

# Transfer Press

## *Brings Welcomed Capacity in the Nick of Time*

Topping off its three-year growth spurt to gear up for a huge automotive program comprising 270 parts and 400 dies, Anchor Manufacturing adds a 1200-ton transfer press with multi-directional functionality and optimum flexibility.

BY BRAD F. KUVIN, EDITOR

“**C**ompared to three years ago, we are producing 30 percent more stampings today,” says Paul Meyers, plant engineering manager at Anchor Manufacturing Group, Inc., Cleveland, OH, a Tier One and Tier Two automotive supplier of stampings and assemblies. As the firm has significantly ramped up its metalforming capacity, it’s also expanded its welding operations, more than doubling its number of welding machines and personnel (from 40 to 113 employees just in the welding area).

To handle this growth spurt, the firm, residing in two buildings on one campus, recently reorganized operations by moving most of its presses into one building and welding and assembly operations into a second building, along with shipping and receiving, to create an optimum and efficient flow of material. Starring in the 155,000-sq.-ft. pressroom are three transfer presses purchased within the last several years—a 2000-ton 180-in. model brought in seven years



ago, a 1000-ton 120-in. model added in 2003 and a brand-new 1200-ton 240-in. press installed in January 2006. Anchor dug the pit underneath the entire line to make room for an under-the-floor scrap conveyor that it plans to install later this year.

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The impetus for the activity surge: a new automotive program that has Anchor supplying, direct to an OEM and to a Tier One supplier of the same OEM, complete front and rear assemblies for two vehicles that comprise 270 new parts. Ramping up for the program, the firm has taken in 400 new dies. Peak volumes for one vehicle hit Anchor in February 2005; the second project ramped up in October 2005. Both projects should run for seven to eight years.

### **Big Press, Flexible Transfer**

“Part complexity, which required the design and build of relatively large dies, drove our specification of this huge new 1200-ton transfer press,” says Meyers, describing the last of the three new transfer presses installed here. The press, from Blow Press, includes a four-module transfer system (an MD Class multi-directional system from Linear Transfer Systems, Barrie, Ontario, Canada). Why four modules, when Anchor’s other two transfer presses use the more standard two-module transfer setup?

“We specified the new press to have as much flexibility as we could,” says

## Transfer Press

Meyers. “With four independently programmable modules, we can cycle the modules left to right, right to left, front to back or back to front. We also can design a process where we might have longer progressions or pitch at the entry end of the press, and then, after performing some forming operations to the part, have a tighter progression or shorter pitch since we can set up separate sets of transfer bars. This would allow us to conserve die space and fit more stations into the press.”

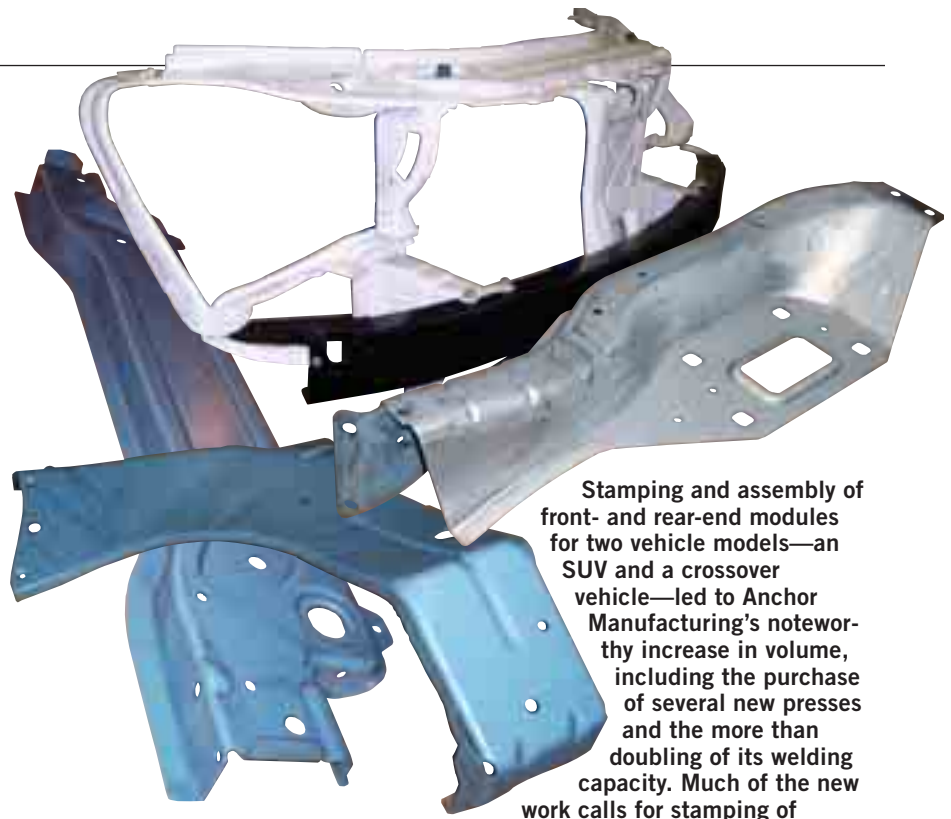
The transfer system boasts a maximum pitch of 100 in., grip and clamp of 48 in. and lift to 30 in., with an auxiliary lift to 84 in. to allow the system to be parked up and out of the way.

