

2017

Chicagoland Safety, Health & Environmental Conference



W e l c o m e



Jim Galante

Chairman

EASE Council



Director, Business Development
Southworth Products Corp





THE INDUSTRY THAT MAKES THE SUPPLY CHAIN WORK





19 Member Companies

60 Industries/technologies

Ergonomic Resources and Tools

Health and safety News

Case Studies

Checklists and Technical Support

White Papers

Speakers and Presentation Materials

Workshops and Outreach to the user



Ergonomic Assist Systems & Equipment



Reinventing Unit Load Technology



UNIFIED INDUSTRIES, INC.

A Columbus McKinnon Company



THE TRACK TO BETTER PICKING



HAMILTON Casters ★ Trucks ★ PRONTO

DEMAG

A TEREX BRAND

BOSTONtec



Blickle

www. TAWI .US SMART LIFTING



SOUTHWORTH

making work faster, safer, and easier

Products available - solutions to material handling problems

Ergonomic research services
Engineered Wood Flooring
Wheels
Casters
Jib Cranes
Full power stackers
Positioners (automatic and manual)
Manipulators
Balancers
Work station cranes
Pneumatic hoists
Electric hoists
Tilters (portable & fixed)
Manual turntables
Bridge cranes
Stainless steel gondolas
Work positioners
Below hook slings
Adjustable height work benches

Vacuum lifts (portable & fixed)
Vacuum positioners
Pallet inverter/rotators
Industrial platform trucks & carts
Modular cranes
Pillar & wall mounted cranes
Carton flow rack
Intelligent assist devices
Conveyance systems
Vertical reciprocating conveyors
Manual stackers
Transfer cars
Pillar mounted cranes
Personnel lifts
Work stations
Two wheel hand trucks
Powered & manual hand pallet trucks
Industrial magnets
Scissors lifts

Until Automation Does It All

**....DO SOMETHING TO
PROTECT WORKERS**

A Long, Long, Long Time Ago...

- Circa 1981, Ronald Reagan fired all of the Air Traffic Controllers...
- Circa 1982-83, Modern Materials Handling published a year long editorial series...titled “Factory of The Future”

.....the imminent transformation of manufacturing to “lights-out” factories

...operating around the clock with no people

Still Driving a Car....

- Worried that your investment will soon be obsolete in the looming world of autonomous vehicles?
- 5 to 7 year leases are driving current record demand ...with no decline in sight
- Yet studies, reports and editorials describe an immediate driverless highway system.
- Some point to driverless trucks to solve driver shortage problem.
- 90% of autonomous might be done...The final 10% is decades away.

A new eFulfillment DC

- 2.1 million square feet - operating 24/7/365
- Capacity to ship 150,000 orders per day
- “We tested every technology out there!” Facility Mgr
- Planned Headcount is 3000 (6K hands & 6K feet)
- System selected because it provided the best ROI

Material Handling & Logistics ROADMAP

- ROADMAP was released in 2014 version 2.0 in 2017
- ROADMAP background data from a variety of sources covering the country
- Most prevalent critical issue: Workforce Crisis - the ever diminishing pool of available workers
- Referencing both the quantity and quality of the workforce, including skill, age, fitness, etc.
- Most often proposed solution “Automation”
- Most often heard answer to “When?” ...was “*Good question*”

EASE Encourages Automation

It contributes to:

- Efficiency
- Capacity
- Consistency
- Predictability

It solves:

- Safety
- Productivity
- Quality
- Worker Issues

-Better than ergonomics

Automation Is Not For Everyone

- A goal for all, but getting there takes
- Vision / Confidence
- Adequate Capital
- Acceptable ROI
- Need for Flexibility
- Skills to Operate and Re-program
- Skills to Maintain and Service

To Automate or Not To Automate?

- Is NOT the Right Question!
 - It is **not** black or white.
 - It is **not** worker or robot.
 - It is **not** lights-out factory or sweat shop.
 - It is **not** manual controls vs. smart controls
 - It is **not** optimal efficiency
 - It is **not** bet the company or fold.

