JIPM Karakuri Kaizen Exhibition 2024 Work No 3901

Work Name

LIFT IT UP

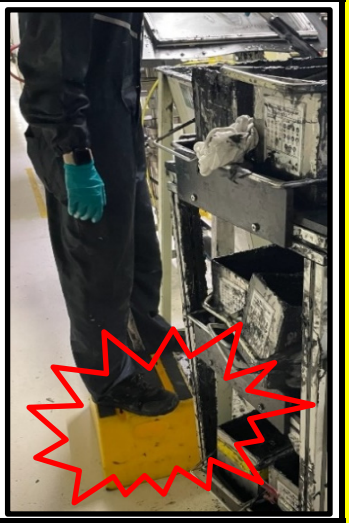
Work Outline

TO REDUCE BURDEN ON TM WHILE MANUALLY EMPTYING SEALER RECLAIM PAIL

Before Kaizen

BACKGROUND

- Cost savings Kaizen implemented to reduce sealer waste by returning excess to reclaim pump system.
- *Manual TM operation* lifts sealer pail to scrape into reclaim hopper.
- Sealer is then filtered and fed back into system
- This resulted in $250,880 in yearly savings



Before Kaizen

***MANUAL TM OPERATION* Lifts sealer pail to scrape into reclaim hopper.**

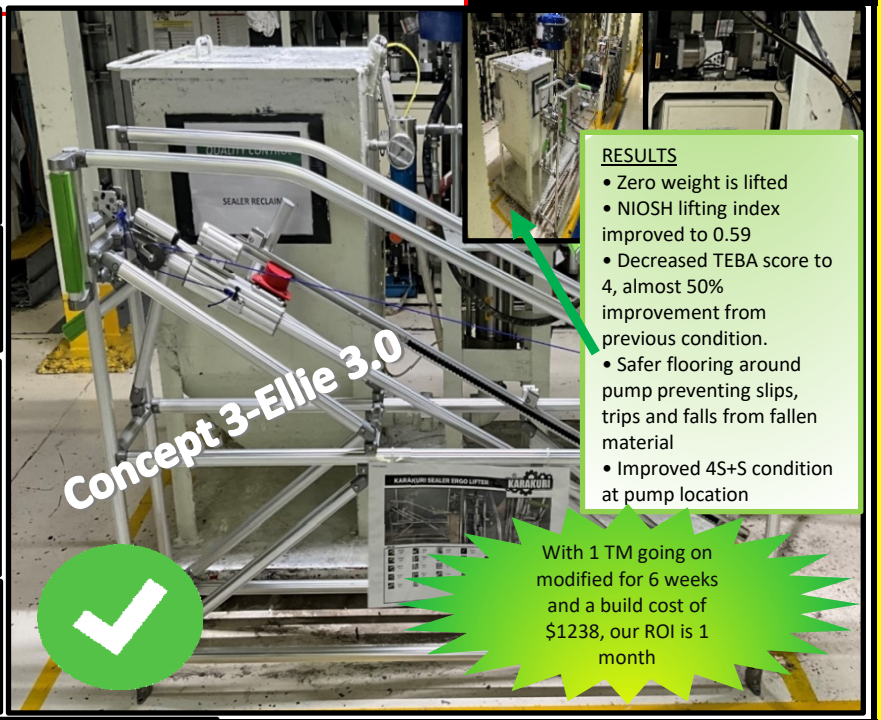
- Weight of pail is 26lbs (TEBA requirement-lift assist for anything greater then 11lbs).
- 12 reclaim pails need to be emptied each shift.
- NIOSH lifting index for the associated condition is 0.94.
- TEBA Score of 7 for lifting to current height.
- Height of pump is 4 Feet and poses a vertical challenge for some TM's to lift.

Power source	Gravity
Power transfer mechanism	Balance, Lever

After Kaizen

Concept 1-Ellie would not fit in the space available and the foot pedal was not strong enough to lift the weight of the reclaim bin.

Concept 2-Ellie 2.0 When tested with actual line side conditions, was unable to withstand the 26lb weight; sheering all the fittings.



RESULTS

- Zero weight is lifted
- NIOSH lifting index improved to 0.59
- Decreased TEBA score to 4, almost 50% improvement from previous condition.
- Safer flooring around pump preventing slips, trips and falls from fallen material
- Improved 4S+S condition at pump location

With 1 TM going on modified for 6 weeks and a build cost of $1238, our ROI is 1 month

After Kaizen

This was built completely in house with simple on hand materials. We followed all safety documents and provided all information and instructions for repair. We also included a pre-shift start up check and a back up procedure.

Following PDCA cycle a "Lazy Susan" Karakuri cart for emptying reclaims was identified Kaizen Ergo spatula for removing material from bins (researching robust, light weight material)

TOYOTA MOTOR MANUFACTURING CANADA INC