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Whitney

METAL FABRICATION NEWS

AUGUST 2002

S & S Steel Buildings' ADVANTAGE

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PlateLASER®-II Open House August 20-21

Whitney
METAL FABRICATION NEWS

The Whitney Metal Fabrication News is published by W.A. Whitney Co., P.O. Box 1206, Rockford, IL 61105
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W.A. Whitney is a subsidiary of Esterline Technologies.

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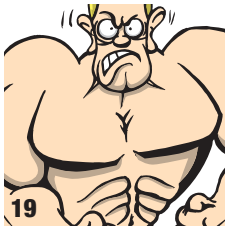

Economic Stimulus Package makes new equipment affordable now

by Joe Mayer, President, W.A. Whitney Co.

While I am writing this message, the bad news about accounting scandals is still pouring in and the stock market news is less than encouraging. Against all forecasts, the manufacturing sector is not up to 2000 levels; however, all economic factors are showing the slowly improving business climate.

In this environment it is easy to become complacent, hunker down and try to compete with yesterday's products—sometimes just upgrading with a different color scheme or a new name.

Whitney decided not to participate in this game because it accelerates the trend of moving jobs and orders into lower wage countries like Mexico and China.

To keep our customers profitable and increase their productivity we accelerated our product development efforts far beyond what we have done in the past. We again reduced the development time for new products by half and proudly present our latest PlateLASER-II in August. Exactly what you can expect from the Leader in Plate Technology.

We recently had the honor of hosting the Honorable Don Manzullo, our Illinois House Representative. Representative Manzullo is one of the strongest advocates for small businesses in the United States. He wants to insure a level playing field for US exports and a fair business environment. As the Chairman of the House Small Business Committee and member of the House Financial Services Committee he looks into issues ranging from taxes to steel tariffs and the overvalued dollar.

With his help, the economic stimulus package was created. You can benefit from the savings now while upgrading your manufacturing capabilities, enhancing your productivity and improving your competitive position in this market.

In the article "Are You Ready," Morrie Earnest, our National Sales Manager, reviews the latest market trends and shows you how Whitney's machine tool developments and Congressman Manzullo's activities can help you take advantage of these incentives.

Stop by and talk with us during the August Open House. By working together we can keep the industry trend headed in the right direction.

Introducing the PlateLASER®-II

Join us for Whitney's Open House • August 20 & 21, 2002
Whitney Technology Center

Seeing is believing! Witness the industry introduction of the PlateLASER-II, first high precision plate laser cutting machine with full flying optics.

You won't see this anyplace else…so plan now to join us for this exciting industry first!

The PlateLASER-II will take the place of honor among Whitney's other machine demonstrations and a very special guest presentation.

Dr. Richard P. Martukanitz, faculty member at the Applied Research Laboratory at The Pennsylvania State University, and Director of the Laser Processing Consortium which consists of over twenty industrial organizations, will discuss the future of Laser Plate Processing as revealed by PennState's research.

Dr. Martukanitz's major interests are the developing of laser processing and aluminum joining technology. He holds several patents in these fields and has published numerous articles in journals and conference proceedings.

Dr. Martukanitz will address Whitney guests at 10:30 a.m, on Tuesday, August 20, in Whitney's Main Training Room.

PlateLASER-II Introduction

See the size, power, cutting speeds, accuracy, flexibility and capacity for adding to profits of the new PlateLASER-II.

- 6 kW Laser Cutting Power
- Flying Optics System Up to 13' x 40' Available
- Shuttle Table Capacity up to 24,000 pounds Available
- Cuts Up to 1-1/4" Stainless and Mild Steel
- Cuts Up to 1/2" Aluminum
- Rapid Pierce & Pierce on the Fly
- Virtually no "crater eruption"
- Direct Drive Linear Motors

Punch/Plasma Demonstrations

Marvel at the Xtreme Performance from the 3400 XP punch/plasma machine that increases production speed and lowers costs.

- Fastest Industry Cycle Times
- Speeds Production by 30%
- Punches & Cuts Up to 1/2" Mild Steel
- TRUECut® Plasma Cutting System
- 40 Tons of Punching Power
- Forming Capabilities
- Nine Tooling Stations Standard
- Tools Caddy for 21 Additional Tooling Stations

Watch the MAXIMUM speed, tonnage, capacity and capability of the 4400 MAX, the largest punch/plasma for economical processing of heavy-duty parts.

- TRUECut®-400 for Plasma Cutting at Twice the Speed
- 100 Ton Punching Capacity for 1" holes in A36 Steel
- Retractable Work Clamps Eliminate Dead Zones
- Worktable Expansion Available Up to 8' x 20'
- Sheet Metal Accuracy in Heavy Plate Parts
- Processes Plates Up to 4,900 pounds
- Forming Capability
- Revolutionary Ruggedness

Precision Plasma Cutting Demonstration

Observe the optimum cut quality from the ADVANTAGE Precision Plasma Cutting Tables.

- Whitney Quality & Reliability
- 3/8" One Piece, Tubular Base for Stability & Precision
- Three Hypertherm® System Options
- Three Cutting Bed Size Options
- SmartPIERCE™ System Reduces Pierce time by 25%
- Drill/Tap Attachment Option Available
- Friendly Control Shows "Real Time" Cut Path
- Pull-out Drawers for Easy Small Part Removal

Precision Punch, Portable Punches and Structural Equipment Demonstrations

Recognize the flexibility and efficiencies of the single station punch, hydraulic portables and other structural fabricating equipment.

- Low Cost Holes
- 1524 Precision Fabricator
- Portable Hydraulic Flange & Web Presses Up to 150 Ton Capacity
- Tooling Easily Creates Shaped Holes
- Coper-Notcher-Benders & Other Structural Fabricating Tools
- Many Optional Features

Tooling Solutions

Discover the fine points of quality tooling and the resourcefulness of using specialty tooling to solve punching and forming challenges.

- Shaped Inserts to Save Up to 50%
- Complete Lines of 28XX, 36TC, and 44TC
- Ironworker Tooling for Most Standard Models
- Easy Order via Web
- Fast, Reliable Delivery
- Engineering Staff to Assist with Specials

Service Support & Training

Knowledgeable service and thorough training programs for your people assure optimum, continuous machine operation.

- Machine Performance Audits
- Fast, Efficient Service
- Thorough In-Plant or On-Site Training
- 24-Hour Phone Support
- Machine Moving
- Preventative Maintenance Plans

Affordable Legacy Equipment

Save with seasoned punch/plasma equipment – used or rebuilt.

- Complete Rebuilds
- Refurbished Equipment
- "Where Is/As Is" Equipment
- Equipment Locator Service

See for yourself how adding a Whitney to your capability mix will help you grab the lead in your market! Join us in Rockford, August 20-21. ◆

See Whitney's *ADVANTAGE* at FABTECH

Attend FABTECH With a Whitney Pass

Plan now to attend FABTECH, International, October 29-31, at the I-X Center in Cleveland.

Make your first stop Booth 8040 to see Whitney's new *ADVANTAGE* Precision Plasma Cutting Table in action.

The Whitney *ADVANTAGE* Precision Plasma Cutting Table

Samples and information on the full line of products including the new PlateLASER-II, 4400 *MAX*, 3400 *XP*, material handling solutions, and tooling, will also be on hand.

For more information on the FABTECH exposition visit www.fmafabtech.com or www.sme.org/fabtech.

If you would like free attendee tickets, email Becky Edmundson at redmundson@wawhitney.com or call 815/490-0536.

Special Sale Prices on Portable Hydraulic Presses

Special sale prices on Whitney's line of Portable Hydraulic Presses are in effect through October 30! Perfect for structural steel fabrication, the presses offer:

- Portability—easy to take to the work or work site.
- Time Savings—punch four or five holes in the same time it takes to mag drill one.
- Positive Stripping Force—double acting hydraulics! No springs to fail. No material stuck on the punch.
- Reliability—long life 5000 psi hydraulics.
- Variety—flange and web models with punching power from 20 to 250 tons.

