

Yen Tu
Automation Engineer

Table of Contents

Overview

Scope

Duties

References

Documentation

Overview



This company has presented me the experience of working in a rapid-growing and fast-paced environment. Much of my time here has been working independently to manage the automation systems on the production line.

Scope

At Oakley, my responsibilities span from assembling complex automation equipment, to general CNC and tooling, to data analysis. These diverse duties immersed and allowed me to gain various skills to succeed in any given environment. As an automation engineer at Oakley, I had the privilege to work with the machining, tooling, design, and manufacturing departments. This exposure allowed me to excel my social and engineering skills in a professional atmosphere while learning to work effectively around the mentioned departments.



FreTor automation Sand & Buff System

Duties

The focus of my duties is to maintain and upkeep the running automation systems on the production lines. This includes constant system troubleshooting, maintenance, repair, quality assurance, and data analysis.

Other responsibilities involves managing various administrative work and documentation. Regarding the automation systems, I would compose RFQs for spare parts, additional components, SOPs to train employees, and update BOMs for accuracy and correctness. Reports and status updates are consistently sent out to coworkers and upper management.

Precursor to pilot runs, my supervisor and I would troubleshoot and calibrate the systems to the corresponding frame style. This involves designing unique wheels to hold the frames.

The tool path and parameters are also considered to pass quality and standardizing the process. Much of troubleshooting of the HMI program is done on the respective pendant, but the corresponding program (WINCAPS III) is used to compose new lines of code to execute new processes or commands.



Denso Robot Arm performing frame pick-up

Duties

To effectively have these automation systems running with proficiency, I administered training to the process technicians, cell leads, and machine operators on **all shifts**.

The operators were given simple instructions to unload and reload the system with the input and output trays. They were given limited knowledge on how to interact with the systems.

The cell leads were given more responsibility. They were instructed to replace and properly dispose consumables as well as proper log collection on the systems.

The process technicians were given supervised instructions on how to use the pendant to operate the robot arm and troubleshoot the systems, when it occurs.




Standard Production Line Cell

Document Revision History				
Rev.	DCO No.	Date	Description of Change	Changed by Name/Initials
0		12/10/16	Initial Release	Yen Tu

Table of Contents

1. PURPOSE	2
2. SCOPE	2
3. RESPONSIBILITIES	2
4. REFERENCE DOCUMENTS	2
5. PPE AND SUPPLIES	2
6. SAFETY REQUIREMENTS	3
7. Equipment and consumables	3
8. Front panel	5
9. Replacing sanding belt	5
10. Replacing sanding belt	6
11. Replacing compound	6
12. Output tray door not closing	7
13. Robot arm stop between sand and buff	7
14. Input tray stuck	7
15. Input tray jam	7

 <p>ALL INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROPRIETARY TO OAKLEY AND SHALL NOT BE REPRODUCED OR FURTHER DISCLOSED TO ANYONE OTHER THAN OAKLEY EMPLOYEES WITHOUT WRITTEN CONSENT FROM OAKLEY INC.</p>		TITLE Lux Auto Sand & Buff Work Instruction			
		PROP LEVEL B	TYPE Troubleshooting Guide	DOCUMENT No.	REV. PAGE 1 of 7

