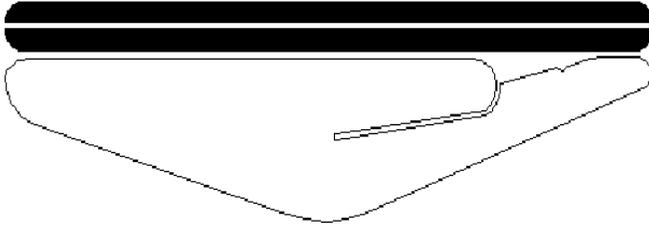


APPLICATIONS



SOUTHWORTH

INTRODUCTION

Lift-Tilt-Turn – The universal tools to handle almost anything; any weight, any size. But, prospects don't see the universal tools. They do see problems - ergonomic problems, material handling problems, production problems. And fortunately, for us a significant number of people see our products as a possible solution. And fortunately, for you, there is an even larger group of people who are not aware that problems exist or they have been unable to visualize the solution. Lifts cover the broadest band of applications so we'll start with those.

A. Feeding – offloading

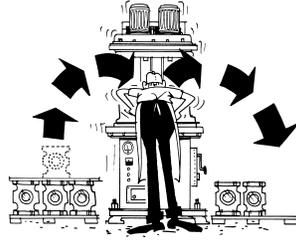
NOTES



A CLASSIC APPLICATION

1. The problems: (with pallet on floor)

- A. Two-man operation
- B. Wasted motion (for two)
- C. Operator fatigue (for two)
- D. Reduced productivity
- E. Possible back injury (2x)
- F. Errors in feeding
- G. Quality of Work



2. Look for:

- A. Two people doing one job – eliminate one employee and the price of a lift just became less important
- B. Machines which can cycle faster than the operator can feed them -
 - 1. Shears
 - 2. Brake and punch presses
 - 3. Riveters
 - 4. Trim saws and planes
 - 5. Spot welder
 - 6. Forming machines (sheet metal)
- C. Heavy work pieces – weights greater than 50 lbs. can cause injury, to say nothing of fatigue
- D. Large work pieces (i.e. 4' x 8' sheets) cause workers to strain and reach excessively
- E. Wasted motion – where operators have to turn, twist, stoop, stretch or otherwise extend to perform their jobs
- F. Operators wearing back belts – it is a “Band Aid” for a material handling problem – you have the solution to the problem.

B. Work Positioning

NOTES

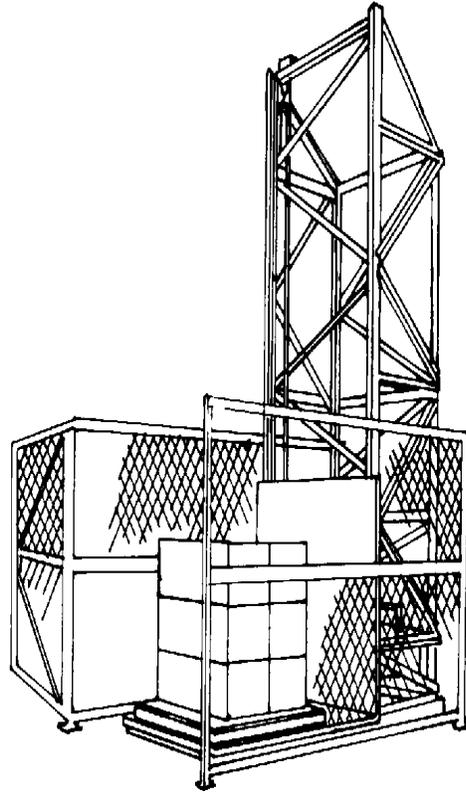
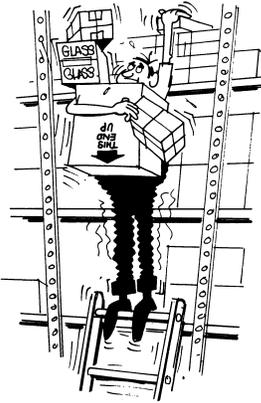
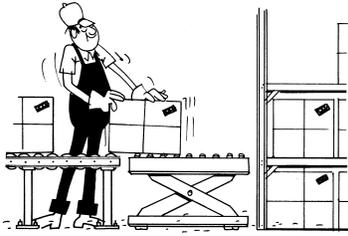


1. The problems: (ergonomics)
 - A. Operator fatigue
 - B. Operator injury
 - C. Reduced productivity
 - D. Compromises to quality
 - E. Higher workers comp. insurance costs
 - F. Low worker morale (union grievances)
 - G. Higher job turnover
 - H. More sick days taken

2. Look for:
 - A. Workers having to squat, bend, kneel, reach and stretch to gain access to their work
 - B. Large work pieces that require operation on more than one surface
 - C. Worker doing repetitive or tedious assembly tasks in one position, awkward or not
 - D. Work stations that have foot stools, ladders or extension arms for tools
 - E. Equipment with access/adjustment panels near floor

C. Multi-level Transfer

NOTES



1. The Problems:

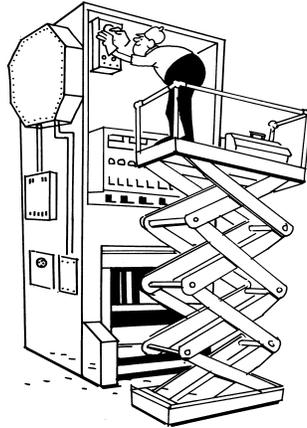
- A. Moving material from one level to another
- B. Reorienting material
- C. Inventory control/transfer (dies in a press room)
- D. Parts picking in stock room