To Automate or Not To Automate

- The better question: how can automation increase
 - Productivity, efficiency, capacity, etc.
 - Quality, consistency, reliability, etc.
 - Safety, ergonomics, worker satisfaction, etc.
 - Ability to engage and retain “your most valuable assets.
 - Plus...Ability to attract & hire skilled workers.
 -

Automation can be a Contributor to Continuous Improvement

- Circa mid-1980's, mainframe computer manufacturer committed funds to a robotic assembly program.
 - Prepped assembly line for robotic interface...
 - Robot delivery delayed month after month...
 - Forced to substitute workers to achieve production requirements...
 - *Surprise – Surprise... Workers on the properly prepped assembly line were so productive, the planned robotic program ROI was destroyed...*

What Would Happen If...

....a robot on an AGV was designed to pick orders in a classic warehouse with aisles of pick-pallets lined up under a multitiered rack system?



What would happen for a worker on a walkie if he or she were provided with the same easier access that the automation solution required?



What Must Happen Before...

A robot can be installed in almost any type of manufacturing application...machine feeding, assembly, packaging, etc.

- Both the work cell and the work process would have to be designed to suit

A robot can be installed in almost any type of warehousing application ...order picking, pallet loading/offloading, packaging, etc.

- Both the interfacing work area and the work flow would have to be designed to suit

What Will Happen After...

- The same work cell + process were designed and planned for the robotic operation...were assigned to an average skilled worker?
- Time and time and time again...
 - Productivity, quality, capacity will increase
 - Safety and well being will increase
 - Job satisfaction and engagement will increase
- Not a lights-out 24/7/365 gain...but a lot more than doing nothing!

Your Takeaways...

- Until Automation Does It All...Do Something.
- And there are lots of “Somethings” to be done
- Do the right thing...Do Something... and ***EASE***
has a lot of those answers

Until Automation Does It All...



Manufacturing



Until Automation Does It All...

Fabrication and Assembly



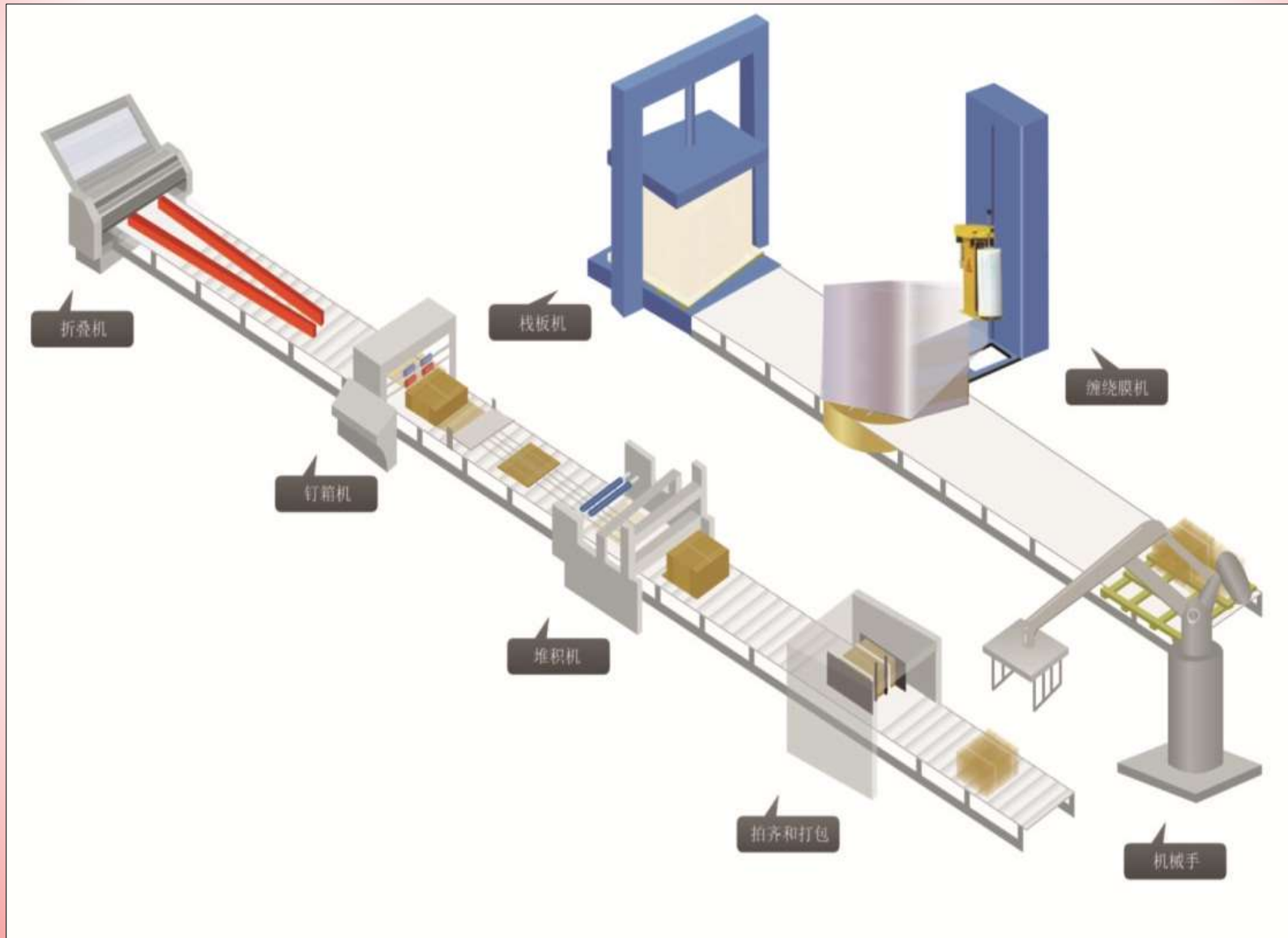
Until Automation Does It All...

