



# Making the Journey to a Lean Shop





## Executive Summary

The economy is foremost in everyone's mind and collision repair shop owners have the additional concern over the state of the body shop industry itself. There's a lot of pressure on shop owners to perform to the satisfaction of insurers and customers alike to ensure the future well-being of their businesses.

Even the best-run shops can stand to improve and certainly need the flexibility to adapt to continuously changing conditions and technology. The best way to do this is by applying Lean principles, an ongoing approach to running a business that focuses on value, waste elimination and increased speed.

Some of the most basic principles and concepts associated with Lean are:

- Finding value and discarding waste by doing value-stream mapping
- Creating a basic level of orderliness and standardization known as 5S
- Empowering your employees to change processes, and implementing kaizen, or change for the good
- Establishing a long-term cross-training program

Lean is not a one-time or even several-month event. It is considered a journey, not a destination.

Indeed, learning and adapting Lean principles takes time, training and commitment, but the results for making this transition can be stunning. The Body Shop @'s John Sweigart has found that customers win through reduced cycle times, higher quality and predictable service, and lower claims costs. Insurers enjoy reduced costs associated with rental expenses. Vendors and suppliers gain through more organized supply chains and predictable demand. And shops achieve greater profits, mutually beneficial relationships with insurers and increased customer satisfaction. Plus, it doesn't hurt that your employees are less stressed and your business is more stable.





## Making the Journey to a Lean Shop

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The number one topic everywhere these days is, of course, the economy and naturally the top concern of any businessperson is the future. How robust will my business be? How will my profits compare to previous years? Can I still expect to grow my profits and my customer base?

Even as we're addressing the overall health of the economy, there's the state of the body shop industry itself. The reality is that insurers have high expectations that shops will undertake loss control and customer retention. In fact, for some insurers, customer satisfaction trumps cost as the most important factor in handling a claim. And customers? Well, they want their vehicles repaired quickly and correctly the first time.

Body shops, in short, are under pressure to perform and even the most experienced shop owners are feeling the pinch, especially since so many operate small, family-owned shops and don't have a lot of economic wiggle room.

According to BodyShop Business:

- 75 percent of shop owners run a small, independent family-owned collision repair shop.
- They're not novices. The average number of years in the collision industry is 27.2 years.
- One-third of these owners have annual gross sales of up to \$249,000 while 26 percent reach over \$1 million in sales.
- And most sales come from word of mouth, meaning that much more hinges on high customer satisfaction.

Do you see yourself reflected in these statistics? With shop and insurer profits shrinking, shop owners need to rethink how they run their businesses. They have to find a way to repair more cars, faster, with higher quality. They have to identify ways to reduce waste—something that adds to costs but adds no value.

The way to reach these goals is to adopt and apply Lean principles. This isn't about telling you how to run your business. We believe even the best-run body shops can benefit from Lean principles; they simply give you the basis from which to make the most effective decisions for your business.

### What is Lean?

First, let's get out of the way what Lean is not—cutting for the sake of cutting, whether it's employees, costs or anything else you can think of in your shop. It's not a management system. It's not something you can buy off the shelf and install like software. It's not something you learn about and then check off the to-do list.

Lean is a philosophy. In essence, it's an approach to running a business that focuses on value, waste

elimination and increased speed. As The Body Shop @’s John Sweigart says, “Lean is a journey, not a destination.”

The term “Lean” was coined by Jim Womack, author of *The Machine That Changed the World and Lean Thinking*. It stemmed from his research of the famous Toyota Production System, or TPS. Toyota takes the long view, making decisions based on a philosophy that they’ll be around for hundreds of years. So, instead of thinking short term and looking for the quick fix, Lean thinkers plan for the future, which naturally affects how they treat their employees, their customers, their community and their suppliers.

When you think in the long term, your focus changes. You tend to look at solutions that can evolve over time to improve value, to decrease waste and to increase speed. You look at how to utterly transform your organization, not how to solve one specific problem. And, if you’re truly a Lean organization, you look for others to work with who have the same philosophy. In fact, Lean works best when all entities in the customer’s “supply chain” are Lean.