2. Look for:

- A. Two or more levels of conveyor (including multi-floor)
- B. Horizontal transferring between conveyors (lift with casters)
- C. Heavy parts (dies) to be moved in and out of storage.
- D. Mezzanines (No. 1 application for VRC's)

D. Personnel Lifts

NOTES



1. The Problems

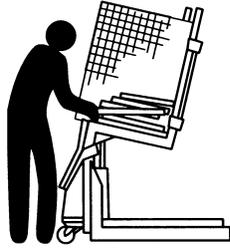
- A. Large machines or work pieces
- B. Requirements to make multiple adjustments or measurements
- C. Positioning operator for line-of-sight (i.e., painter in paint booth)
- D. Constant requirement to move ladders and/or scaffolding

1. Look for:

- A. Workers on ladders, catwalks or scaffolding
- B. Fork truck accessories like boom or personnel cages
- C. Large weldments, frames or superstructures where worker would need to have access

E. Parts/Component Handling

NOTES



Most commonly the typical industrial wire baskets, slat side containers and metal tubs are a back injury and/or CTD (Cumulative Trauma Disorders) waiting to happen.

1. The problems:

- A. Small parts/components to be picked or placed – repetitious work (CTD)
(3 lb. part x 1000 parts per shift equals a ton and a half lifted).
- B. Part breakage as components are tossed into container
- C. Access to bottom of basket is very poor
- D. Reach over does not allow bending the legs and the action exaggerates lower back strains
- E. Reaching to the far back and bottom causes back extension during the over reach (leads to injury)

2. Look for:

- A. Delicate parts, glass, ceramics, etc.
- B. Food or packaged products that cannot be marred, dented or scuffed in handling
- C. Cylindrical parts that roll and need to be nested in a tilted container
- D. Hi-production machines that require hi-volume input or output

F. Palletizing or depalletizing

NOTES



Work station applications to load or unload pallets represent one of the most common and most popular applications.

1. The Problem: (ergonomics)
 - A. Bending over to the floor
 - B. Bending over and twisting
 - C. Reaching across (the pallet)
 - D. Operator injury (CTD)
 - E. Fatigue
 - F. Reduced productivity
 - G. High workers comp. insurance costs
 - H. Higher job turnover
 - I. More sick days
 - J. Low worker morale

2. Look for:
 - A. Components or parts fed to work stations by pallets or the loading of pallets at work stations
 - B. Packaging or work stations with hi-discharge rates
 - C. Temporary or flexible work centers that change (PalletPal requires no power)
 - D. Full 48" square pallets loading/unloading requires long reach or walk around to gain access

G. Transporting and lifting

NOTES



1. The Problems:

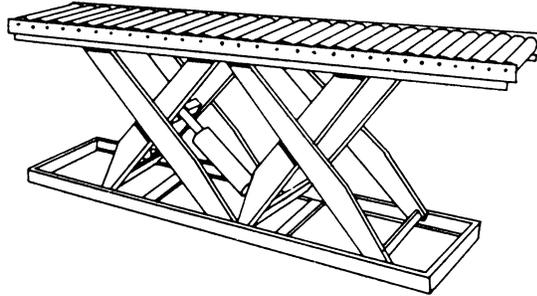
- A. Transporting one or more junior containers between work centers
- B. Moving heavy components in and of stock or stock rooms
- C. Machine feeding in or out
- D. Need to lift or transport objects
 - 1. Weighing more than 20 lbs.
 - 2. Moving more than 100'

2. Look for:

- A. Machine shops producing small parts
- B. Small machine assembly operations (from lawn mower to computers)
- C. Tubs, pails and other such small junior containers at work stations
- D. Components or product movement In hi-tech operations (i.e. electronic assembly)

H. Conveyor line assembly stations

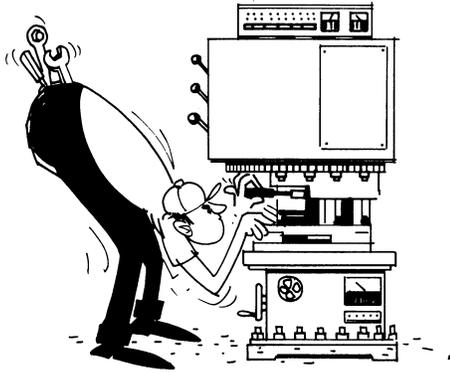
NOTES



1. The Problems:
 - A. Along gravity (or powered) conveyor is work/assembly stations at wrong elevation for workers
 - B. Gaining access to top or high sides of large objects on the conveyor
2. Look for:
 - A. Gravity or powered conveyor with work stations along conveyor
 - B. Inspection stations along conveyor
 - C. Large objects on conveyor (i.e., furniture, air compressors, air conditioners)

I. Machine access

NOTES



1. The Problems:

- A. Assembly, repair or adjustment where access is very low on machine causing stooping and bending
- B. Where multiple parts or adjustments need to be made and access to all sides is mandatory causing twisting and fatigue

2. Look for:

- A. Machines where components are at or near floor level
- B. Work stations where kneeling pads or creepers are being used