



Bemack Planning Services, LLC.  
Collision Repair Industry Consultants (Since 1984)

## **RAPID PROCESSING TECHNOLOGY™**

### **THE NEED FOR SPEED**

In the body shop business today, doing things faster is becoming as important as doing them better and cheaper. Just as quality was the weapon of choice in the 1980's, speed is becoming one of today's most important elements for achieving competitive superiority.

Think of how many products and services can now be accessed quicker. Today, we can get our glasses made in an hour, our pizza delivered within 30 minutes, our packages delivered overnight and our oil changed in 10 minutes. Some companies are even incorporating the element of speed into their company name by using words like quick, express, and jiffy to imply that, whatever they do, they do it fast.

What does it all mean to the collision repairer? In short, it means that speed sells and that body shops can successfully and profitably differentiate themselves from their competition with the offering of speed. Time really is money and although cost and quality are still extremely important in the body shop business, by themselves they may no longer be sufficient.

Alvin and Heidi Toffler in their much-publicized book "*Creating a New Civilization*" spoke of how in the post-industrial, information-intensive Third Wave economies, the speed of operations and transactions will greatly accelerate. Like it or not, this will lead to businesses being pushed closer and closer to operating in real time. The economies of speed will rapidly replace economies of scale and time wars will replace price wars.

There is a common belief in the collision repair industry that the demand for reducing cycle time is being driven by the insurance companies. Whether or not this is true becomes totally insignificant when all the benefits of cycle time reduction are taken into consideration. There is no plausible reason why any body shop would want to do anything other than fix cars in the shortest period of time possible.

Some of the benefits are:

- Better utilization of available human and nonhuman resources. In other words getting more from people, facilities and equipment.
- Greater use and return on assets.
- Greater responsiveness to meeting customer and Insurance Company needs.
- Faster growth rates and ability to rapidly exploit narrow windows of opportunity, especially when new DRP opportunities arise.
- Improved cash flow.
- Increased profitability.

Above all else, with the ever-increasing demands on body shops to reduce costs, our ability to decrease cycle time may well become the determining factor between profit and loss.

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## **HOW TO MEASURE CYCLE TIME**

How to measure cycle time and developing a reliable means to monitor improvements, seems to have eluded many experts in the collision repair business. This is probably because of the many variables that exist from job to job and from shop to shop.

When a task seems complicated, it's easy to miss the simple solution. *Bemack Planning Services*, a California-based industry consulting company developed the simple concept of *theoretical cycle time*, which enables body shops to set specific goals in their cycle time reduction initiatives. For example, if the total cycle time on a job is 100 hours and the theoretical cycle time is 10 hours, then the current process is 10 times theoretical cycle time. By using this method, a body shop can first set short term goals of reaching say nine times theoretical cycle time, then eight times theoretical cycle time, and so on.

As its name implies, *theoretical cycle time* will always be just that, theoretical. However, it is a consistent measurement that can be applied to any size job. Theoretical cycle time is a factor of the administrative hours and the actual applied production hours, in relation to the total actual hours taken to complete the job (based on twenty-four hours a day, seven days a week).

For example, a two thousand dollar job with 28 labor units, in a shop working at 130% labor efficiency and a 5.00 administrative labor performance ratio would have a theoretical cycle time of 31.5 hours (21.5 labor hours and 10 administration hours). If that job took 288 hours to process (12 days) then it actually took 8.9 times the theoretical cycle time. The clock starts ticking when a job that has been approved arrives on site and stops when it's sitting at the curb, complete and ready to go.

What's disturbing about most body shops, however, is that they have absolutely no idea what any of their cycle times are, real or theoretical.

## **HOW TO REDUCE CYCLE TIME**

The five primary considerations in a cycle time reduction initiative are as follows:

1. **Process Waste:** The elimination of time-consuming process waste, represented by unnecessary and non-value adding process steps and activities.
2. **Resource Availability & Accessibility:** Providing sufficient resources, both human and nonhuman (including information), when and where they are required.
3. **Continuous Flow:** Creating continuous flow, stopping a work process only when value is directly being added.
4. **Applied Technology:** Applying technology, especially computer-based information technology.
5. **Total Team Approach:** Developing teams with people working together to complete a specific job or series of tasks.

**Process Waste** requires a focus on eliminating all of the time consuming, unnecessary, and non-value-adding steps that can be found in any part of the administration and production processes. Believe it or not, these non-value-adding steps, called process waste, can often account for as much as 90% percent of a work process.

Interestingly, when people describe a process, whether it's the production process, parts ordering process or any other kind of process, they almost always leave things out, especially most of the time consuming, non-value-adding steps.

That is why it is so important to physically observe or "ground proof" a process whenever possible. If you actually watch a file, a particular document or a job as it moves through the process, it's amazing what you'll learn.

