

*Chicagoland*

*Contract Stamper Pairs New*

**“Space Saving”**

*Servo Feed Technologies With*

**“Proven Workhorses”**



*Manor Tool and Manufacturing — Schiller Park, Illinois*

**Balancing Long-Term Investments With Today's Needs/Budgets**

It's a common stamping operation's primary wish: *"Sure, I'd like a shop full of the newest equipment, but our current volumes and capital equipment budget won't allow... and I'd sure hate to give up on some of the great workhorses we've successfully operated for years. So, what's the answer?"*

Another typical question from both contract and OEM stampers alike: *"Floor space is getting tighter and tighter for us... how are we going to maximize our operational efficiency without feeling too cramped?"*

That's the two specific challenges recently faced by a Chicago-area contract stamper. Key to their success is how they've found ROI-minded solutions in continuing to operate existing presses with the latest in space-saving servo press feeds. And Coe Press Equipment Corporation (Sterling Heights, MI) was vital to helping the company find answers.

### **Getting to Know Manor**

For nearly five decades, Manor Tool and Manufacturing Company (Schiller Park, IL) has grown to be an industry-leading, full service-oriented company offering contract stamping and deep draw operations (35 presses ranging from 1-3/4 tons to 400 tons), tool design/development and maintenance, as well as other types of manufacturing services such as various machining operations (milling, boring, tapping, etc.) and smaller run assembly and fabrication work (turret punching, press brake work, and a wide range of welding operations).

This ISO9001:2000 certified company and works for a diverse range of markets and customers that they state as "soup to nuts... furniture to defense-related OEM, appliance and industrial applications, networking equipment, and after-market automotive... and nearly everything in-between."

Manor specializes in both prog die work and deep-draw work (up to 5.500" draw depths). A wide range of materials are processed including pre-plated metals, annealed spring-steel, stainless, brass, even phenolics and fiber composites. They've tackled jobs with heavier thicknesses (including many applications up to .250") and as thin as .005" phosphor bronze. Manor says that they have approximately 120 active customers and somewhere between 1,000 to 2,000 dies in house. Approximately 10% of their annual sales volume (currently \$8 million) is in tool development work.

### **Matching The "Old" With The "New"**

Manor has found that the key to their success in operating a stamping business is not just investment into technology, but fiscally and technology wise investments in technology. This means adding newer technology/equipment when needed, but also continuing to make existing workhorses deliver the throughput and quality required.

Tom Simeone, Manor President states, "We take care of our equipment and I think if you look at our shop from where we were 10 years ago, we've come miles. However, we have to keep the philosophy that we always have to keep upgrading. Sure, I would like a shop full of newer equipment, but you have the realities of what makes sense for today's volumes and capital budget availability. We are fairly conservative in how we make technology investments. If we take a chance on a customer, we tend to take it conservatively. If we take a chance on a piece of equipment, we'll do the same thing and the used market has been very good to us. We found that certain presses built in certain years ended up running better than any of the presses that are out there today. So we target finding those types of used presses and then we employ the best machinery rebuilders to work on specific areas that we think are critical to our operation. We could have put this money into a new press, but we don't because we are impressed with the "purchase price/performance realized" ratio of a lot of the older "iron" out there and felt that the biggest gain in efficiency is found in feed equipment. So that's where we've targeted with our investments. Our newer feed equipment make those presses, run beautifully, as long as they're maintained properly, .

### ***Feed It Better... With Limited Line Length To Work With***

Specifically, Manor management had a several fold challenge in their larger press room area:

After running a used servo feed system on one of their most productive press lines (a 200-ton Bliss), they realized that a different feed line would be required. They found that there were too many limitations during setups that required a lot of adjustments, faults



*Secondary operations are an important part of Manor Tool and Manufacturing offering.*

*Die design, manufacturing and repair capabilities are critical to the success at Manor Tool and Manufacturing*

with the programming system, and the requirements of time-consuming shimming openings when running thicker stock. This same press line had line length limitations...and a conventional feed line wasn't going to fit in their tight plant layout. Plus, they also needed to investigate a better press feeding answer to replace their air feed system on their most recent press 400 ton press purchase.

