



TOMORROW'S FITTER

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HARBACH MARKETING/FIT UP GEAR





CHANGING
THE MINDSET
OF THE
SHIPBUILDING
COMMUNITY



“The problem is never how to get new, innovative thoughts
into your mind, but how to get the old ones out”.



PROBLEM

- Welded Temporary Attachments
- Scars and Burrs
- Excessive Cutting and Grinding
- Removal of Temporary Attachments
- Hand and Eye Injuries
- High Amount of Time Wasted on All the Above



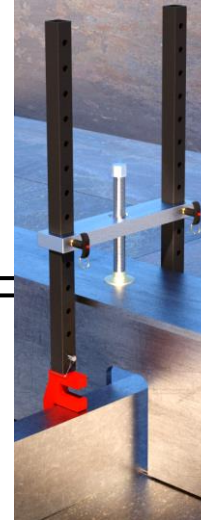
TECHNOLOGY SOLUTION

- Magnetic Tools for Fitting Operations
- Low Weight-to-Power Ratio Magnets
- NCMS Award Winning Magnets
- Non Welded Clamps for Fitting Operations
- Reduce or Eliminate Scars and Burrs
- Magnetic Cold Saw for Removing Temporary Attachments



BENEFITS

- Minimize Welded-On Temporary Attachments
- Decrease Hand and Eye Injuries
- Quicker and Safer Fitting Operations - Some 100X Faster
- Huge Reduction in Manhours
- No Fire Watch Needed During Sawing Applications



WELDING REALITY



- ### Laws of Thermodynamics
- 1st Law of Thermodynamics – Energy cannot be created or destroyed.
 - Energy lost during one process must equal the energy gained during another
 - 2nd Law of Thermodynamics – Heat can spontaneously flow from a hotter object to a cooler object, but not the other way around.
 - The amount of heat lost by the warm object is equivalent to the heat gained by the cooler object

“The Laws of Thermodynamics have been exhausted, we cannot weld any faster than we are today. You either mechanize or hold onto as much heat as you can stand.”



“It takes the same amount of energy to melt a pound of steel as it did in the beginning”



It's our Turn

“If you are looking for true attainable man-hour savings look no further than fit up”

We know how fast we can weld, but how long does it take you to get ready to weld?

Good fit up saves time and money downstream

- Less welding
- Fewer distortion issues

Want to mechanize? There are 3 things you must have in order to do so;

