

# Interlock Corporation - Building on a Foundation of Minster Equipment.

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“When you buy a Minster, you get more than a press. You get an entire workforce that backs you up.”

*Steve Doyle  
General Manager  
Interlock Corporation  
Diversified Products Division  
Lenoir City, Tennessee*

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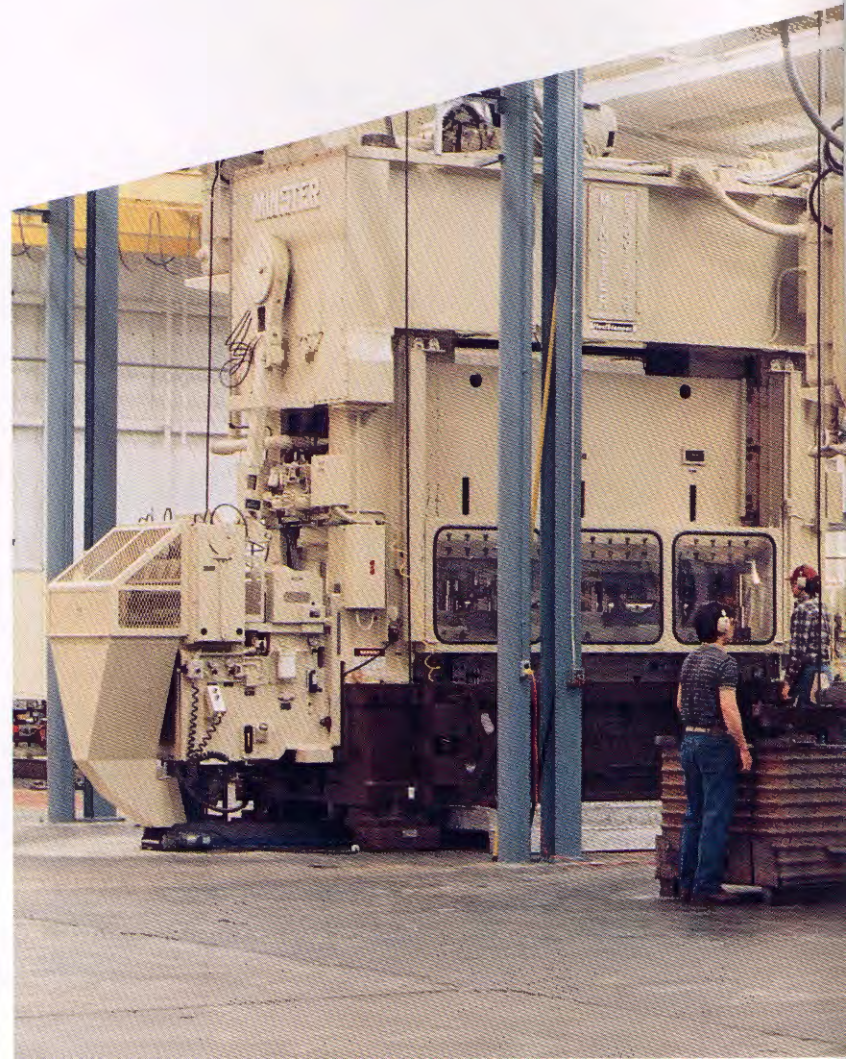


The opportunity to start a stamping plant literally from the ground up . . . new presses, new dies, new location, new employees . . . presents a great opportunity for success, but also one for failure. Doing it the right way is the story of Interlock Corporation, Diversified Products Division, Lenoir City, TN.

The parent company — Interlock Terminal Corporation in Westland (Detroit) MI — has an impressive history of high speed (1200 spm) production of complex wiring terminals and connectors.

In the 1970's, Interlock Terminal was approached about doing some seat belt part stamping. Limited production was begun at the Westland plant, but Interlock began looking for a strategic site to locate a new plant. They chose Lenoir City, TN, for its central location and access to highway, rail and air transportation.

