

Press Automation Systems: Products, Designs and Capabilities Overview

Wayne Trail servo transfers and automation systems provide increased flexibility and enhanced performance

Nearly every stamper today is faced with the same challenges: frequent product design changes, lower production lot sizes, and a need to reduce production costs. Consequently, adding increased capability to a new or existing press is an attractive and viable option that can significantly reduce required capital outlay.

Often competing for the 'same space' when it came to press window openings, and floor space around the press for coil feed or looping pit equipment, most press systems of the past were specified to work only within narrow application guidelines. Progressive die/coil fed applications could rarely be mixed with transfer die operations - and vice versa. This was largely due to the mechanical and complex nature of the transfer, automation and tooling required to operate with transfer dies.

Today's servo based transfer automation for transfer dies are modular and programmable. They can be added to virtually any press while maintaining the ability to run coil fed prog dies when required. The resulting 'multi-purpose' capability of the system gives the press shop a new dimension of flexibility, and becomes a valuable tool that can help provide profitability and growth.



4 Module - 3 Axis Servo transfer mounted on a 240" x 108" press



3 Axis "through the window" Servo transfer mounted on a 144" x 48" press

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Front and Back Mounted Servo Transfer Systems

The need to retrofit existing presses with servo transfers posed new challenges to transfer suppliers. Conventional “through the window” designs limited the range of products that could be run on a press. Maximum part size is dictated by a combination of press window size, transfer bar width and transfer clamp stroke required. Valuable press bed area could not be fully utilized. The Wayne Trail Model WTTBD Front and Back Mounted Transfer System was specifically developed to address these production and automation limitations.

Front and Back mounting allows parts to be run that are virtually the full width of the press window. Press mounting brackets attach in areas that do not interfere with existing coil feed or conveyor equipment. Commonized lift/pitch/clamp modules are mounted to these brackets on both sides of the press. Modules are designed to minimize motion and weight, thus keeping inertia to a minimum. The standardized design allows manufacturing in quantity, which enables quicker delivery, lower cost and continual product improvement. Modules can be moved ‘offline’ quickly and easily, providing excellent access for die maintenance or change-over.



Two module transfer with lateral die access in the run position



Four module transfer with vertical die access in park position



Two module transfer with lateral die access in park position

“Through the Window” Servo Transfer Systems



Gap frame press automation with automated blank destacking system



Three axis ‘through the window’ transfer mounted on a 144” bed press



Three axis ‘through the window’ transfer mounted on a 295” bed press

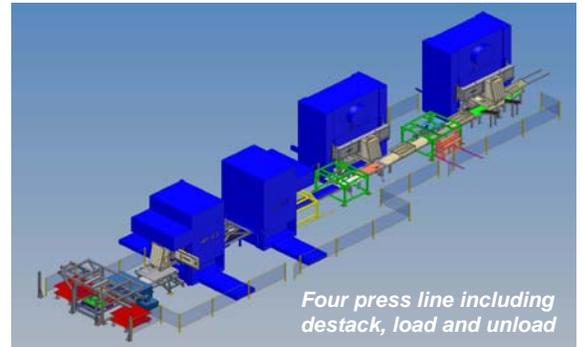
Wayne Trail has been providing “through the window” style transfers to the stamping and forming industry for over a decade. The design has been proven through millions of cycles in factories around the world.

This type of transfer provides maximum visibility in the die area and enables a variety of coil, blank and finished part handling options for stations that can extend within or even beyond the confines of the press window area. A rugged, high precision drive train provides accurate, repeatable positioning. Transfer bar options and gripper or finger configurations can be customized to solve a limitless range of die and part handling requirements.

‘Through the Window’ systems can be mounted on either new or used presses. Various control packages are available to optimize integration, or suit customer preference. As with all Wayne Trail transfer systems, a touch-screen PC based operator interface with full featured prompts, diagnostics and fault logging capabilities, is standard.

Press to Press Automation

Automating a multiple press stamping or forming line has never been easier, using the modular, flexible press-to-press system available from Wayne Trail. Based on the wide range of application capabilities and simplified mounting techniques available with the standardized design of the Wayne Trail WTTBD servo module, an effective and affordable automation system can be developed to meet nearly any press line arrangement – whether existing, upgraded or completely new. Illustrations show Wayne Trail automation retro-fitted to an existing press line without modification



to footprint or foundations. The completed system provided higher through-put, improved quality and a safer, ergonomically friendly operation for the end user. Modular conveyors for 'between press' part handling, re-orientation, centering and handling modules, a blank destacking system with multiple load stations, double blank detection and blank eject/reject capability were provided. Centralized control with easy to operate, intuitive touch screens helps maximize uptime while simplifying set-up, change-over and PM requirements.



Blank loader with automatic centering station assures proper blank loading position, critical to the first operation draw. This servo module is outfitted with a 'compound sled' to extend reach of load and unload stroke.



Loaders/unloaders utilize a simple, robust mounting bracket to simplify field mounting in retro-fit applications. Purpose built 'rotate and load' unit is used to move product in and out of special forming station located between presses.



Finished products – in racked storage prior to downstream processing. To optimize the result, this project included a 3-D CAD model simulation, provided early in the project, ensuring mutual understanding of all project objectives.

Destackers, Stackers, and Conveying Systems



Wayne Trail provides a wide range of custom destacking solutions, using proven and dependable techniques for high reliability and optimized productivity. We have innovative and effective solutions for even the most difficult or unusual application.

Destacking systems are available to work with palletized or pallet-less material, in single or multiple stack configurations. When purchased with a Wayne Trail servo transfer, the destacker automation is fully integrated into the transfer control to simplify operation and troubleshooting.



End-of-line blank stacking located on either the front, back or end of the press includes adjustable stack guides and tamping units to assure that a straight stack is created. Continuous-run and blank inspection features can be supplied to optimize productivity. Systems can be configured to allow multiple stacks to be created on a single pallet.



Facilities

With over 120,000 sq. ft. of office, manufacturing and assembly space in multiple buildings, we are located in Fort Loramie, Ohio, close to the Interstate I-75 corridor, and within easy driving distance of several major airports.

All of the technical disciplines at Wayne Trail, from marketing and sales, program management and engineering design, to purchasing, machine shop, tool build and field service - are dedicated to the success of our customers and fully meeting or exceeding their requirements and expectations.

Installation and Start-Up Services



Wayne Trail offers expert installation and start-up support for every system we supply or service. From simple supervision and training, to complete turn-key installation, our field service team is available and eager to help you bring your system up to full production capability. Services we can provide include shipping and logistics, foundation prep, rigging, wiring and piping, area barrier safeguarding, site supervision, production support and more. We also supply system integration services for larger complex lines that require significant coordination between 3rd party vendor supplied equipment or existing, in-place processes. Our know-how and experience makes us the perfect partner for your next project.

Product Support



From the time you first implement your process, to re-tooling or reconfiguration needed to adapt a vintage system to new requirements, Wayne Trail product support is there to help. We provide engineered spare part packages to protect your up-time, and can recommend upgrades that will improve your productivity.

Our service team can also arrange for system relocation, on-site refurbishment or factory rebuild service when required. From warranty needs, to preventative maintenance and replacement parts – our service department is on call 24/7 to provide you with timely and effective product support.