- Good Fit Up
- Good Fit Up &
- More Good Fit Up

After

Before



New vs Old

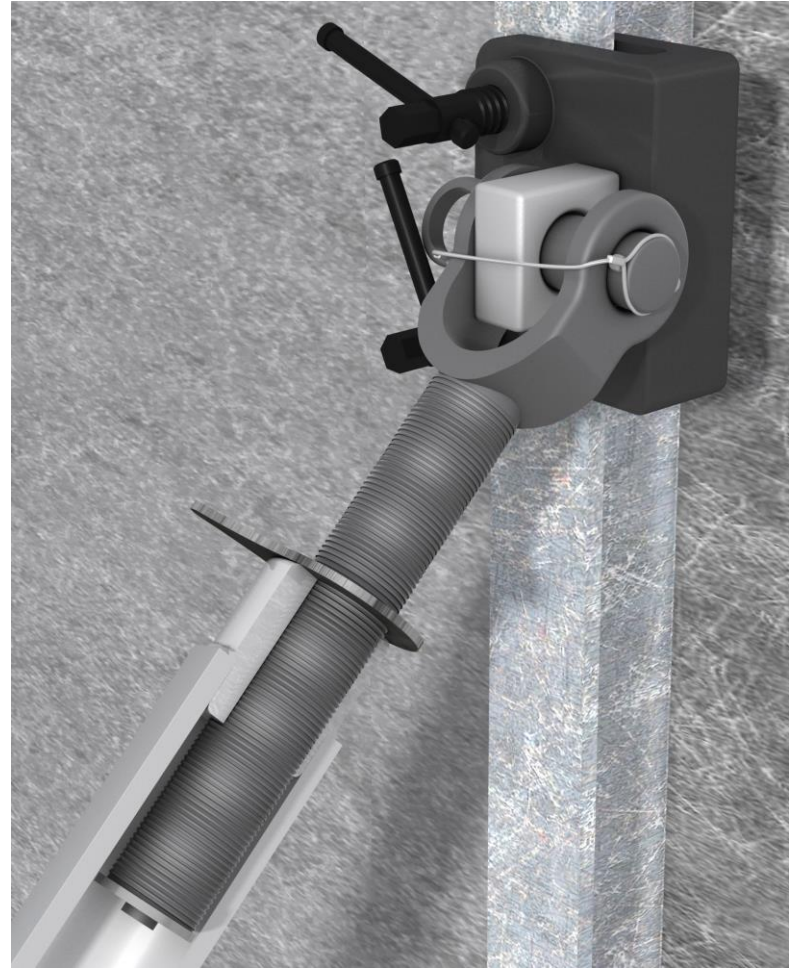




