

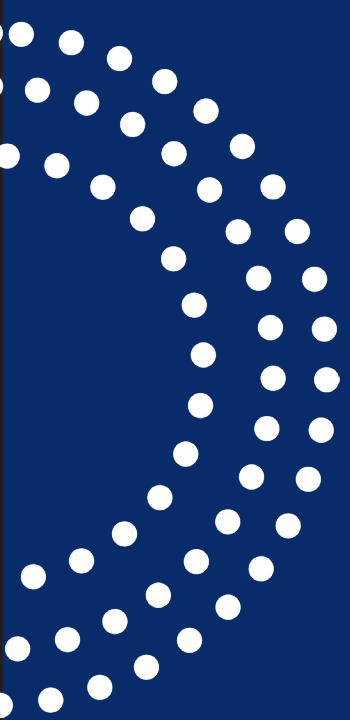


**SIERRA**  
ELECTRONICS



# Business White Paper

Tape Splicer Tool



[www.tapesplice.com](http://www.tapesplice.com)

# Increasing Efficiency in SMT Assembly with Sierra Electronics Tape Splicer Tool

## Executive Summary

In high-speed SMT production, every minute of downtime impacts throughput and profitability. Manual splicing methods are often inconsistent, slow, and prone to error. Sierra Electronics' TapeSplice Splicer Tool is engineered to make splicing fast, precise, and reliable. By streamlining reel transitions and ensuring perfect alignment, this tool reduces operator error, eliminates misfeeds, and maximizes SMT line uptime.

## The Industry Challenge

Reel changeovers are one of the most frequent sources of downtime in SMT assembly. When operators attempt to splice tapes manually, they risk poor alignment, weak adhesive bonding, and increased misfeeds. Each failed splice means wasted components, interrupted production, and costly rework. As SMT lines become faster and more complex, relying on inconsistent manual methods is no longer viable.

## The TapeSplice Solution

The TapeSplice Splicer Tool from Sierra Electronics provides a dedicated, precision-engineered solution for consistent, high-quality splicing. Designed with ease of use in mind, it allows operators to quickly create strong, gap-free connections between carrier tapes. By standardizing the splicing process, it reduces variability, prevents production errors, and saves valuable machine time.

## Key features include:

- Precision alignment system that guarantees accurate tape positioning every time
- Fast operation, cutting reel transition time significantly compared to manual methods
- Durable construction, designed for long-term use in demanding production environments



## Technical Highlights

The TapeSplice Splicer Tool features a robust, ergonomic design that makes it comfortable for operators to use during long production runs.

Its guided alignment mechanism ensures carrier tapes are positioned correctly, eliminating gaps and misfeeds.

The tool is lightweight yet durable, capable of withstanding the rigors of daily use on busy production floors.

## Comparative Advantage

Compared to manual splicing or low-quality tools, Sierra Electronics' TapeSplice Splicer Tool delivers:

Higher splice accuracy, reducing splice-related stoppages by up to 35%

Shorter reel transition times, improving overall production throughput

Lower operator fatigue, thanks to ergonomic design and simplified operation

### Case Example

An electronics manufacturer integrated the TapeSplice Splicer Tool into its SMT lines, replacing manual splicing.

Over three months, the company achieved a 20% reduction in reel changeover time, a 30% decrease in misfeeds, and significantly improved consistency across shifts.

Operators reported higher confidence in the splicing process, and machine uptime increased noticeably.

### Return on Investment

The TapeSplice Splicer Tool pays for itself quickly by reducing downtime, improving splice accuracy, and lowering labor costs.

With faster reel transitions, operators spend less time troubleshooting, and machines spend more time producing.

Over time, manufacturers benefit from higher yields, fewer defective boards, and a more efficient use of both labor and equipment.

# How TapeSplice Splicers Are Used

Sierra Electronics' TapeSplice Splicer Tool is designed for simplicity and precision.

Operators place the two carrier tape ends into the guided alignment channel of the tool, position the splice tape over the joint, and apply firm pressure to secure the connection.

The tool ensures perfect alignment and even bonding pressure every time, creating a gap-free splice that feeds smoothly through SMT machines. Unlike manual splicing methods, the tool eliminates guesswork, so even new operators can create production-ready splices in seconds.

## Made in the USA vs. Imported Alternatives

Many low-cost splicing tools on the market are manufactured overseas, often with inconsistent quality control and weaker materials. Chinese-made tools may offer lower upfront costs but are prone to misalignment issues, adhesive failure, and shorter lifespans.

By contrast, Sierra Electronics TapeSplice Splicer Tools are proudly made in the USA, ensuring:

- **Superior craftsmanship** with strict quality control standards
- **Durable materials** engineered for long-term use in high-volume production
- **Consistency and precision** with every splice, eliminating costly variability
- **Trusted supply chain** that guarantees reliability and compliance with industry standards.

Choosing a US-made splicer means choosing reliability, durability, and confidence that every splice will meet the highest production requirements. Manufacturers who switch from imported splicers often report fewer

