

# Case Study

## Lozier Corporation



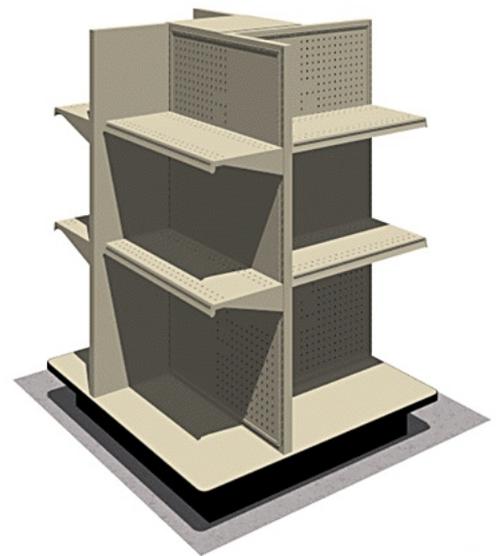
### Highlights

- ✓ Driving 21 punching and laser machines across 5 brands
- ✓ Replaced six CAM systems with one
- ✓ The best of three systems benchmarked with laser nests up to 5% more efficient and ongoing material savings on punching nests of up to 11.4%
- ✓ All six facilities installed within 1 week and ready for use
- ✓ Part programming time reduced dramatically. Machine cycle time reduced by 5%. Automatic nesting time reduced by 50%
- ✓ Modification to postprocessor allows for easy restart from any point of NC program
- ✓ RCP allows nests to be automatically generated using JETCAM Orders Controller (JOC)
- ✓ Optimized lead-ins, commonline cutting, part mirroring and hole avoidance all reduce cutting time and material waste
- ✓ Operators proficient after two days of training
- ✓ All part, nesting and NC files now in a single location serving all plants remotely
- ✓ Revision control used to identify part and material mismatches between Lozier's MRP system and JOC
- ✓ Software maintenance decreased by 40%
- ✓ Easy to backup, restore or transfer between PCs
- ✓ System expected to pay for itself in under 12 months

Lozier Corporation manufactures store fixtures and has 6 manufacturing facilities across the US occupying 3 million sq feet of manufacturing and warehouse space. Since the purchase of their first CNC turret punch machine in 1992 they have rapidly expanded to a range of 21 CNC punch and laser machines, some with automatic loading/unloading equipment or incorporated in an FMS system. As a result they also acquired a whole range of different CNC programming and nesting systems. Because of this, parts and nests had to be constantly remade in different CAM systems to run on different machines, reports were not standardized, training of staff was difficult and costly and most nesting layouts had to be created manually, as some of the systems had either inefficient or no automatic nesting capabilities at all. Furthermore, no single person had experience across all programming software, making effective production of CNC programs impossible.

In 2005 Lozier embarked on a benchmark test of JETCAM against two other systems that could support their range of machines. A selection of existing parts were used to test nesting

efficiency, with JETCAM's High Performance Rectangular Nesting module delivering a 4% lead over its closest competitor on punched parts. Due to JETCAM's new High



Performance Free Form Nesting module, laser efficiency was also greatly improved. A spokesman for Lozier's manufacturing department said; *"Many of our shelving components have complicated geometries and to maximize material utilization, require specific nesting orientations to efficiently pair and mirror them for common line cutting. We were manually pairing and mirroring parts for common cut nesting, so specific components were*



#### Machines:

- 1 - Bystronic ByStar 3015 in FMS/Tower system
- 9 - Mazak NTX48
- 1 - Mazak STX48
- 1 - Mazak NTX510
- 2 - Mazak STX510
- 1 - Amada Pega 357 with L/UL system
- 1 - Strippit 1250 XP
- 1 - Strippit 1250 S
- 1 - Finn Power F6 Express with L/UL system
- 3 - Finn Power SG6 each with Load system

*benchmarked to see how prospective nesting packages would pair, mirror and nest parts for common cutting for production on different machines simultaneously. These benchmarks proved that JETCAM was the most capable system for providing very efficient, common cut and punched nests for all machines automatically. We were already using JETCAM in two of our facilities, but still reviewed other systems to ensure that we were getting the best solution. The other packages did not appear to be as straightforward as JETCAM and proved in benchmarks to be significantly less efficient. They lacked the high level of automation provided by JETCAM, which was absolutely necessary if we were to also achieve our goal of dramatically reducing programming logistics and labor.”*