Anchor specified the new system so that any jobs running on its 2000-ton press also can run on the 1200-ton model. “We use the Syron transfer-finger setup,” says Bobby Porter, manufacturing manager, “and adapter bars that allow us to run dies on a variety of transfer presses as our capacity and press schedules allow.” The press typically runs at 8 to 16 strokes/min. in transfer mode; 10 percent of the time the transfer system is parked up and out of the way for progressive-die stamping.

“We used to be a stamper that made fewer part numbers for popular vehicles such as minivans,” says operations manager Rick Gratzner, “with weekly press runs in the 20,000 to 40,000 range. Now we’ve evolved our operations to handle more part numbers with weekly press runs in 2500 to 6000 range. Quick die change, on this new press and other presses, becomes critical, so we’ve installed quarter-turn clamps, designated space for staging dies and indicated die locations on all routings.”

### Grippers Trigger Speed Increase

Porter, Meyers and operations manager Rick Gratzner agree that their investment in Syron transfer fingers, an upgrade over the standard fingers originally specified with the transfer system, has made the biggest impact on the initial success it’s realized with the transfer press.



Stamping and assembly of front- and rear-end modules for two vehicle models—an SUV and a crossover vehicle—led to Anchor Manufacturing’s noteworthy increase in volume, including the purchase of several new presses and the more than doubling of its welding capacity. Much of the new work calls for stamping of high-strength aluminum parts, as well as coated steel sheet (the blue-colored stampings). The crossover-vehicle front-end module shown here (top) is mostly of aluminum-alloy sheet, except for the steel crash cans.

“We had several dies supplied with shovel-style fingers,” says Gratzner, “and now that we’ve switched most of the dies over to grippers, we’ve been able to increase press speed by as much as 50 percent on some jobs.”

Porter described one die, that stamps a headlight-assembly bracket, which proved difficult to get up to speed. “During production, the transfer tooling would pull the blank—somewhat wide, thin and floppy—out of the locators. The tools were shovel-style with spring-loaded rollers that failed to release the blank at the same time. We had to raise the locators to keep the blank in the die cavity, and slow the press to 10 strokes/min. With grippers, we avoid the pulling on the blank, were able to drop the locators and increase press speed to 16 strokes/min.”

### Forming High-Strength Aluminum Alloys

Anchor has 12 dedicated jobs that run on the 1200-ton press, and another five to seven dies that run on the press as capacity and scheduling dictates. Overall, it regularly runs 35 trans-

fer dies, whereas it only ran two transfer dies seven years ago.

Transfer dies require a pitch range from 6 to 36 in.; parts weigh as much as 40 lb.—an undercarriage skid plate. Many have Class A surfaces, such as visible radiator supports, and some, says Porter, are even beyond Class A requirements.

Most of the firm’s new program calls for stamping of high-strength aluminum-alloy sheet 0.060 to 0.080 in. thick. Other jobs call for stamping of coated steel. Compared to the firm’s more typical experience stamping steel alloys, the influx of aluminum and coated steel required a change in lubricant.

“We were seeing significant staining of the aluminum and coated steel stock,” says Porter. “The switch to a chlorine-free lube solved that problem.”

“When this new project landed here a few years ago, we ramped up quickly to working as much as 70 hours a week,” recalls Gratzner, “including shifts on Saturdays and Sundays. Since we brought in the 1200-ton press, we’ve caught up and now are back to a 50-hr. week and virtually no weekend shifts.” **MF**