

Trutec Industries, Springfield

Intervention Key Words: Bridge Crane & Hoist System, Charge Hopper, Tilt, Separator, Roller Type Conveyor, Pallet Pals, Dollies, Fixtures, Stretch Machine

Industrial Key Words: Manufacturing

Risk Factor(s): Awkward Posture- Back deviations, Squatting/Kneeling, High Hand Force- Pinching/Gripping, Manual Handling- Lifting/Carrying, Pushing/Pulling, Repetitive motion

Situation:

Trutec Industries has concerns about its Gecom Process. This area is very manual intensive labor work area. The process is as follows: parts enter the plant in small plastic totes, get phosphated and reaches the gecom line weighing about 55 lbs. The parts are then loaded into the tumbler by hand from floor level and picked up at a height of 50 inches and dumped into the tumbler. The tumbler is then inclined about 60 degrees by turning a wheel. Once the tumbling is complete the tumbler is tilted 20 degrees and the entire contents are dumped into a shaker unit. The shaker separates the ball bearings from the parts, which are guided down a chute and fill a basket. The full baskets are stacked on a cart and pushed or moved by forklift to an oven for the baking process. Once the parts are baked and cooled the baskets are dumped into a tote lined with plastic bags at floor level. These bags are then tied and the totes are placed back on the original skid for shipment. Each skid is then wrapped and taken back to shipping to be sent back tot the customer. All lifting, stacking, and dumping of these totes is completed by hand. Cumulative Trauma Disorder risk factors include high force gripping, repetitive motion, and frequent bending and twisting.

Solution:

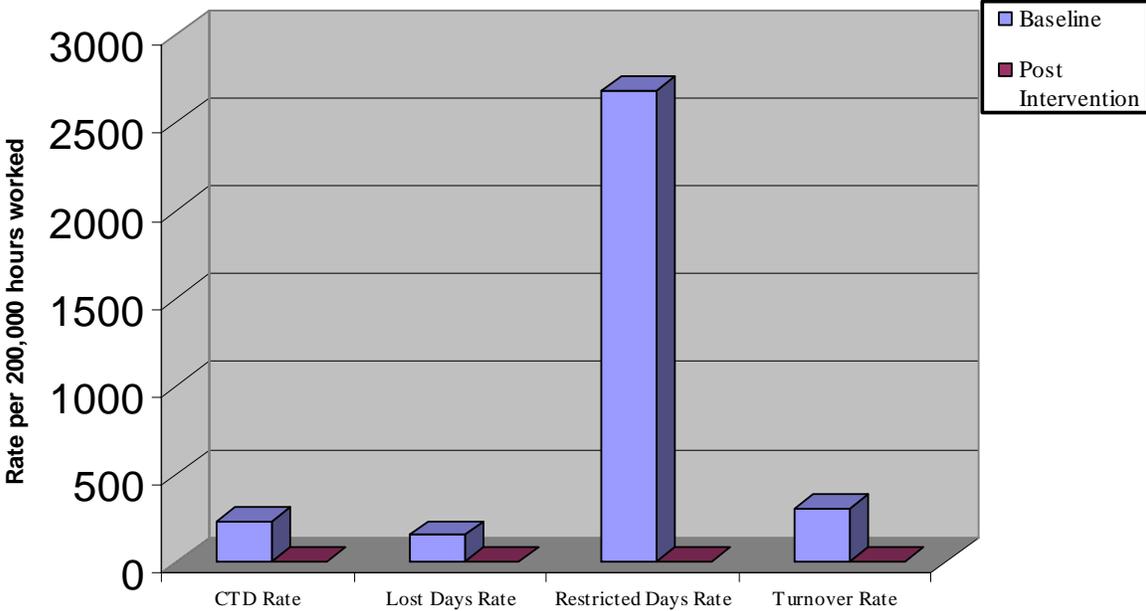
Trutec Industries purchased the following equipment in order to address their CTD issues:

1. Bridge Crane & Hoist System-used to complete all the heavy lifting.
2. Charge Hopper (10)-will be loaded to help speed the process and make charging the tumbler less labor intensive. Eliminates bending, lifting, and twisting.
3. Separator Vibration/Shaker type-will separate the parts from the ball bearings.
4. Tilt Hopper-aides in the transfer of parts back to original containers and eliminates lifting and twisting actions.
5. Roller Type Conveyor-moves totes to the skids.
6. Pallet Pals (3)-eliminates the need for bending and lifting to place the totes on the skids. Adjusts depending on weights placed on them.
7. Installation of Automated controls for tumbler-eliminates the need for the associate to turn the wheel by hand to raise and lower the tumbler.
8. Dollies (3)-moves parts and ball bearings around the area to help reduce the lifting and bending.
9. Fixtures (2)-lifts the totes and baskets by the crane to eliminate continuous lifting and bending.

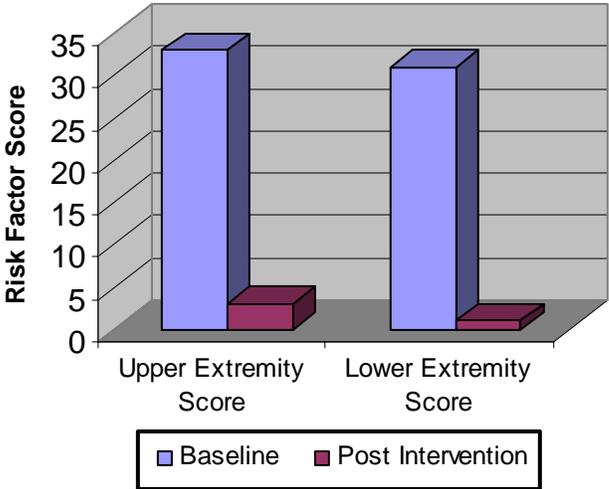
10. Stretch Machine-a portable unit that is used to wrap the skids with finished parts while on the pallet pals. This eliminates the bending and twisting motion that was previously used to complete the process.

Total cost of the intervention was \$55,480. Trutec received \$40,000 in assistance from SafetyGrant\$ to offset the costs.

Results:



- CTD, Lost Days, Restricted Days and Turnover Rates (standardized per 200,000 hours worked) decreased 100% over the 2 years following the intervention from rates of 230.4, 153.6, 2688.2 and 307.2 respectively the year prior to the intervention.



- CTD Risk Factor scores decreased 94% following the intervention.