SOP for troubleshooting

References

Robert Ringe: Factory Senior
Automation Engineer



Email: Rringe@oakley.com
Phone: 818-620-6978

Richard Scheidt – Automation & Tooling
Manager



Email: RScheidt@oakley.com
Phone: 585-747-7944

Lee Sakayeda: Mechanical Design
Engineer



Email: LSakayeda@oakley.com
Phone: 949-900-7689

Sand & Buff

Lines running: 1, 3, 4, 18 idle: 5, 25, 27

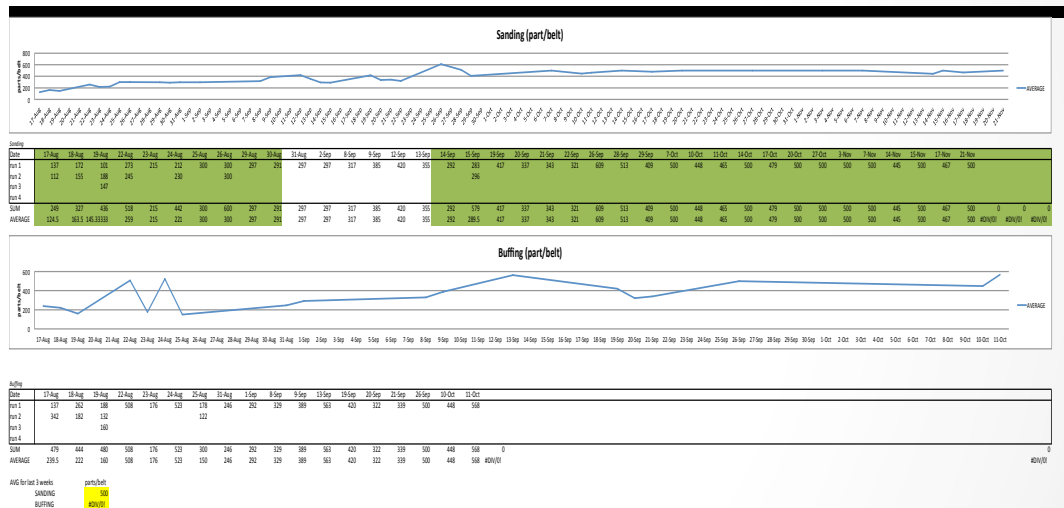
On-going

- Sand and buff data analysis
 - All documentation up to 11/13
 - Stepping program may not be necessary (parts are running until life expectancy)
- All shifts lead S&B training
- All shifts S&B process tech training
- Trouble shooting guide
- Rouge cover/control (postponed)
- Frame compatibility matrix: Waiting for halfjacket wheels
- Cutting routine
- Tray stock spreadsheet
- Gripper/Roller inventory:
 - Need nylon wheels for halfjacket

New

- Establishing limit samples for Silver XL (PP) and Gascan (FG)
- New Latch system remaining setup:
 - Stacked light
 - Pressure
 - Teach pickup and drop off
- Modified SML Status Report to include Common Issues and System Tracking
 - Incorporating downtime/fauls section
- Installed jet vacs onto Frogskin and Gascan Line
- Established new parameters after new toolpath for line 27 (flak 2.0)
- Testine new quick change cam lever grippers

Data Analysis for Automation system on Line 1



Documentation

SML ASB Status Report																				
Line #	Model Name	PP/FG	Running			Total Downtime	Reason for not running													
			1st Shift	2nd Shift	3rd Shift		Projected Run Date	Repair	Calibration	Different mold	Molding Issue	PM	Mold Change	Color Change	Stems Only	Need Parts	Excess Wip	Need workers	Need Wheels	NIP Test
1	Holbrook	FG				< 2hr														
3	Gascan	PP				none														
4	Frogskin	PP				~ 14 hrs												1st shift		
5	Silver	PP				~ 2.5 hrs			x											
18	Holbrook	PP				~ 3 hrs		x	x											
23	Halfjacket	-				All day	7-Dec		x									x		
25	Flak 2.0	FG				~ 1.5 hrs			x											
27	Flak 2.0	PP				8 hrs												1st shift		
		Total	5	3																

Notes:

Line 1 (Holbrook)
Line 3 (Gascan)
Line 4 (Frogskin)
Line 5 (Silver)
Line 18 (Holbrook)
Line 23 (Halfjacket)
Line 25 (Flak 2.0)
Line 27 (Flak 2.0 pp)

Rough alignment issue

Understaffed
Unable to fix system. Flashing does not go away. System not running. Suspect motor heating up
Replaced bad wheels and left gripper. Adjusted pickup sensor and calibration
Need Wheels, need parts, and need correct mold.
Buffing issue in the morning. Sanding issue after belt change. Adjust parameters.
Understaffed

Legend	
Minor Downtime	< 1 hr
Median Downtime	1~4 hrs
Major Downtime	> 4 hrs

Line 3 (Gascan)
Line 4 (Frogskin)
Line 5 (Silver)
Line 18 (Holbrook)
Line 23 (Halfjacket)
Line 25 (Flak 2.0)
Line 27 (Flak 2.0 pp)

Picked up 2 parts. Poor cut. Adjusted.
Recalibrated Buffing for FG. Different mold. Parts coming from line 19 2nd shift not enough workers
Adjusted parameters due to poor cut and sand.
Broken blade. Addressing Near-miss. Occurred Dec-4 during 2nd shift
Installed and established power and pressure during 2nd shift. Waiting for calibration and test
Poor buffing. Re-aligned rouge
Broken blade. Occurred Dec-3 during 3rd shift 2nd shift not enough workers

Standard Production Line Automation System Status Report