

Tenere Dresser

Through Responsiveness to Custom

Tenere Dresser Division, a 20-year-old metalforming company for the electronics and office machine industries, has grown dramatically and continues to outpace its competitors.

Based in Dresser, WI, the company has averaged growth of 26 percent per year compounded over the last five years. "We can't grow fast enough to keep up with the demand," said Trent Jensen, Tenere's general manager. "If we could find more qualified people, we could grow faster."

Contributing to Tenere's rapid growth is early supplier involvement in the customers' design and development processes, a practice that Tenere has followed since the early 1990s. Tenere's use of four technology and costing teams gives it the ability to respond quickly to customer needs.



A portion of Tenere's line of automatically coil-fed Aida gap frame presses for use with progressive dies. Tenere Dresser has 17 presses ranging up to 275 tons capacity.

Technology and costing teams and Aida gap frame presses give competitive advantage

The teams typically consist of a leader, an engineer, an estimator and a project manager. They have full authority to meet with the customer, quote prices (including tooling costs) and negotiate lead times using their computers right in the customer's office. When the order is received, the team manages the project in the plant.

Another contributing factor is the company's use of nontraditional

technology provided by Aida-Dayton Technologies Corporation's NC2 gap presses, and other innovative manufacturing technology.

Running more than 1000 part numbers a month with 80 percent of its shipments on a next-day notification, Tenere's operations run virtually around the clock and require numerous progressive die changes. "Our commitment to provide our customers with high-quality prod-

ucts when they ask for them demands that we have equipment we can depend on," said Jensen.

"We have to have the flexibility to react to just-in-time deliveries, and that means having all our resources available to us." The presses have withstood Tenere's rigorous requirements since their purchase five years ago and delivered some unexpected benefits.

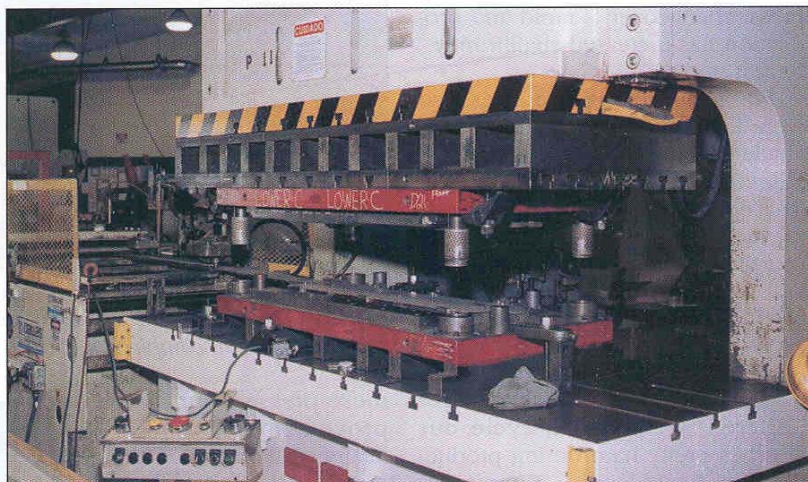
"We purchased our first Aida NC2

Grows Rapidly

ers and Innovative Manufacturing

double-wide gap frame press in 1994," said Jensen. "In just six months, our toolmakers and setup operators were asking us to buy additional Aida gap presses because of their easy setup and unique micro inch capabilities." Over the next year, Tenere added eight more Aida NC2 gap presses to its facilities.

Tenere tool makers found that during setup, Aida's micro inch design allowed them to slow flywheel speed and fine-tune tonnage requirements at any point in the stroke. "The ability to select micro inch for setup on the press allowed our toolmakers to actually see what was happening in the die by slowing the cycling speed of the press and literally inching the die in very small increments through a production



An example of a single-stroking operation where the blank is cut to length and its corners are trimmed. Then the blank is manually moved forward through two additional stations to complete the part.

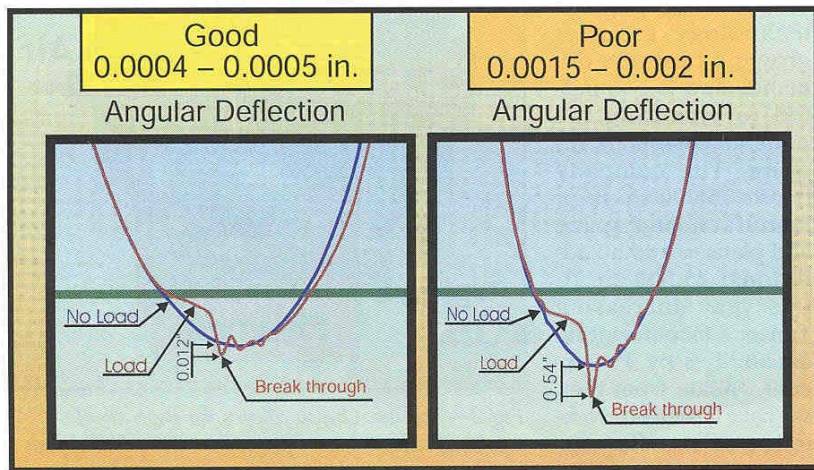


Fig. 1—Angular deflection for a gap press under full load can be provided by the press manufacturer. It is usually given in thousandths of an inch. Aida-DTC's gap press angular deflection rating under full load exceeds industry standards by two-thirds.

cycle," Jensen said. "Toolmakers then could check the die for any interference points and prevent possible tooling and die damage."

