

PRODUCTION ADVANTAGES with ECONOMICAL MANUFACTURING SOLUTION

C.H.I. Overhead Doors is one of the fastest growing garage door manufacturers in the industry. For more than two decades the company has built its business and its reputation by combining the hand work of skilled craftsmen with computer-aided precision to produce custom, high quality products at a competitive cost. When the first tier supplier purchased an AIDA unitized frame straightside 200-ton NSU press, *C.H.I.* was initially attracted by the machine's economical pricepoint. But increased production rates demonstrated the NSU's capability to operate as a shop floor workhorse. "Because of the NSU's performance we were able to schedule more dies to run across the press than we had originally anticipated," said Marvin Otto, Production Manager for *C.H.I.* "This was a real value for us."

Headquartered in Arthur, Illinois, *C.H.I.* manufactures residential and commercial section overhead doors and rolling steel doors. *C.H.I.* added the Rolling Steel Department in 2001. Initially providing service and fire doors, the department expanded to include counter and fire shutters. In 2002, *C.H.I.* responded to consumers' demands for authentic wood carriage house doors by enlarging its Carriage House Collection to include



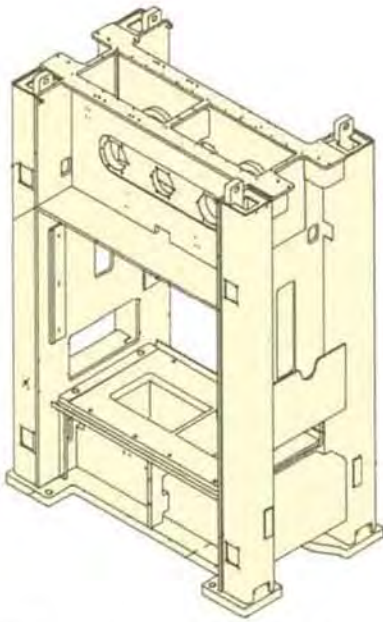
With AIDA's NSU, C.H.I. increased production rates.

three main door styles: a prefinished urethane exterior; plywood exterior; and rough-sawn hardboard exterior. The manufacturer introduced a new generation of maintenance-free carriage house doors in January 2004.

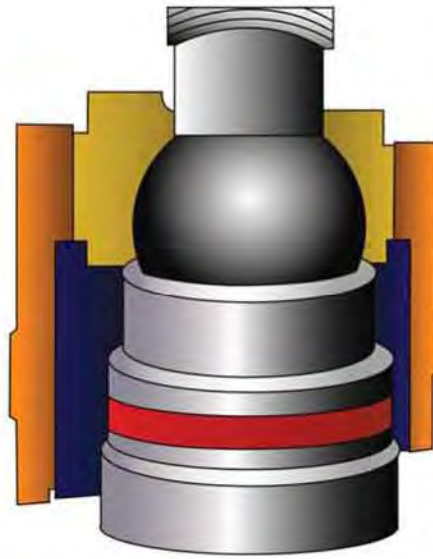
Today *C.H.I.*'s production facilities incorporate nearly 600,000 square feet of manufacturing space. In addition to a broad product range, *C.H.I.* offers An American Institute of Architects (AIA) Continuing Education Program course on Specifying Rolling Steel Fire Doors. Customer service, on-time deliveries and reli-

ability are essential to the manufacturer's core objectives.

Designed and manufactured at AIDA's North American headquarters in Dayton, Ohio, the NSU was specifically developed for high performance, multi-purpose work. The NSU frame eliminates the angular deflection found in a gap press making production of parts more consistent. The NSU is also able to deliver more speed. The 200-ton straightside offers an eight-inch stroke at up to 100 strokes per minute – faster than *C.H.I.*'s other presses.



NSU's massive one-piece frame reduces elongation under load for low deflection and overall accuracy, extending tool life, increasing part accuracy and minimizing part buss, noise and vibration.



AIDA's widely spaced ball socket connections distribute forces evenly over a larger area to provide greater off-center loading and high blanking snap-through capability and eliminates the frequent maintenance associated with wrist pin suspension points.

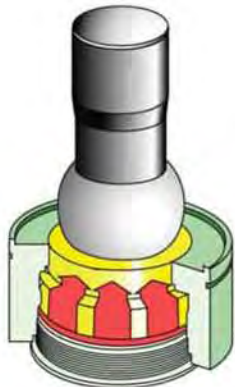
and 20 gauge galvanized steel in thicknesses of .034 to .102. "We found the NSU's run time to be phenomenal and the open design of the NSU makes it easy for operators to change dies," Otto said.

While faster tooling changes contribute to more uptime, C.H.I. also found it was able to take on jobs that were previously outsourced. "With the NSU's high tonnage capacity we were able to stamp large adjustable inbearings for overhead garage doors and small tall components for our line of doors," Otto said.

