

## Shiloh Industries – Dickson, Tennessee Fast Changeover for Quick-Response Contract Stamping

The Shiloh Industries contract parts manufacturing plant in Tennessee boasts an impressive roster of customers including Toyota, Ford, Johnson Controls, Visteon, Saturn and many others. Shiloh's success is due in part to their ability to respond quickly – to current-customer Kanban demands and to opportunities to gain new customers. Fast changeover on one of their newer transfer press cells lets them, for instance, interrupt scheduled production to bail out a part manufacturer that's in a bind due to a broken press. Shiloh will prep required tooling and set up the cell over a weekend and be running their parts by Monday morning.

Shiloh's Paul Beaton explains: "Since we're generally running with minimal inventory and want to be able to react quickly, we select press systems that are very dependable and flexible, with quick changeover capability. This press cell, includ-



Coe Servo Roll Feed CPRF-560 feeds material into the PTC Combination Link transfer press.

ing the Coe coil feeding system, meets all of the criteria."

The coil line consists of a traveling coil car, a 50,000 lb capacity decoiler, a CPPS-305-60 power straightener, a CPRF-560 servo roll feed and auxiliary equipment that assists during changeover. Due to the teamwork and level of automation,

complete coil change typically takes four to five minutes.

### Features for Fast Coil Change

24" of vertical lift ensures that the coil car can quickly position even small OD partial coils for loading onto the decoiler mandrel. As a coil is depleted and the tail end passes through the coil line into the press, the

next coil is usually being indexed onto the mandrel.

A peeler/threader/hold-down unit allows quick "hands-free" threading of lighter gauge material. An integral Crop Shear trims the leading end of the coil strip when a partial coil is backed up, rewound and removed to changeover to another job.

## An Audit You'll Want To Take Part In!

Bring up the word audit, and most people conjure up negative images of the IRS, Arthur Anderson, and the like. But the COEfficiency Pressroom Audit is about to change all that. This audit is designed to help improve shop floor operations, allowing productivity and operating margins to be maximized while inefficiencies and competitive barriers are reduced or eliminated. Coe is providing the audit for a limited time, free of charge. It's available to all metal-forming companies with pressroom operations, whether the companies use Coe equipment or not.

Coe's technical specialists will provide an on-site evaluation of pressroom operations based on five criteria:

- \* Press Line Setup
- \* Material Changeover
- \* Press Line Speed
- \* Machine Quality
- \* Feed Reliability

Often, a slight modification is all that's needed to have a big impact. The COEfficiency Pressroom Audit is designed to flush out these areas and bring them to light. So contact the Coe team today to schedule your COEfficiency Pressroom Audit, and unleash the full potential of your shop floor environment!



Width changes to handle coil up to 60" wide (with material thickness capacity up to .187") are simplified. What's more, the controls for the PTC link press and the Coe ServoMaster control are integrated, so part production information that determines coil feeding parameters such as speeds, acceleration, timing and feed angles (pitch) is automatically transferred when a new part "recipe" is called up.

Coil changeover occurs simultaneously with die and tooling change, which includes insertion of pre-set finger tooling (from Atlas Technologies) for the transfer operations.

Paul Beaton notes that transfer presses typically take at least 30 to 40 minutes to change over. Dual rolling bolsters and coil handling automation help Shiloh go from the last part of the outgoing run to continuous production of the next "verified part" (gauged for tolerances) in as little as 12 minutes. They call this measure "continuous to continuous," meaning they are run-

**"We select press systems that are very dependable and flexible, with quick changeover capability."**

Paul Beaton  
Shiloh Industries

coil feeding come into play here, including automatic, precise and highly repeatable feed parameters that are changed at the flip of a switch.

### The Uptime Advantage

Paul Beaton adds: "Delivery from both Coe and PTC was ahead of schedule, and we had their equipment producing parts even before the cell was fully installed." Since then, high R&M (reliability



Coe dual mandrel decoiler system helps Shiloh meet the high material demands of high-speed prog die presses, where coil change may occur every 30 minutes.

ning good parts with no glitches or interruptions.

All of the advantages of servo-driven

Overview of the material feed lines at Shiloh Industries. Shiloh produces a mix of fabricated components for automotive seating and interior structural applications.



and maintainability) and fast changeover capabilities have proven to support triple-shift, round-the-clock production.

Thanks in part to the high uptime factors, Shiloh currently has 1/3 open capacity on the press, allowing the company to take emergency and overflow jobs from other stampers.

