

## Detailed Work Experience

This document covers a wider range of my experience relevant to the SME role for the Axle Assembly Line improvement. You will see much more detail that could not be covered within the confines of a resume.

### Assembly Training Coordinator

- Conducted time and workflow studies on over 100 workstations. Data was shared with the QA department to inform current manufacturing instruction guides (MIG) and control plans (CP).
- Composed or rewrote 200 standard work instruction guides (SWIG), supplying the most up to date information for technicians across 8 assembly lines.
- Designed visuals to support work instructions/MIGs/CPs to be posted at the workstation to support consistent processes and ensure quality.
- Designed and assembled the assembly department training cell for new hires. The cell included 3 different workstations to allow trainees a simulated experience of working on the line. The workstations provided subassemblies that were inspected and then used for real production.
- Developed 3 phased training curriculum for new hires to complete within a 1 week or 2 week period of time (depending on season and needs of the business). Established objective criteria for successful completion of each phase (time, quality, quantity, safety). The purpose of the training cell was to reduce safety and quality errors within the new hire population. The result was a 50% reduction in recordables for the year of implementation, and 30% for the 2 years following.
- Delivered training modules and classroom instruction each week for 4-6 associates at a time. Training included safety, lean, quality, and standards of behavior expectations.
- Resource Consolidation Project: Led Kaizen team on resource consolidation project for the Differential Case assembly line. This line supplied subassemblies to both the front carrier and rear carrier lines at a pace of 400-450 assemblies per shift. Our team identified 2 workstations that could be consolidated into 1 and therefore reduced the headcount requirements by 1 technician per shift (3 shifts total). Headcount reduction produced an annual cost savings of approximately \$60,000.
- Line Side Material Reduction: Led Kaizen team to identify workstations with excessive material available taking up valuable workspace on the Differential Case line. 2 workstations were identified and kits complete with subassemblies were designed and developed to

support the process. Headcount shifted from the assembly line itself into the Kitting department. Subassembly work transferred and was consolidated to support 2 lines and producing a boost in throughput for both lines. One line received a 20 piece/carrier increase. The Differential Case line itself improved production throughput by 50 pieces achieving a record high of 500 assemblies per shift.

### **Lead Assembly Facilitator**

- Daily management and facilitation for 8 assembly lines, 120 technicians, and 1 material handling team. Aspects of management included the production schedule, implementation of quality standards, safety standards, inventory levels, and line pace.
- Created and implemented updated roster system to track attendance and properly balance resources across lines to match daily demand.
- Subassembly Kitting Project: Took the lead on phase 2 of the department Kitting project. Our material flow team identified 20 more subassemblies or small parts to setup into either a kanban or sequenced system to support the Differential Case Line and another low volume carrier production line.
- Pinion Preload Six Sigma Project: Tasked with reduction of lineside teardowns on pinion subassemblies required for rear axles, on the Rear Carrier Line. The project started with the problem of 20-30 teardowns/additional adjustments to the pinion subassembly each shift. Each teardown resulted in almost 1 carrier lost per hour due to the bottleneck at the receiving station. After confirming all gages were accurate and passed inspection our team discovered faulty tooling. Once new hardened tooling was provided, technicians could accurately gauge preload. The result was improved throughput at 10-15 additional carriers per shift.
- Conducted regular value stream mapping for each assembly line. This helped to identify small/quick improvements as well as future projects to allow for clear continuous improvement.

### **Plant Lean Expert**

- Differential Lock/Yoking Assembly Improvement: Our team was tasked to improve throughput at each post assembly station. The department was using overtime to keep up with demand and maintain the WIP within its assigned storage area. The team implemented first in, first out (FIFO) in the WIP storage area to reduce the act of picking and choosing by

technicians and material handlers. FIFO was also implemented at each post assembly station which produced 10 more completed carriers per station, per shift.

- Ergonomic Material Presentation for Diff Lock/Yoking: The team redesigned the build stand for carrier post assembly (yoking/diff-lock). Making each stand height adjustable as well as providing ideal placement of tools on the stands to reduce reaching and bending. We improved hoist range to eliminate the pulling of heavy carriers into place. This is suspected to have increased throughput by 2-3 carriers depending on the technician.
- Yoke Sequencing & Kanban Project: Redesigned the storage area to optimize access to the right components. Led the team to create a system of delivering the correct yokes needed for assembly on time for 2-hour blocks. Yoking process improved throughput by 5-10 assemblies per technician.
- Material Delivery Routes: Led the material flow team to develop a delivery route system based on demand (even varying demand). Created 5 delivery routes based on 30 minute and 1-hour demand. Routes supported both high volume and low volume lines. All 5 routes were supported by 1 tugger and a series of station dedicated carts. The system was built on a combination of kanban and sequencing depending on the station and which series was being run. This initiative reduced the number of forklifts/operators by 2 per shift.
- Bracket Weld Scheduling/Level Load Project: Our plant level material flow team developed new scheduling boards for each cell. The material handler would post the schedule and set the hourly order. The welder would update the board as orders were completed. Bracket weld throughput improved on an average of 3-5 brackets per welder. We also provided new visuals and a small kitting section run by the material handler to reduce line side storage.
- Kitting Phase 3 Improvement: Doubled the size of the kitting department by identifying subassemblies and components from all lines to populate the delivery routes and therefore produce throughput improvements across all lines. The team created signaling systems (flag and chip system) and visuals to notify material handlers when inventory levels were low. This along with the implementation of the delivery route system eliminated loudspeaker requests entirely and reduced waiting in the kitting department.
- Internal Axle Differential (IAD) Subassembly Cell: The material flow team designed a cell comprised of work from the Front Carrier Line to consolidate tasks and resources in order to provide a sequence of IAD subassemblies to the line on a 30-minute cadence. This transferred 1 headcount to the kitting area and consolidated line support for 2 lines with one person. The main results were line side storage reduction and a small increase of throughput by 2-5 carriers per shift (depending on series).
- Low Volume Cell Series Change Project: The Low Volume Carrier Assembly Line needed support with series changeover to speed up the process and simplify line side storage of components. Our material flow team created a cart delivery and storage system based on 2

hours of material for each series. The line ended up with a simple material changeover where the technician could simply change out carts and have all the materials/supplies/tools necessary for the new series on the schedule. This reduced work for the forklift operator and reduced waiting on the line by 30%. The line saw an increase of 10-12 carriers depending on the series that was run, per shift.

### Independent Consultant/Contractor

- Brake Line Lean Transformation: After a series of difficult customer complaints, plant leadership requested a full-blown lean transformation and line redesign of the Brake Assembly Line. The team ran time studies and workflow analysis for the line as well as completed a value stream map (current & future state). Through kaizen the team engaged the workforce to develop improvements and solutions to perceived and verified problems. New standard work was written for 18 processes. Kitting and subassembly section was added to the area, providing 16 different subassemblies based on the daily schedule. 30-minute material routes were established and line side material presentation was ergonomically improved through 4 newly designed carts. Our team successfully reduced PPM by 55% and boosted throughput by 5-10 axles per shift.