Contact John Davis to learn about substantial savings on selected items! Call him direct at 815/490-0323, email jdavis@wawhitney.com or fax 815/964-0831.

New Literature!

Keep up-to-date on Whitney products by getting your copies of new brochures. Email Becky Edmundson at redmundson@wawhitney.com, call 815/490-0536 or check your requests and fax back to 815/964-3175.

❑ ***ADVANTAGE***

The line of *ADVANTAGE* Precision Plasma Cutting Tables is pictured and described in a new four-page, full color brochure. Photos showing special features of the user-friendly control, unique machine design benefits, the optional drill/tap attachment, and sample part configurations, and a "Hourly Cost to Own" comparison chart introduce the *ADVANTAGE*.

❑ **PlateLASER® 6000**

A new brochure on the PlateLASER includes information on its capabilities and highlights its laser system, Intelligent Laser Control, direct drive linear motors and versatile cutting head. Information is also included on the PlateHANDLER™ Automatic Load/Unload system. A floor plan gives basic dimensions for required space.

❑ **Industrial Tools**

A new edition of "The Tool Box" for metal fabrication, Whitney's line of Industrial Tools has just been completed. Capabilities of small hydraulic punches and shears for cutting angle, flat and round bars is described with photos, charts and graphs. The catalog includes detailed information on Coper-Notcher-Bender Presses and the 7608 Buss Bar Fabricator. Tooling, replacement parts and shear blades are also included.

❑ **Portable Presses**

A long-time mainstay for economic punching of holes in plate and structural steel, Whitney's complete line of Portable Presses is described in the multi-page catalog. Specifications on flange presses from 20 to 250 ton capacity and web presses from 20 to 150 ton capacity are included. Tonnage charts assist with selection of the proper press based on Maximum Hole Diameter, Maximum Material Thickness, Throat Depth and other application requirements.

SEND TO:

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City/State/Zip _____

Phone _____

3400 APPLICATION

Pro-Weld Fabricating—Small Shop, Big Capabilities In the North Woods

The "heart and soul" of a small, successful shop located in unincorporated Elcho in the north woods of Wisconsin, is a 3400 RTC with the extra advantage of a drop door table for off-loading completed skeletons.

Pro-Weld Fabricating Inc. was established in 1984 by its president Don Goerke. Goerke, who discovered his love of welding in third grade, enjoys discovering new cutting and welding technologies today as much—or more—than he did then.

The ironworker and drill that established Pro-Weld as a quality shop has evolved into a complete manufacturing facility with the equipment needed to produce the full line of Johnson Outside Wood Furnaces, Lifetime Christmas tree stands, and to serve as a full service job shop for other manufacturers.

Dennis Bryski, operator, and Don Goerke, president, support an internal part for a Johnson Wood Furnace. It goes from the 3400 RTC directly to the robotic weld station.

"It just progressed," says Goerke. "People believed in the work I was doing. They saw the quality…and they knew I wanted to stay around here."

Product Progression

Park/picnic benches and burn barrels got the company up and running. Conveyors and rock pickers for local companies and parts for physical therapy equipment were added to the mix. Then, along came the Johnson Furnaces.

The furnaces, with internal combustion systems, are available in three sizes. Their round, steel design is similar to that used in commercial boilers. By using 1/4" powder-coated steel, rather than stainless, the Johnson Furnaces have more strength and reliability than most other outside wood furnaces.

As the company and product mix grew, the need for better tolerances and faster production led to the purchase of a used Whitney 647C. It was the first piece of CNC equipment at Pro-Weld.

"It opened another door for us," Goerke explains. "With the 647C, we had a very good burn. The customers were happy with their products."

Goerke, the third owner of the machine built in 1984, purchased a control retrofit and quickly put the machine into production. His throughput increased "tremendously". Today, the 647C is still very functional and occasionally used for parts that have not yet been programmed for the new 3400 RTC.

As the company stepped up production on the furnaces, it was ready for the next step which turned out to be the 3400 RTC.

Surprise Fit

Goerke is surprised to see the machine in his shop each morning. His initial reaction to the 3400 RTC was that it couldn't fit in a smaller shop environment. But he has found that the machine fits perfectly and is earning its keep.

"I never dreamed of having something like this in our shop. My distributor and Whitney helped show me that you don't have to employ 100 people to have a machine like this—you can have seven, ten or twenty people and the machine makes you money."

The payback goal for Pro-Weld's 3400 RTC is five years. Finding savings in expected and unexpected places, Goerke is confi-

Ninety-five percent of Pro-Weld's parts are produced on the 3400 RTC. The optional drop door skeleton removal table increases their time and labor savings.

Production parts for Pro-Weld's proprietary line of Lifetime tree stands go directly from the 3400 RTC to a press brake or weld station.

dent that the payback will be accomplished in an even shorter time frame.

With the slower economy, the 3400 RTC is running one shift, but as more "doors open" and business picks up, the machine will run two shifts.

Goerke is using the 3400 RTC to open those doors. He shows Whitney parts to potential customers, produces prototype parts, and brings prospects into the shop to see production first hand.

"Once they see what we can cut, they're amazed," Georke points out. "They can't believe the cut quality and how fast it punches. The cut quality is unbelievable."

Pro-Weld is winning jobs away from competitors using laser cutters because the production speed allows them to complete the parts faster, lowering the cost for their customers. And, as they are getting more comfortable with the 3400, they are quoting on jobs that will use its forming and marking capabilities.

82% Savings

Some of the larger, internal parts for the furnaces required handling by two operators. Then a full-time grinder would clean-up both sides before the parts could be welded. Since the 3400 RTC, one operator produces the parts, the grinding has been eliminated, and the parts are punched and cut eighty-two percent faster than before.

Parts that took 45 minutes each to burn on the 647C and clean-up, are completed on the 3400 RTC and sent to the next process in eight minutes.

"Plus it's a better product. The tolerance is there so we can go directly to robotic welding," Goerke explains. "Everything fits together like a glove."

Based on the 3400 punching accuracies, Goerke has developed a version of the "slot and tab" procedure to place parts that create handles on the furnace doors. The time-consuming measurement and placement procedure, previously part of the welding process, has been completely eliminated and each placement is straight and accurate.

Skeleton Drop-Door

Increased operator safety along with time savings were added with the optional skeleton drop door. Located on the out-feed side, the doors swing down to safely release the completed

Critical tolerances are required for internal and external stove parts. The robotically welded tanks hold up to 180 gallons of water. Parts from material from 1/4" to 3/8"—including the identifying "JOHNSON" for the doors—are produced on the 3400 RTC.

Goerke and Kris Puffer, his daughter, show the heavy-duty construction of the Lifetime tree stands. All parts except the 3/16" tubes are cut on the Whitney.

skeletons to a pallet below. A fork truck easily removes the skeletons at the end of the shift.

Without the drop door table, additional floor space and labor would be needed to remove each of the heavy skeletons at the end of each nest.

Christmas Tree Stands

Goerke's daughter, Kris Puffer, works in the office doing everything from purchasing to order entry to promotion of their distinctive line of Christmas tree stands. The project began as a favor for a friend who wanted a stand that would not tip over.

The basic design, cut from 10 gauge steel and powder coated in red or white, was enhanced by tree patterns cut on each leg, allowing colored inserts to show through. The inserts, available in a variety of colors, add stamina as well as visual interest to the stands. The snug fit of the inserts into the outer legs demands smooth, finished edges and tight tolerances.

All parts on the three size models, with the exception of the center 3/16" tubes, are cut on the 3400 RTC. The tree patterns are currently plasma cut, but Goerke is working with Whitney to develop customized tooling to stamp the shapes for increased productivity.

Products from Pro-Weld's spin-off, Lifetime Tree Stand Co., will be marketed through tree suppliers this holiday season.

Advice

Goerke is proud of his company. His goal for the future is to expand it's customer base and continue to provide jobs for the "north woods" community that he loves.

He values his relationships with employees, customers and suppliers. When first considering the 3400 RTC, he put his trust in his Whitney distributor, Ted Archambo of Angel Machinery, based in Menomonee Falls, WI.