According to Jensen, Tenere also found it could run cold flow forming processes and laminated material with dampening products on the gap presses, applications typically reserved for straightside presses. "I saved nearly half the cost buying gap presses over straightside presses," Jensen said. "Not many companies run cold flow forming applications. You have to be able to pinpoint tolerances and tonnage very closely. The low angular deflection and bearing clearance offered by the Aida gap presses allowed us to do just that." (See Fig. 1)

These features also allow for very

small punch-to-die clearances, and provide greater accuracy. "We run very thin material on these presses," Jensen said. "We run 0.003 in.-thick material in nickel, silver and stainless steel, and the clearances on the die are almost nonexistent."

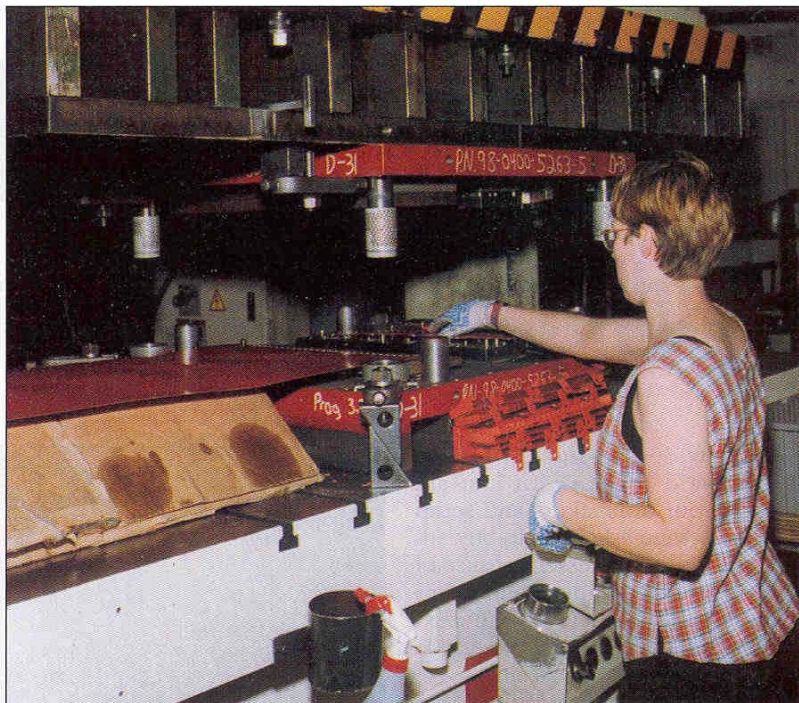
Unlike straightside presses, the gap presses offer accessibility to the die space from three sides. "We use high-volume dedicated cell applications," Jensen said. "There may be four to five dies in a gap press at one time with more than one operator. Because my operators can work so much closer to the die with the gap press, changeover is rapid and production has increased significantly," Jensen said.

For Tenere, long bed sizes also were a crucial element to meeting the challenges of changing technology. "Electronic parts continue to get smaller," said Jensen, "and the smaller they get, the more complex they become to produce. Aida's long bed sizes will accommodate numerous dies allowing us to consistently run and produce high-quality intricate parts."

Aida's standard wet clutch feature also proved to be a workhorse for Tenere. "We have to cycle our clutches pretty hard during production runs," said Jensen. "We run our presses about 140 hours a week—virtually around the clock—and we've never experienced any downtime." Typical press speeds range from 30 to 100 strokes per min. Production quantities range from 1000 to 100,000 parts.

The wet clutch allows high single-stroking rates when using the gap in hand-fed operations or with automation (See Fig. 2.) The volume of air used with each stroke is reduced by 50 percent or more when compared with the air friction clutch. Also, Aida uses a hardened and ground main drive gear and pinion—a benefit that translates into reduced backlash, longer gear life and reduced maintenance.

"We know of a company that used an automatic transfer system, and within just six months the clutch had burned up," Jensen said. "The only maintenance we perform on our Aida gap presses is to change the oil once a year. Since we've had



A coil-fed single stroking operation where a blank of prepainted material is produced in the first station, then manually transferred through two additional stations to complete the part.

these presses, our improvement in uptime has been dramatic. And for a job shop, that's the bottom line, because downtime just isn't an option."

Tenere Dresser Division uses gap press technology to meet growing business demands and is committed to providing the parts its customers require. The company boasts 75,000 sq. ft. of manufacturing space and plans to add an additional 25,000 sq. ft. this year, increasing Tenere's manufacturing capabilities by 35 percent. "Aside from that, we have a talented workforce and we offer customers the flexibility and capability to provide high quality products in rapid turn around," Jensen said. **MF**

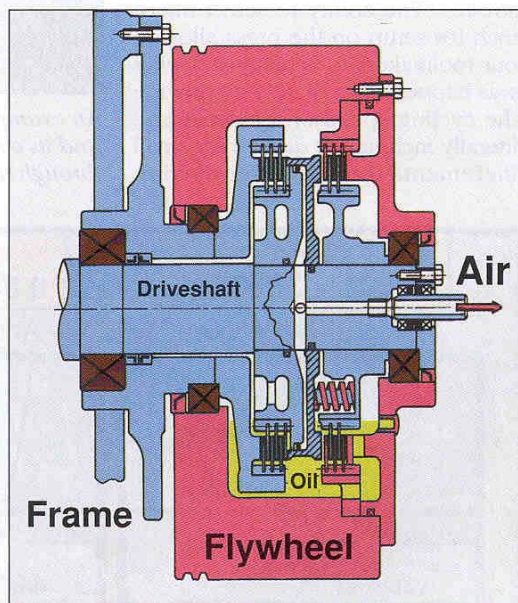


Fig.2—The wet clutch allows for high single-stroking rates when a press is used in hand-fed operations or with automation. A hardened and ground main drive gear and pinion—which reduce backlash and maintenance while extending gear life—are standard features on Aida-DTC gap presses.