

Lawrence R. Difatta
President of Granco Clark



Millennium musings...

The year 2000. Other than its unique number and the Y2K bug, it signals nothing more than the passage of time. We will still do all the things that we must to be successful. The presence of strong fundamentals in our organizations will still represent the foundation of our businesses.

The most basic principle at Granco Clark has always been our dedication to the needs of our customers. We recognize that their needs provide our direction and focus our activities. With that in mind, now is a good time to thank all those who demonstrated their confidence in us by placing their business with Granco Clark over the past year. Some were repeat customers and some were first-timers. We appreciate this and are grateful to all.

When looking forward, there are always more questions than answers. This will keep us all sharply focused and engaged in continuous improvement activity as we strive to be the ultimate supplier to those we serve. That is, capable of meeting and exceeding customer expectations everyday.

We also eagerly anticipate ET2000 in May, which promises to deliver outstanding technical papers and an exposition superior to any previous. You can be sure that Granco Clark will be present and be decked out in its finest.

In January of the New Year, Granco Clark will conduct its final audit for ISO-9001 certification. We know the implementation of this quality system is good for our organization and, ultimately, our customers. With this credential, we begin the year 2000 with another element vital to long-term success — increased ability to meet our customers' needs.

At Granco Clark, it's another year of business as usual as we strive for excellence in 2000.

New Equipment Installations

— North America —

EXTRUDEX ALUMINUM

Woodbridge, Ontario

As part of a major expansion, Extrudex is adding two 2500-ton presses in the new Woodbridge facility. Granco Clark has been selected to supply the heating and handling equipment for the two press lines. The equipment supplied includes a Granco Clark Quick Cycle Log Shear / Hot Jet™ Furnace that feeds each press, as well as a complete handling system for each line. Both handling systems feature the Granco Clark Double Puller with cut-on-the-fly technology.



Double Puller

Andrew Gucciardi, Vice President of Extrudex, says that the key reason for selecting this system was confidence in Granco Clark, due to its, "proven equipment with a large number of installations and the performance of Granco Clark equipment we have recently purchased."

ALUMINUM SHAPES

Delair, New Jersey

Aluminum Shapes has ordered a Granco Clark Quick Cycle Log Shear/Hot Jet Furnace. The furnace/shear is sized to supply up to 7000 pounds per hour of 7-inch diameter billet and will allow the correct length billet to be supplied to the press under all operating conditions.

According to Joe Donnelly, Cast House Manager at Aluminum Shapes, the new furnace/shear will "reduce the load on the billet sawing operation in the cast house, which will have benefits in many other areas of the company."

SILVER CITY ALUMINUM

Taunton, Massachusetts

Granco Clark is supplying a new Hot Jet Furnace to Silver City Aluminum. It is replacing a "Granco" billet heater that was supplied more than thirty years ago. The new billet heater has a capacity of 5000 pounds per hour of 7-inch billet, providing Silver City with a significant improvement in temperature accuracy and reduced energy consumption.

EXTRUDEX, USA

North Jackson, Ohio

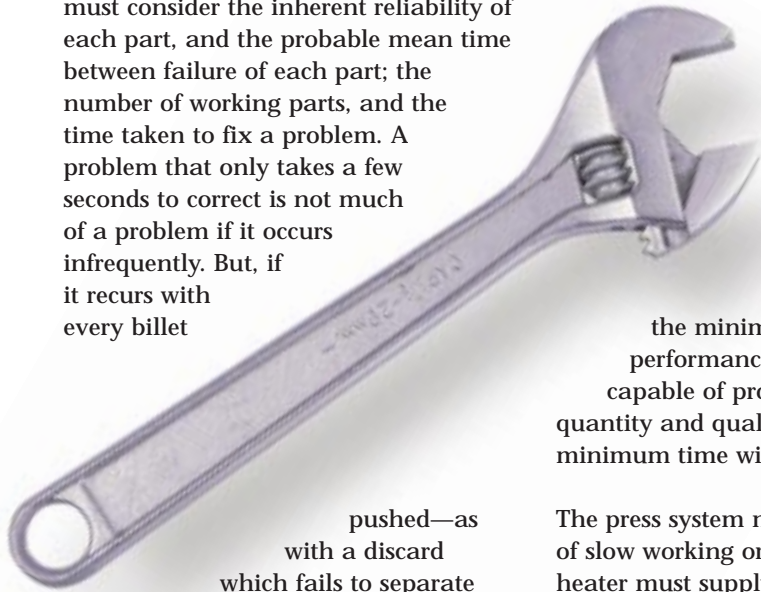
Extrudex, USA has ordered a Furnace Log Conversion and Hot Log Shear for a Granco Clark Billet Heating Furnace that was delivered in 1998. The Hot Log Shear will allow the correct length billet to be supplied to the press under all operating conditions, and will significantly reduce the amount of 10-inch aluminum inventory at this location. Another key consideration is the reduction in effort expended for managing raw material inventory.

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Total Productive Maintenance — TPM from page 1

dependent on the reliability of each of the working component parts. And, whereas a "reliability" of 99% might have been acceptable when presses extruded onto a fixed runout table with little or no additional handling, it is totally unacceptable today. The reliability of the automated press system is the product of the reliability of each of the component parts. If each of the sub-systems listed above were only 99% reliable, the system would be "down" 12% of the time!

In planning to improve reliability, the design and maintenance engineers must consider the inherent reliability of each part, and the probable mean time between failure of each part; the number of working parts, and the time taken to fix a problem. A problem that only takes a few seconds to correct is not much of a problem if it occurs infrequently. But, if it recurs with every billet



pushed—as with a discard which fails to separate from the shear or spacers which do not feed consistently to the stacker—it will require the undivided attention of an operator at some time during each working cycle.

