DESIGN PRINCIPLES FOR LIFTING & LOWERING TASKS

(Adapted from NIOSH Elements of Ergonomics Programs – Toolbox Tray 9-D)

Modified by EWI Works – January, 2002

. Optimize material flow through the workplace by:



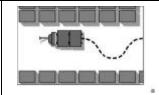


• Reducing manual lifting of materials to a minimum.



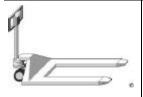
Establishing adequate receiving, storage and shipping facilities.

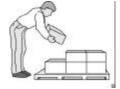




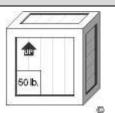
 Maintaining adequate clearances in aisle and access areas.

2. Eliminate the need to lift or lower manually by:





- Increasing the weight to a point where it must be mechanically handled.
 - Palletizing handling of raw materials and products.



Using unit load concept (bulk handling in large bins or containers).

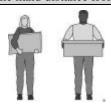
3. Reduce the weight of the object by:



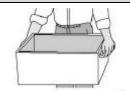


- Reducing the weight and capacity of the container.
- Reducing the load in the container.
- Limiting the quantity per container to suppliers.

4. Reduce the hand distance from the body by:



 Changing the shape of the object or container so that it can be held closer to the body.



 Providing grips or handles for enabling the load to be held closer to the body.

5. Convert load listing, carrying and lowering movements to a push or pull by providing:





- Conveyers
- Ball caster tables



- Hand trucks
- Four-wheel carts