The true beauty of Lean is that it’s quite simple and straight-forward. The challenge, however, is that you have to take what you’ve learned about the best ways to run your business, implement them and then keep on massaging them so that you can adjust to inevitable changes in business demands, in technology, and in the industry in the years to come.

“A lot of body shops think they’re lean, but they’re not,” says Rick Tuuri, associate vice president of industry relations for Audatex. “Lean can run the risk of being labeled a buzz word, but when it’s applied correctly it’s anything but that. It isn’t a one-time or short-term effort that you undertake and then you’re done with. It’s a philosophy that you incorporate into your business so that you’re always rethinking and adjusting going forward.”

Below we’ve put together some of the most basic principles and concepts associated with Lean.

### Finding Value in Lean and Discarding the Waste

Value has a very specific meaning in Lean. Value is defined by the customer. It is what the customer is willing to pay for. It is any activity, done right the first time, that transforms raw materials and information into a product or service someone wants enough to spend their money on. Anything you do that doesn’t add value in the eyes of the customer is a non-value-added activity—otherwise known as waste. Anything you produce that the customer is unwilling to pay for is waste. (Of course, there are a few required, non-value-added things, such as regulatory requirements, accounting practices and limited internal reporting that cannot be entirely eliminated, although their costs could be reduced.)

Waste is also a very specific concept in Lean and it falls into eight distinct categories:

- I**ntellect: Not fully utilizing the time and talents of your people
- M**otion: Any unnecessary movement of people that does not add value
- P**rocessing: Doing more than is necessary; over-processing
- I**nventory: Accumulation of excess finished product, work-in-process, or raw materials
- T**ransportation: Any conveyance of the product or information is waste
- R**ework: Repair or correction of work; defects
- O**verproduction: Producing too much or too soon
- W**aiting: Waiting on work or information

You can use the acronym **I'M PIT ROW™** to remember the eight types of waste. We use this acronym to remind ourselves that we should strive to be as fast and efficient as the pit crew on a racing team. For them, every little detail counts; there is not a wasted second, no wasted motion or waste of transportation, no tolerance for rework or doing more than is absolutely necessary to get the car in and back on its way with 100-percent quality.



I'M PIT ROW™

### Value-Stream Mapping (or Seeing How My Business Actually Works)

To find value and eliminate waste, you need to fully understand your operational process. If your organization operates in a haphazard way, if you started out with a process but made detours to accommodate problems like late parts deliveries, absent employees, broken tools or the like, then you need to revisit your process and address the issues that have taken it off course.

This means you must go to what is called the “*gemba*,” or your actual workplace, and precisely follow the flow of vehicles, materials, parts and information that takes you through the entire repair process. Map the process on paper, noting the value-added activities as well as the non-value-added activities. This is called value-stream mapping. Take a stopwatch to time each activity—even the wait time between steps, the time it takes to find a tool or how long it takes to order a part. You might find yourself surprised at the ratio of value-added to non-value-added activities in a typical repair process.

In fact, you can take these numbers and actually create an equation that can give you a more accurate understanding of your shop's efficiency. Just take the total value-added time divided by the total time and you have your process-cycle efficiency. If you can achieve a process-cycle efficiency of 20 percent, your process is considered tops in the industry.

You're not at 20 percent? How can you improve your efficiency? Well, by going through this mapping exercise and discovering what waste is and where it exists in your shop, you've done the first step.

Lean has many techniques for achieving higher efficiency, but fundamentally it comes down to reducing or eliminating the wastes in your process without negatively affecting the quality. It could be something as simple as moving the tools needed for a particular repair to a permanent spot within the repair site and then organizing them so technicians don't waste time searching for what they need. It could be renegotiating

with a supplier so that you get what you need as you need it. Or, it could be installing a better software tracking system. Only you can determine this, but you need to do the value stream mapping to learn what improvements to make.

### Orderliness and Standardization: Meet 5S

Lean by its nature holds that for any organization to be successful there must be a basic level of orderliness and standardization. Indeed, you really can't make any radical changes to your processes without first practicing good housekeeping. The Lean technique that addresses this is called "5S," which is an acronym for five Japanese words that begin with the letter "S."