## Oscillating Shear Presses and Tools

Sesco Products Group provides a variety of machinery and tools that optimize production efficiency and material utilization of Cut-to-Length Systems and Blanking Lines. The oscillating shear press combines the capabilities of conventional shears with modern servo technology to provide a high production and flexible shearing operation for Cut-to-Length systems. The oscillating shear die can be designed to fit the footprint and window of an existing straightside press to provide programmable trapezoid and parallel shape capability for Blanking Line systems.

The shear presses and tools are available in a number of standard configurations, dependent on application and speed requirements. For high production Cut-to-Length applications, a mechanical shear press is used to obtain stroke rates up to 70 SPM. This machine features straightside press construction and an eccentric shaft drivetrain for the press ram. The machine base contains a center pivoting mechanism for the shear die that is driven by a close tolerance rack and pinion gear system and an AC servo package.



The Sesco Mechanical Shear Press. This press is used for high production cut-to-length applications and can obtain stroke rates up to 70 SPM.

The shear die is designed to work as a "bump die" and is provided with heavy duty guide bars and shock cushioning features for high speed operations.

For lower production Cut-to-Length applications and Direct Press Feeding applications a hydraulic toggle shear press is used to obtain stroke rates up to 35 SPM. This machine also features straightside press construction, but uses a unique hydraulic toggle cylinder system as the drive mechanism for the press ram. A multi-turn precision ball screw and polymer nut combined with an AC servo package drives the center pivoting mechanism in this machine. Optional features such as multiple die storage racks, automatic die change and clamping systems, and Panelview touchscreens can be added to further enhance flexibility of the shear press.

The oscillating shear die turns a conventional blanking press into a high production trapezoid and parallel shape blunker. This unique tool is provided on a self-contained die set for easy locating and clamping to the bolster plate. The center pivoting mechanism is again driven by a rack and pinion mechanism and high torque AC servo package for speeds up to 60 SPM. Parameters such as shear angle, acceleration and speed are fully programmable through the Panelview MMI. Other features include an entrance support conveyor, entrance material edge guides and a pivoting exit conveyor system to transport the blanks away from the tool.

Coe coil car (at left), decoiler and power straightener with integral peeler/threader/holddown all contribute to fast changeover at Shiloh.



Coe's hydraulic Integral Crop shear used in-line with the coil feeding system allows efficient removal of the "tail hook" when a partially used coil is reversed (backed out) from the press and feeding system and rebanded for future use.



Shiloh produces a mix of fabricated components for automotive seating and interior structural applications. Here, deep-drawn automotive shock towers are completely stamped by the transfer press cell.

## CPEC Representatives

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Please note:  
Our area code has  
changed to (586)

## Recent Orders and Shipments —

### **Faurecia Exhaust Systems (Franklin, OH)**

Coe has provided three fully integrated coil-feeding lines to this automotive parts manufacturer. Two systems are 36" wide lines designed for progressive die stamping operations. The third system is a 42" wide line that is integrated with a straightside press. Coe designed a telescopic exit conveyor and drop stacker for blank production for this line, and provided an inline tension stand and rewind reel for processing perforated coil material. The line features a CPRF SM-4 42 ServoMaster servo roll feed capable of processing .080" x 42" wide material, a CPPS-350-42 power straightener, SIKO digital roll height indicators, ultra sonic loop control, and dual-axis peeler table for hands-free coil threading. The CPR-30042 coil reel can handle a 30,000# x 42" wide coil and comes with a hydraulic traveling coil car for staging and changeover.



### **Ford Motor Company (Sterling Heights, MI)**

Sesco delivered a fully integrated 24" wide x 30,000# Close Coupled Line to effectively process coil material within an overall line length of 16'. The line features a Sesco combination power driven feeder/straightener unit capable of straightening and feeding .160" x 24" wide HSLA material. Material is supplied by a 30,000# powered centering reel. An Allen Bradley IMC "S" Class motion controller maintains continuous feeding and payoff operations.

### **Metalsa S. de R.L. (Apodaca, N.L. Mexico)**

Coe shipped the first of three fully integrated coil-feeding lines to this automotive stamper. The line can process .187" x 42" wide CRS material and has maximum capacity of .210" thickness. It features a heavy-duty CPRF-542 servo roll with a BG-2 Profile Feed Controller. The controller utilizes a press mounted encoder to provide position and velocity information to the servo feed. The CPPS-400-42 power straightener is configured with a full peeler/threader/hold down station and single-row backup assemblies and variable speed drive. The CPR-PO-30042 coil reel can handle 30,000# x 42" wide coils. Other features include motorized breaker roll positioning, special dial-type roll position indicators and a Trabon automatic lube system. An Allen Bradley SLC-5 PLC controls functions for strip threading and line operations in conjunction with an Allen Bradley Panelview 600 touchscreen operator interface.



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