Their answer was a SpaceMaster Compact Coil Line from Coe Press Equipment. This system combines the processing of unwinding, straightening and feeding of coil stock in a single machine with a smaller space footprint (17'). It will process .125" x 24" wide materials at 60,000 PSI yield strength (up to .250" materials can also be processed, material width and type dependent). It provides fast production speeds up to 60 FPM (up to 70 SPM performance at 6" feed lengths). True pilot release functionality, closed-loop digital servo drive and ServoMaster MMI control round out the products key features. Other pertinent information on the SpaceMaster Series III include:

- 11,000 lb. maximum coil weight, 64" maximum coil O.D.,
- The 3.5" straightener rolls are configured in a 4 over 4 arrangement with center back-ups to minimize roll deflection and located on close centers for more effective straightening,



*A Manor employee uses a special sensor fixture to check the critical tolerance of a stamped part.*



*A press brake operator checking a critical dimension at Manor Tool and Manufacturing.*



*Manor Tool and Manufacturing's Tom Simeone in front of the Coe SpaceMaster Compact Coil Line.*

- Precision cluster gear drivetrain provides effective torque delivery to all rolls and accurate feeding results,
- A heavy-duty hold down arm with a motorized endwheel contains the coil from clockspringing and is synchronized with the motorized reel during payoff operations to maintain a tightly wrapped coil,
- Handsfree threading is accomplished through the use of the lower hold-up table, threading assist roll, and debender mechanism,
- And efficient coil staging and loading is performed with the hydraulic traveling coil car.

Kevin Segebarth, Manor Chief Engineer sees "a night and day difference" in operating the newer feed system...and for many reasons. "It's definitely a lot safer," he says. "We don't need two men to do a coil thread and we don't have to handle the material anymore. We were running the thicker and wider materials and when you cut those bands you get the clock spring. Plus, we only have about 21' for a feed line. It would have taken 26' to 30' to put in a traditional feed line. Now we're right about 17'. This gives us better access to our die storage area now because we can operate a forklift easily to access our storage racks along the back wall, as well as bringing coil materials to each of the press lines there. Our local rep, Stamping Systems (Rolling Meadows, IL), helped to show us the limited space solution from Coe would work well in our facility."

They also appreciate the increased efficiencies that the SpaceMaster has brought to this press cell. "When we run heavier thicknesses and/or when stamp longer parts, we find we're loading new coil every hour," Simeone adds. "Those coil changes used to take somewhere between 15 and 25 minutes. We now target coil reloads down to five minutes. It's even more impressive when we're loading heavier coil stock because before we didn't have threading tables, so we would have two guys threading this big coil. And because we have more work for our 200-ton than we do most of our presses, it's even more important to keep the productivity maximized. As soon as we get a larger volume of work for our 400-ton press, we will mirror this feed technology with the same investment."



*Two press COE feed lines at Manor Tool and Manufacturing: background is the newly installed SpaceMaster Compact Coil Line, foreground is an older servo roll feed that's been in operation for more than a decade.*



*The Coe SpaceMaster Compact Coil Line (Series 3) used at Manor Tool and Manufacturing.*

Some jobs require running thicker and/or stronger materials, thus dictating an upgrade in feed system capacity. Simeone adds, "We could have made the decision to go with Coe's mid-range size model, but the reason we went with the bigger one (Series 3 SpaceMaster) is we have found that it matches up better with the heavier thicknesses we run. When you're running .125" annealed spring steel that's 12" wide, you want to have the equipment to get the job done."

"Another big thing we were looking at is how it would mark the coils," Simeone says. "We took a look at several of these automatic feeders where the straighteners have pilot release with a pivot top design, but we liked the idea that Coe had an even release with their straightener rolls. We actually tested .040" aluminum to see how much it would mark the coil and we saw very little marking. On one of our cosmetically-sensitive brass part jobs, if the customer sees any ding or scratch, they'll ship the whole product back. We find that more and more of our work tends to be a visibly seen part, so we find that appearance is critical...and that's another reason why we chose the Coe line."

Simeone adds this on the SpaceMaster's pilot release function: "We run a lot of heavier-thickness, high accuracy type parts. And if you don't release the material to let the pilots do their job, you're going to either wear out your pilot holes...or you're going to have problems with die operation or excessive wear and tear on the tooling...or you're going to eventually lose accuracy in the die. When we have a +/- .002" tolerance on a .125" thick metal stamping and hole-to-hole is 3-1/2" apart, you've got to maintain a specific accuracy. And the SpaceMaster gives us that accuracy."



*The Coe SpaceMaster Compact Coil Line (Series 3) used at Manor Tool and Manufacturing...close up of the ServoMaster Control unit of the machine.*

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## More Information On The Companies

Coe Press Equipment Corporation, with headquarters in Sterling Heights, Michigan, is a producer of pressroom feed equipment including servo roll feeds, power straighteners, coil reels, and complete coil feed systems. They design and build fully-integrated coil processing systems, blanking and cut-to-length lines, and space-saving compact coil lines for metal stamping and processing operations.

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