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When a file is just sitting in a rack waiting for someone to do something with it, when a part is waiting to be checked in or documented, or when the car is waiting to go into the booth, such steps are not often considered as part of the process. In fact they are all steps, be they all non-value adding steps, in the process and every process has a time element related to it called the cycle time.

One good way to distinguish between value, and non-value-adding is to determine whether any one step is actually moving the job forward. For example, in the assembly of a door, when it's laying on a workbench and the technician is looking for a clip or some other component to attach to it, the job is not moving forward. In process engineering, this would be called a 'delay step' and represents a non-value-adding step in the process. But when he's attaching pieces to the door, the process is moving forward and represents a value adding 'operation step'.

Another good way to differentiate between value adding and non-value-adding steps is to ask yourself, as a customer, "...am I willing to pay money for this particular process step?" For example, you go to Starbuck's and end up standing in line for 10 minutes. Are you willing to pay the coffee shop money for this additional delay step? Did the 10-minute waiting time add value to your coffee? Obviously, the answer is no. Most of us are only willing to pay for the coffee, not for the delay associated with getting the coffee.

A third way to differentiate between value adding and non-value-adding is to determine if a process step were to be eliminated, would the value of the final job be negatively affected?

Cycle time then includes both value-adding process steps *and* non-value-adding process steps, and is illustrated in the following equation:

$$\text{All Value-Adding Steps} + \text{All Non-Value-Adding Steps} = \text{Cycle Time}$$

A fundamental concept is that speed flows from simplicity, especially simple work processes. Remember that if steps can be removed from the process with out reducing its value, you are also removing potential delays associated with those steps. Creating simple work processes devoid of time-consuming waste is a critical first step in reducing cycle time.

**Resource Availability & Accessibility:** Think of how many times an important job or task is delayed because the right resources are not at the right place at the right time. Providing adequate resources when and where they are needed is crucial to achieving speed. The lack of readily available and accessible resources can cause time-consuming delays. Resources can be broadly grouped under the following five major categories:

- Facilities.
- Tools and equipment.
- Parts, materials, supplies and external services.
- Management and administration (including job-related information).
- Manpower.

The term *resource availability* refers to macro level issues and the degree to which they are ready for use. If a resource is available, it is ready for use when and where needed. For example, assuring that a needed part is moved from the supplier's warehouse to the body shop's parts department and ready for use by a certain time for a specific operation step, is a resource availability issue.

Resources can also be viewed from a more micro-level view. *Resource accessibility* describes the relative ease with which resources (e.g. parts, equipment, tools) can be immediately identified and accessed within an immediate work area. Resource accessibility also refers to the ease with which an information resource, such as a detailed work order, or measuring data can be accessed.

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An example of poor resource accessibility is a technician searching through a cluttered toolbox trying to find a specific tool. Another example of poor resource availability is if he has to find an extension cord because the power for the tool is on the other side of the shop. Maybe the spray booth is occupied when the painter has a car masked up and ready to paint. In these scenarios, the resources (the tool, the electrical plug and the spray booth) were *available*, but not readily *accessible*.

Any single delay caused by an unavailable resource is usually much longer than a single delay associated with an inaccessible resource. However, repeated mini-delays associated with poor resource accessibility can quickly add up to significant total delay times. It is important, therefore, to focus on identifying and eliminating, or at least minimizing, delays associated with both resource availability and resource accessibility. Having the right resources in the right place at the right time is a fundamental necessity if cycle time is to be reduced.

**Continuous Flow** is an important speed objective. In continuous flow, parts and materials, information, people and just about everything else, move continuously in a process, stopping only when value is directly being added. In continuous flow, all process steps become interdependent elements of a larger, single process, seamlessly connected. Although the concept of continuous flow originated in the manufacturing sector, it is as applicable to the collision repair environment as it is any other industry.

To experience the concept of continuous flow, let's go on an imaginary trip that requires us to fly non-stop from Los Angeles to Detroit. What would continuous process flow be like? First, as we arrive at the LAX in our own car, we drive directly to an open parking space. No unnecessary delays caused by searching for an empty space are encountered. As we walk directly to the airline ticket counter just a few steps from where we parked, there are no waiting lines, our boarding pass is quickly processed and our baggage is checked. Then we proceed directly to the gate and immediately board the plane. Once safely seated, the plane instantly pushes back from the gate, taxis out onto the runway and takes off without delay. As we approach Detroit, we are immediately cleared for landing.

Once on the ground, our plane proceeds directly to its assigned gate and as soon as the plane is safely parked, we immediately get up from our seat and proceed to the baggage claim without any delays. As we arrive at the baggage claim area, our bags are waiting for us. We grab our bags (hardly breaking stride) and proceed out the door to a waiting rental car van. As the van takes us to the car rental parking lot, our paperwork is processed en route. Once at our rental car, we load our baggage into the trunk and immediately drive out of the Detroit airport. That's continuous flow. Reading this description, anyone who flies a great deal would probably happily settle for even semi-continuous flow.

