



# Your Partner in Stress Relief!



## WHY FABCO FOR MACHING STRESS RELIEF

Welding and machining causes metal fatigue that, if left untreated, can cause future breakdowns and potential safety hazards. As one of the few providers of Meta-Lax® vibratory stress relief in Arkansas, FABCO is your best choice for stress relief for precision metal parts. Our welding technicians are AWS-certified and have years of experience with machining stress relief on complicated and large parts. We use a state-of-the-art Meta-Lax® machine that uses sub-harmonic frequencies to eliminate metal stress and prevent cracks, distortion and defects during welding. We use Meta-Lax® for post-welding stress relief because it offers the combination of value, efficiency and innovation our clients desire. As with all services, we offer our services on-site, meaning a faster turnaround time for your repair.

## HOW IT WORKS

Like all things, metal components have their own resonant frequency — the rate at which they are naturally vibrating on a molecular level. Essentially, when a metal piece is stressed, that frequency goes out of phase, which is where machining stress relief comes into play. VSR uses vibrating energy to restore the resonant frequency of the affected metal part to its normal rate. Conventional thermal treatment for metal stress achieves a similar result — the induction of internal accelerated motion — by a controlled heating and cooling process that leaves the metal prone to distortion, scaling or softening

## BENEFITS OF VSR

Vibratory machining stress relief meets or exceeds the benefits of conventional heat treatment with none of the side effects. Heating metal to remove stress points has a number of drawbacks; some of the significant advantages VSR has over thermal treatment include the following: Less distortion: VSR produces 85% less machine distortion than thermal stress treatment, reducing the amount of scrap and rework necessary. Time- and cost-effective: Unlike heat treatment, which involves a lengthy cooling process, VSR can usually be completed in under two hours. VSR machines are also cheaper to service and maintain than furnaces — savings that get passed along to our clients. No size or weight limitations: VSR machines can be used to treat parts of any size, even large equipment used in construction industries. The equipment is portable and can be easily brought to the job for stress relieving.

# Best Value Heavy Machining and Fabrication!

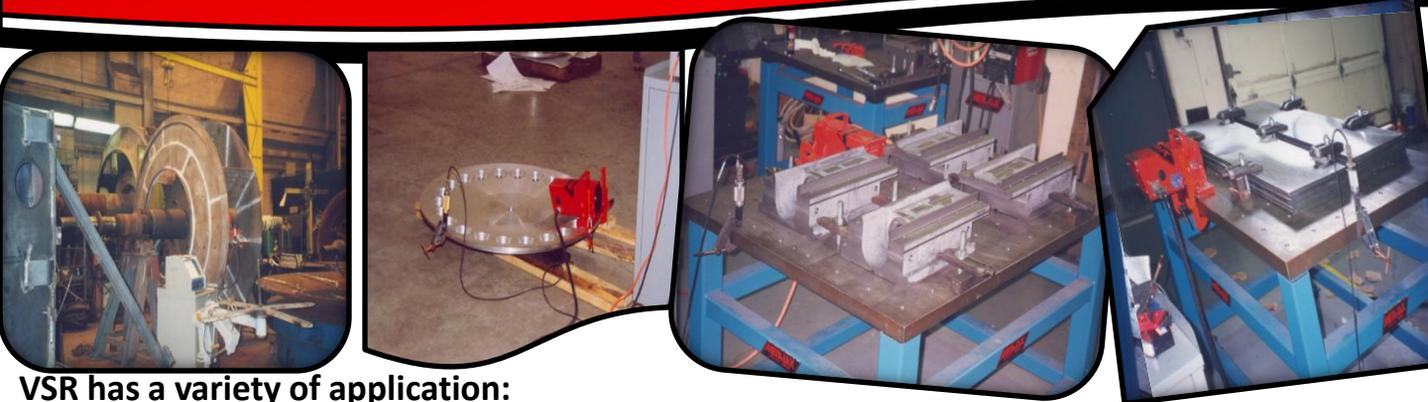


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## **VSR has a variety of application:**

VSR can be used on wide range of ferrous and non – ferrous metals. Typical materials are: Carbon Steel, Stainless Steel, Aluminum, Cast Iron etc, wide variety of shapes and sizes from small casting, shafts, gears or even large welded and machined fabrication and Small parts, too light for the vibrators weight, are grouped together and stress relieved in union.

## **During Manufacturing**

•Before rough machining, milling, or grinding; before finish machining, milling, or grinding; before EDM or burning; before heat treating or hardening; before reinserting into service; during welding-new manufacturing or repair, and periodically for preventative maintenance.

## **Types of Components**

•Plate, bar, weldment, casting, forging, extrusions, ..etc.

## **Materials that Respond to Meta-Lax Stress Relief**

- low and medium carbon hot rolled steel including 1020, A36, 1045, 1060
- low and medium carbon steel alloys including 4620, 8620, 4140, 4340, H13, P20
- tool steel alloys including A2, D2, M1, M2, M3, M4, S7
- high strength steel alloys including HY80, HY100
- cast iron including gray, nodular, meehanite
- aluminum alloys including 356, 2000's, 5000's, 6000's, 7000's
- stainless steel alloys including 304, 316, 410, 416, 420, 17-4
- exotic metals including gold, titanium, inconel, magnesium, monel, waspalloy, hastelloy
- powdered metals including tungsten carbide, stellite