



Metal Locking Service Inc.
MLS Machine Shop



Metal Stitching • On-site Machining • Turn-key Rebuilds • Fabrications

Aggregate Repairs & Fabrication



Who we are...

Metal Locking Service Inc.

MLS Machine Shop

Metal Locking Service is a true “Service” company that operates out of Buffalo, NY. We cater to any and all industries that use or sell cast iron industrial processing equipment. We work equally well in-house or on-site and we pride ourselves on our ability to reach destinations quickly and cost-effectively.

Metal Locking Service was founded in 1942, we pioneered the process of repairing cast machine parts, without the use of heat. This process has since been coined “Metal Locking”

We now service industry world-wide. An ever increasing list of satisfied customers confirms our success at effecting prompt, dependable service.

www.castironrepair.com

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Working in your industry...

Metal Locking Service has been working with the aggregate industry for many years. Some of our past jobs completed both on-site and in-house include:

Crusher Repairs

- Gyrotory Spider
- Dome Retaining Ring
- Rock Shield
- 40" Spider

Crusher Rebuilds

- Roll Crusher
- Crusher Jaw
- Hinge Pin
- 42" Spider
- 42" Crusher Shell

Miscellaneous

- # Shafts
- # On-site Machining
- # On-site Line Boring

Gears

- Worm/Spiral
- Spur/Bull

Fabrication

- Catwalks
- Hoppers
- Supports

• Cast Iron Repair

- Engine Blocks
 - Differential Housings
 - Transfer Cases
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Aggregate Repairs

Gyrotory Crusher Spider

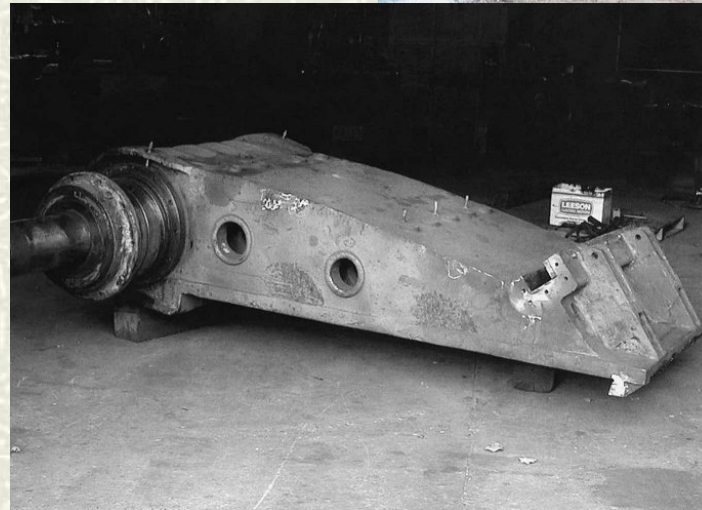
- # Metal Locking Service repaired this 42,000 lb Gyrotory Crusher Spider. The broken hub was machined and replaced.



Aggregate Repairs

Crusher Jaw

- # Metal Locking Service, welded, stress relived and machined this Parker 32 x 42 Crusher Jaw to as new specifications.



Aggregate Rebuilds

Roll Crusher

- # Metal Locking Service rebuilt this roll Crusher from a customers recent purchase of used and unassembled parts. Metal Locking Service assembled and brought all the Roll Crushers components back to original tolerances .

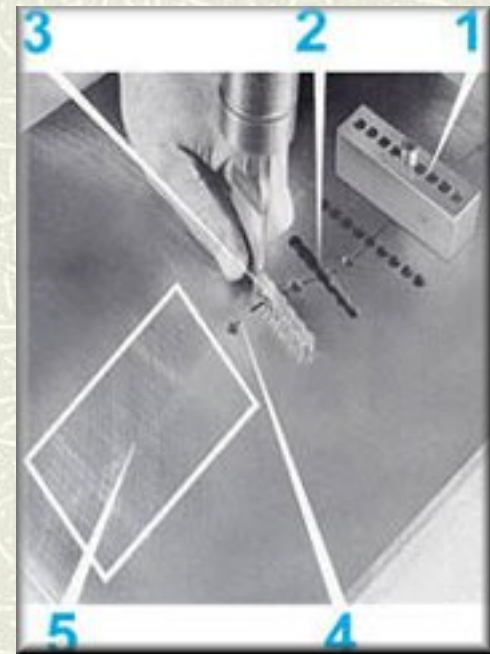


The Metal Locking repair process...

Our business is centered on a permanent mechanical repair for cast iron and machine parts denoted as "*Metal Locking*". This mechanical approach to the repair of vital machine parts was conceived as the solution to the problems of welding or brazing.