As you think about continuous flow in the collision repair process with no delays, it might seem like you're dreaming about body shop heaven. Indeed, creating a vision of the ideal scenario is a great place to start; otherwise you are likely to come up short of achieving continuous flow.

To achieve the ideal of continuous workflow, all unnecessary delays and other non-value-adding steps must be identified and completely eliminated. All required resources also must be immediately available and accessible at the right time and place. In many instances, **technology** can be a powerful ally in improving continuous process flow.

**Applied Technology** is about using the very latest technological advances in either the production or administrative processes, to reduce cycle time. It should be noted that technology could be both an ally and a foe in the quest for speed. In some instances, slow computer-based processes simply replace slow paper-based processes, resulting in little bottom-line reduction in cycle time. Poorly designed and slow work processes are still poorly designed and slow work processes, with or without expensive high technology. However, applying the latest technological advances in computerization and production equipment cannot be ignored in the quest for speed.

Technology, from a cycle time perspective, can basically serve the following five different functions. It can eliminate various steps from a process, minimize the time associated with various process steps, combine two or more process steps, improve resource availability, improve resource accessibility.

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Imagine how the use of hand-held or palm type computing platforms might be applied to reducing steps in the process. As soon as a job arrives, a porter moves it directly into the production process. As two technicians start the teardown process, a third begins to analyze the damage and create a repair order. He takes pictures with the digital camera that is built into the palm computer he has been using and downloads information about the job directly to the insurance company. While still standing next to the car, he creates a parts list and downloads it to the parts warehouse. About this time, the team is starting the actual repair process. No 'paper' work order is necessary as a transponder attached to the car insures that a detailed description of the repair process is automatically displayed on a large monitor located above every work stall in the production line. Parts arrive within the hour and go directly to the job where technicians install them.

As futuristic as that sounds, consider this:

- How many steps and associated delays were eliminated.
- How the time associated with various process steps was minimized.
- How several steps have been combined or happen simultaneously.
- How the availability of resources (particularly information) has been improved and potential communication problems avoided.

**The Total Team Approach** refers to the human and organizational elements of cycle time reduction. Most body shops today configure themselves around individual functions and disciplines. As a result, an individual technician or department frequently has to wait for another individual or department to finish their tasks. Creating effective and functional "handoffs" is vital to the reduction of cycle time. Unfortunately, such individual or departmental coordination requires extensive and sometimes unwilling cooperation.

In today's body shops, process delays are often caused by our inability to successfully coordinate the activities at either individual or departmental levels. Indeed, in too many shops, cooperation between technicians and departments falls along a continuum bordering somewhere between resigned tolerance and open hostility!

A *Total Team Approach* describes a small group of individuals representing diverse disciplines and skills, who are focused solely on completing a specific job or group of related work activities in the most efficient and effective manner possible.

Probably the best analogy for explaining how the five primary considerations in cycle time reduction work is to compare the way an average driver changes a tire, with the way a NASCAR pit crew does it. The average driver at best, would take around fifteen minutes to change one tire. Compare that with a pit crew that routinely change four tires and dump 22 gallons of gas in the tank in around *17 seconds!*

Even if you're not a NASCAR fan, watch next Sunday's Winston Cup race and pay particular attention to the pit stop strategy and how the five primary considerations in cycle time reduction have been applied.

1. **Process Waste:** The total elimination of any wasted steps. Every move has been analyzed and fine tuned
2. **Resource Availability & Accessibility:** The necessary resources, both human and nonhuman (the crew, the jack, tires, gas can, etc.) are in exactly the right place at exactly the right time.
3. **Continuous Flow:** Everything and everybody moves and flows continuously, no movement is wasted and the entire crew is engaged only in steps that are directly relating to getting the car back on the track (i.e. value-adding steps). *Applied Technology:* Technology in the form of a super lightweight jack, specially designed air wrenches, and overhead video monitoring for reviewing performance.
4. **Total Team Approach:** Everyone one is working together with a common goal and shared knowledge that every second they help save on pit row, translates to as much as ten car lengths on the track and subsequently, the difference between winning and losing.

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As new as the subject of cycle time reduction is to the collision repair industry, some body shop owners and managers are already taking sides.

Those who are against making an effort to reduce cycle time typically see it as yet another tactic the insurance companies are using to 'trick' the collision repairer into cutting corners and reducing profits. Some see all the reasons why it can't be done and cite adjusters, parts suppliers, unreliable customers, technician reluctance, etc. as the reasons why any significant reduction in cycle time is impossible.

Those who are actively implementing a strategic cycle time reduction initiative see an opportunity for competitive superiority, getting more work done in less space and with less people, improving cash flow and bottom line profitability.

One thing's for sure, implementing a cycle time reduction initiative takes time. It could take two or three years for the average shop to get to within 2 or 3 times theoretical cycle time. Consequently, the problem for those that wait will be that it will be increasingly more difficult to catch up. Time, after all, waits for no man.

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