"Working with Ted is like shopping in a shoe store. He won't sell you something that doesn't fit," says Goerke. "Since we started looking at the 3400 RTC, we've had the family care of Whitney and everybody involved. They've been there for us…the sale, installation, training…150 percent." ◆

A used 647C was Pro-Weld's first CNC machine. It still cuts parts that have not yet been programmed for the 3400 RTC.

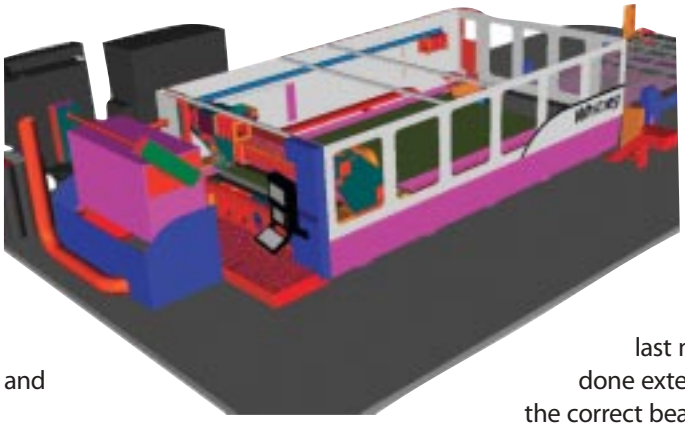
INTRODUCING the PlateLASER®-II

The First Ever High Precision 10' x 20' Plate Laser Machine with Flying Optics.

by Rick Kosmala • Marketing Manager, Laser

The success of the Whitney PlateLASER and requests from our customers pointed the way for the second generation…the PlateLASER-II. Our customers were specific in their request— "Create a larger cutting envelope!" That provided the direction for the development of the PlateLASER-II.

The first question to be answered was what machine configuration should we design? We went to the market and looked at the available options. Then, based on customer input, we incorporated flying optics.



The benefits of flying optics over gantry configurations (laser resonator and cutting head traverse along rails above cutting bed) include:

- Ability to process "thick to thin" material much more productively due to faster rapid traverse speeds and greater acceleration rates.
- Superior accuracy and repeatability.
- Superior part quality.

So we challenged our engineers to develop the first 10' x 20' flying optic laser cutting system with an option to process up to a 40' long material…with performance specifications very similar to that of the proven PlateLASER.

The result is the PlateLASER-II which utilizes the same "cutting edge" technology and offers the same processing capabilities as the original PlateLASER but with a much larger cutting envelope.

One of the more interesting discussions during the design process was the choice of a drive system. Should we use rack and pinion or linear motors? Both provide fast rapid traverse speeds and fast acceleration rates.

The linear motor drive system was chosen to insure accuracy over the life of the cutting system. Here are our comparisons.

First, linear motors are very accurate because they utilize a linear feedback scale that measures the actual position of the cutting head. With rack and pinion you measure motor position because the encoder is mounted to the motor itself.

Second, theoretically a linear motor will last indefinitely because there are no moving parts to wear out. The motor is the drive system. Rack and pinion is a mechanical drive system and as a result, the mechanics and motor wear over time and need to be replaced.

Third, with linear motors you can push the system to its limits without fear of wear and tear. With rack and pinion, the harder you drive the system, the quicker it needs to be replaced.

The entire drive system for PlateLASER-II is designed to last more than ten years. We have done extensive testing and have chosen the correct bearings and ways to achieve this goal. The last thing any customer wants to do is replace two 20' axes and one 10' axis ballscrews or gear racks. Replacement cost is high, but more importantly, the down time can be significant.

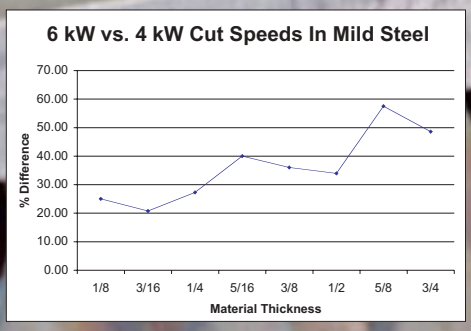
PlateLASER-II is the most innovative and flexible laser cutter on the market today. With the 10' x 20' cutting envelope of PlateLASER-II you can process two 10' x 20' sheets or eight 5' x 10' sheets of different material types or thicknesses at one time.

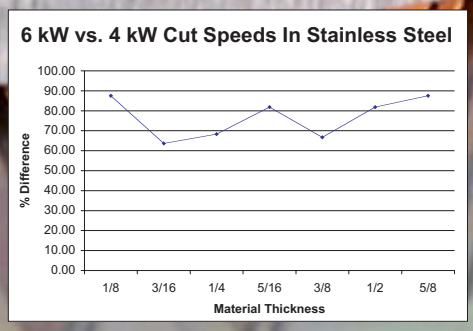
The standard PlateLASER-II has a 7,200 lb table capacity. An optional 10,000 lb table capacity is available. And even greater table capacity can be provided for customers who have more applications, requiring the processing of 40' long sheets.

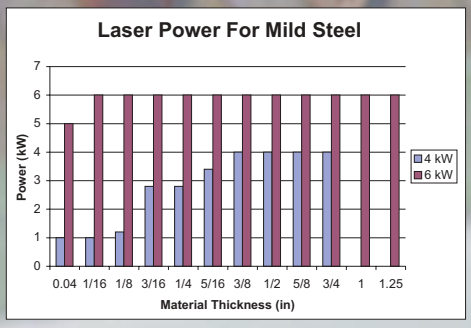
PlateLASER-II processes from "thick to thin" fast, accurately and repeatably…from 1-1/4" down to 22 gauge mild steel; 1-1/4" down to 22 gauge stainless steel; and 1/2" down to 22 gauge aluminum.

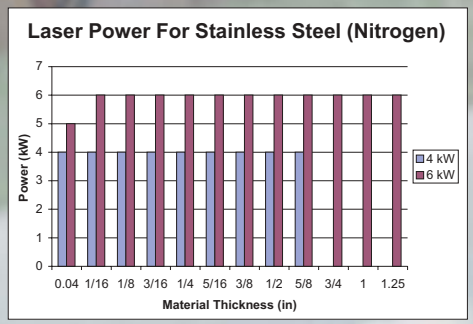
PlateLASER-II was designed for companies that have the most demanding applications and need the most advanced, state-of-the-art plate cutting solution. PlateLASER-II is the most profitable plate laser cutting alternative. ◆

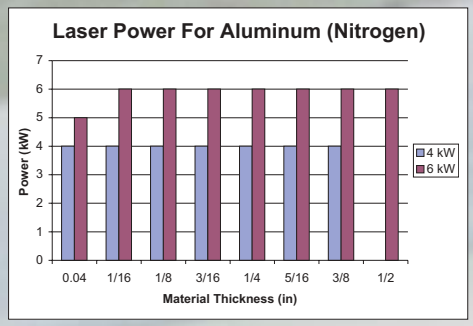
PlateLASER® Update











Since the last PlateLASER article, Whitney has pushed the envelope regarding laser cutting speeds and has again verified that a 6 kW laser cuts substantially faster than lower wattage lasers.

As a matter of fact, depending on the material processed, a 6 kW laser can cut up to 300 percent faster than the lower wattage models.

At Whitney we constantly push the cutting envelope to continually achieve the fastest possible cutting speeds. To date, our cutting speeds are the fastest in the industry…but we believe we will do better. Watch every issue of WMFN for the latest in PlateLASER developments.

Mild Steel

Until just recently, many people believed that higher power would not provide any appreciable increase in cut speeds due to self-burning. Today we've discovered that this is not the case. Whitney has applied our high power experience to develop the fastest cutting speeds on the market.

The full 6 kW output power is used to process the majority of the mild steel material thickness range. The charts above show the power used to process various material thicknesses and the percentage increase in cut speed of a 6 kW laser vs. a 4 kW laser.

