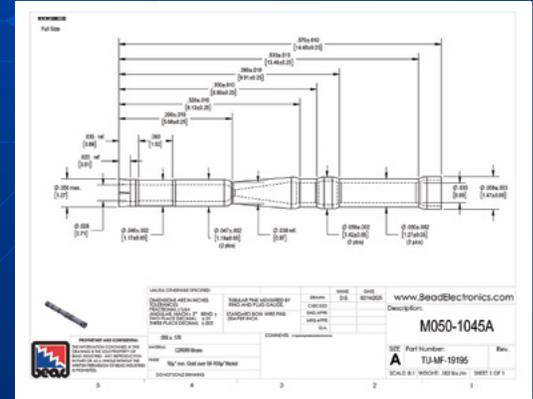


Reverse Engineering a Critical Connector System

Ensuring Long-Term Product Compatibility Through Precision Engineering



CUSTOMER

Manufacturer of air flow measurement systems

APPLICATION

Custom solution to replace discontinued connector system



CHALLENGE

When the customer's connector system was scheduled to be discontinued, it needed to quickly reverse engineer a replacement to avoid costly redesigns, potential shutdowns, loss of serviceability, increased support costs, and other risks to customer trust.



SOLUTION

Rather than attempting to duplicate the original part, Bead applied advanced metal-forming expertise to improve manufacturability and consistency while preserving full compatibility, resulting in a precision hollow swaged female contact that met three critical performance requirements:

- ▶ Secure housing retention, with a diameter designed to “snap” into the plastic housing and resist push-out forces in both directions
- ▶ Reliable electrical mating, with internal geometry designed to provide consistent mating force with male pins — secure enough for stability, yet smooth enough for multi-pin assemblies
- ▶ Optimized wire termination, with a crimp area engineered to reliably accept stranded conductors for long-term electrical performance



OUTCOME

Through close collaboration and rigorous testing, Bead and the customer refined the design to create a fully qualified replacement connector contact that offered continued compatibility with installed systems and existing designs for uninterrupted manufacturing and long-term stability. Most importantly, the customer avoided costly field retrofits and protected the value of their installed base.

Looking to boost assembly line efficiency with a custom-engineered solution?
Talk to our sales team today.