C.H.I. found the NSU's massive one-piece frame provided an unexpected benefit. The one-piece unit reduces elongation under load. The resulting low deflection and overall accuracy extends tool life, increases part accuracy and minimizes part burr, noise and vibration. "The ability to produce burr free parts was very important to us," said Otto. "We have our own assembly line. Workers handling parts produced on other machines, as well as installers in the field, would sometimes get cut from parts with burrs."

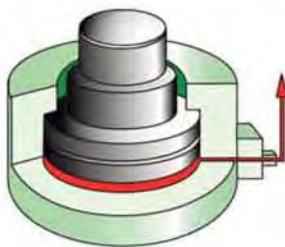
Dull or misaligned punch and die components typically contribute to conditions like burrs. The NSU's bed and slide deflection characteristics, 0.001 inches per foot bed and slide deflection, provides superior punch to die alignment. Burr free parts contribute to C.H.I.'s requirement for higher quality parts and improved worker satisfaction, another important objective.

While low deflection improves die life, tool life is also extended as a result of AIDA's exclusive ball and socket connection design. Taking the feature from its top of the line stamping equipment like its PMX, AIDA integrated the component into the



AIDA's Metal Seal Type

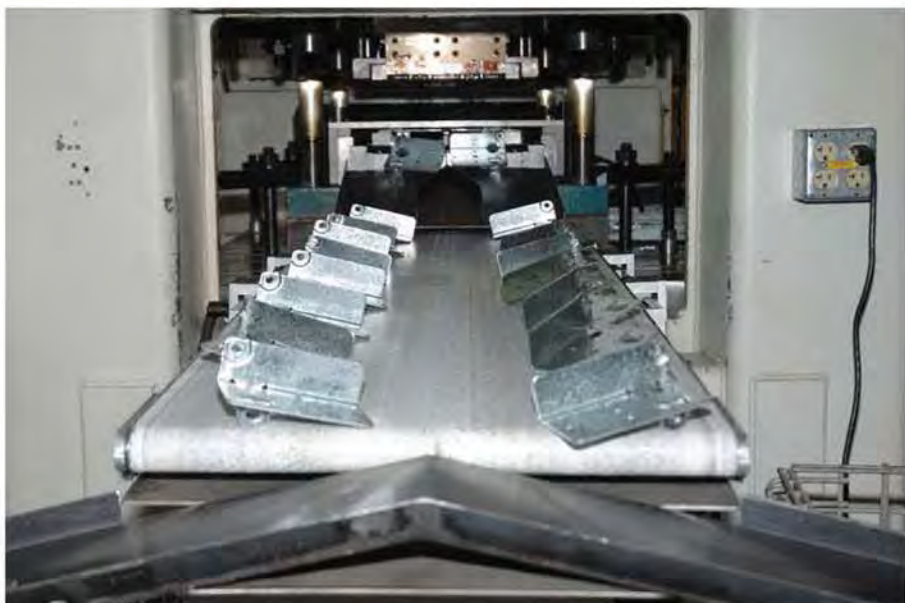
A Hydraulic Overload Protector (HOLP) is provided on the suspension point. The HOLP operates instantaneously and positively in response to any overload, relieving oil pressure to zero in 1/100 sec. and stopping the press. Should the press accidentally stick on BDC, easy release is accomplished by simply turning a selector switch.



Conventional Type (Relief Valve)

In overloading conditions, over nominal pressure oil returns to the tank through the relief valve. This restricts flow, causing higher peak pressure and takes 7 to 10 times longer to reach zero pressure.

C.H.I. installed the NSU in September 2005. The straightside's total annual production is in the millions of parts. The press stamps a variety of garage components from 10 different die sets. Materials include 12, 14, 18



The NSU's low deflection and overall accuracy allows C.H.I. to manufacture burr free parts.

NSU. The NSU's advanced ball type suspension eliminates the maintenance costs associated with wrist pin slide connection technology.

With its production processes under one roof and a high changeover of dies, die protection is also important to C.H.I. "Die repairs can be costly and result in extended down time," Otto said. "The NSU's Hydraulic Overload Protection (HOLP) system offers a unique approach to helping us protect our investment."

The slide connection itself is configured to operate as a high-speed valve, eliminating pressure relief valves and large hydraulic flow systems found on older design presses with wrist pin and saddle bushing connections. As

a result, die and press components are protected beyond the level provided by conventional presses.

Integrating premium-quality materials with superior designs and workmanship, C.H.I. continues to maintain a strong focus on end user satisfaction. Teaming with AIDA gave C.H.I. access to a supplier with the application engineering expertise to help the manufacturer identify the right capital equipment solution and achieve optimum output. "We found that with the AIDA NSU, we didn't have to sacrifice production speed and part quality to achieve economical manufacturing," said Otto.



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