Stainless Steel

We always knew that a 6 kW laser provides the fastest cut speeds in stainless steel. As a matter of fact a 6 kW laser cuts substantially faster than a 4 kW laser across the entire material thickness range. The charts above show the power used to process various material thicknesses and the percentage increase in cut speed of a 6 kW laser versus a 4 kW laser.

Aluminum

Processing aluminum is all about power. The higher the power the faster the cut speed. To date, the PlateLASER and PlateLASER-II cut speeds are much faster than a 4 kW laser. Depending on the material thickness, a 6 kW laser cuts 300 percent faster than a 4 kW laser.

By the next WMFN, we expect to provide the cutting parameters and speed comparisons for aluminum. Stay tuned for the results.

In conclusion, a 6 kW laser not only cuts thicker material than the lower wattage lasers, it also cuts thinner material faster. PlateLASER is the right choice for OEMs that want to increase their profits by reducing costs and job shops that want to increase their profits by having a competitive advantage. ◆

ADVANTAGE APPLICATION

A Philosophical Approach To Steel Building Manufacturing

Harold Stelly, president, and John Stelly, vice-president, dominate the 4,000 to 6,000 sq.ft. steel building market in the Lafayette, LA area.

Harold Stelly, president, and John Stelly, vice president, of S & S Steel Buildings (same last name though not related) have built the success of their steel building business on solid business and philosophical practices beginning with service.

"The market we go after requires a lot of service, a lot more time with the customers than the bigger building contract market," says Harold. "Our philosophy has been to spend our dollars on customer service."

Targeted Market

S & S Steel Building's primary market is within a 40-mile radius of Arnaudville, LA (close to Lafayette) where their plant is located. Their "end users" tend to be interested in a 4,000 to 6,000 sq. ft. metal building for farm or commercial use.

This type of customer typically expects a quick result; they don't want to hear that they are getting a building in eight weeks. So completion in four to five weeks is the plan.

"The work flow is a difficult thing to maintain. You don't want to have too much work so you can't do it properly, yet you need enough work to keep your plant going. We have to keep a close eye on that," Harold explains.

Most buildings from S & S are sold, designed, manufactured at S & S, and erected within four weeks. But that's not the end of the service.

One of the bays for manufacturing all metal parts for S & S buildings. As the company adds equipment, they call on their own expertise to expand the facility.

The *ADVANTAGE* produces parts from several material thicknesses based on the building requirements. Since adding the *ADVANTAGE*, a three-man shearing operation has been reduced to two men and production time has been cut in half.

If a customer has a problem, an S & S representative is there within 24 hours—usually the same day. S & S's philosophy—"We have some problems like everyone else. It's how you handle your problems that determines your success."

Balancing Act

Time for this focused service has to be balanced with manufacturing since the metal components—including web, panels, trim, purlins, clips and frames—are produced at S & S.

Each S & S building begins with its own design, satisfying the customer's specific needs. A building design software expedites the process and determines the component and part requirements. Then the project is sent to the shop for review, downloaded to appropriate equipment and production begins. With the one month timeframe from order to completion, quick turnaround and part accuracy are critical to keeping the company on track.

That's where the *ADVANTAGE* Precision Plasma Cutting Table came into play. It was added to the shop 's capabilities to provide faster production…with accuracy.

"We wanted more and more accuracy in our products," says Harold. "We use the *ADVANTAGE* to cut the mainframe webs and they are a critical part of the building. They're the most expensive part of the building." If a web is not cut properly, then the frame doesn't fit.

As a trial run, S & S designed a building incorporating "every imaginable scenario." While the Whitney service engineers were installing the *ADVANTAGE*, the parts for this building were produced and measured. Each part was "accurate to the T."

Increased Production

John Stelly, who oversees production, said that most of the *ADVANTAGE* work was taken from the shears. When manual shearing was used to produce the webs, it was a three man operation. By moving the webs to the *ADVANTAGE*, their production became a

***ADVANTAGE* Operator Chris Fontenot shows edge quality. The clean edges allow parts to go directly to welders like Kerry Steyer without an additional clean-up operation.**

two man operation and the production time was cut in half.

The versatility of the *ADVANTAGE* keeps it busy. The machine meets the challenge of cutting the multiple thicknesses needed for column and rafter webs, ranging from 10 gauge to 1/4".

"Before the *ADVANTAGE* we were doing it all manually. We created the paper drawings, the guys were shearing manually, dimensioning everything out, then putting the holes in manually," says John. "Now, the situation is that the plasma cutter can cut out more web than we can assemble!"

But the machine doesn't sit idle once web production is caught up. "When these guys get ahead of themselves, we bring in some flat sheets and burn out clips," adds Harold. "We get maximum use from the machine."

Fontenot checks building designs before downloading files to the *ADVANTAGE*. Nesting software helps him combine parts from several jobs on one sheet for efficient material usage.

S & S has it's complete clip inventory stored in the *ADVANTAGE* memory. Most of the 3/16" "bread and butter" clips are cut on the *ADVANTAGE* then moved to a punching operation. "We make tens of thousands of those clips a year and the savings since we installed the *ADVANTAGE* in February is tremendous."

When a special clip is needed, it is designed, sent to the *ADVANTAGE*, and both the blank and the holes are plasma cut.

Operator Chris Fontenot, was trained on the machine—his first CAD experience—when it was installed at S & S. He quickly brought its production up-to-speed and is very efficient at maximizing material usage by combining several jobs on the same plate.

Lean & Growing

"We were lean before it was cool," says Harold.

About to celebrate its 25th year in January of 2003, S & S has grown from it's two original partners, Harold and John, to 55 employees working in a 58,000 sq. ft. facility. Everyone is trained for multiple tasks.

Their lean initiative has helped them succeed in good and difficult economies. Even with the market slow-down, the plant has been at capacity for three years. Which says a lot when they have added the *ADVANTAGE* and increased production.

According to Harold and John, "We show growth on an annual basis, but it is controlled growth." Major machine purchases are part of the plan every year…on a limited basis.

S & S philosophy—"Do what you do well and you will be successful." ◆

The 3400 *XP* — An Exciting New LEAN Machine

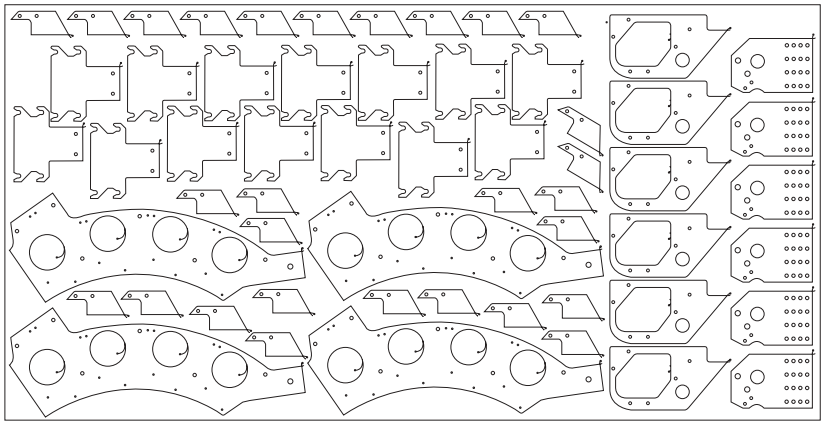
by Al Julian • Marketing Manager, Punch/Plasma

The highly successful 3400 RTC has been the mainstay of the Whitney punch/plasma product line since its introduction at IMTS in 1996. This product has proven to be a winner from the standpoint of speed, flexibility, and reliability. Its simple, robust design and large capacity have opened doors for many Whitney users. Should a product as successful as this be fixed if it isn't broken? Read on…

As an outgrowth of Whitney's internal lean manufacturing program, we looked at the 3400 RTC to determine whether or not we could improve the tool-in-the-work time. The cycle times for each aspect of the machine were scrutinized to remove wasteful moves and delays.