Distribution



Until Automation Does It All...

Packaging & Palletizing





Boston Dynamics



Boston Dynamics

**Hey! Hey! Hey!
we're gonna
automate**

ugh!

**Boss said
that 10 years
ago**



Automation might not be for everyone...and the decision to automate is not easy

Expensive....

Complexity....

Inflexible...

Resources....

Maintenance....

Return on Investment....



Doing something for a most valuable asset means:

Automation

MH Equipment

Expensive

Much, much less

Complexity

Easy to implement

Inflexible

Easy to adapt to change

Resources

No additional burden

Maintenance

No additional expense

ROI \$\$\$\$\$

Easily measured in months

For those companies that can't make the leap to automate they should ...

DO SOMETHING!



EASE Can Show You How

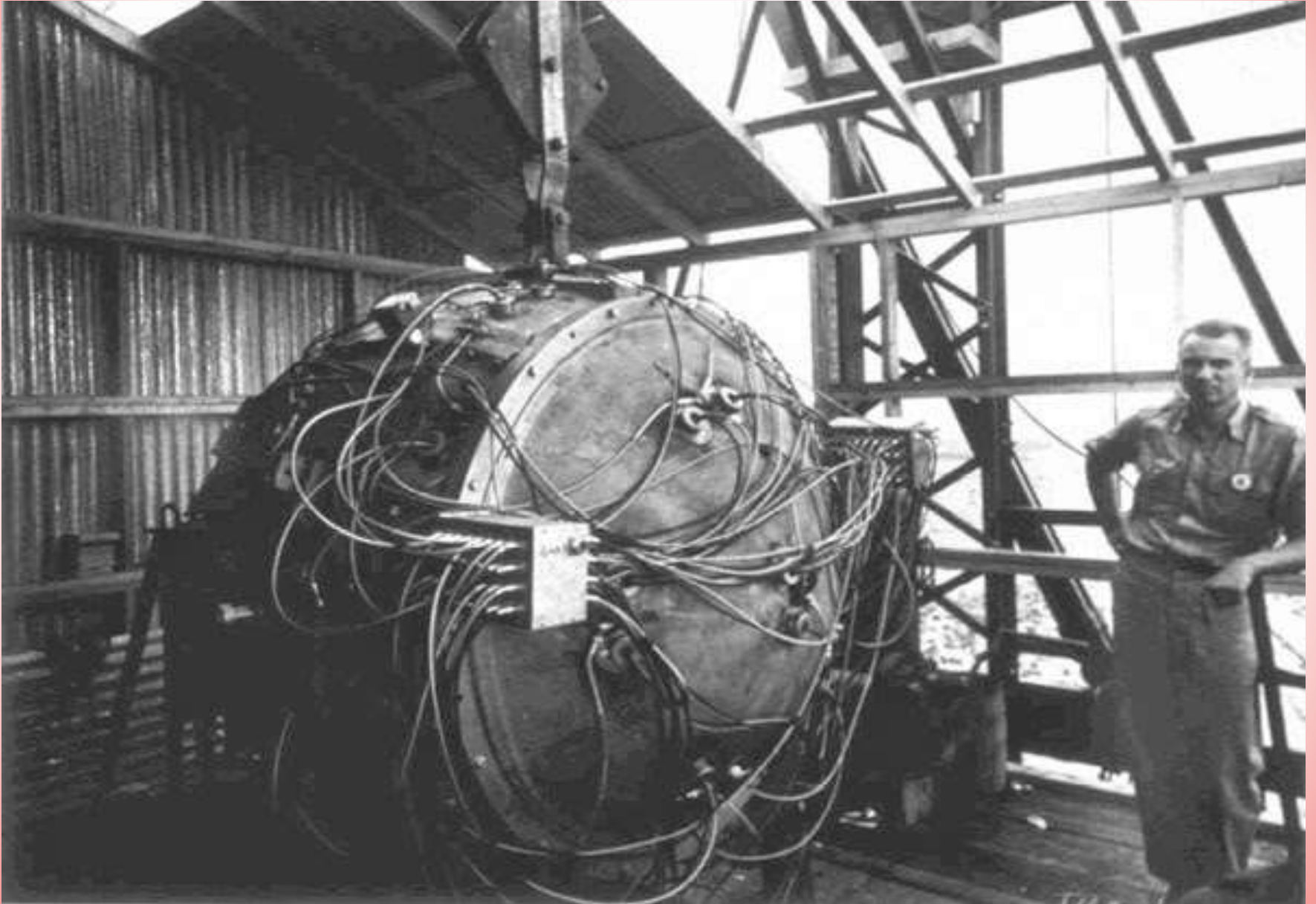
What's coming out of the laboratory...



What's coming out of the laboratory...



What's what's coming out of the laboratory...



Pallets

Approximately 450 million new pallets produced each year in the USA. 1.9 billion (est'm) pallets are in use at any given time.



MANUAL LOADING AND UNLOADING OF PALLETS CONTINUES TO BE ONE OF THE MOST COMMON AND MOST INJURY PRONE TASKS IN INDUSTRY TODAY

There are different styles of order pickers , but at a cost...

