ROLL CALL COE

Real-world pressworking solutions for today's metal stamper

Volume 3 Number 2

Oxford Automotive – Ramos Arizpe, Mexico

Servo-Controlled Coil Feeding Supports Quality Mandates and JIT Operations

The 330,000 ft² Oxford Automotive plant in Ramos Arizpe, Mexico has a unique distinction: it is the first Mexican facility to produce aluminum hoods with a class A surface finish. The state-of-the art, QS 9000 certified plant produces various body panels (doors, hoods, lift gates), as well as rear and underbody components, for the Pontiac Aztek and Buick Rendezvous models assembled at nearby GM Ramos. There are other customers also, including OEM and Tier 1 suppliers. Over 60 part handling and welding robots and 38 stamping presses assist 750 employees in round-the-clock operations.

Key to today's critical automotive fit and finish expectations is precise and efficient handling of the material, from coil to completed part. There is also a need to run a variety of parts with fast changeover response to meet Just-in-Time (JIT) delivery requirements. Automation is seen as a tool for achieving uptime and scrap reduction goals.

500 to 1000-ton Verson presses, for instance, run a mix of progressive and single-hit dies, and are also used for blanking operations to produce blanks that are stamped on other presses. Wide, medium and narrow width coils are fed to the presses by Coe coil reels, power straighteners, and servo roll feeds. A full compliment of automation assists minimal coil changeover downtime and part changeover time on two 30-inch and three 72-inch width capacity press lines. Frequency of changeover on these lines is high, ranging from 35 to 60 changeovers per week. Adjustments for widths must be fast and simple, since coil width variation is as much as 61 inches (11-inch to 72-inch

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> *Operations Manager*
> *Oxford Automotive*

Throughout the plant, Oxford "bubble charts" help management and line workers alike review progress on issues such as productivity, quality and job changeover improvements. Here, Operations Manager Fabian Velazquez reviews the chart with an Oxford engineer.

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Servo-controlled coil feeding equipment from Coe Press contributes to both quality assurance and production efficiency at Oxford, providing the flexibility to run a variety of parts with fast changeover response to meet Just-In-Time delivery requirements.

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range) on one of the largest capacity press lines.

Vee-deck style coil cars, integrated with the traveling coil reels, are used to cradle incoming coils so they can be mounted quickly. Peeler/threader/holddown units also simplify and speed up the coil changeover process. The powered coil straighteners use seven polished chrome straightening rolls that maintain optimum surface finish quality.

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A threading table, with adjustable passline, raises to guide coil over the loop area during changeover. Coil is fed into each of the five presses by Coe servo roll feeds equipped with Servomaster controls. On one of the 72-inch lines, up to 12-foot lengths of coil are fed at 240 ft/min through the Coe CPRF-672 servo feed, to allow stamping of large parts at 16 spm (strokes per minute). Feed speeds of up to 365 ft/min are possible on the 30-inch lines, with feed accuracies of up to ±.003".

The servo control allows the width and thickness changeovers to occur without the need for time-consuming, trial-and-error adjustments, a big downtime-reducing factor in this JIT environment.

"Embracing the concept of lean manufacturing is a key element of continuous improvement," said Operations Manager Fabian Velazquez. "Customers are asking for JIT deliveries, with only 4 hours of inventory, on average."

The birth of this impressive facility several years ago was one for the record books. Velazquez explains: "The Coe equipment was delivered very quickly to meet our aggressive timing demands. Our goal was to be up and running in less than a year. Our combined US and Mexico teams met this goal - and achieved the full roll out in 18 months."

Coe Press Equipment & Sesco Products Group Develop New Manufacturing Facility

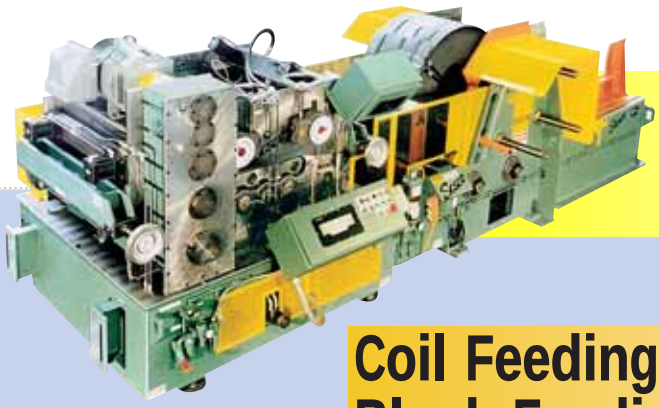
Coe Press Equipment has recently completed development of their new manufacturing facility. The new building, located adjacent to Coe's existing facilities, increases their total production floor space to 72,000 sq. ft.

According to Coe General Sales Manager Jim Ward, "With this new facility, we can expand on the high level of quality equipment our customers have come to expect, while simultaneously laying the foundation for future growth and increased capabilities."