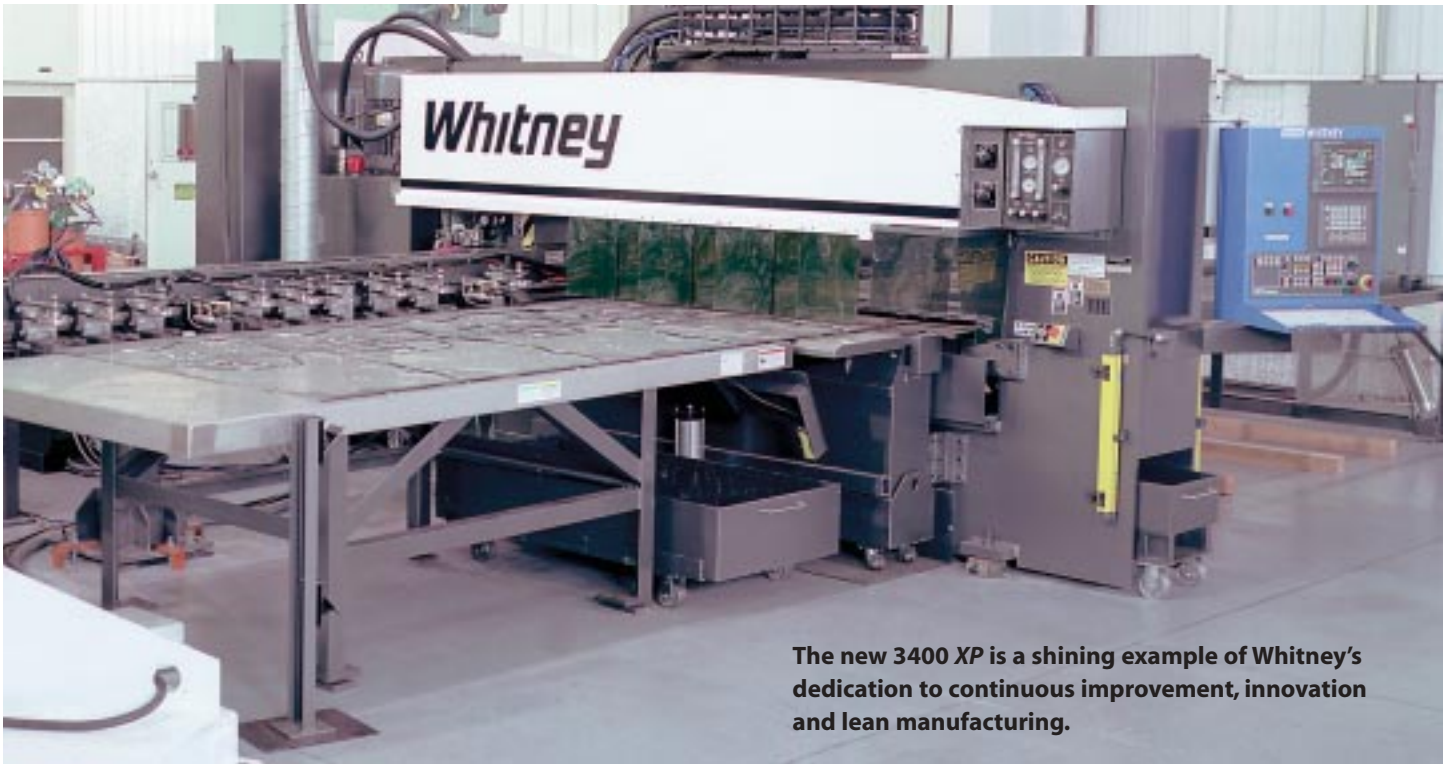
Engineers focused on software, mechanical, and

Cont'd on page 18



Cycle times for the above nest:

	4.0 kW laser	3400 RTC	3400 *XP*	Next Generation 3400 *XP*
1/4" steel	44.5 minutes	42.8 minutes	35.0 minutes	29.3 minutes
1/2" steel	86.0 minutes	60.8 minutes	53.1 minutes	41.5 minutes



The new 3400 *XP* is a shining example of Whitney's dedication to continuous improvement, innovation and lean manufacturing.

Are You Ready?

by Morrie Earnest • National Sales Manager

Without a doubt, predicting the timing and strength of the economic recovery is both frustrating and entertaining. Especially if we listen to our political advisers and watch Wall Street at the same time. Predictions from various sources often conflict and leave us wondering what is really going on.

Here at Whitney, we watch as many of the economic and industry trends as possible. One thing is certain. Two of the primary sources we view as true indicators, Capacity Utilization and Purchasing Managers Index, lead us to believe the downturn has flattened out and the turnaround has begun. And Washington is trying to make it easier for you to own new equipment.

Capacity Utilization

The Federal Reserve System Board of Governors issues the Industrial Production and Capacity Utilization report G.71. The capacity index, which is an estimate of sustainable potential output, is expressed as a percentage of actual output in 1992. A nominal value of 80 percent is viewed as the point at which facilities expansion and additional manufacturing equipment are required. Although some select industries still struggle, reports since January 2002 indicate a continued upward trend in utilization. Actual Capacity Utilization for total industry in May was 75.5 percent. A review of past data has shown this index is generally not subject to radical spikes month to month.

Values as indicated in Figure 1 are based on a three month moving average. Additional information is available at www.federalreserve.gov .

Purchasing Manger Index

Each month the Institute For Supply Management publishes the Manufacturing Report on Business®. This report is often referred to as the Purchasing Manager Index. Data is supplied by select manufacturers as to purchasing, order entry, shipment and backlog trends. Although this report contains data collected prior to issue, it is generally considered a leading indicator for trends in the manufacturing climate. A reading above 50 percent indicates the economy is generally expanding. A reading below 50 percent indicates the economy is generally contracting. As indicated in Figure 2, since February, every month of 2002 has had a value greater than 50 percent.

Noted philosopher and author George Santayana wrote in *Life Of Reason, Reason In Common Sense*, "Those who can not remember the past are doomed to repeat it." Perhaps we can take a closer look at the past recovery periods and get a glimpse of the future.

Figure 3 shows the data beginning with January 1980. In this chart we can see one minor and three significant periods of recession that should have some correlation to your firm's production history. We also see the long expansion period of the 1990's. Since this data reflects manufacturing as a whole, we see the downward trend experienced by most of us in late 1998 and early 1999 that was glossed over by the dot-com experience during that same period.

There are some similarities to the recession of mid-1989 to mid-1991 and the one we are recovering from. During that time

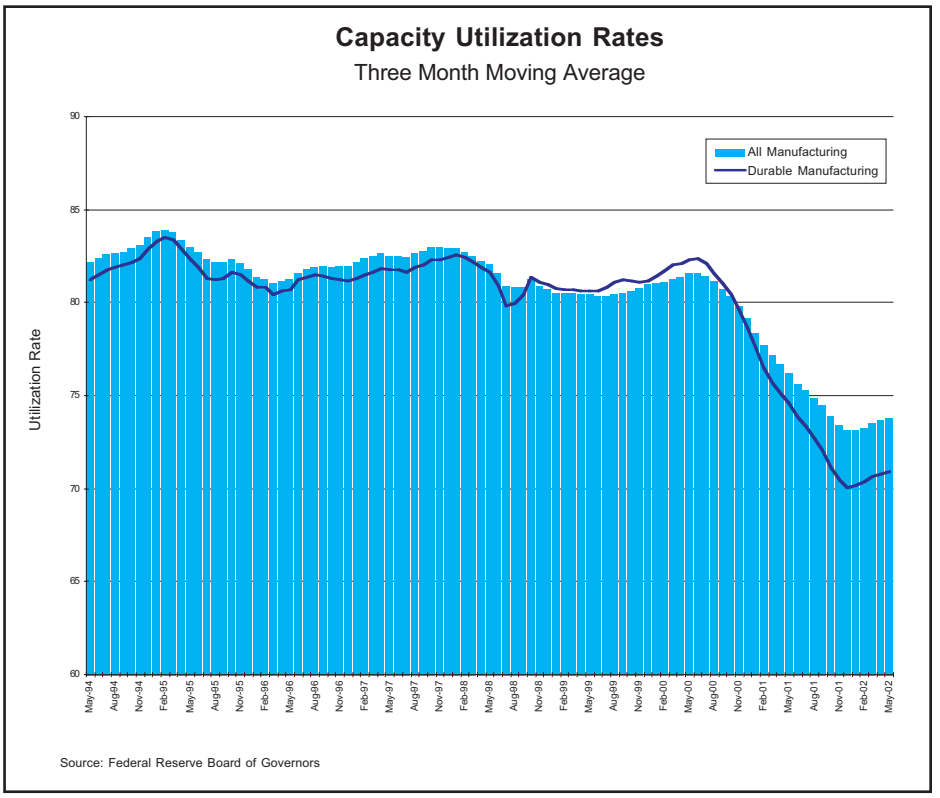


Figure 1. Although some select industries still struggle, reports since January 2002 indicate a continued upward trend in utilization.

