



Würth Engineering Services

The expectations for assembly component distributors have been raised in recent years by the customers we serve. Gone are the days of fastener distributors purchasing product and simply shipping it to the customer in a timely manner. Today's market demands modern distributors to offer a myriad of services that assist their customers with the manufacturing process and add value to the supply process. As the industry's leading assembly component distributor, manufacturing companies look to Würth to supply the industry best products and services.

Setting the Standard

Würth has been offering engineering services to its customers since its inception. With one of the largest engineering staffs among assembly component distributors, Würth has helped many of its customers reduce assembly costs, increase production speed, consolidate inventory, and improve product design.

Despite their relatively small piece price, assembly components are a vital portion of the total bill of materials. Companies can reduce their costs very dramatically by making small changes to their assembly component purchases because of the large volumes consumed. Würth saves its customers tens to hundreds of thousands of dollars in hard and soft cost savings annually. Some examples of these cost savings are listed on the back of this flyer.

Engineering Impacts

To truly benefit from Würth's vast expertise with assembly components, our engineers should be involved in all stages of the design and manufacturing process:

- Concept/Development Stage**
- Assembly and Production Stage**
- Prototype/R&D Stage**
- Post Production Stage**

The largest impact can be obtained during the concept/development and prototype/R&D stages. When our engineers are involved in these stages, they can provide your company with new approaches to your products and processes to drive out costs.

Würth Engineering Highlights

The following list contains a sampling of the services that Würth's engineering team offers to its customers:

- Product design/research & development
- Parts consolidation & standardization
- Metallurgical and failure analysis
- Plating/coating evaluation
- CAD design capabilities
- Post-production analysis
- Engineering seminars
- Torque-tension testing



Würth Engineering Services

Improve Your Product Design

Manufacturer was utilizing standard type AB threadformer screws to assemble sheet metal. We recommended switching to a thinner sheet metal to save on material costs.



Solution: By switching to a thinner sheet metal material we also needed to supply a unique screw to prevent possible strip-out. Cost increase on switch from type AB to Crimptite screw was \$.02/per screw.

Annual Cost Savings to the Customer of \$475,000

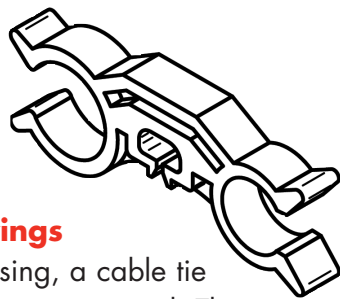
Increase Your Production Speed

Slide out assembly required the use of two individuals to align and fasten the slide out extrusion to the panel. This labor intensive activity was being done at various stages of production to keep extrusion placed on panel for final assembly.



Solution: With the assistance of our customer's engineer, we designed a new s-clip. This made the installation easier and saved approximately twelve minutes per slide out for a labor savings of \$3.20 per unit.

Annual Cost Savings to the Customer of \$69,888

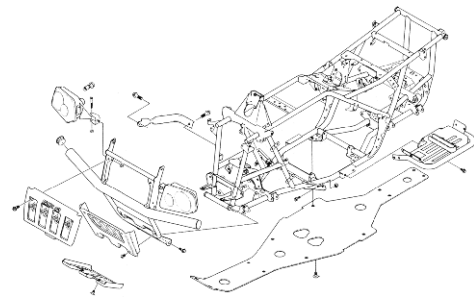


All Around Cost Savings

To secure non-critical hosing, a cable tie retainer and two cable ties were used. The cable ties were slipped through the retainer, around the hose, and then back through the cable tie. The ties then had to be cut to length. This was a labor intensive installation, using a relatively expensive cable tie that also cause clean up and safety issue because the remains of the tie were thrown on the floor until shift clean up.

Solution: A dog bone clip that allowed the hosing to be snapped into place and held by the u-shaped clamp versus the ties. This reduced installation time, eliminated clean up with its associated costs, saved additional costs due to a lower piece price and eliminated safety issues.

Annual Cost Savings to the Customer of \$167,000



Improve Labor Installation and Time

Approximately seventeen weld nuts are used on ATV frame, estimated \$.04 each, machine screws estimated \$.01 each. Labor component (including screws used with nuts), is factored at 102 seconds or \$.714.

Solution: Thread forming screws would eliminate the cost of the weld nuts, the labor to install them, and the troubles caused down the line if they are not properly masked. Thread-forming screws are \$.023 each, labor component is 51 seconds or \$.357, presenting a savings per unit of \$.816.

Annual Cost Savings to the Customer of \$40,800