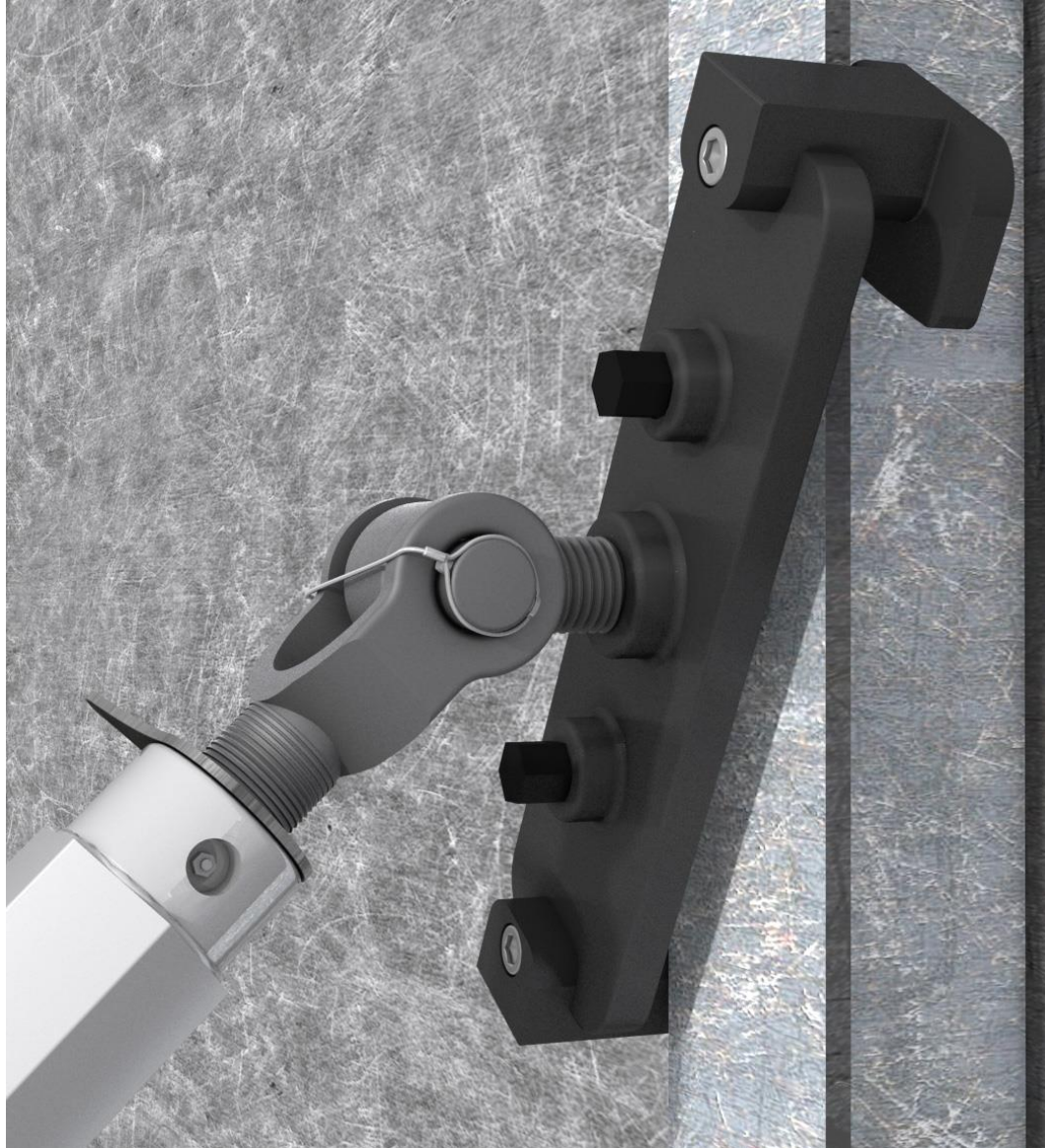
New vs Old

PACMAN CLAMPS





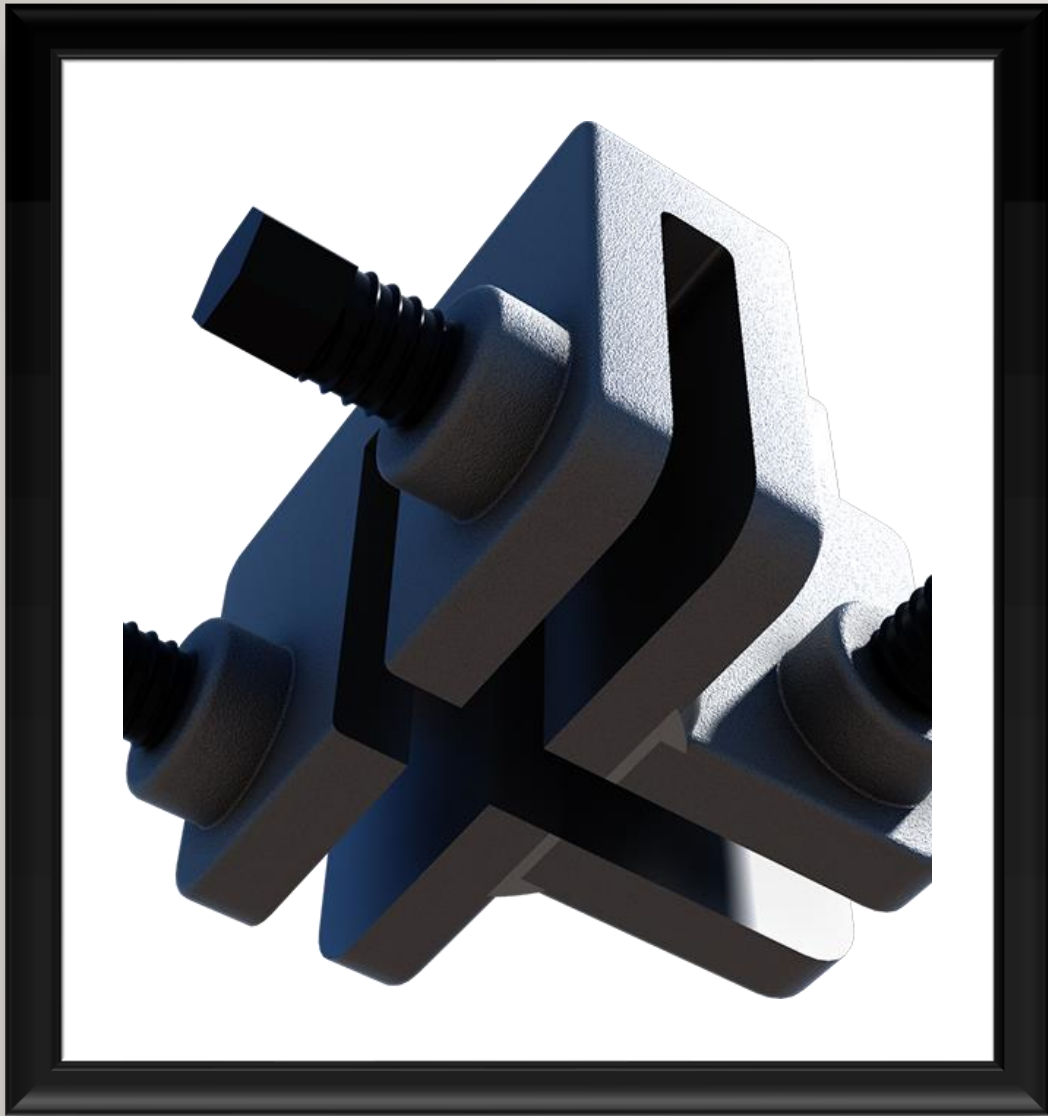
