

Flexible Steel Lacing: Culture Change Comes to the Tool Room

High-performance teaming, multi-tasking, and focusing on the customer.

Lea A.P. Tonkin

Can tool room folks find fulfillment in a lean environment, even offering warmhearted comments about the benefits of making the transition from traditional ways? Some might say it'll never happen. People at Flexible Steel Lacing (Flexco) in Downers Grove, IL say otherwise. Several tool room personnel shared their experiences and lessons learned during a recent AME workshop.

Flexco's tool room employees — experienced tool and die makers,

machinists, and surface grinder and EDM (Electrical Discharge Machining) operators — experienced radical cultural change during the past seven years. Gone are the days when supervision's unwelcome demands ("Where are those parts and why can't I have them faster?") repeatedly bugged the internally-focused support group. Sure, they still have issues to work out; old habits are hard to break for *every-one* who's been around the block a

few times. Yet Flexco's tool room has become a benchmark for customer-focused manufacturing support group improvement, according to Manufacturing Director Bob Hafey. Nowadays, tool room people have earned bragging rights about their teamwork, customer feedback, team performance measurements, and labor utilization. They also participate in new equipment buys and other activities previously reserved for supervision.

These new working relationships, multi-tasking, changes in team and individual accountability, more effective communications, improved scheduling, and other changes help Flexco meet increasing customer demand. After three flat years, sales are coming back strong at the company, according to President Jerry Paulson. Flexco is the leading conveyor belt fastening company (applications in mining and other industries), with sales running approximately \$4 million a month.

In Brief

Tool room personnel at Flexible Steel Lacing (Flexco) in Downers Grove, IL shared their experiences about cultural change and the transition to a lean environment. High-performance teaming, multi-tasking, improved scheduling, more effective communications, better labor utilization, customer focus, and other "new" ways now are incorporated into daily activities by the experienced tool and die makers, machinists, and surface grinder and EDM (Electrical Discharge Machining) operators. Employees' continuous improvement capabilities helped the company weather a period of flat sales and the more recent sales rise.

Working Relationships and Accountability Changes

The "no questions asked" supervisory methods of the past have been replaced by high-performance work teaming among the 17 tool room associates, with coaching available as needed to improve performance, as explained by Tool and Die Maker Thierry Spung. They now share roles and decision-making, looking for the best way to route jobs, or how to rotate cleaning assignments and other tasks in the most value-added manner, Spung said.

"In the past, we got orders from our (internal) customers, made parts, and moved on," he added. "Now we solve problems instead of hiding them, document our processes, and manage our time instead of having our time managed for us." The old pay scale disappeared, replaced by a pay range reflecting factors such as job knowledge and customer feedback.

Communications have improved. Instead of telling customers they'd get parts when they got'em, tool room associates have learned how to interact with customers and meet their needs, said Spung. "Flash meetings" (five to ten-minute meetings held every morning in which customer needs and team performance metrics are reviewed) and visual aids support the "can do" approach to problem solving. Team meetings, emails, and quarterly "town meetings" with management (all employees present) provide better information about customer requirements, sales, and issues to be tackled than yesterday's grapevine and supervisor-led department meetings.

Labor Utilization and Cross-Training

Attitude adjustments are plentiful. Tool and Die Maker Dave Craig, who's been at Flexco 24 years, said, "The biggest change in the tool and die area is our attitude of customer service. We are willing to do more than one task. We've cross-trained so that we can cover for each other. In the past, we had assigned tasks such as CNC Bridgeport, contour grind, etc. Now we can effectively plan our work for each week, and move to the area where we are needed." Craig noted that this willingness to flexibly take on jobs and the use of a cross-training matrix help to boost labor utilization. Associates take advantage of outside educational opportunities and online training, besides in-house lean training sessions to broaden their skills.

Multi-tasking is also enhanced by the company's investment in CNC machines. Associates previously worked at one manual machine at a time. "CNC equipment allows us to multi-task, doing more than one job at a time," Craig said. "We can take on other team duties such as team metric updating, typing meeting minutes, inspecting parts, etc. and integrate them with direct labor." CNC machining centers and grinding centers enable associates to pick jobs from a rack and then efficiently move them through the work centers.

Work Order Creation and Scheduling, Raw Material Control

Tool room job delays, unfinished jobs, and other scheduling headaches were common in years past. Work order creation by a tool room planner using Job Boss software eliminated most scheduling snags, said Planner/buyer Will

Saranczak. "A workload report tells when every job is available to do, broken down by order and part number," he said. (See Figure 1.) "It is customer-driven, with delivery dates instead of the customer getting parts 'when I say you will.'"


Central stores used to occupy a big area in the middle of the shop. Finding a "better way" eliminated the need for this hulk. Now material information is documented in Job Boss, by part. A planner orders material as needed. Partnership with a vendor resulted in material cut to required sizes and delivered when needed, at no extra cost (employees previously cut material to size for particular jobs). Jobs and material are now housed in a smaller holding area, eliminating material loss and other costs. "Now we know where material is, so there's no excuse about starting a job," Saranczyk said.