Lozier decided to standardize on JETCAM Expert, along with the Remote Control Processing (RCP) module in one of the Omaha plants. JETCAM Orders Controller (JOC) licenses were also purchased and distributed through out all facilities. These communicate with the RCP enabled licenses to remotely queue individual parts and/or complete assemblies for automatic component processing, nesting and NC code generation for any of the machines at any plant. When an order is processed by one of these RCP 'Black Box' JETCAM systems, the resulting CNC program(s) and relevant reports are immediately and automatically sent to the particular machine at the particular plant. Each of the facilities outside Omaha also has the ability to use an 'interactive' JETCAM Expert license which can be used for programming in case of emergency and for any

special jobs or modifications.

JETCAM's software installation across all facilities was completed in one week. Of the implementation Lozier commented; *“The installation of JETCAM was by far the easiest I've seen, with all six facilities having the ability to start using the software at the same time. The system has an easy to use help system, and a video help application that provides video and audio assistance on various features. After two days of training most of our engineers needed more challenging topics!”*

Programming labor for both punch and laser machines was dramatically reduced, with further reductions on the horizon. In the future, machine operators on the shopfloor plan to use JOC to reassign a schedule for components originally assigned to a particular machine to a different machine. This allows for selected components or the entire schedule to be quickly nested for a different machine, regardless of technology. JETCAM instantly verifies that each component has been tooled and is actually ready for production on the appropriate machine before nesting occurs. Lozier downloads the component name, revision level and assigned material for each order and JOC has the ability to check for Revision & Material mismatches between Lozier's MRP and the JETCAM information.

Lozier saw a number of significant savings as time progressed. Part programming time has been dramatically reduced and the machine and material utilization significantly improved. Lozier



had seen in the benchmark tests that JETCAM's nesting modules were the most efficient and this was reconfirmed after they analyzed their nesting performance. Laser nests are on average 5% more efficient than previously automatically generated nests, and still 1.5% better than manually optimized nests. High performance rectangular nesting on punched parts saw up to 11.4% improvement.

A number of further benefits have come to light since all plants standardized. *"We are taking advantage of JOC's ability to identify Revision & Material mismatches between our MRP system information and JETCAM's component information. The time required to apply profiling to a part was dramatically reduced due to the storing of common settings within JETCAM's technology tables. Average nesting time was also halved due to the efficiency of JETCAM's FFHPN nesting module. Lozier uses JOC and RCP to create most nests automatically, leaving other seats available for part programming and the generation of static nests if required."*

One problem that occurred with their previous systems was that there was no easy way to restart programs for the Mazak lasers from a particular point should the machines need to be stopped for any reason in the middle of a job. JETCAM technicians identified this shortcoming during installation and subsequently provided a modification to the postprocessor to allow the program to be immediately resumed from any point directly from the controller.

Lozier also took advantage of a maintenance

contract which provided a further financial benefit of being 40% less than all of their previous systems combined. One update received free under maintenance saw NC code for the Mazaks being generated up to 40% faster. *"Support has been excellent, with answers being quick and conclusive. JETCAM Expert has the ability to create a support file with all system configuration files which we can submit to them by email if we need assistance. We also regularly download updates from JETCAM's website, which are easy to install. Another benefit is that JETCAM software can be backed up and moved easily between PCs as all JETCAM program files are kept in a single location. If a PC goes down we can be up and running within few minutes on another one. In the past if a PC failed it was not uncommon for it to take several hours for us to be up and running again."*

They concluded; *"JETCAM has allowed Lozier to consolidate to one CNC CAD/CAM package for all of our facilities that have CNC sheet metal machines. We now have all of our parts immediately available for all of our machines across all facilities in a single location, with all relevant manufacturing data stored in a single component file. Conservative estimations show that the whole system will pay for itself within a year of being fully implemented. JETCAM has delivered numerous enhancements since installation, many of which we had not previously identified. Lozier is always looking at new machine technology and improving processes. The partnership between Lozier and JETCAM will allow Lozier to stay competitive in its industry and continue to grow."*