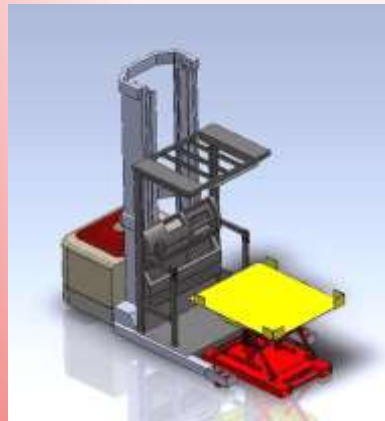


The pallet height is fixed

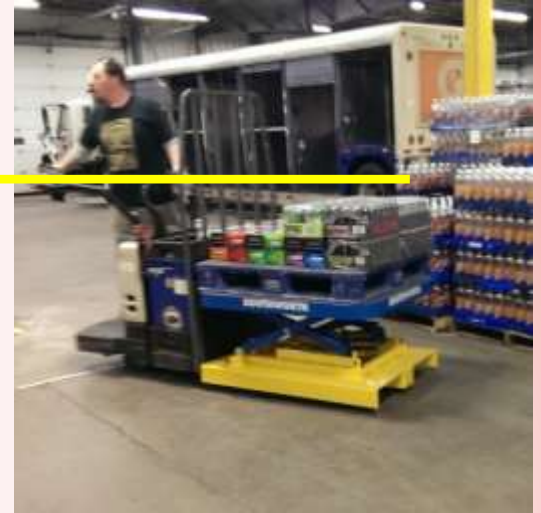
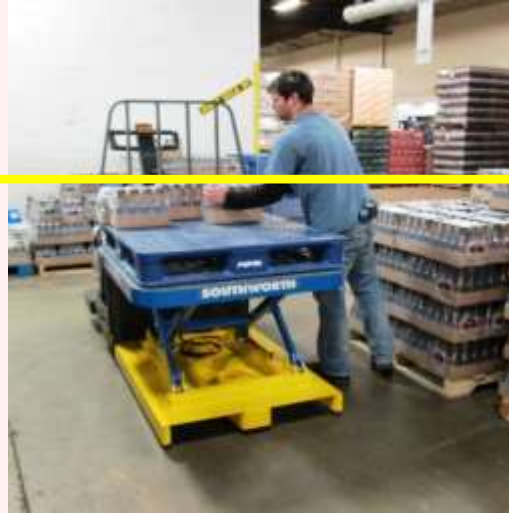


The pallet height is adjustable
\$8,000 to \$10,000 option
..and reaching out is still an issue

Pallet positioner adapted to an order picker



Notice the top layer is about at the same elevation



Opening up the pick slots



Spread pallets out.....





Engineering interventions can assist to stacking and unstacking pallets weighing 40 to 80lbs

Vacuum tube lifters
eliminate back
bending – serious
issues for anyone and
for the older worker or