Bulkhead Brace



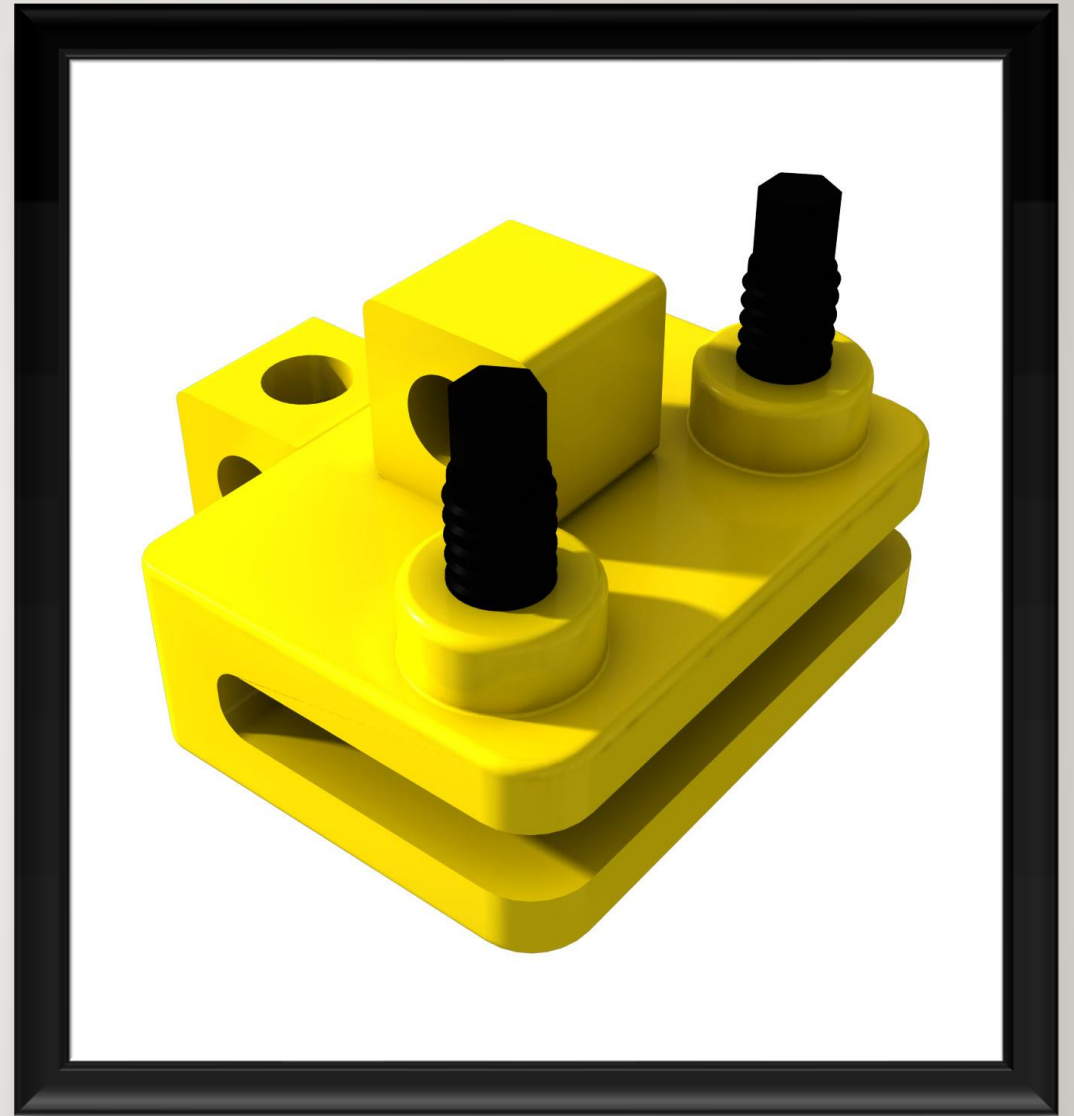
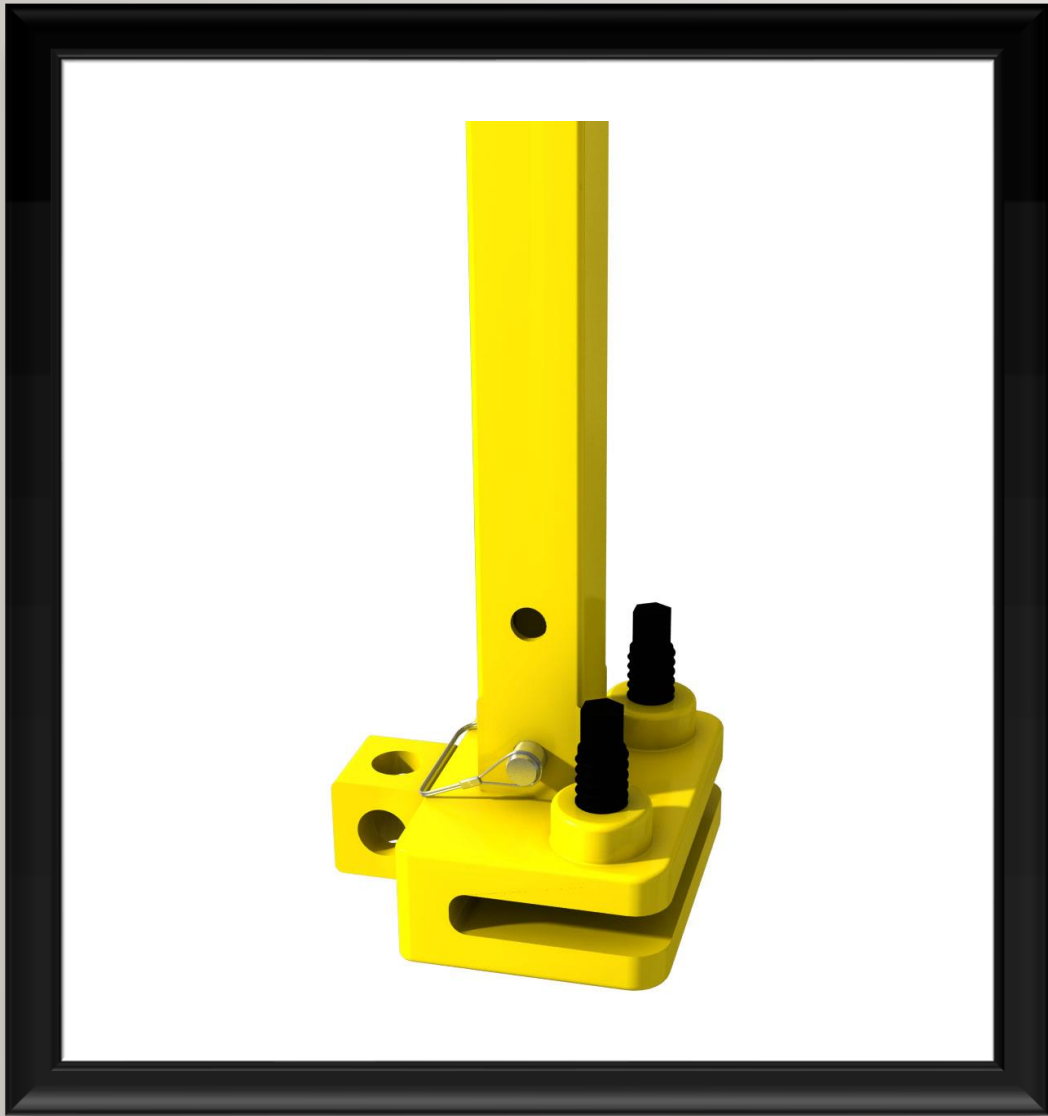
T-Rex and Pacman Clamps