period, the index rose to 50 percent in April 1990 and then receded to a low of 39.2 percent in January 1991. It broke the 50 percent barrier again in June 1991. As we watched the data a year ago, it appeared we were headed in a positive trend. Interest rates were being slashed and the economy seemed to be picking up. Then, October's index of 39.8 was the lowest since January 1991; the beginning of Desert Storm.

A portion of the positive spike activity in 1991 and 1992 can be attributed to pent up demand. During the last 12 months, record low interest rates have helped sustain housing and light vehicle sales above those normally expected during a recession. Those two sectors make up a significant portion of our economy.

If that pent up demand is missing, why then have we seen a sustained positive spike in the PMI index this year and what can we expect for the future?

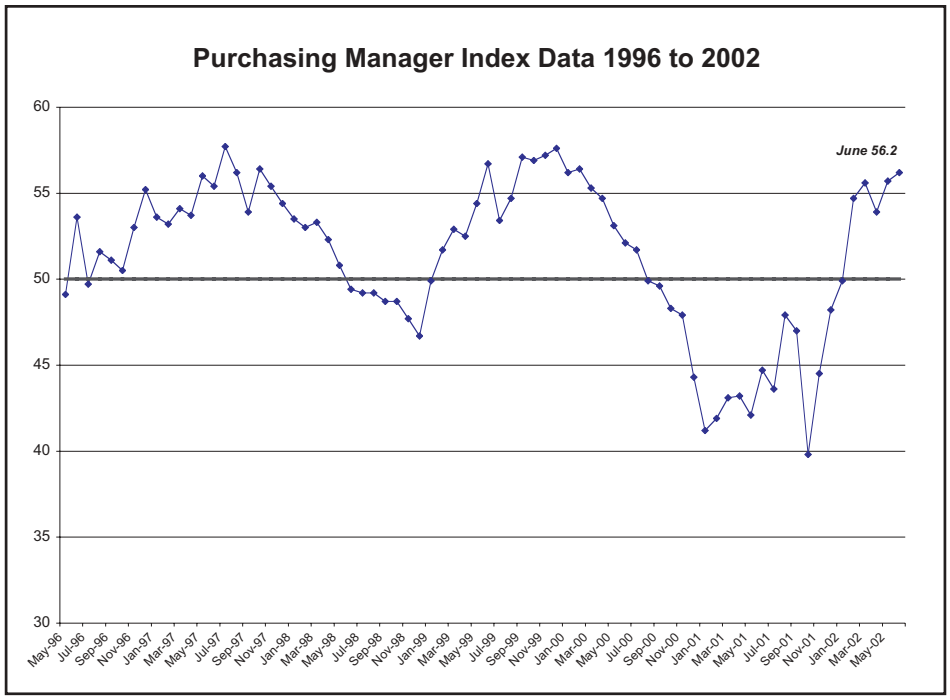


Figure 2. A reading above 50 percent on the Purchasing Manager's Index indicates the economy is generally expanding. Every month since February of 2002 has been above 50 percent.

A possible answer might be that most manufacturers spent the better part of the last decade implementing some sort of inventory reduction manufacturing model. Be it JIT, single piece flow, or simple work cells, the end result has been shorter response times to order fulfillment.

This coupled with aggressive pricing helped many industries reduce inventory at double digit rates during the fourth quarter of 2001. Something almost unheard of during a recession.

As the chart in Figure 2 indicates, the value reported July 1, 2002 was 56.2 percent. Based on historic perspective and the antics on Wall Street, we would have expected the index to continue a downward trend with the dip in April. It appears this is not the case as we continue to slug our way out of this slump.

Our observations lead us to believe the worst of the recession is over. We anticipate we will continue to see slight dips in both indexes. However, the upward trend will be faster and more intense than any we have seen in the past. We have conditioned our customers to expect instant deliveries with superb quality. Just because we experienced a softening of business is no reason to expect our customer demands will be any less. If anything, pricing and delivery pressures will be greater than that which we have experienced in the recent past.

Tax Relief Stimulus Package

Did you know you may be eligible for an added tax benefit? The economic stimulus package passed this year contains an increased expensing allowance for machine tools ordered between September 11, 2001 and September 11, 2004.

The provision allows a first year deduction of 40 percent and 57 percent over two years. For a $100,000 machine tool, this adds up to a first year tax cut of $9,100. Although there is no limitation on purchase value, we use $100,000 as an example.

Old Law — $100,000 Example

1st Year Deduction 14%	$14,000	1 Year Tax Savings	$4,900
2nd Year Deduction 25%	$25,000	2 Year Tax Savings	$13,650
39%	$39,000		

New Law — $100,000 Example

1st Year Deduction 40%	$40,000	1 Year Tax Savings	$14,000
2nd Year Deduction 17%	$17,000	2 Year Tax Savings	$19,950
57%	$57,000		

**Example assumes customer is in 7 year asset depreciation class.*

For smaller firms, there may be additional relief in 179 Property for Small Businesses. This provision states that if your total capital expenditure is less than $200,000 this year, you may expense the first $24,000. For our $100,000 example, the 40 percent deduction would apply to the remaining $76,000, thus allowing a first year deduction of $30,400.

To help even further, the Net Operating Loss (NOL) carry back has been extended from the former two year period to a five year period. This provision applies to losses in both 2001 and 2002. You may be eligible to file an amended return going back five years and receive a refund that could be applied toward the first payment on your new machine. This is a temporary provision, so you may want to investigate with your financial advisor.

Machine tools represent a sizeable investment in any busi-

ness. Often during a recession we postpone investments when we feel the economy is improving, but still fragile. Then the call comes and the job we have been quoting, for what seems like forever, suddenly materializes. And our customer wants that instant delivery we promised so long ago.

If you have postponed equipment purchases due to the slowdown, you may want to rethink your position. Deliveries of machine tools are still quite good and service assistance is plentiful. As the indicators we mentioned here continue their upward trend, that quick delivery quoted to you earlier this year may change when you urgently need the machine that will make the difference between breaking even and making a profit.