obese, a VERY serious
issue



Handling heavier cases is made easy for all workers.

The productivity gains can be enormous often freeing up workers for other tasks



Pallet positioners being applied to pick slots in racks.





Back bending, reaching out – serious issues and for the older worker or obese, a VERY serious issue



As much as 40% of the time required unloading a pallet, can be spent walking around it!



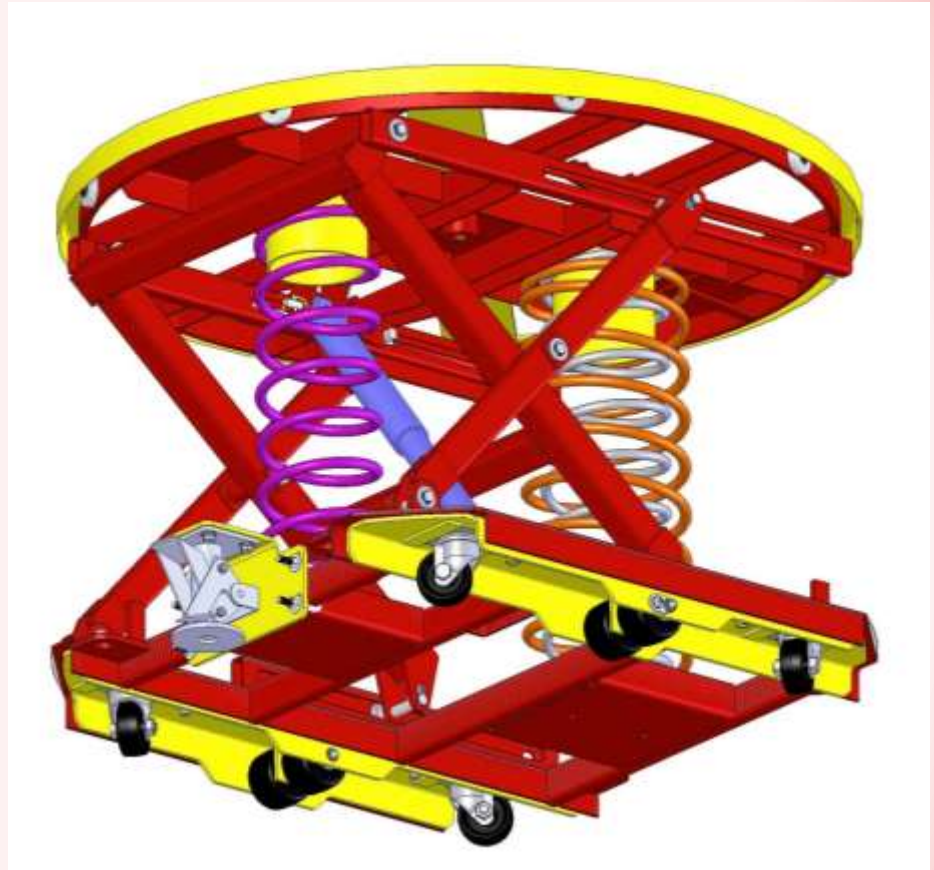
Load positioners automatically function holding the top layer of goods in the 30" to 40" window, greatly reducing the bending



