

The Labeller Speeds Up @ *Coopers*

Having regularly and effectively improved the main Labeller on Bottling Line 1 over the years, it was now time to look at the much older and slower Labeller machine to improve the Overall Equipment Effectiveness (OEE) of the Line.

The Topmatic Labeller on Bottling Line 1 at **Coopers Brewery, Regency Park SA** site had been identified as the bottleneck of the line when in use. Although not responsible for the majority of the products run on the Line, the Topmatic Labeller was still used for some products and therefore required an improvement team to help obtain the highest speed possible with least amount of stoppages from the machine.

In September 2015, the Leadership Team on site set-up a Cross-functional Improvement Team with the mandate to:

- Identify all equipment & process losses and wastes (including all unplanned interventions) for the Topmatic Labeller;
- Validate if the Topmatic Labeller is able to consistently run at a speed of 1000 bottles per minute (BPM) and if not what is the fastest speed possible without redlining the machine;
- Recommend further improvement initiatives; and
- Complete within 12 weeks.

As always the team started by “Analysing the Current Situation”, which included using a number of tools to identify OEE losses (Availability, Speed and Quality losses) and opportunities for improvement. The team used the following analysis tools:

- Baseline Measures (see OEE Baseline established in Figure 1);
- Operator Survey;
- MES (Manufacturing Execution System) data;
- OEE Line Observations; and
- Pareto Analysis.

Figure 1: 6 Week % OEE Baseline (Topmatic Only)



The initial OEE Line Observation identified a number of improvements. From only *some minor changes that could be implemented immediately, the speed of the machine increased from 880 bottles per minute (BPM) to 980 BPM* (just below the maximum speed of 1000 BPM).

Throughout the cycle some further adjustments to the machine were made, which allowed the *team to achieve the maximum speed of 1000 BPM with no increase in stoppages, hence improving OEE to an average of 75%* as shown in Figure 2 below.

Figure 2: 53% to 75% OEE Improvement in 12 weeks (Topmatic Only)



Improving the % OEE by reducing stoppages and waste on the Line, was contributed to by the following 12 improvements:

1. Reposition of Date Coder on out-feed of machine;
2. Replace In-feed Conveyor Guide Rail on Singuliser (Refer to Figure 3);
3. Overhaul of In-feed Worm Gearbox;
4. Program Singuliser for better bottle handling;
5. Rectify timing between magazine and last bottle;

6. Investigate work required to install new worm design;
7. Pre start-up Glue mechanism needs to be re-instated and Operators trained;
8. Review line control on out-feed into BW250;
9. Improve guard on out-feed conveyor rejecter;
10. Implement a new Operator Start / Stop panel;
11. Conduct FMEA on Topmatic Labeller; and
12. Install an indicator light on Date coder, so that Operators know when it goes out.

On conclusion of the improvement cycle, the Team arranged for the Machine Supplier (based in Sydney NSW) to complete an audit of the Topmatic Labellers condition to ensure it was capable of sustaining the improvements and safely maintaining the running speed of 1000 BPM for the next 5 years. Before a final decision can be made on progressing forward, the team are waiting for the spare parts and labour cost quote to be approved.

Figure 3: In-feed Conveyor Guide Rail Improvement

Team Name:	Location:	Line 1 – Topmatic Labeller	Initiated Date:	25/05/2015	
Team Type:	Micro FE & PI	Item:	Infeed Conveyor Guide rails	Completed Date:	12/11/2015
Initiator:	Troy & Mark L				
1. Problem (Plan)					
A. Fallen or broken bottle could not fall out of the conveyor on the operator side, making it difficult to clear or fall out.					
2. Current Situation (Plan)		3. Improvement (Plan)			
					
Improvement Target:	No Stoppages at Labeller infeed due to fallen/broken bottles	Cost:	Expected Saving:		
4. Results: (Check)		5. Future Actions: (Act)			
Approved by:	Team Leader Prod.	Maint. Manager	Fitter - Troy		
Sign off acceptance of Approved Change		X			
CTPM Australia					

CTPM would like to congratulate the team on an excellent result. The presence of Dr. Tim Cooper, **Managing Director at the Final Presentation** was a testament to their hard work, as well as the commitment of Coopers to their Continuous Improvement journey to Operational Excellence.

For further information please contact:



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