

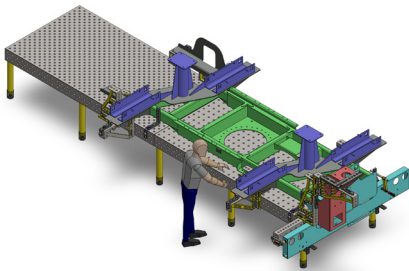
TURNING CUSTOM BUILDS INTO REPEATABLE GAINS

Challenge

For Mertz Integration, many trailer builds are custom or one-off, which already made repeatable production improvement hard to capture. Add in the fact they were holding work on sawhorses and locating critical features with string lines, levels, and tape measures, and it's easy to see why they sought to optimize their approach. While the existing process worked, it was slow, difficult to repeat, and dependent on the welder's ability to manually locate key mounting points in relation to the rest of the assembly.

The need for change became even clearer when they attempted the build of a new (and complex) high-voltage utility trailer assembly. Their first unit came in 30% over the estimated production time. The Mertz team knew they were capable of more.

Bridging the Engineering Gap

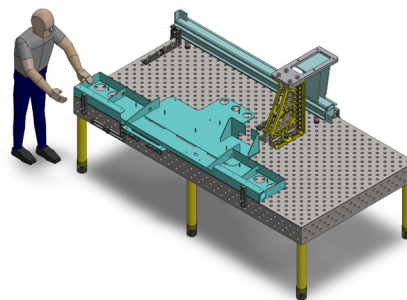
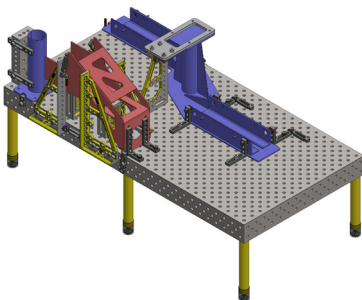


No strangers to Bluco modular solutions, the Mertz team had a 30-year-old modular solution sitting idle after the project it was commissioned for came to an end. So their first move was to call our team to see if that old equipment could be part of the new solution.

Once our team got into the project, it was clear the answer wasn't just fixturing – Mertz would need to change the way the assembly was located and the way the build was sequenced.

Instead of trying to fit everything in place at once, the new process would be to build sub-components separately, fit and weld the frame first, then bring the assembly together for final fit-up.

Our team repurposed two 5' x 10' tables from the retired solution to provide the space required to build all the subs as well as the final assembly, and the versatility needed to accommodate part variations.



The same modular solution can be used to build multiple subs depending on the table configuration and modular components used.

X-Factor Improvement (continued on next page)

46% FASTER BUILD TIME

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TURNING CUSTOM BUILDS INTO REPEATABLE GAINS

X-Factor Improvement

46% FASTER BUILD TIME

**57 hours cut from estimate | 1.8X faster through the weld center
More repeatable custom builds | Earlier issue detection**

The new solution turned a difficult custom build into a more controlled process. Mertz cut 3 hours from the build right away, while weld-center time dropped from 14 calendar days to just 8 days.

The tooling also revealed a deeper issue: inconsistent part sizing. Because the assembly was now being located from a precise, CAD-based setup, Mertz had a reliable fit-check. When parts didn't fit the tooling, the team could see immediately that they were out of spec, exposing an upstream problem that had previously been absorbed during manual fit-up.

Applying what they learned, the team completed a similar trailer in 68 hours against a 125-hour estimate, cutting 57 hours from the job. The final assembly came together flawlessly.

For Mertz, the modular solution did more than save time. It gave the team a better way to build, verify, and improve the process — turning lessons from one custom project into gains they could carry into the next.



"We applied the lessons we learned from the first build — fit and weld the frame, make the sub separately, then bring it back for final assembly — and it went together like a dream. It was amazing....It was fun, I mean, it really was."

- Jesse Hull, Mertz CWI/QC Inspector

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