*Interlock Corporation operates three Minster Series E2  
Presses in the production of seat belt parts.*

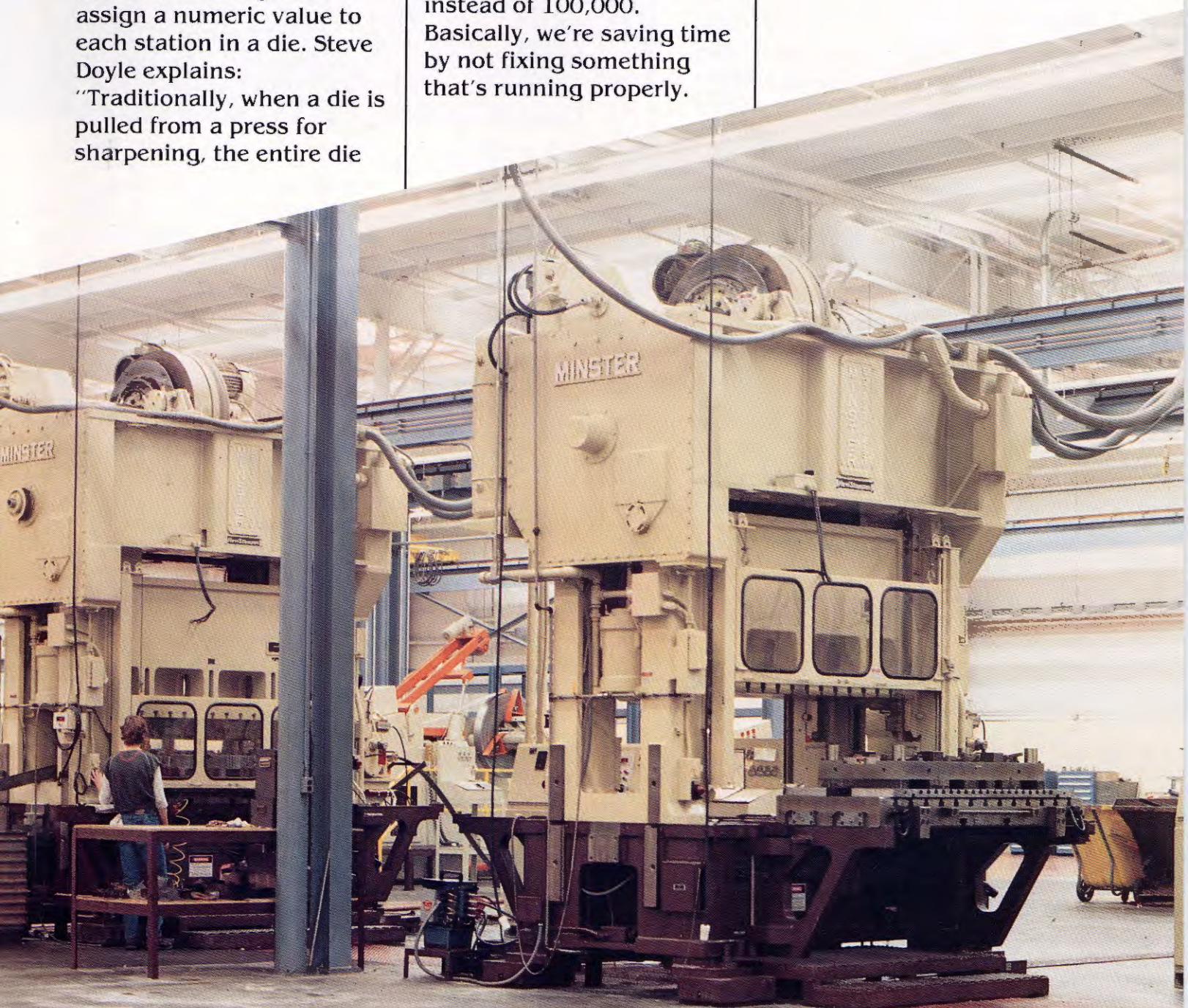


Adds Steve Doyle, "The attitudes of our employees here has been great. Their ability and willingness to learn has enabled us to implement statistical process control at the operator level. We have direct intervention at each machine, with the operator responsible for the quality of the parts produced."