Bulkhead Brace





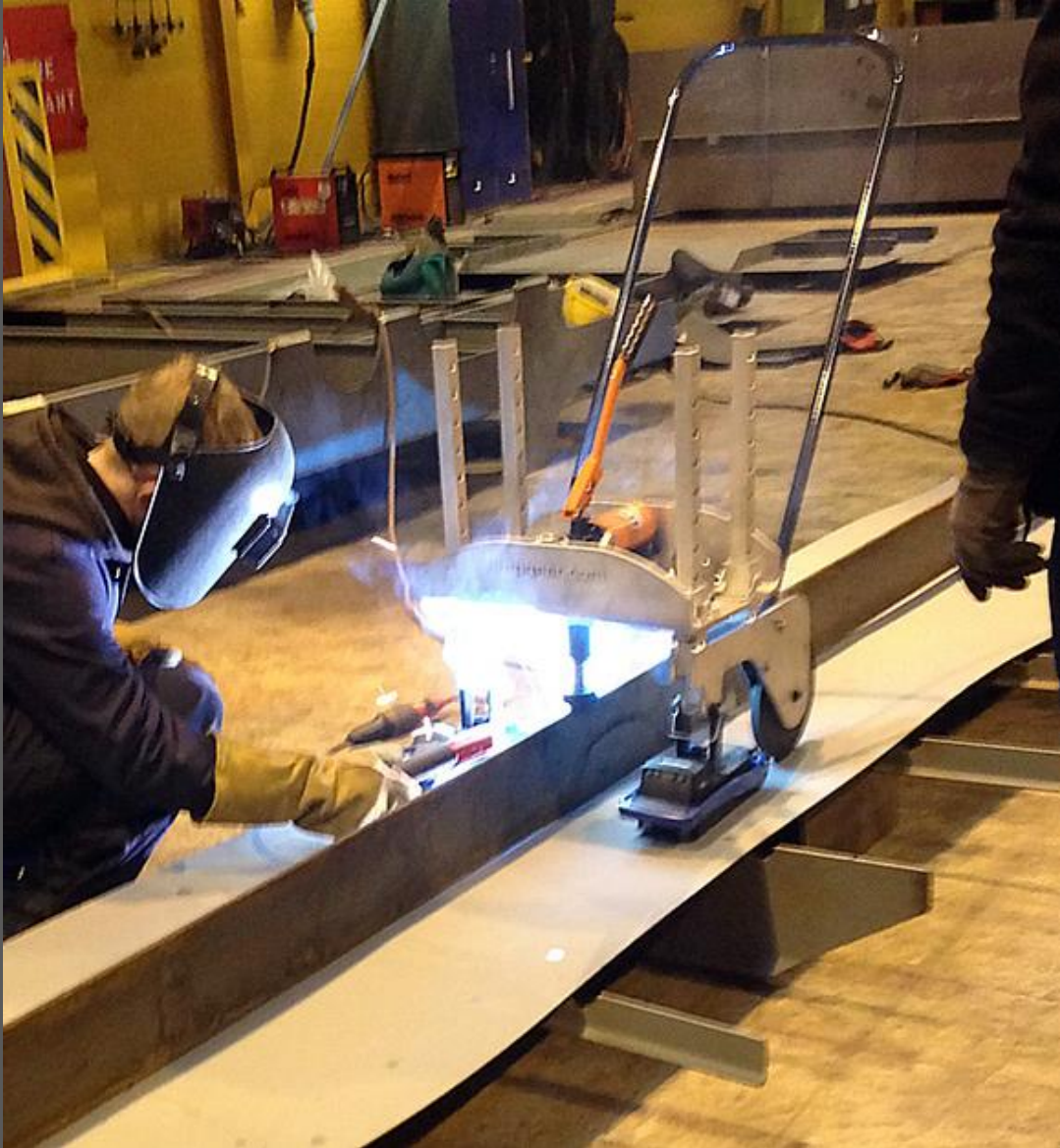
Cross Tee Clamp



Temporary Railing Clamps & Stanchions

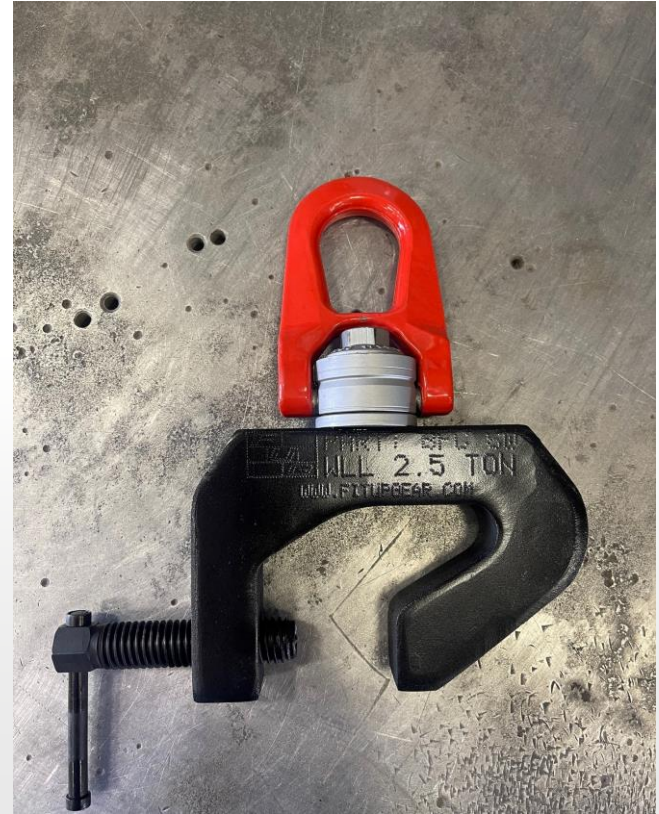


Old vs New



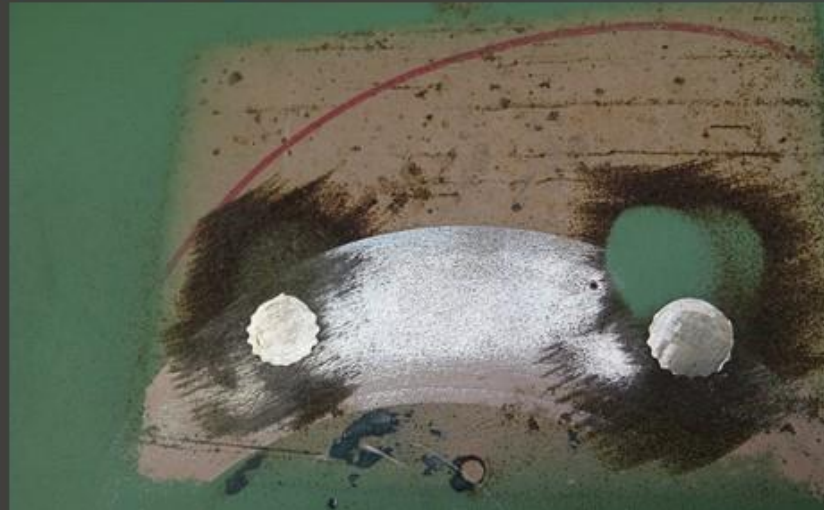
Stif-Jak & L'il Stiffy

BULB FLAT CLAMPS





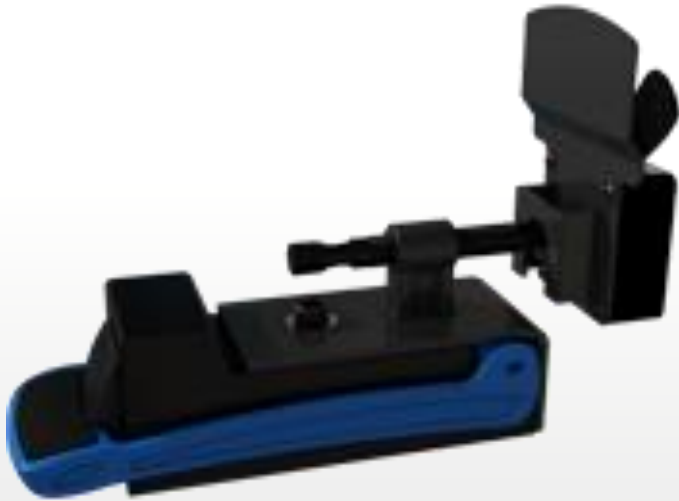
SawRay Magnetic Cold Saw



Saw-Ray Cuts



MagPry



Magnet Push-Pull

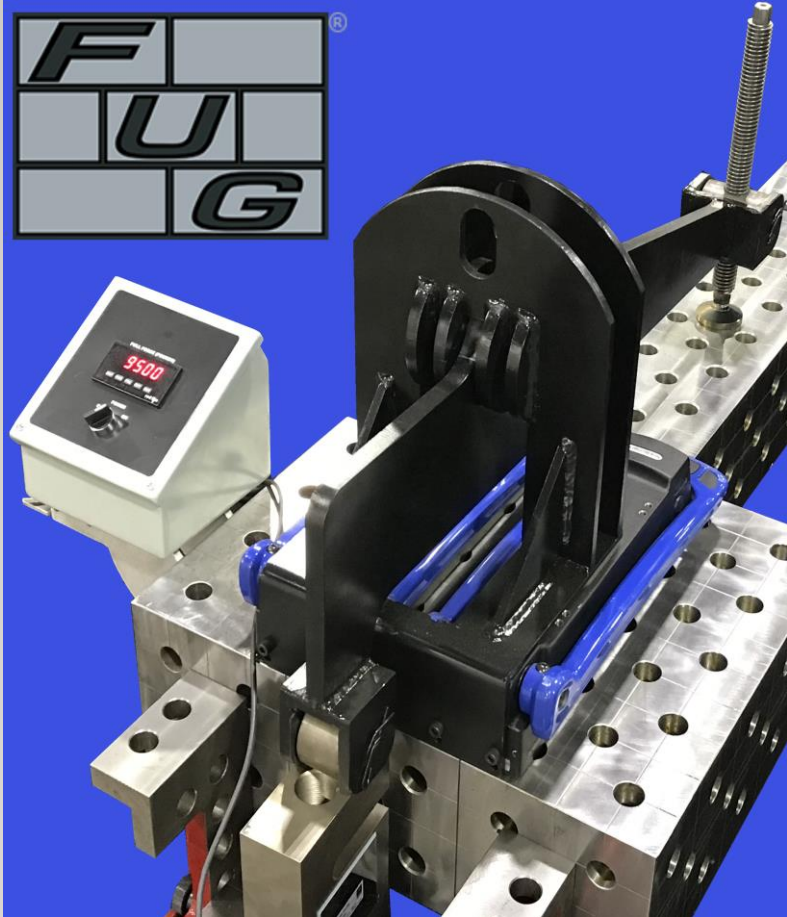


Magnet Wedge Block



Bigfoot Magnet

Magnetic Fitting Tools



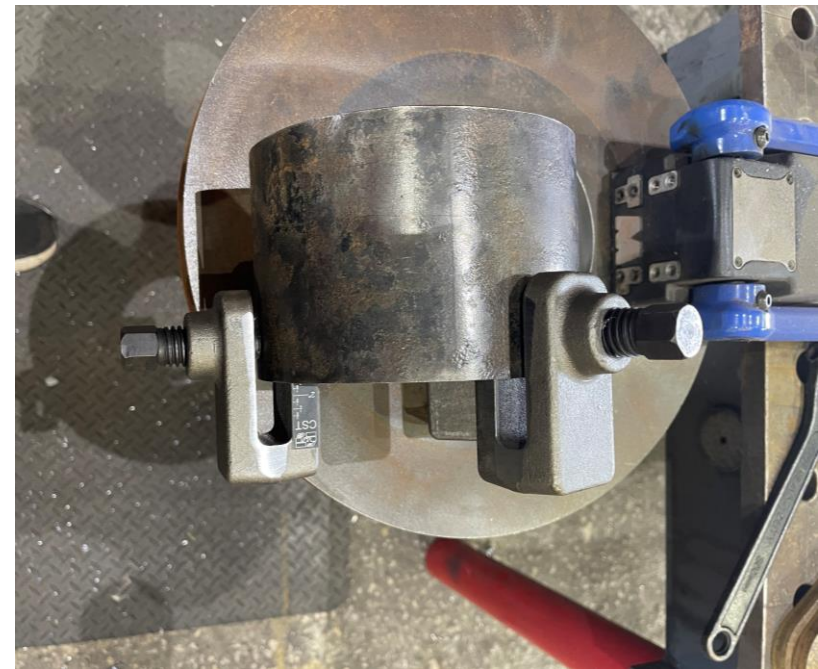
BEAST MAGNET CAPABILITIES

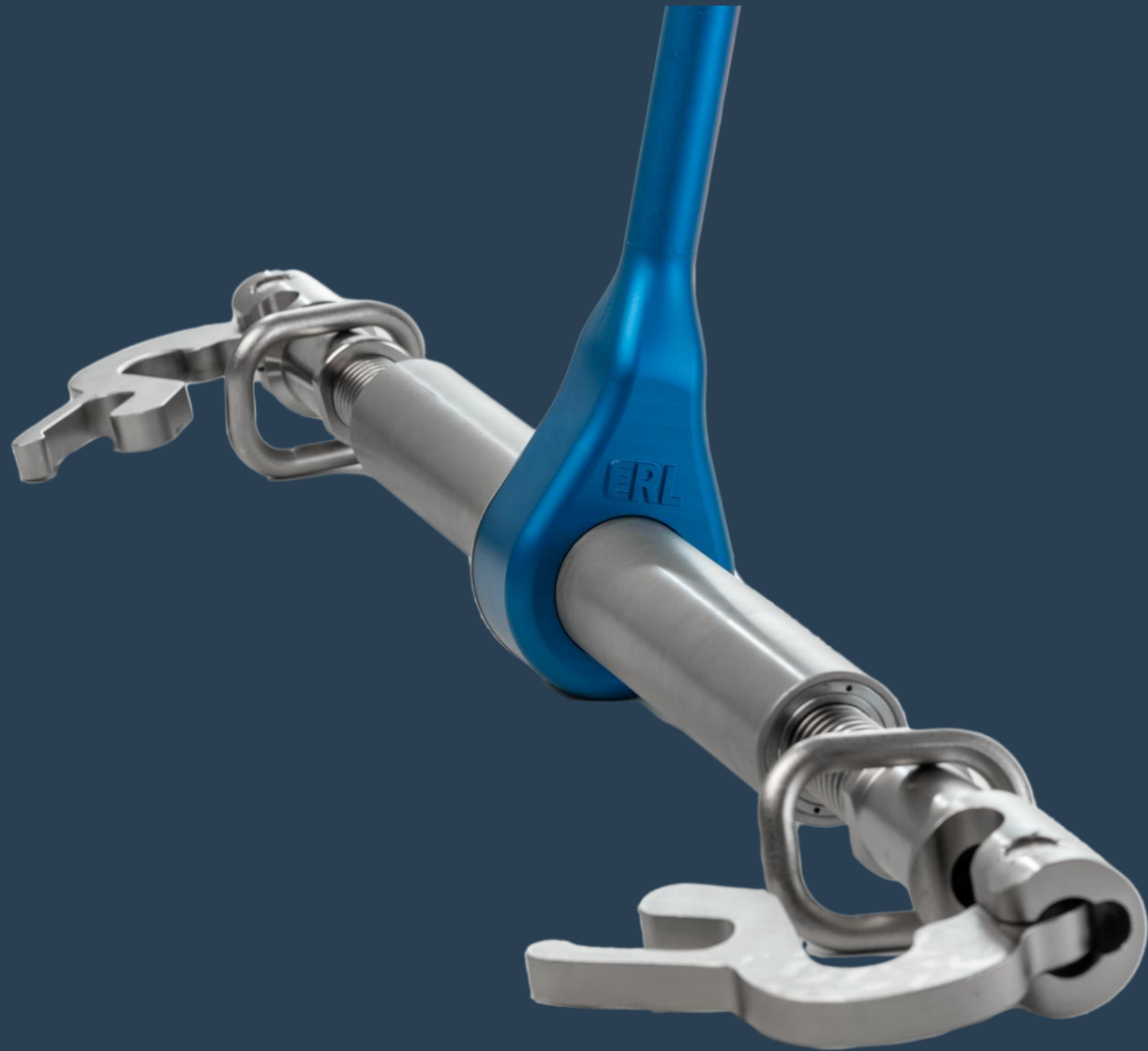


Hydra-Pack



CST Coaming Setting Tool





Lightweight Ratchet

Lightweight Ratchet

Maximum Working Load of 35,000 lbs

Weighs less than 34 lbs