They roughly translate into:

**Sort:** Eliminate everything not required for the current work, keeping only the essentials.

**Straighten:** Arrange items in a way that they are easily visible and accessible.

**Shine:** Clean everything and find ways to keep it clean. Make cleaning a part of everyday work.

**Standardize:** Routine cleaning and maintenance become standard.

**Sustain:** Maintain the gains. Train all employees in 5S activities.

Why is this so important? Working in an orderly environment can help technicians do the job both quickly and right the first time. It saves you, the owner, money because you know what you have and where it is; you're not reordering parts you don't need and tools you can't find. Your tools will be in good shape longer. And, when you get down to changing your processes, you are essentially starting with a clean slate.

### Kaizen: A Change for the Good

It's the rare person who enjoys change, especially in a work environment. So, that means you may face some resistance from your people as you introduce Lean principles. One of the best ways to draw your employees in as your partners in Lean is to make them part of the change process.

Lean organizations empower their employees to own their process and know it better than anyone. So, who better to suggest improvements than the person who actually lives the process and knows there are better ways to do what needs to be done? And, as that process changes, it will likely impact others, and on and on it goes—a continuous cycle of standardization and improvement.

Think of it, in a way, as a stairway that just keeps on going up. You take a step up and level out for a time—perhaps two weeks, maybe two months, depending on you and your organization's tolerance for change. You take another step up with another change and level out.

These moments of change are called "*kaizen*," which in Japanese means "change for the good." It's a continuous cycle implemented through intense workshops where improvement ideas are vetted by the participants, agreed upon and then actually implemented in a short period of time—say, a week or less. Try it out for awhile, learn if it's working or needs further adjustment, then try it again before moving on to the next idea.

### Cross-Training: Adaptation at Work

One of the greatest tools an organization can have is its own flexibility and ability to adapt to new situations,

such as variations in supply and demand. One problem many shops face, for example, is bottlenecking. To reduce the bottlenecks in your business and maintain a happy and productive workforce in the Lean tradition, your people must be cross-trained as much as possible.

Cross-training not only offers them the opportunity to learn more skills, it gives you ready backup for when your needs change on a dime. And, cross-trained employees can contribute even more to *kaizen* because they come to a process knowing how other processes function. They offer a fresh perspective.

Cross-training is not a one-time event, however. It's a continuous process of tracking the skills and skill levels of each employee and scheduling additional training and reinforcement to fill in or prevent gaps.

Process \ Operator	Mechanical	Windshields	Paintless dent	Paint	Frame	Body
John	●	●	●	●	●	●
Dave	●	●	●	●	●	●
Dan	●	●	●	●	●	●
Kathy	●	■	●	●	●	●
Chris	■	●	▲	■	●	●
Jim	●	●	●	●	●	●
Ken	▲	▲	●	●	●	■

Cross-Training Matrix

### Success: The Business Case for Adopting Lean

The results for making this transition can be stunning. Sweigart has found that customers win through reduced cycle times, higher quality and predictable service, and lower claims costs. Insurers enjoy reduced costs associated with rental expenses. Vendors and suppliers gain through more organized supply chains and predictable demand. And shops achieve greater profits, mutually beneficial relationships with insurers and increased customer satisfaction. Plus, it doesn't hurt that your employees are less stressed and your business is more stable.

Cleveland-based DCR Systems is one of the best known and most admired body shops in the industry. Michael Giarrizzo, Jr., long with JSI Collision Centers and Sterling Autobody Centers, left Sterling to start DCR Systems with the idea of changing the industry by establishing Lean shops. How has it turned out? In the book *Improving Flow*, Giarrizzo-DCR System's CEO-says that his Lean repair center is able to occupy less square footage and use half the equipment than traditional shops with the same capacity. According to Giarrizzo, DCR Systems' cycle time to complete a job "keys to keys" is 7.2 days, about half the industry average. "We think we can get it under six," he says in the book, and adds that he believes it's possible to cut that cycle time in half again through multiple shifts.

What does that mean to you? If you can cut cycle time, do the job right the first time and make the customer happy, that makes your other customer, the insurance company, happy as well. According to J.D. Power and Associates 2006 Collision Repair Satisfaction Study, 20 percent of customers consider switching insurance companies after experiencing the collision claim process. What drives customer satisfaction with the repair experience? Claims/estimation (62 percent), body shop (36 percent) and rental car (2 percent). Speed up the process and you increase customer satisfaction. Since insurance companies are looking to

their partners—to you—to help them make continuous improvements to meet ever-increasing customer expectations, the sooner you can get your customers' cars back to them, the more valuable you are to insurance companies.