As part of its SPC program, Interlock has begun to assign a numeric value to each station in a die. Steve Doyle explains: "Traditionally, when a die is pulled from a press for sharpening, the entire die

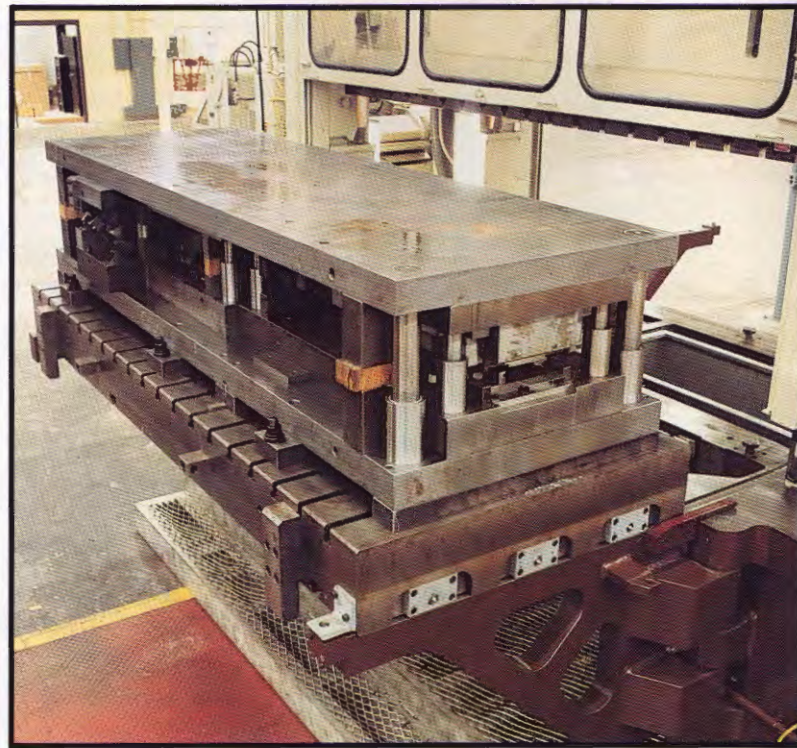
... let's say 20 stations ... is sharpened. Our experience has shown that there are three or four stations that cause most of the problems. So, rather than making these the determining factor as to when you sharpen the die, we've found that by maintaining those three or four critical areas in a tool, a die may run 300,000 hits between major sharpenings instead of 100,000. Basically, we're saving time by not fixing something that's running properly.

"This also saves on costly die detail inventory. Based on the 'numbers,' we know how many of what part to keep on hand. We're integrating our computer records into our buying of die details."



Interlock's new plant in Lenoir City currently houses three Minster E2 Series presses, a 400-ton and two 200-ton machines. Steve Doyle explains why the choice was Minster. "The Minster E2 is an excellent machine from an engineering and construction standpoint. I'll have to be quite honest, though, there are several good machines available. But when I say there's only one Minster, I truly mean that. When you buy a Minster, you get more than a press. You get an entire workforce that backs you up. There's only one outfit I know that I can call and get the help I need."

Interlock has taken advantage of some specific options available on the E2 line. For one thing, all the presses are equipped with roll-out bolsters with hydraulic clamping in the slide and bed.



*Rolling bolster and hydraulic clamping systems on all three E2's at Interlock have provided the economies and flexibility that come with fast, standardized changeover.*

*Interlock believes in the team concept of involving workers at all levels. A quality meeting and a safety meeting are held each week, involving both the first and second shifts . . . including maintenance and all office staff.*



In Steve Doyle's opinion, "Once you've had a press equipped this way, you don't want one any other way. In fact, we've invested in extra bolsters so that once a die is set up by a toolmaker, it stays on that bolster. This saves us not only time, but also the talent of a die setter. We've taken a die in and out of a press 25 times and never taken the bottom shoe off the bolster . . . so our repeatability is 100%. That relates back to reduction of variability and SPC."

Interlock also equipped their E2-400 with a double-roll Minster Electric Feed. "They're phenomenal!" says Doyle. "The ability to store data for set-up reduces the training your labor force has to have. There's no more setting roll release, feed length, timing, acceleration-deceleration . . . its all programmed ahead of time and put in the memory bank or on a set-up card. So, again, variability is reduced.

"This kind of equipment, inevitably, is going to cost you less money to run because it reduces the number of decisions that have to be made, the level at which they're made and the chance for error."

The E2 machines at Interlock also incorporate a hydraulic clutch and brake system. Steve feels that the availability of this option "is a real breakthrough for the stamping industry. To be able to detect a fault and stop the slide before it hits bottom the first time is critical."

It looks like Interlock Corporation is off to a strong start. Minster is proud to be a part of it.

*The Minster Electric Feed on this E2-400 has proven its value to Interlock.*