Many load versus capacity issues have been resolved during the past several years, he added. Approximately 125 jobs are in the works at any given time, compared to the previous average at 600 jobs. Constant overtime evolved to scheduled overtime as needed, and capacity replaced "available hours unknown."

Tool room associates use a productivity and reliability matrix to track their progress (on-time delivery, planned versus actual). "When we started using Job Boss, we had some jobs that were as much as two or two-and-a-half years old," recalled Saranczyk. "We had to ask some customers if they still wanted their parts."

"We encourage customer feedback," he said. "Before, the supervisor was our only link to the customer. We are working on a tool room survey, asking our customers whether we met their demands about performance to specs, etc. when jobs are completed."

12-Jan-04 11:32 AM
Flexible Steel's Tool Room

Traveler
Job 11755


Part: TF348
STRIPPER
Order Qty: 1
Make Qty: 1

Rev:
Customer PO: TF348
Drawing: TF348
Order Date: 22-Oct-03
Est Hours: 32

Line: N
Quote:




Customer: FRHF
DIE REPAIR

Ship To: SAME

Contact: Bobby
Phone: 494 Fax:

Ship Via:

Job Notes: MAT'L ORDERED ON 10/24/03, MAT'L RECEIVED ON 01/12/04

Routing		Comments						
WC/Vendor	Operation Key	Sch Start/ Sch End	Description	Setup	Run Rate Run 12.00Hrs/Part	Qty. Comp. 12.00	Comp. By	Comp. date
	6622	22-Oct-03 24-Oct-03		0.00				
MAT'L IS ON T.S. CART								
FLAT GRIND		24-Oct-03 27-Oct-03		0.00	4.00 Hrs/Part	4.00		
	6623							
CHARMILLES		27-Oct-03		0.00	16.00 Hrs/Part	16.00		
	6624							

Part: TF348
Rev:

Figure1. Traveler report offers schedule details and other information for tool room associates and their customers.

Employees are expected to offer continuous improvement suggestions on a regular basis ...

More Emphasis on Performance Measures, Improvements

Ray Lee, a coach for the tool room and other work areas, discussed performance measures and progress in meeting customer due dates and in several other areas. Safety performance, for example, is a primary concern. Instead of five-minute Friday discussions about safety (the old way), associates in the tool room and elsewhere at Flexco incorporate good safety practices into day-by-day activities.

Employees are expected to offer continuous improvement suggestions on a regular basis (and their performance in this area is tracked). Tool room employees' goal in 2003 was four team process improvements per person. Quality performance improvements, learning (using a training matrix), delivery, and productivity are also tracked — a contrast to the earlier lack of such metrics.

Productivity draws continuing attention as well. Tool room associates make time to discuss planned versus actual improvements and on-time delivery progress. "When we started, on-time delivery was at 25 percent," said Lee. "Now we're at 75 percent."

Equipment and Tooling Acquisition, Budgeting, and Vendor Interaction

Cultural shifts extend to many areas at Flexco. Tool room associates have gained experience in equipment acquisition, budgeting, research, vendor interaction, layout, and other elements. "Buying equipment is one of the biggest cultural changes for us here," said Tool and Die Maker John St. Clair. "It shows the company trusts us." He shared a capital expenditure request process (a three-axis machining center was the example, indicating anticipated benefits, cost justification detail, estimated economic life, etc.).

Tool room people also assumed accountability for budgeting. Before, upper management controlled this area. "Now every department has its own budget, which we see every quarter or more often," said St. Clair. "As a team, we decide about solving our problems which might include overtime or requesting new equipment (such as a new mill)." Management used to be the source for all equipment and vendor information. Now tool room personnel do all the research for any needed new equipment; they contact vendors for information on equipment, fill out capital expense request forms, and figure ROI. A tool room team puts together a subteam to consider the most ideal layouts for any new machinery — formerly a management responsibility.

Great Progress So Far, More Milestones to Go

Bob Hafey and several other speakers noted that multi-year cultural changes and related "discussions" at Flexco have not always been easy or happy. Yet these efforts have been worthwhile in terms of team and individual performance improvement, supporting the company's overall progress. "As an example, during 2001 and 2002 when sales were relatively flat, we maintained profitability because our culture has changed to one in which everyone, including service teams like the tool room, is focused on continuous improvement," Hafey said. He's projecting the need for continued improvements, and looks to more effective progress audits (modeled after the ISO audit process) as tools in this effort.

Workshop attendees included John Keller, continuous improvement manager at WIKA Instrument Corporation, Lawrenceville, GA, who participated with several others from WIKA Instrument. "It was a good plant trip for us," Keller said. "Takeaways included the idea of dedicated maintenance or tool and die for particular lines. We also liked the idea of a four-hour vacation bonus for all employees as recognition for improvements."

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