Laser-Guided Spray Gun Hits New Target

Small manufacturer discovers big-time quality improvement with laser targeting device.

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When John Marshall went to the Iowa Waste Reduction Center at the University of Northern Iowa (Cedar Falls, IA) for help in late 1998, he got more than he bargained for. Not only did the IWRC assist him in sorting out the seemingly endless number of permits associated with environmental compliance, it introduced him to a device that is saving him paint material and money.

Marshall's Yellow Jacket Manufacturing (Griswold, IA) is one of the first OEMs to use the Laser Touch targeting device for spray guns, developed by the IWRC. Until recently, the only users of the laser technology were students in the IWRC's Spray Technique Analysis and Research program, and most of those users were involved in automotive refinishing.

Yellow Jacket uses the laser device to paint nearly 100 varieties of agricultural and industrial mufflers. "We were not very efficient when it came to painting," says Marshall, Yellow Jacket's owner, president and backup painter. "I have sprayed for many years, and I don't even consider myself an expert. But you can see the difference with the Laser Touch. It will really help us as our business grows."

Red marks the spot

Yellow Jacket uses the Laser Touch on an HVLP gun from AccuSpray Inc. (Cleveland). The Laser Touch is attached to the spray gun with a custom-designed bracket that can be easily adjusted for the company's other HVLP guns. Standardized brackets have yet to be developed for all brands of HVLP spray guns, although IWRC officials hope that situation will change as more gun manufacturers become aware of the technology and its benefits, according to Richard Klein, an IWRC senior research technician.

When the painter points the spray gun at the mufflers, two laser beams appear on the metal surface. The beams will overlap only when the spray gun is at the optimal distance from the object to be painted. If the painter strays from the proper spray distance or angle, two separate laser images will appear on the muffler, alerting him to the inconsistent spraying.

"This has helped reduce rework for us and increased the quality of our paint job," Marshall says. "We don't have runs, and we're getting better coverage and consistent film builds."

The quality improvement coincides with growing customer demand for better finishes on the mufflers. For example, to prevent premature rusting on its aluminized-steel mufflers, one Canadian manufacturer of skid steers—small earth-moving vehicles—is calling for Yellow Jacket to apply more consistent film builds around weld areas. "Customers really paid no attention to aesthetics five years ago, but that's changing," Marshall says. "Some construction equipment makers have space-age, rounded glass booths where the operators sit, and they are placing their mufflers up front and in sight. They want them to look nice."