Again, the reliability of the system is a function of the reliability of the sub-systems.

Press Maintenance

The press system must be maintained to meet its performance capability. The billet furnace must deliver billet at the specified temperatures. The press must be correctly aligned. Pressures, speeds and clearances must be maintained to prevent the creation of mushrooms and flashes, and to ensure that the butt shear cuts cleanly and the fixed

dummy block operates properly. The equipment must be available for operation at all times.

Making equipment available for use requires an understanding of why it breaks down. Understanding why machinery doesn't work comes from taking appropriate measurements and an intimate knowledge of machine design.

Press Performance

The productive capability of the press and its ancillary equipment was defined when it was installed. Subsequent upgrades may have increased its capability, but the initial specification defines the minimal acceptable performance. The press must be capable of producing the required quantity and quality of extrusions in minimum time with minimum losses.

The press system mustn't be the cause of slow working or lost time. The billet heater must supply the required quantity of billet, at the required time and at the correct temperatures. The dead cycle must be that specified by the machine builder. The pullers and cut-off saws or shears must operate within the dead cycle, and the transfer arms must clear the run-out for the next extrusion. The stretcher must be equipped to keep the cooling tables clear. And, the saw and stackers must keep up with the press.

The press system mustn't be the cause of scrap. Handling mustn't damage the extrusions. Most modern handling systems use pullers operating over protected non-marking runout tables, using transfer arms with rectilinear motions and felt belting to carry extrusions through

REFERENCES

- Benson, F. and Cox, D. R., 1951. "The Productivity of Machines Requiring Attention at Random Intervals," *Journal of the Royal Statistical Society (London)* 13B: 65-82.
- Buffa, Elwood S., 1972. *Operations Management: Problems and Models*. 3rd Ed. 521-531. New York: Wiley.
- Goldratt, Eliyahu M., 1986. *The Goal: A Process of Ongoing Improvement*. Revised Edition. Croton-on-Hudson: North River Press.

the cooling section, stretcher and batching section to the saw table. However, there are still many handling systems comprising sloping lift-offs, walking beams with a wide variety of coverings, and with no mechanical means of transferring the extrusions into and out of the stretcher. These are often sources of product damage.

Safety

The press system mustn't be the source of accidents. Presses, stretchers, saws and stacking systems must be protected to ensure safe operation. They must conform to standards of noise suppression. Hydraulic pumps, tanks, pipe couplings and hoses must be guarded against the dangers of fire. Potential sources of sparks and open flame must be guarded.

The other four steps to the successful introduction of Total Productive Maintenance will be discussed in subsequent articles. ●



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A b r o a d

LB Aluminium Berhad

Malaysia

LB Aluminium Berhad, a leading Malaysian extruder, recently ordered a Granco Clark Double Puller for their modernization program. This puller will allow LB Aluminium to increase its productivity by eliminating dead cycle time with handoff capability to produce multiple lengths of extrusion per billet without having to stop the press. The Double Puller also cuts on the die mark, on the fly, which will give LB Aluminium 5 percent scrap savings over their current practice. LB Aluminium is looking forward to the realization of these gains to enhance their competitive position in the Southeast Asian market.

HELWAN

Cairo, Egypt

Granco Clark is supplying an aluminum, brass and copper Billet Heating Furnace to Helwan Industries of Cairo, Egypt. The furnace is being supplied in conjunction with a new Mitsui extrusion press. The furnace is sized to supply 6500 kg per hour of 243mm x 790mm copper billets at 900° C. A unique feature of this furnace is the rapid temperature probe change capability. This allows the furnace to be quickly modified from aluminum operation with contact probes, to copper and brass operation with infrared probes.

CHENG HSIN

Taipei, Taiwan

Cheng Hsin is a multi-press extruder in the metropolitan Taipei area. They are currently installing a Double End Flow Age Oven. The aging oven is sized for an 8-metric-ton load size. Having recently purchased two billet heating furnaces, this is the second purchase of Granco Clark equipment by Cheng Hsin.

ALCOA

Hanover, Germany

Granco Clark has recently shipped a specialized Stem and Die Heating Oven to Alcoa's plant in Hanover, Germany. This oven is a modified version of the Granco Clark Multi-Compartment Die Oven. The oven has five separately controlled chambers with drawer-style doors. Four of the compartments house press stems for an indirect press and the fifth drawer is used for die preheating.

Welcome Aboard

Granco Clark welcomes Steven Sakall to our team of Sales Engineers. Steven holds a bachelor's degree from Aquinas College. Prior to joining Granco Clark, Sakall had been in the casting industry. His experience includes manufacturing and quality control supervision, as well as sales to a variety of industries. This experience will be valuable in his new position as a Systems Manager/Engineer, where Steven will be responsible for activities throughout the sales cycle. He will collaborate with clients from initial contact, working with them to arrive at optimum equipment solutions, finalize proposal details, and, ultimately, assist in the launch of the system.



Sakall



Coe

Granco Clark also recently hired Jason Coe in Parts Sales. Jason is responsible for the replacement process of customer parts and orders, to facilitate maintenance and to avoid or minimize downtime. Prior to joining Granco Clark, Coe worked as an account representative for Sunsource/Fauver, a manufacturing vendor of hydraulic power units and hydraulic/pneumatic components. ●



The ET2000 Expo is drawing near! From May 16-19, at the Hyatt Regency Chicago,

experience the forefront of innovative extrusion technology. You can count on Granco Clark to be an active participant. Come visit our booth, #328, directly in front of the entrance to the exhibit floor. For more information, visit the Aluminum Extruders Council web site at www.aec.org.



Worldwide

Serving the information needs of the international aluminum extrusion community.

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