



Maximizing Shop Throughput

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Industry cycle times are increasing due to several factors, including the time for ADAS calibrations, the need to research OE repair procedures, more complex repair planning and insurance negotiations, and the variable of parts availability.

If shop work in progress (WIP) increases, throughput and cycle time will automatically increase. While shop managers often seek to capture as many vehicles as possible, overloading the facility can be counter-productive and actually slows down output. It may be good to remember the statement: *"Slow is smooth, smooth is fast."*

"Slow is smooth, smooth is fast" means that deliberate, precise actions ultimately lead to faster and more effective results than rushing. The phrase originates from the Navy SEALs and other elite military units, where precision and careful execution are critical in high-stakes situations. By moving deliberately and smoothly, SEALs maintain control, avoid errors, and ultimately complete tasks more efficiently.

Historically, the concept has roots in ancient wisdom. The Latin phrase "Festina lente", meaning "make haste slowly," was used by Roman leaders to emphasize swift action tempered by prudence.

Beyond the battlefield, this philosophy applies to everyday life, work, and personal development.

Key lessons include:

- Precision over speed: Focus on doing things correctly rather than quickly.
- Preparation and planning: Anticipate problems to move smoothly during execution.
- Stress management: Slowing down helps maintain clarity and reduces errors.
- Sustainable productivity: A deliberate pace prevents burnout and fosters creativity

Your technicians produce a certain number of labor hours in an average workday. For example, let's say that you have eight techs that produce an average of 72 labor hours per week. That is a total of 576 labor hours per week, or 115.2 per day. So, our average daily **output** for Labor Hours is 115.2.

You also tend to carry a certain number of vehicles in your work in process (WIP) in various stages of repair: Awaiting dispatch, actively being worked on, in the back lot awaiting parts or supplement approvals, awaiting paint or trim-out, awaiting pick-up by the customer, etc. In short, it's all the vehicles currently *in your possession*. Now, this will vary during the week, but for the sake of discussion, let's assume that your **average** is **40** vehicles in process.

continued





We know that your techs can produce an average of 115.2 labor hours per day and that you have an average of 40 vehicles in your possession on the average day. If we divide the 115.2 labor hours by 40 vehicles ($115.2 \div 40 = 2.88$) we get an average “touch time” of **2.88** labor hours per vehicle in possession (WIP) each day.

Further, if your average repair size is 28.0 labor hours, a touch time of 2.88 will equal an average **cycle time** of **9.7** days. ($28.0 \div 2.88 = 9.7$).

The only way to increase **output** (labor hours) is to either add techs or increase the number of hours produced per tech (productivity). But, absent adding techs, your capacity for daily output of labor hours is 115.2.

If your shop’s **WIP increases** (i.e. to 45) due to more vehicles waiting supplements or parts, your “**touch time**” **will decrease**. If **WIP is less**, (i.e. 35), and you can maintain the same level of output (labor hours) your “touch time” will **increase**. Let’s look at the numbers as illustrated below.

	<u>Current</u>	<u>More WIP</u>	<u>Less WIP</u>
Daily Labor Hours	115.2	115.2	115.2
Work in Process (vehicles) ÷	40	45	35
Touch Time=	2.88	2.56	3.29
Cycle Time*	9.7	10.9	8.5
* Assumes an average repair of 28.0 labor hours			

Everything else being equal (i.e. daily labor hours produced) there is a **direct relationship** between WIP and “Touch Time.” Therefore, if you want to improve “Touch Time” you must work to achieve the minimum Work in Process necessary to maintain production **by eliminating the causes of delays**.

This is why collision centers and insurers are putting so much emphasis on **repair planning** to reduce the number of reactive supplements and multiple parts orders. Vehicles sitting, not being worked on, are a huge waste of time and space and it delays the completion of those repairs.

During mid-week, when your “WIP” is at its maximum, your “touch time” decreases and your cycle time lengthens. Because of this, “WIP” and its effect on touch time affects your shop’s capacity. Lower WIP = higher throughput = more capacity. Higher WIP = lower throughput = less capacity.

Taking Action

- **Fully understand** the relationship between WIP to throughput and cycle time.
- **Set a target** for maximum WIP in the facility.
- Manage WIP daily and schedule drop offs judiciously **ONLY** as you can begin to process them.
- **Triage to segregate repairs** by severity so smaller, simpler repairs can be dispatched and repaired immediately without being bogged down by larger jobs that cannot be immediately processed.
- **Blueprint all repairs** so that all “unknowns” are discovered and any repair “variables” are documented so there is a minimum of surprises down the line.

Sometimes You Can Do More With Less!