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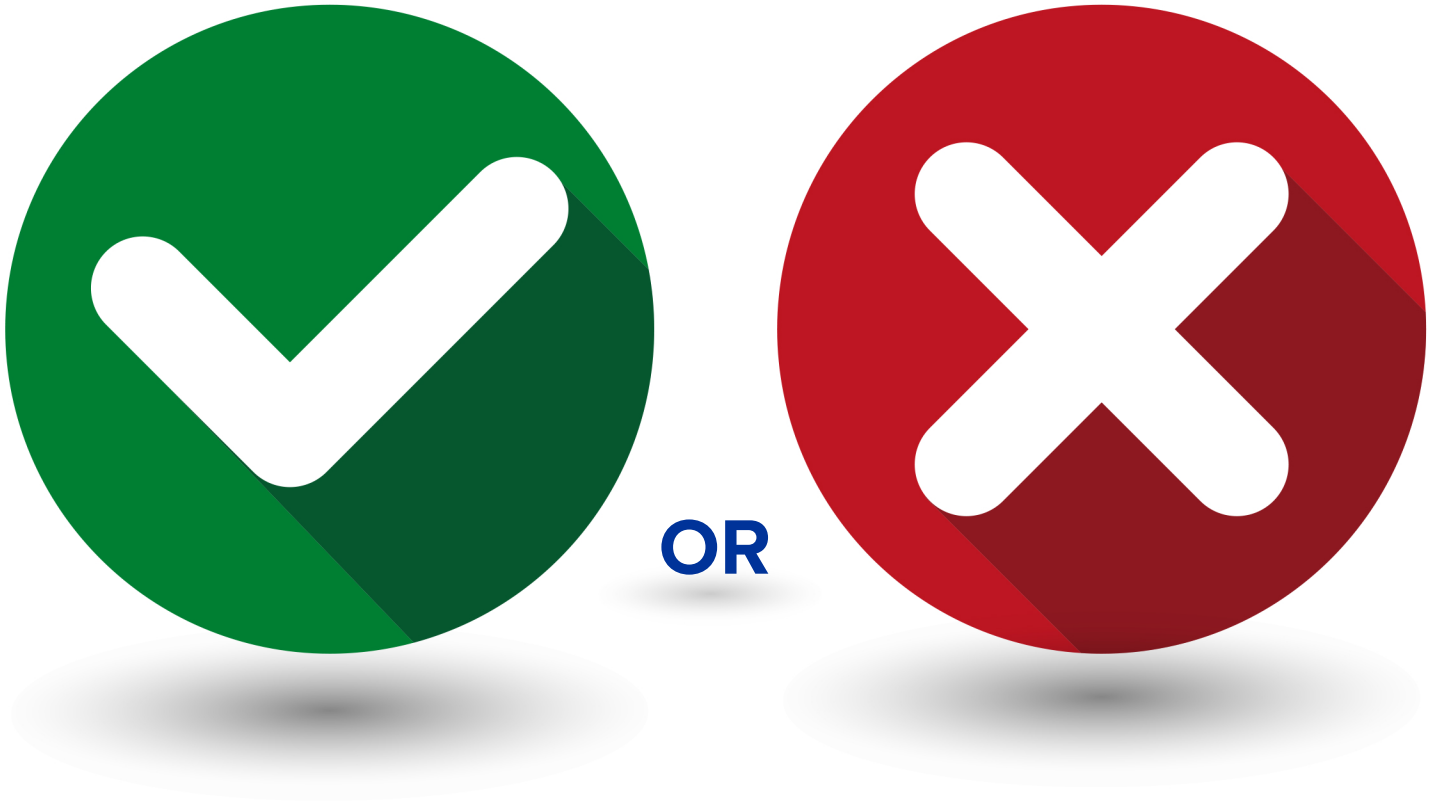

New Feeder Design for Eliminating Errors Prior to Placement

The Mannifest

by Emmalee Gagnon, MANNCORP

As new technology and methods have emerged, companies in the electronics manufacturing field now have new options to consider for improving their best practices. These practices have helped influence the design of new equipment with ground-breaking capabilities. One recent industry advancement is the design of feeders with built-in OLED screens. This innovation helps create a pre-inspection stage that allows for operators to review components before they enter the machine. By having pre-inspection capability at the feeder stage, companies running in-house equipment can avoid manufacturing hiccups before they occur—providing better turnover and less downtime.

Avoid Production Mistakes: Innovative Feeders with Built-in Displays

Before feeders with built-in displays hit the market, it was up to operators to use component counters for determining the reel information. Now, that information is stored directly and constantly updated within the feeder itself. These new feeders allow operators to review component quantities on reels, feed-

Figure 1: View component quantities, feeder slot locations, part numbers and values, and more on the built-in display.

er slot locations, part numbers, part values, and more—all while the machine is in use or offline.

Being able to view this vital information on the feeder itself will help solve problems before they occur. For example, if a reel has two of the same packages with different values, they will look the same, and the pick-and-place machine will not be able to tell them apart. An inspection machine may or may not be able to tell the difference. The result could be misplaced components. This pre-inspection stage adds an extra level of insurance that the correct parts will be placed accurately from the onset, fixing problems before reaching the inspection stage.

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Highlights of this new feeder type include:

- Component reel information is now stored/updated in the feeder
- OLED displays allow for easy monitoring of the component consumption status
- The feeder has an internal battery, so data will always be available in both online (connected to machine) and offline (standalone) modes
- Vision library names are displayed (for example 0201, SOIC16, QFP44, etc.) and the feeder stores the lot and date codes of components

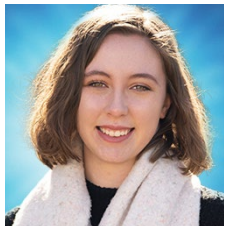
The Real-World Impact of the Improved Feeder Design

With operators being able to view important information at a glance, there will be fewer chances for mistakes. This is especially helpful if/when onboarding new employees who may be less familiar with the equipment, components, and the system. The innovative on-feeder display reduces chances of:

1. Placement errors on boards: Operators will see if the component is correct or incorrect before the part is placed, helping cut down on wasted PCBs.
2. Putting multiple feeders in the wrong slots: Operators will know what the part number is and which slot it goes into, eliminating the need to cross reference a feeder ID with the program.
3. Costly shortages and equipment downtime: The remaining part quantity is tracked and easily viewable, ensuring enough parts will be available to run the entire job in question.

A Small Change to Your Production Line for a Large Impact

Due to the scarcity of components and machine operators this year, equipment designers have risen to the unique challenges in the industry and provided this updated feeder design to reduce the amount of resources companies must devote to inspection and rework. These feeders are available and compatible with select pick-and-place machines released in the third quarter of 2021. By adding this pre-inspection technology to your equipment line, operators will be able to eliminate errors prior to placement, reduce the amount of work done during final testing and inspection, and save much needed time and resources. **SMT007**



Emmalee Gagnon writes about SMT-related topics and customer stories for Manncorp. To read past columns or contact Gagnon, click here.

Problems solved!

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