In our own organization, Audatex, we have been applying Lean principles for over two years, implementing process improvement initiatives in every department. Our waste elimination projects have resulted in millions of dollars in both cost savings and process efficiencies that have enabled us to increase productivity and quality.

For example, our customer service group streamlined their provisioning and user-setup process to more quickly and efficiently get customers up and running on Audatex software.

In areas in which we have been a recognized leader, we still felt we could benefit from incorporating Lean principles. Recently, we adopted Lean in our vehicle file development to streamline operations, which now enables us to roll out more new vehicles each year and release them sooner into our database. This has resulted in our being able to increase our lead over our competitors. In short, we took something already good and made it that much better through Lean.

At Audatex, we've trained hundreds of our associates in Lean fundamentals and we expect to see even more improvements throughout the company as more associates are trained and put these principles to use.

### **Lean Training and Consulting with Audatex**

The only way to have a truly Lean organization is to train all the employees in your shop. And, we know there are plenty of options for Lean training—classroom courses, on-site courses, online live and self-paced computer courses. There are generic Lean courses that teach the principles in a manufacturing environment while others provide Lean training for service and transactional businesses. In fact, a couple of the large suppliers in the collision repair industry provide business training to their shop customers.

Audatex provides an online Lean Shop certification course that doesn't just cover the basics of Lean; it applies this learning specifically to collision repair. It puts the principles we've discussed above in the context of your industry and your specific needs so that shop owners can get the most out of the Lean philosophy and be better able to apply it and integrate it into their businesses. Our Lean consultants have collision repair industry expertise. And, we've integrated Lean into our own business so we're well aware of the challenges and rewards that businesses encounter with Lean.

Lean is a long-term commitment, but it is a commitment that has the potential to send you and your employees on a journey that will positively transform your business, making it more profitable by making you a better partner with your customers and suppliers. Audatex has the tools to help you take this journey. Our training will teach you how to apply and integrate the principles of Lean so that you can achieve your goals for your business. At a time when competition and customer satisfaction demands are increasingly putting pressure on the collision repair industry, having a Lean business is the best way to succeed in the future.

For more information on Lean and the Audatex Lean Shop certification course, contact Audatex at 1-888-776-5372 extension 1964.

## **About the Authors**

### **David Trissel**

David Trissel is the associate vice president of enterprise transformation and operational excellence at Audatex, a Solera company. Trissel is a certified Six Sigma Black Belt, leading Lean Six Sigma initiatives and training associates throughout the company. Trissel has been in the collision repair software industry for 11 years, leading quality and product development teams. Prior to working in the collision repair industry, Trissel was a technology consultant and software developer for several Fortune 500 aerospace, manufacturing, and information technology companies, including Hughes Aircraft and Dow Chemical. Trissel holds a B.S. in Computer Science.

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Krishna Masur is a Lean Six Sigma Black Belt at Audatex, a Solera company. He has been a Six Sigma Black Belt since 2002. Masur is involved in identifying and executing Lean Six Sigma projects across the organization and training associates in Lean Six Sigma. Masur has 14 years experience in quality assurance and process improvement disciplines. He has worked for several large corporate clients, including Chevron, GM South Africa, and Pratt and Whitney. Masur holds an MBA and a B.S. in Industrial and Production Engineering.

### **Making the Journey to a Lean Shop**

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### **About DCR Systems**

DCR Systems (www.DCRsystems.net) was formed in 2004 and offers dealer-based turnkey collision repair outsourcing programs based on “lean manufacturing” principles, which eliminates many of the inefficiencies traditionally associated with auto body repair.

### **About The Body Shop@**

Brad Sullivan and John Sweigart are the principals of The Body Shop@ and developers of The Star Link Certified Collision Repair System which integrates the Toyota Production System lean manufacturing principles. The Star Link System is a “lean” auto body repair and work flow management process that enables high quality, lower cost, on-time auto body repair.

Unless otherwise noted, all statistical information in this paper is derived from Audatex's data warehouse.