If you have any questions or comments on the indexes, feel free to drop me an email. I can be reached at sales@wawhitney.com. ◆

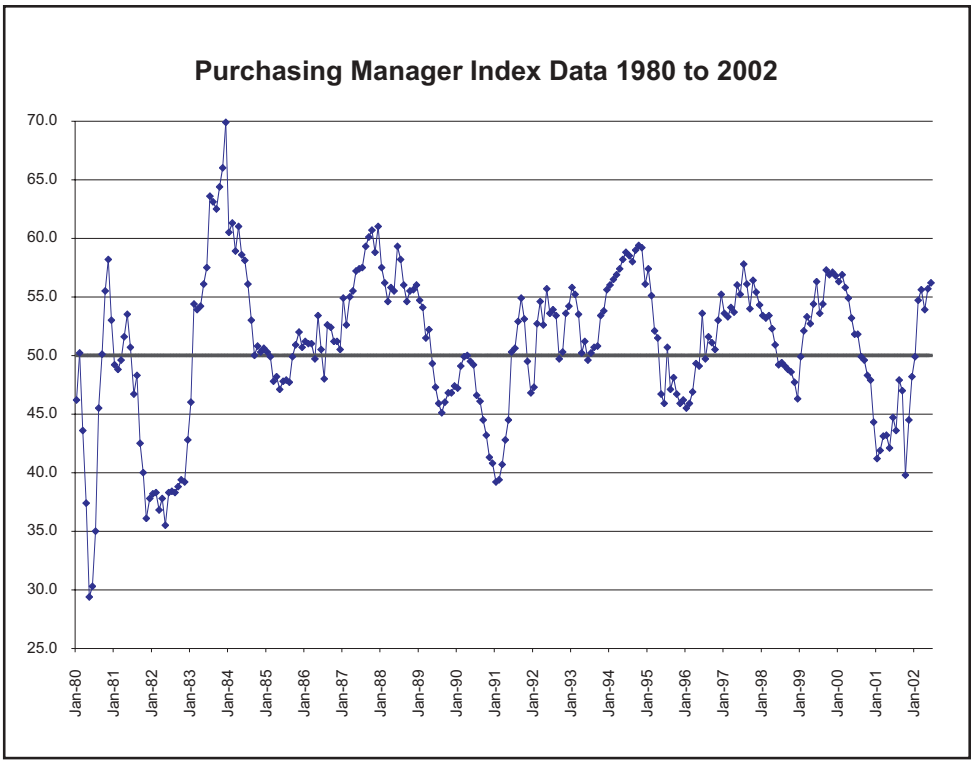


Figure 3. History will repeat itself. Computer integration, JIT manufacturing and low inventory levels will help us recover faster than before.

Data compiled by The Association For Manufacturing Technology

3400 *XP* cont'd from page 15

electrical assemblies to eliminate any and all obstacles that prevented us from meeting new performance goals. This was a true example of a continuous improvement program.

Lean Machine

The result is the new 3400 *XP* (eXtreme Performance), where all of the moves are optimized. Just look at the following improvements:

- 50 percent improvement in rapid traverse speeds.
- Faster tool change time.
- Drop door cycle time reduced by more than one-half. In addition, a part sensor has been added to ensure that parts are removed properly.
- Instant torch ignition.

All at the same price as the previous generation machine.

Individually, each of the steps created nominal improvements. Collectively, however, they make a significant impact on the overall cycle time of a typical nest of parts (see the related story on how just two of these improvements added up to 30 percent savings in cycle time for Precision Cutting Inc.).

More on the way…

Is Whitney done with the 3400? ABSOLUTELY NOT! Look for additional cycle time improvements over the next few months. Specifically, Whitney will be introducing new technology that will again remove a similar amount of cycle time from the punch/plasma process.

With this technology introduction we will see another 20 to 30 percent improvement over the current 3400 *XP*, and 30 to 50 percent improvement over the previous generation 3400 RTC. Machines being shipped now are ready to allow for this new capability when it is released.

That's up to twice as much production out of one machine – for the same price.

Cost of Ownership

And what does that do to the cost of owning and running a 3400 *XP*? Owners will see a 40 to 50 percent cost advantage over a 4 kW laser for the same parts—including labor, operating, and financing costs. More on that next issue. So stay tuned. Or better yet, talk to your Whitney representative about being the first in your market to benefit from this incredible new technology. ◆

Whitney's Culture is Lean

by Geri Baraconi • AIW Coordinator

"Lean" is a word that is consistently tossed around in today's manufacturing environment. Manufacturers, like a lot of organizations, want to stake their claim as being "lean and mean". Many have the desire, but few have the commitment.

At Whitney, though, the management team has both the desire and commitment and is incorporating "lean" into the company culture.

In April 1999, Whitney took the first step into the lean journey by conducting what is known as an Accelerated Improvement Workshop, or AIW as it is more commonly referred to. An AIW is a vehicle that introduces lean thinking and helps Whitney employees implement lean concepts. Typically, an AIW consists of twelve participants who look for ways to improve a specific process.

Teams & Training

Each team is cross-functional in nature, that is, it includes employees who are directly involved with the process, affected by the process, contribute to the process, and who have absolutely nothing to do with the process. At times, given the subject of the project, outside suppliers are invited to participate.

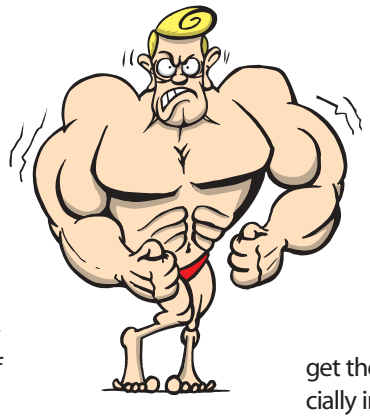
A Workshop is generally five days in length and includes training on the purpose of AIW's and the standard Workshop modules—Standard Operations, Recognizing Waste, Manufacturing History, Visual Workplace, Pull Production and the 5S's. As the participants learn about each lean module, they are asked to participate in an exercise that facilitates fact finding on the process they are addressing. Once training and fact finding is complete, the team puts what they have learned to the test by "reinventing the wheel" and taking the fat out of the chosen process.

As of June 2002, Whitney has conducted 130 AIW's, sure proof that Whitney's culture is "Lean."

Mini-AIWs

Several of the Workshops are known as mini-AIW's. With initial "lean" learning completed, many ideas or improvements are approached by two or more employees who have taken what they have learned back into their work areas and applied their new skills to their daily working environment. This snowball effect to lean manufacturing produces better, more streamlined processes that produce a better quality product for Whitney's customers.

Working out with AIW's helped Whitney become a lean manufacturing company.



Benefits for All

Whitney's AIW initiative has produced a host of benefits for both customers and the company. Customers benefit because Whitney is able to better respond to their needs, providing services based on demand and focusing on value-added activities.

Whitney benefits because of a more enlightened and involved workforce that is continually looking for ways to eliminate waste from all processes.

The Punch & Die Division provides a good example of how Whitney has been able to benefit from the learning initiative. Until November 2001, Punch & Die inhabited approximately 65,000 square feet of a five-story building that was separate from the rest of the manufacturing facility. Because of work completed in the AIW's, enough square footage was cleared in the main building to move the punch and die operation into a very streamlined 15,000 square foot new home.

Lean thinking was applied at every step of the process, from the move to the placement of operators and machines. One of the biggest advantages for Whitney…the employees in Punch & Die made the recommendations and decisions.

Logical Investment

So why would any company devote large amounts of time and resources to becoming lean? It's obvious. The results far out-weigh the struggle to get there even though "getting there" is not easy, especially in a company with roots going back nearly 100 years.

Over the past three years AIW teams of employees have been asked to help Whitney reevaluate processes and get "lean." They have been asked to address both manufacturing and administrative processes and to look at new product lines as well as old.

The employees of Whitney continue in their "lean" determination, looking for areas that can be improved. At Whitney, AIW's are definitely here to stay. ◆

New Technologies, Upgraded Machines Equal More Parts, Faster!

With the competitiveness of today's steel market, the only way to make more money is to make parts faster.

Stan Loewer, president of Precision Cutting in Eunice, LA, keeps stepping on the gas…adding machines, upgrading technology, increasing profits and expanding markets.

What began as a farm fabrication shop took a major turn in 1993 when Precision began a successful partnership with the recreational vehicle accessory industry. Fabrication all but faded away as part production became the primary focus. Since then, Precision has expanded its markets into areas such as parts for retail fitness equipment manufacturers.

Loewer recognized the opportunities a punch/plasma combination could bring to Precision when he was investigating new

A Drop Door Retrofit package, added in Spring of 2002, increased production by 25 to 30 percent.

technologies with Roger Williams, salesman for Whitney distributor MH Precision, headquartered in Florence, AL.

Reducing 'Fingerprints'

"The need for the Whitney became apparent in 1999 with a particular project as an ATV accessory," explains Loewer. "The parts were hole intensive and we were putting too many 'fingerprints' on them. The more times you have to touch a part the more the part costs you."