Turntables eliminates having to walk around

Load positioners can be made portable

This provides for flexibility on where they can be used on cramped back rooms or congested work areas.



Some load positioners use air bags instead of springs.



....Careful, compressed air is needed to charge the air bag



Manual Turntables

For the backroom

*.....to transfer
merchandise from
pallets to U-boats or
to stocking carts*





Damaged product on the bottom of a pallet can be easily removed

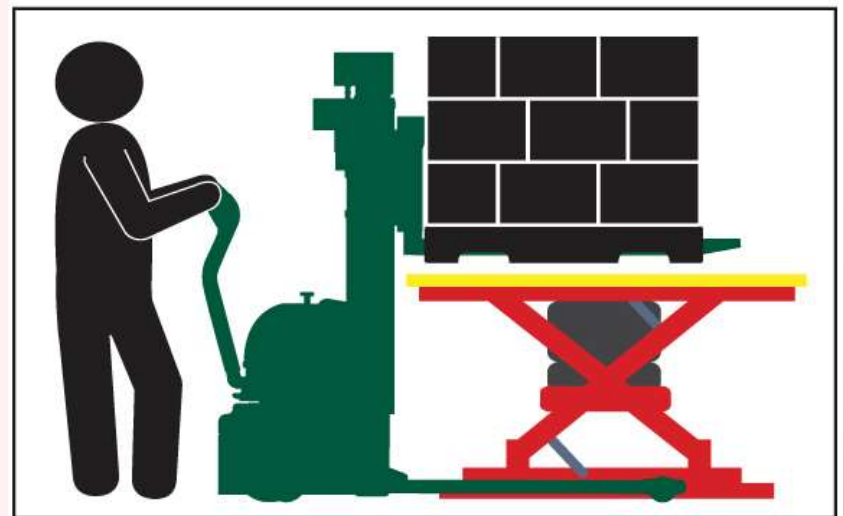
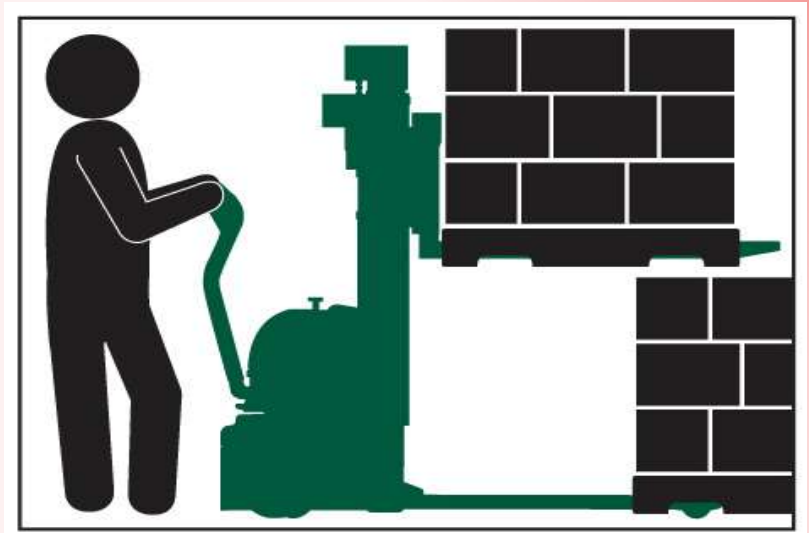


Pallet rotators make quick work exchanging pallets





Stackers powered up/dn
and
Full Power Stackers



Inexpensive stackers can transport pallets, stack them to free up floor space, load positioners and double as a positioner.

