



Humminbird Answers Their High Speed Production Needs with the Juki FX-3



Pete Walker of Humminbird with their Juki FX-3 Chip-Shooter

When Pete walker arrived at Humminbird as the new electrical process and test engineering manager he was tasked with increasing production capacity and improving first pass yield of their SMT production. Humminbird, a division of the Marine Electronics Group of Johnson Outdoors, is a highly respected manufacturer of marine electronics for the consumer and professional fishing industry. Their brand is defined by the quality and reliability of their products and customer demand was at an all time high.

The facility was currently running four SMT production lines that were utilizing all available production space. These lines were using outdated technology whose first pass yields were low, producing unacceptable levels of component scrap which affected production uptime and output capacity.

As is often the case in SMT production, the pick and place equipment was the area of greatest constraint and concern. Before his arrival, management had been in serious discussions regarding outsourcing production. “My immediate goal was to address the yield and throughput problems and keep production here at Humminbird,” Pete remembers.

Pete and his team immediately begin to develop a set of line specifications for acquiring new pick and place equipment that would not only solve their yield, throughput, and quality problems, but would also be able to reduce the footprint and consolidate production on three lines.

After an extensive selective bidding process, Pete and his team purchased three Juki KE2060R flexible placement systems. One important feature of the KE2060R is that it uses an advanced vision system allowing the operator to automatically “learn” the ball or lead patterns of even the most complex BGAs, leaded components, and connectors saving valuable time and improving placement accuracy. “We found that the Juki machines were dependable, reliable, repeatable, and up to the task of improving our yields and helping us to meet demand. These lines performed up to and beyond our expectations,” Pete said. On top of that, their choice of Juki equipment allowed them to cut their capital equipment expense by 25%.

In the ensuing three years, the Humminbird team got to know and understand what it meant to be a Juki customer. As Pete recalls, “Their service level was high right off the bat. They were available to give feedback and were responsive to us 24/7.” This level of Juki service set the stage for Humminbird’s next strategic purchase decision when the company decided to consider adding a Juki FX-3 high speed chip-shooter into one of their three lines.

In addition to improving yield, throughput, and accuracy, Humminbird was also focused on a machine that could offer quick change-over, low cost of ownership, and the ability to efficiently place smaller and more complex components. Pete explained the purchase process this way, “We sent request for purchase questionnaires and parts placement programs to three machine vendors. Each package contained a simple program, a more complicated program and a very complicated program. All three vendors supplied answers that were satisfactory as far as accuracy and speed were concerned. Juki was very quick to take the programs and come back with the necessary answers exhibiting the kind of service level we were used to.” Pete continued, “When you purchase a half million dollar piece of equipment you want to feel comfortable knowing that you will get a quick response from the vendor when you run into trouble.”

The Humminbird team also asked the vendors to supply customer names and sites where they could see the machine in operation. Two of the vendors suggested they meet at Apex which at that time was on the horizon, but a few months out. The Juki team also made that suggestion plus they set up a machine demo locally so that the entire Humminbird team could get a look at the FX-3.

The FX-3 appealed to the Humminbird team on several levels. It met their speed requirements with an IPC 9850 rated speed of 60,000 CPH and could place parts with great accuracy and repeatability down to 01005 components. It had a simple, efficient design that would require minimal maintenance and support high-uptime. It was a modular machine with a compact footprint that would maximum their production space and could easily be put in line with their existing KE2060R machines. It supported rugged trolleys and powerful line optimization software that would make change-over quick and easy. And like all Juki machines sold in the Americas and Europe, it came with a 3 year full parts warranty and 1 year labor warranty.

“Because Humminbird is a high mix shop we needed a machine that was flexible, easy to change-over, and that provided both high throughput as well as high-uptime. The FX-3 gives us this capability in a big way. We put the FX-3 inline with the KE2060 which allows us to simplify our process and gives us the ability to efficiently run production and accomplish change-over with even greater efficiency,” Pete said. He continued, “Because Juki machines are modular and fully cross compatible with other Juki machines, training operators to use the FX-3 was easy. The guys love it. It is user friendly and can really throw down some parts.”

The FX-3 will allow Humminbird to continue to move to new technologies and smaller form factors for at least the next three years. When asked if he was satisfied with his decision to purchase Juki equipment Pete concluded, “Hands down Juki offered us everything we needed and some extra, for a very good price. The decision to partner with Juki for our pick and place needs has worked out very well for us.”

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