Fully Sealed, Permanently Greased

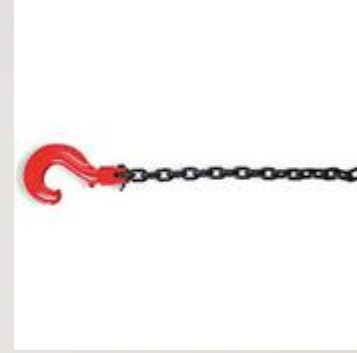
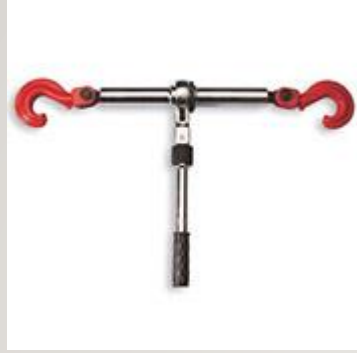
More Ratchet Teeth (60 vs 12)

Corrosion Protected Components

Made in the USA



National Clamp Tools



Padeyes

Produkt (product)	TML 1000lb no lifting magnet
Artikelnummer (product number)	41500.GD
Seriennummer (serial number)	15F0961
Sichtprüfung inkl. Aufkleber (visual check incl. sticker)	<input checked="" type="checkbox"/>
Kein Lastwirbel / kein Dämpfer (no hook, no damper)	<input checked="" type="checkbox"/>
Max. Abriskraft > 1350 kg (Max. Breakaway force > 1300 kg, 2000 lb)	1482 kg
Test "Fuss" Deaktivierung (test "foot" deactivation)	<input checked="" type="checkbox"/>
Sichtprüfung Magnetunterplatte (visual check magnet bottom plate)	<input checked="" type="checkbox"/>
Name (name)	SB
Prüfdatum (test date)	17.01.15

RE WIZARD
WELDING PRODUCTS

ENTERPRISES, INC.
www.wife-wizard.com

Miller Electric Mfg. Co.	Miller Electric
Miller Electric	Miller Electric

Plate 304 Stainless Steel Version	
2" Plate 304 Stainless Steel Version	
1/4" Plate 304 Stainless Steel Version	
1/2" Plate 304 Stainless Steel Version	
1" Plate 304 Stainless Steel Version	
1 1/2" Plate 304 Stainless Steel Version	
2" Plate 304 Stainless Steel Version	
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1992" Plate 304 Stainless Steel Version	
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3000" Plate 304 Stainless Steel Version	