They are highly maneuverable in tight quarters and can eliminate the manual lifting



These are inexpensive choices especially when compared to fork lifts

Vacuum lifters fitted to booms on mobile equipment allows extended reach

Articulated boom



Straight boom



Vacuum lifters are efficient and very useful in areas when sorting cartons or case goods require multiple pick and place tasks

Vacuum lifters are highly efficient for handling cartons, bags and pails

They can be easily adapted and work well in a small work areas.



Powered two wheel hand truck



Auto-positioning display systems

Can be loaded with full pallets with a hand pallet truck avoiding excessive manual material handling for the store employees.

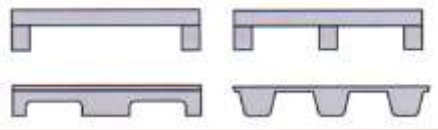


Skid lifters



Manual and powered

Careful, can only be used with nestable, open bottom pallets or skids



Work Stations






These are
adjustable
height
benches

Properly placed supplies and tools eliminates walking around and promotes a highly efficient work space

Work Stations

Laminate Work Surfaces

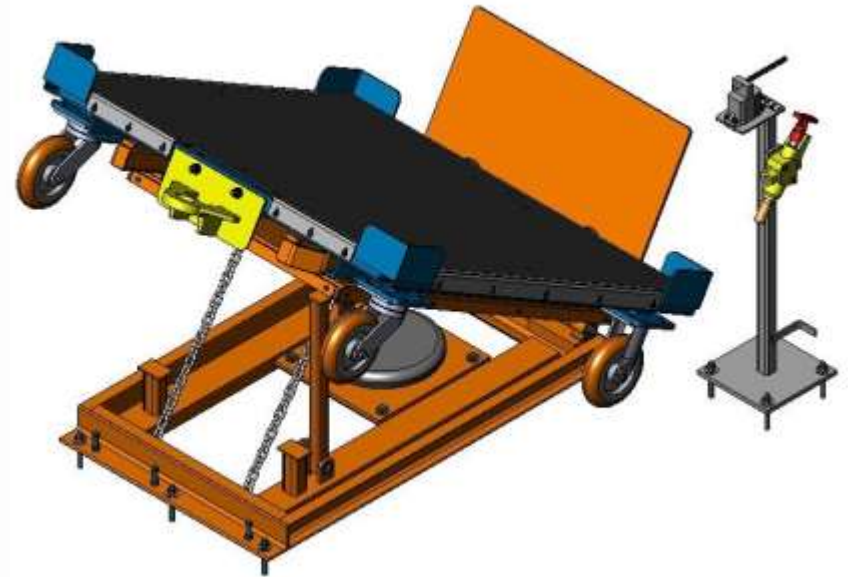
- ▶ Electrostatic discharge option
- ▶ 1-1/8" high-density core a layer of plastic laminate
- ▶ Industrial grades (very durable)

	Description	Notes
	Edged with high-impact-resistant PVC	Economical; most popular laminate
	Edge rounded at 90°; Cleanroom has laminated underside	Edge provides significant comfort for operators resting hand or arm on edge
	1-1/4" rounded radius black molded bumper edge	Edge resists damage; rounded edge provides some arm/hand comfort

