

Monitoring To Reduce JIT Production Errors



BRF30PB-20 New Tool With Process Monitoring Delivers Real-Time Insights For Precision Assembly

STANLEY Engineered Fastening is set to revolutionize high-volume assembly applications with the launch of the BRF30PB-20 tool in Q1 2025. This innovative blind riveter builds upon the success of existing process monitoring tools, offering enhanced precision and volume capabilities. Field trials with a truck and trailer bumper assembler demonstrated the tool's effectiveness in reducing errors within a Just-In-Time (JIT) production environment.

Customer Challenges

Field trials were conducted with a vehicle bumper assembler and manufacturer, a tier 1 supplier for trucks and trailers. This customer faced several critical challenges, including:

- 1. Maintaining AQL standards while meeting strict JIT delivery requirements.
- 2. Accurately recording fastening data (force & distance) and reducing missing rivets.
- **3.** Integrating real-time data with existing communication protocols.
- 4. Performing extra quality assurance checks, including:
 - Recognizing incorrect rivets.
 - Detecting improper hole sizes or deformation issues.
 - Identifying missing pieces in the stack-up, such as washers.
 - Catching extra space or gaps between surfaces in the assembly.
 - Implementing a robust counting system to ensure all required rivets are installed.

The STANLEY Solution Value

STANLEY Engineered Fastening conducted field trials with the customer for the new **SAT® BRF30PB-20 Process Monitoring Rivet Tool** and **POP® Vgrip® 4.8mm rivets** to perform bumper assemblies.

The results were impressive:

- Real-time data capture enabled precise issue identification.
- Using the Lean 6 Sigma methodology, setting a tolerance of +/-7.5%, the STANLEY Engineering department was able to calculate a Defect Per Million (DPMO) of 6,200 per million – Sigma of 4 and CpK 1.33 which is an improved result versus prior technology used.
- Detailed audit trail facilitated accountability and compliance with industry standards.
- Enhanced overall efficiency and reduced errors in JIT production, with real-time screen-recorded reports.





The STANLEY BRF3 System Solution





SAT® BRF30PB-20 Process Monitoring Rivet Tool

Captures real-time fastener data including force, distance, incorrect rivets, missing pieces, improper hole sizes.



The STANLEY BRF30PB-20 Process Monitoring



POP® Vgrip® 4.8mm Rivets Providing extended grip capabilities and a highly aesthetic in-place appearance.



Product Portfolio





Stanley Engineered Fastening — a division of Stanley Black and Decker — is the global leader in precision fastening and assembly solutions. Our industry-leading brands, Avdel®, Integra[™], Nelson®, Optia[™], POP®, STANLEY® Assembly Technologies, and Tucker®, elevate what our customers create. Backed by a team of passionate and responsive problem-solvers, we empower engineers who are changing the world.

STANLEY ENGINEERED FASTENING FAMILY OF BRANDS

AVDEL. INTEGRA NELSON OPTIN POP STANLEY. TUCKER

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