www.padeye.com

PERSONAL MAN TIE-OFF PADEYE



Rotating & Positioning Equipment



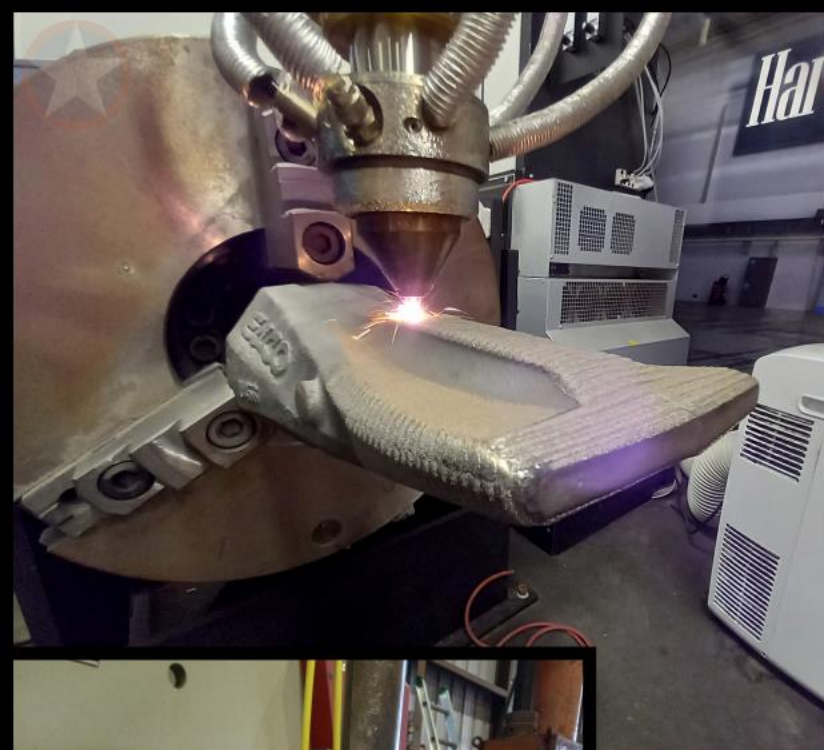
PATHFINDER

Seam

Tracking

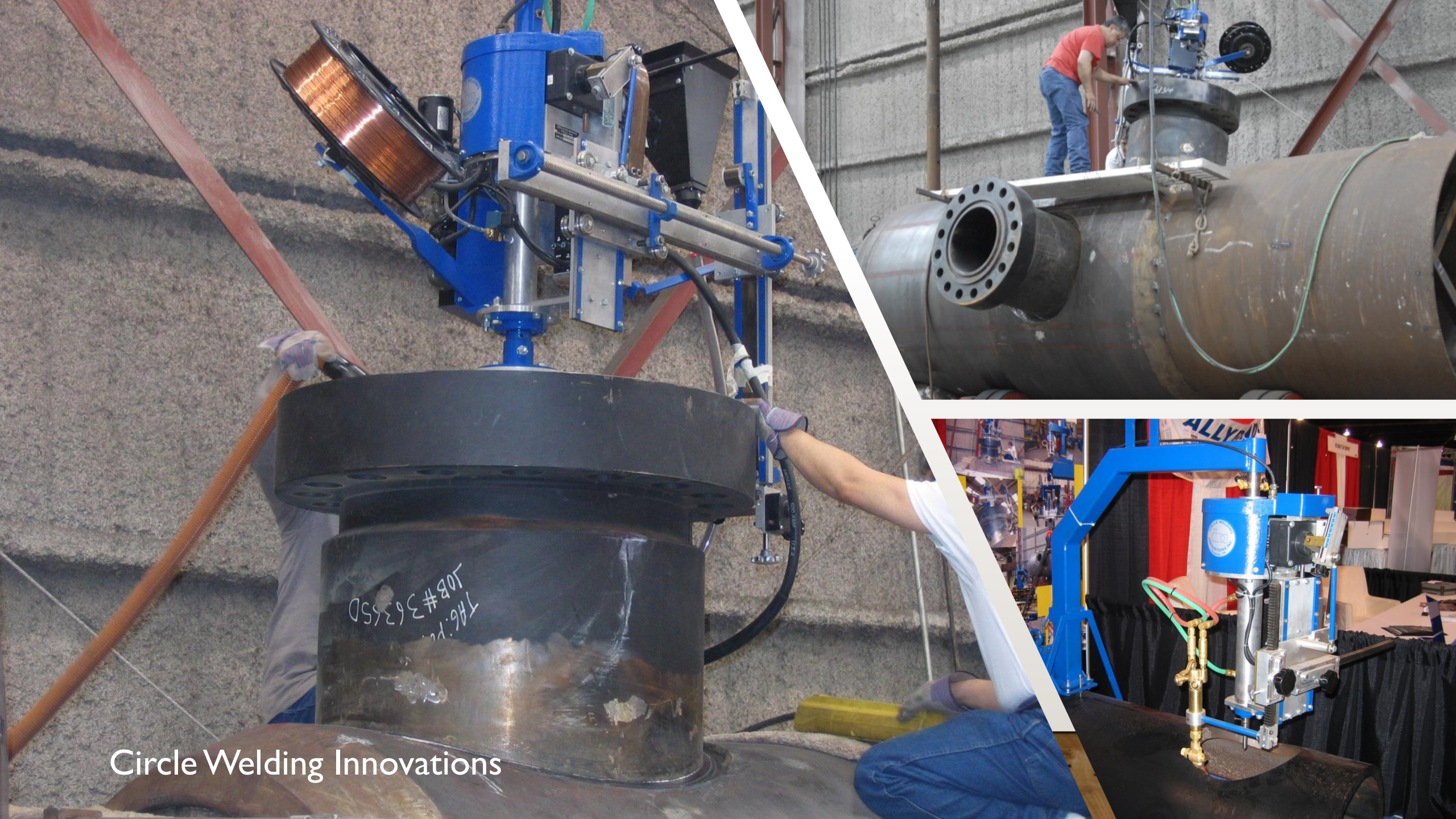
www.har-bach.com/pathfinder



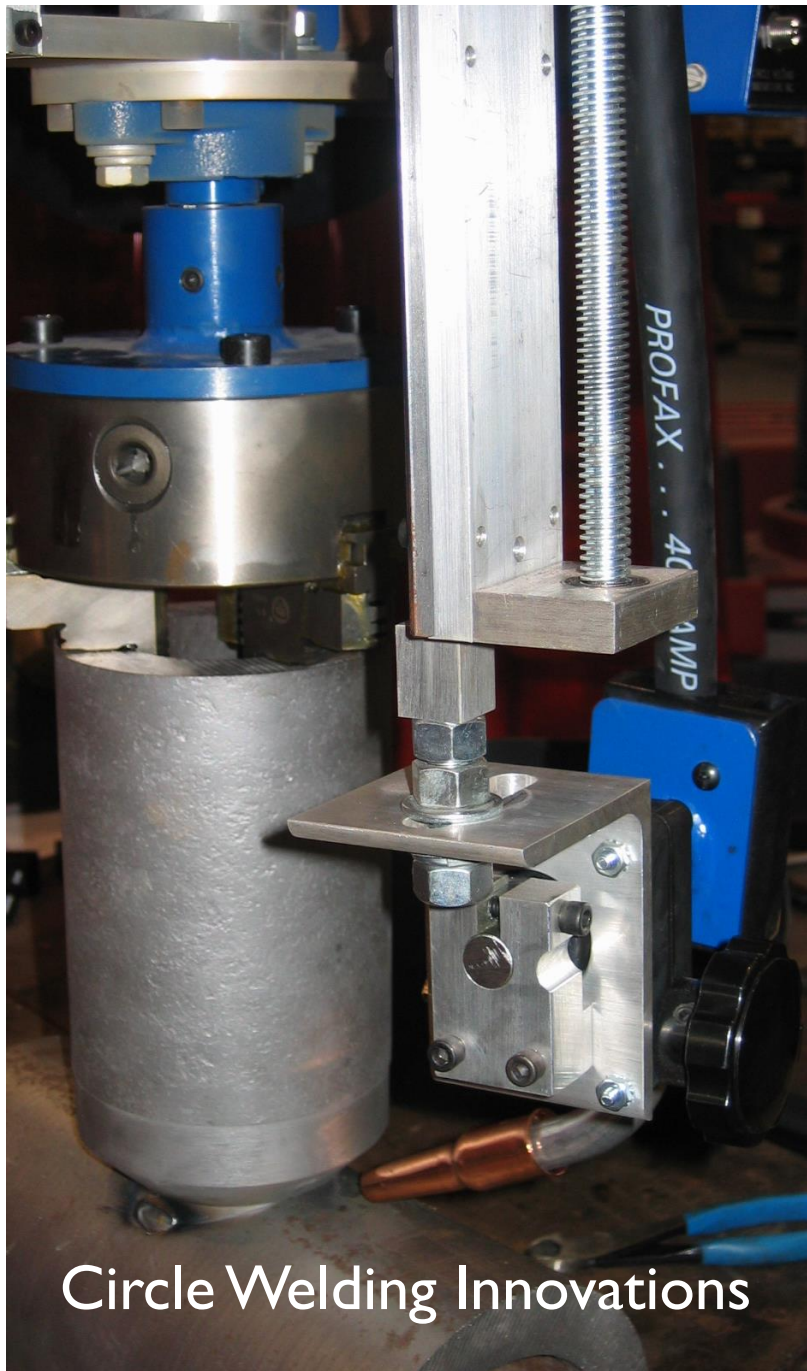


Fusion Technologies

Har-Bach
www.Har-Bach.com



Circle Welding Innovations



Circle Welding Innovations

Re**C**ognize there is a problem

Search**H** for a solution

Adopt a new procedure, tool or process

Train**N** all involved

Inau**G**urate new procedure, tool or process

Nurtur**E** and sustain until considered best practice