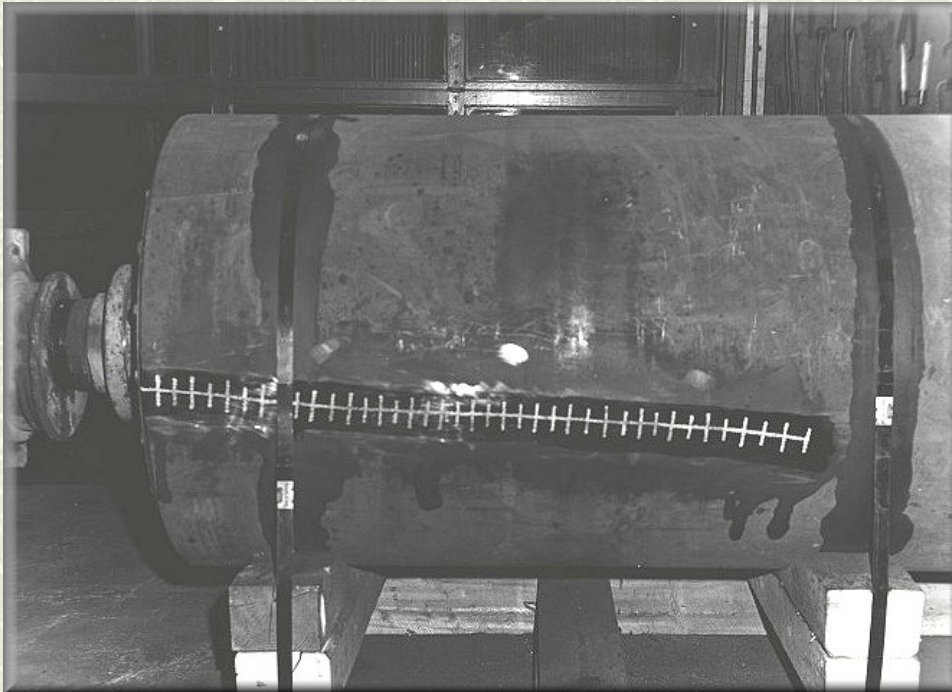
5-Step Repair Process

1. Attachment of drilling fixture perpendicular to the fracture/crack
2. Drill then rip material between holes
3. Insertion of swaged alloy locks
4. Drill, tap, and overlap threaded fasteners for seal
5. Peen, grind, and finish repair to match surrounding material.



Typical application...

The picture below details a typical repair that was completed on a 42” diameter roll. This roll was cracked a total of 45”. Note that the repair has been “chalked” for better visualization.



This repair was done in-house but could have been done equally well on-site. Total repair time required was 32 hours.

Why use Metal Locking versus Welding?

Welding Procedure:

- ❑ Causes warpage and misalignment and often damages machined surface
- ❑ Machining often difficult, sometimes impossible, at fusion area
- ❑ Pre-heat and post repair stress relief usually necessary
- ❑ Involves fire hazard
- ❑ Difficult to weld dissimilar metals
- ❑ Introduces stresses and hard spots particularly at fusion area
- ❑ Lowers shock resistance and dampening effect

Metal Locking Procedure:

- ✓ Leaves machine surface true and unwarped
 - ✓ Readily machineable across area of repair
 - ✓ No pre-heating or stress relief necessary
 - ✓ Cold repair presents no fire hazard in restricted areas
 - ✓ Dissimilar metals readily joined
 - ✓ Eliminates high stress concentration by re-distributing such stress
 - ✓ Ductility of high nickel locks used renders area more shock resistant and provides dampening effect
-

Industries served...

Some of the many industries that we serve include:

Automotive	Construction Equipment	Engine Rebuild & Repair
Food Processing	Forging	Foundries
Gas Transmission	Injection Molding	Machine Tool
Manufacturing	Material Handling	Metal Working
Packaging	Paper & Pulp	Power Generation
Printing	Aggregate & Mining	Railroad
Steel	Trucking	Petro-Chemical
Wastewater & Sewer	Pharmaceutical	Marine

Frequently asked questions...

How long does a Metal Locking repair last?

Metal Locking repairs are permanent. Proper design and application assure that the strength of the repair will meet or exceed the original operating conditions.

What happens if we are missing parts or pieces of the original structure?

Metal Locking is fully capable of fabricating replacement pieces to match the original. When items are broken beyond repair, we are often able to supply new castings that meet expectations.

What information do I need to supply in order to receive a quotation or estimate?

For a ballpark estimate, digital photographs and phone correspondence are typically sufficient. If the inquiry relates to an on-site repair, we will need a physical address so that we may estimate travel expenses. When digital photographs are not available, faxed drawings may suffice.

Is there any cost associated with a quotation?

Typically there is no cost associated unless an inspection visit is required. At that time we will ask to be compensated for our travel expenses only.

Finally...

Metal Locking Service is one of four companies under one corporate umbrella. All four companies constitute our “Metal Working Group”. Each of the four companies specializes in different metal working fields:

Goergen Mackwirth – Sheet metal and custom stainless fabrications

West Metal Works – Pressure vessels, heavy fabrications, Gov’t contracts

Metal Locking Service – Industrial equipment repair, full service machine shop

S. Howes – Material handling equipment fabrications

Our corporate goal is to service anyone who has a metal requirement be it local or remote location. As a corporation, we cover all the bases.

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