Before the 3400 RTC, the 3/16" mild steel parts – 4" wide, 12" long, with 32 holes - were conventionally produced in several steps. Production started by cutting the shaped part on an older model plasma burning table; manually unloading the

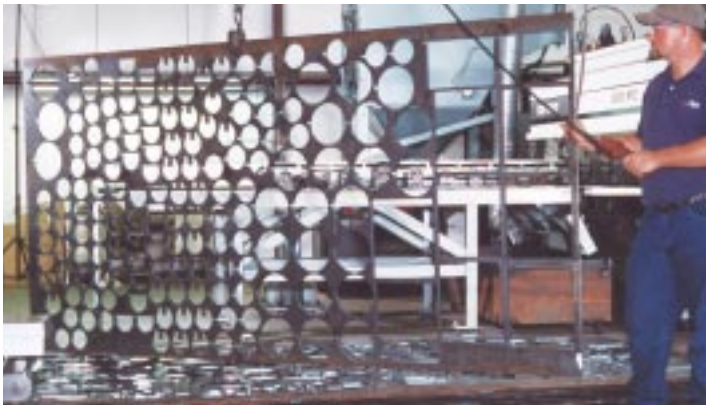
Operator Blake Miller will take parts from the 3400 RTC to a new press brake, keeping parts flowing through both machines his shift.

parts while the table sat idle; moving the parts to a deburring station to remove the slag; then moving the parts again for layout and manual punching or drilling; finally, on to shipping.

After the addition of the 3400 RTC in 2000, the same parts are completed in one process. The 3/16" plate is loaded, the CNC program for the nest is initiated for part production, and the parts are packaged for shipping.

"The 3400 RTC allowed us to eliminate the deburring and manual punching," says Loewer. "The work was basically taken to one machine."

Five men from manual punching were reassigned to shipping, painting and packaging. The dross-free TRUECut® edge completely removed the need for the deburring operation. The



Efficient nesting, with care for skeleton integrity, maximizes material usage.

reduction of "fingerprints" and material handling greatly reduced production time and lowered the cost per part.

Loewer uses the gained production time to investigate and win new business. He says that the market for parts produced on the 3400 RTC comes to him. "We started with a very small select market for the 3400…but as people heard about this machine, we were afforded the opportunity to run different types of parts. Our market built itself."

Many of the newer jobs going on the Whitney have been won from shops where they were previously produced on a laser. Loewer attributes this "phenomena" to the quality of cut, efficient nesting, and the consistent lower per piece cost.

Customers are designing parts around the 3400 RTC capabilities. They request updates on the tool library and adjust the size of the part to fit on the machine. Loewer has one customer who will not accept parts that are not run on the 3400 RTC.

He says, "You know you've arrived when you have customers designing parts around your machine."

President Stan Loewer focuses on making more parts at lower cost to bring new customers to his shop. His specific focus—plate cutting for heavy equipment manufacturers and ship builders and special parts.

Adding Faster Technology

Precision Cutting follows a distinct business plan which includes regular investment in new technologies. New machines and upgrades to existing equipment are regular events. Even the 3400 RTC, only two years old, has seen improvements.

A Drop Door Retrofit Package, available in spring of 2002, was added to the 3400 RTC to decrease the amount of time required to unload small parts and increase overall production.

One hole intensive nest that took an hour and a half on the standard 3400 RTC, is produced in one hour on the same machine since the retrofit. Overall savings indicated by Precision Cutting's time studies is at a steady 25 to 30 percent.

An additional benefit included with the Drop Door Retrofit is a sensor that confirms that parts have dropped out of the skeleton, virtually eliminating the chance of lost production due to "part tip-ups."

Operator Blake Miller, who spends about 12 hours a day running the 3400 RTC, will use the time he's saved since the retrofit to operate a new press brake. The brake will be located next to the Whitney so Miller can bend parts as they come off the 3400 RTC.

What's Next?

Loewer sees a South Louisiana trend towards heavy plate fabrication 3/4" and up. He is strategically planning to keep Precision Cutting in the lead in that market.

"Our feedback to Whitney is that in the machine tool market, they've been the best we've worked with. They have the service, phone support, even follow-up calls.

"Looking into the future," Loewer says, "I see this being a Whitney shop." ◆

Seconds Count!

Speed Up Your Existing Whitney Punch/Plasma!

by Paul Muraski • Manager, Customer Service

At Whitney, we are constantly improving our machines to be sure they remain the most productive machines in the industry. When our engineers develop new ideas, one of the questions asked is, "Can this be retrofitted to the older punch/plasma models?"

One such retrofit package came out of the work on the new 3400 *XP* and 3700 SST machines. By adding a small parts detector to the drop door, the cycle became 40 to 60 percent faster. An added benefit was confirmation that a part has dropped out of the skeleton.

We have also decreased the time it takes to start the plasma system on the new models of machines—saving up to 80 percent of the current time.

Both of these enhancements can be added to older punch/plasma machines!

A productivity enhancing package with the faster plasma start and drop door cycle can be retrofitted to existing 3400 RTC, 3500 ATC and 3700 ATC machines. Saving a few seconds every time you start the torch will add up to days over the course of a year. Add this to the time you save unloading small parts and it becomes weeks!

Customers who added this retrofit have calculated that they will add up to four weeks of actual production per year from their existing machines.

If you would like more information on how we can help you get up to four weeks more production out of your machine every shift call the Service Department at 815 964-6771 or email us at service@wawhitney.com . ◆

Special Tooling Developed for Forming Application

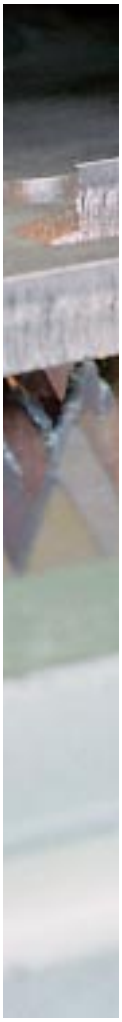
On the inside of trailers there are places that mount cross bracing to stabilize the load. The lance shown here with the tooling is placed in the vertical ribs of the trailer for the cross bracing to slide into.

Whitney tooling engineers worked with a truck/trailer company to create a special tool to produce these lances. By shifting the forming operation to the 3400 RTC, the company saved several steps in their manufacturing process, greatly improving productivity.

Whitney's punch/plasma machines have the capability of doing special forms, countersinks, louvers and cluster punches. Our engineers have over 50 years experience designing tools for your toughest applications.

When you run into a forming application give us a call. We will work with you to develop the best way to make this on your Whitney machine. The bottom line is the more operations you can do on one machine the less you handle the part, the more money you make! Let us help you make more money!

tooling@wawhitney.com ◆



Register for Whitney's PlateLASER®-II Open House

Fax to 815/964-3175 or register via web site at www.wawhitney.com

I'll be there ❑ Tuesday, August 20, 2002 Arriving about _____ a.m/p.m ❑ Wednesday, August 21, 2002 Arriving about _____ a.m/p.m

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I/We will attend the Dr Martukanitz seminar:

The Future of Laser Processing

❑ 10:30 a.m., Tuesday, August 20

❑ *Yes!* **I would like to continue to receive my free subscription.**

See Whitney Products At Our Open House August 20-21, 2002

use the form above to register

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Is there anyone else at your location who should receive *Whitney Metal Fabrication News*?

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Total number of employees at this location: ❑ 1-49 ❑ 50-99 ❑ 100-249 ❑ 250-499 ❑ 500-999 ❑ 1,000+

Fabricating equipment at this facility: (check all that apply)

❑ Punch/Plasma ❑ Lasers ❑ Flame Cutters ❑ Turret Presses ❑ Single Station Punching Machines

❑ Press Brakes ❑ Shears ❑ Ironworkers ❑ Saws ❑ Welders ❑ Portable Presses ❑ Angle Rolls ❑ Other

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Innovative plate fabricators continue to rely on Whitney strength, durability and progressive technologies for their success.

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