their equipment, but an acceptable solution remained elusive. Scag engineers Todd Wanie and Kevin Boeck knew that Delta was designing and manufacturing electronics for other outdoor power equipment applications; so, they approached Delta with their challenge.

Successful Solution

A Team Approach To Find A Solution

Delta had been a supplier of electromechanical switches to Scag for many years; so, they were already very familiar with the company's commercial mower products. Following initial visits to Scag, Delta engineers performed an analysis of the mower electrical system. Based on previous experience with this type of application, Delta discovered that the module design would need to be improved to withstand transients and voltage spikes commonly encountered in outdoor power equipment.

Together A Solution Was Found

To guide the development of the new module, product specifications and validation plans were jointly developed with Scag personnel. The project included over a thousand hours of testing on several field tractors. Additional tests at Delta included exposure to electrical conditions that had plagued previous module designs. At the completion of the program, the new module represented a dramatic improvement over previous designs. Scag saw an immediate reduction in production line failures, which were a daily event in the past. Even after the initial release, Delta personnel found areas in the design that could be improved even more, and updated the design to incorporate them.

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