The new 20,000 sq. ft. facility can have four independent work cells operating simultaneously, each one producing a complete coil feeding system. In addition, Coe has installed new machinery, assembly tools and a 20' x 20' paint booth that can accommodate even the largest pieces of equipment.

Inside Coe Press Equipment Corp.'s new production facility. The new building will house the assembly of Coe's mid- to heavy-duty coil processing equipment.

Coe's new 20' x 20' paint booth. The booth was designed to be large enough to handle parts that will be used in Coe and Sesco's large-scale coil feeding systems. Shown in the foreground are finished parts awaiting the next step in the assembly process.



Coil Feeding vs. Blank Feeding

The Test: To demonstrate a production run of a stamped part from flat stock material using coil vs. blank feeding equipment.

Quantity: Based on an annual volume of 300,000 pieces

	Coil	Blanks	The Drawbacks to Using Blanks
Material needed	100 coils (72" OD x 32" ID) 6,000' length	1000 stackss (36" x 24") 300 pieces/stack	Blanks require 10 times the amount of material handling.
Material costs	$ 27/cwt	$ 30/cwt	Blanks cost $108,000 more than coil to produce the same amount of parts.
WIP storage needed for 1 week of production (6,520 pieces)	2 coils 36 sq. ft.	21 stacks 66 sq. ft.	Blanks need twice the space for Work-In-Progress (WIP) even when stored 2-high.
Time between material loading	2.5 hrs/roll	15 min./stack	Blanks require more frequent loading supervision.
Dunnage	Simple bands that hold the coil together	4" x 4" wooden skids or fabricated metal pallets	Blanks produce more dunnage.

The Results: Coil feeding can provide a more efficient, productive and cost-saving alternative to blank feeding in many manufacturing situations.

Coil vs. Sheet?

The decision to choose either sheet feeding or coil feeding is something that ultimately depends on the unique circumstances of the given situation. While there may certainly be specific manufacturing situations wherein sheet feeding would be the preferable method, it becomes apparent that there are plenty of factors, as spelled out above, that would seem to favor coil feeding.

The folks at Coe can help you decide what's right for your own situation. Give them a call today.

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Revro Pty Limited, Australia
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Please note:
Our area code has changed to (586)

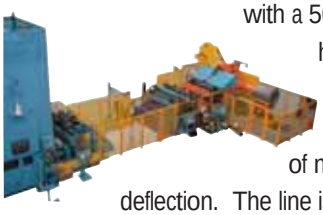
Recent Orders and Shipments —

CINSA Porcelanizados (Saltillo, Mexico)

Coe Press Equipment has delivered and commissioned a fully integrated Zig-Zag coil processing line to this manufacturer of household goods. The line will be used for the production of "nested" round blanks to optimize material usage. The line is capable of processing .080" x 42" wide CRS material. It features a ServoMaster Series 400 Zig-Zag servo roll feed with 30" side shuttle travel. Both the feeding axis and shuttle axis are servo driven and controlled by an Indramat CLM-LZ Controller. The CPPS-300-42 power straightener is configured with a single-row backup assembly and a 7.5 HP AC variable speed drive. The straightener also includes a unique 2 axis peeler table with integral debender roll for hands free strip threading. The entire line is provided with non-marking features such as urethane coated contact surfaces and polished chrome rollers.

KTH Parts Industries (Shelbourne, Ontario)

Sesco Products Group has delivered and commissioned a fully integrated blanking line to this manufacturer of stampings and welded assemblies. The coil line is integrated into an AIDA 600 ton blanking press and production stacking system. The line is capable of processing .125" x 72" wide CRS material at speed rates up to 230 FPM. It features a 60,000# single-end centering uncoiler with a 50 HP AC backtensioning drive and automatic centering feature. A heavy-duty traveling coil car with 30" of vertical lift is provided for coil staging and changing. The rugged nine (9) roll straightener has 6" pinch rolls and 3.5" breaker rolls to process a wide range of material thicknesses. The 7" roll feed is also backed up to prevent deflection. The line is provided with three (3) Proface touchscreens at the reel, straightener, and roll feed. These MMI's provide the operator with all set-up troubleshooting, and line diagnostics.



Shiloh Industries (Dickson, TN)

Coe Press Equipment has delivered and commissioned a fully integrated coil feeding line to this Tier 1 automotive stamper. The line is integrated with a PTC 1000 ton press and a Linear Transfer servo for operations. The line is capable of processing .125" x 60" wide CRS material and has maximum capacity of .187" thickness. It features a heavy-duty CPRF-560 servo roll with a ServoMaster Controller. The roll feed is provided with an integral hydraulic crop shear for effective tail removal. The CPPS-305-60 power straightener is configured with double-row backup assemblies and a 25 HP AC variable speed drive. The straightener also includes a full peeler/threader/holddown station for hands free strip threading. A hydraulic traveling coil car with 24" of vertical lift is provided for effective coil handling and changeover of small OD partial coils.

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