Critical Systems Inc.

AMI Orbital Weld Head Extended Life Upgrade

CSI Designed Innovations for Ease of Use, Improved Quality, and Increased Productivity in Orbital Welding

Problem: Cable Strain Causes Breakage

The AMI Weld Head lacks adequate handle strain relief to protect cables and wires that operate the Weld Head's gears. As the leads are pulled, the conduit stretches and ultimately pulls on the tubing and wires causing them to break.

Solution: CSI Strain Relief Module

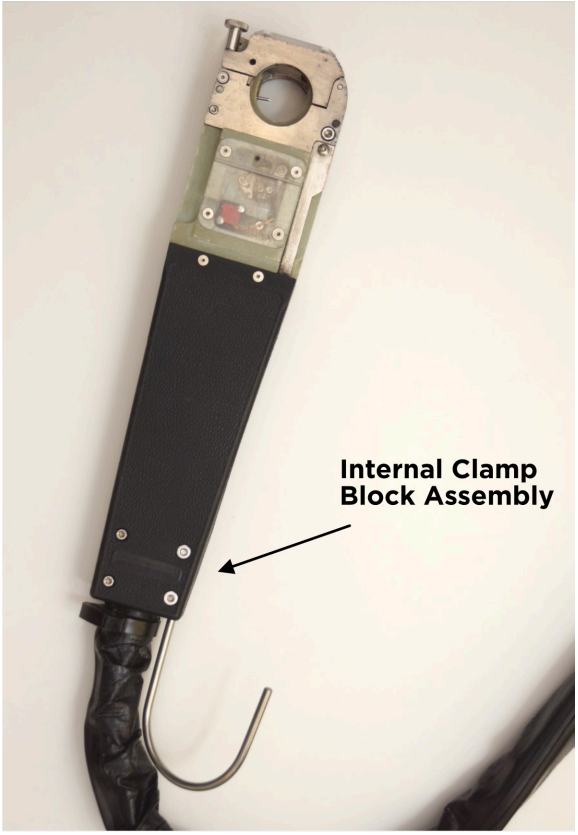
CSI has designed an internal clamp for the new injection molded handle. The clamp block captures the cabling, holding it securely in place. A new zipper-tube conduit that does not stretch and a removable stainless hook for east field handling complete the handle design.

Problem:Home Post Wear

AMI Weld Heads have a mechanical assembly to determine the proper home position. This assembly is easily worn or damaged during day to day operation of the Weld Head.

Solution: CSI Home Pin Solution

CSI engineered a robust home pin solution that is less susceptible to damage,yields significant increases in weld cycles, and provides a more consistent home pin position.



CSI's Strain Relief Module
Strain Relief Handle with internal lamp block assembly, removable hook, and zipper tubing sheath.

CSI's Home Pin Solution
Home Pins made from durable, non-conductive material; Hex Head Bushings for the pin, Home Switch Cam Buttons for better home positioning.

Since 2000, Critical Systems, Inc. (CSI) has been supporting the breakthrough technologies of our customers with practical, cost effective solutions that "surround the process tool".

7000 West Victory Road · Boise, ID 83709 (877) 572-5515 www.CriticalSystemsInc.com

CSI's Home Pin Solution

Yielding up to 10X or more additional cycles from the home pin on your AMI weld head

Home Pin: Manufactured with a temperature stable, low frictional coefficient, and non-conductive material. Results in a highly durable solution in this demanding application.

Home Pin Bushing: Precision machined bronze with hex head design to maximize protection for the home pin.

Home Pin Cam Button: Axial engagement point is narrower, providing a more precise home position; improves weld-to-weld repeat-ability.

Home pin is made from non-conductive material

Hex head on the Home Pin Bushing minimizes pin damage

Home Switch Cam Button with smaller engagement point

CSI Strain Relief Module

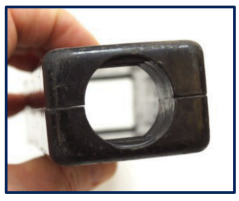
Handle and Cable Sheath Assembly to better protect weld cabling, reducing downtime and repair costs.

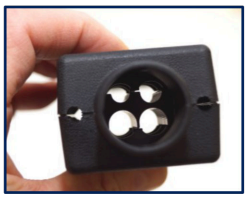
Strain Relief Module incorporates an internal clamp block, housed between injection molded handle halves. The handle halves are molded from high impact thermal resin for years of life.

The internal clamp block grips the cable and wires below their connection points in the Weld Head. The clamp block absorbs tensile stress placed on cable & wires as a result of pulling on the Weld Head.

Zipper-tubing is used as a jacket for the cables & wires. Clamped onto a collar on the new handle, it does not stretch, and provides additional strain relief. It can be installed without disconnecting wiring on either end of the cable assembly. The coated Nylon fabric is designed for a UHP environment.

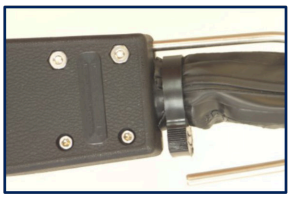
A stainless steel hook is incorporated into the handle design; can swing 300 degrees and can be easily removed or placed on either side of the handle.





Looking into bottom of empty handles Unlike the standard (left), CSI's Strain Relief handle as a clamp block assembly to hold individual wires/cables in place.

Cable Sheath can tear away from the handle in standard assembly causing wire & cable damage.



CSI's Zipper Tubing Sheath is secured to the collar on the Strain Relief handle to provide additional strain relief.

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