

FUSE CLIP TERMINALS: A CASE STUDY



Caption 1: Fuse Clip Connectors with insert and wire

Fargo Assembly of PA is a diversified supplier of power & signal distribution systems and components, serving the on and off-highway, construction, agricultural, commercial and consumer grounds care, recreational vehicle and specialty vehicle market segments. We specialize in rugged harnesses / electrical systems exposed to extreme environments.

Fargo Assembly of PA has over 40 years of experience and a proven track record in accomplishing customers' quality, cost and timing objectives.

Fargo approached **ETCO** with an issue specific to fuse placements with connectors. The fuses / circuit breakers used in the wiring harness connectors for construction, agricultural, heavy truck, off-road equipment were susceptible to overheating and separation if they were not properly fastened. Fargo created the Dill Blox product and wanted the fuses / circuit breakers within the products to stay in position and provide a completely secure connection. This connection would have to withstand the vibrations consistent with a variety of on and off-road conditions.

ETCO engineers studied the problem and created the fuse clip terminal. The primary issue was the loosening of the fuses and connections. This could cause a series of issues once the connection was reduced or altogether severed. Arcing would lead to overheating, overheating could lead to a dangerous situation and disconnection could lead to power loss in specific functions.

The fuse clip terminal consisted of a stainless steel receptacle placed within a female connector that was force-fastened and was immovable by vibrations in application. **ETCO** engineers tested the connector



Project Facts:

Engineering Client:
Fargo Assembly of PA

Industry:
Construction, Agricultural, Heavy Truck and Off-Road Equipment

Case Challenge:
To develop a product that would eliminate overheating, connection separation, loose fuses due to truck and motor vibration

ETCO's Solution:
ETCO engineers created a secondary clip component that fastened the connection in place and eliminated arcing, overheating and connection separation



Caption 2: Top View Fuse Clip Connector



Caption 3: Side View Fuse Clip Connector



Caption 4: Fuse Clip Connectors with insert and wire



in multiple situations to ascertain the efficacy of the product. The testing done at **ETCO** is performed with all products to ensure the highest standards of quality are met. **ETCO** created the specification based off of a pre-existing configuration to provide a high quality connection as well as creating a simplified manufacturing solution. The solution would save costs and perform flawlessly in a variety of conditions. Over 20 million parts later, the **ETCO** fuse clip terminal is featured prominently within the Fargo Dill Blox product.

ETCO has provided Fargo with go-to market engineering as well as extensive support for this simple yet innovative technology. This level of engineering, service and support is what **ETCO** customers and partners have come to expect.

Fargo Quote:

"ETCO has been an excellent partner in serving our engineering and manufacturing needs for components and wiring harness connectors. The company engineer's attention to detail and ability to quickly solve a major issue is the reason why we come to them every time. High quality solutions and cost savings means we're able to provide the same level of service to our customers while passing the cost-savings on to them."

- Jack Young -
Fargo Manager

Contact us

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