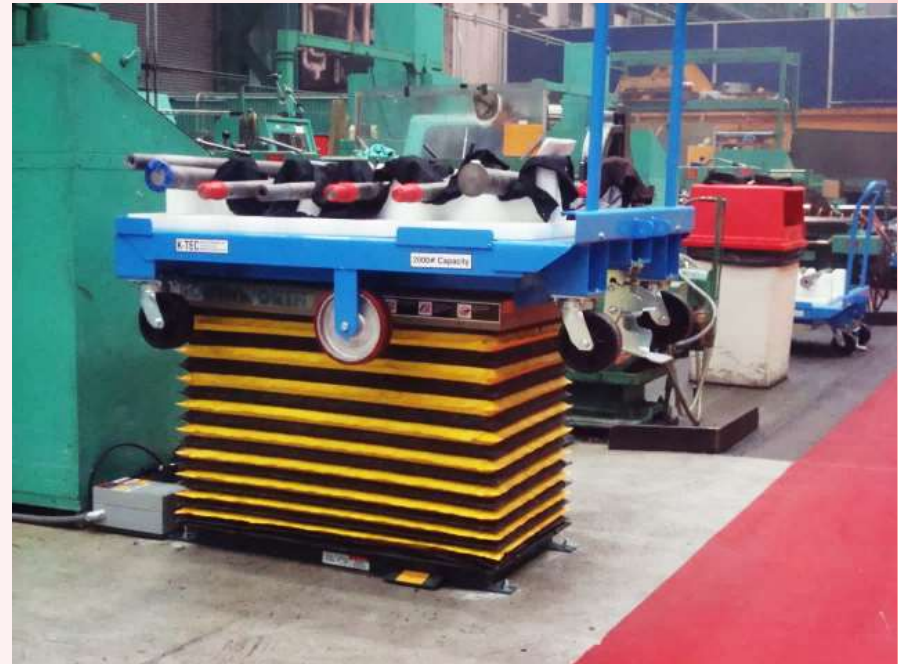
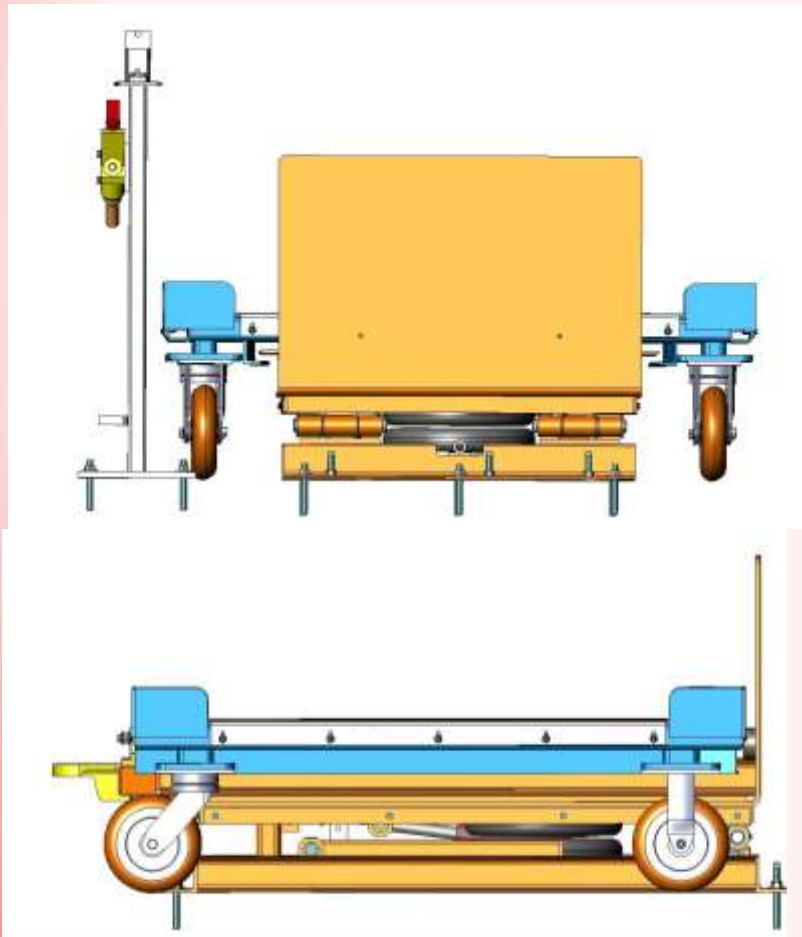
Manufacturing and assembly operations are moving to towable carts



Lifts, tilters or
turntables to
position the carts in
the work cell



These devices fit under the carts so do not take up any more space in a work cell



Containers

Manual loading and unloading of wire baskets, containers, Gaylords and totes leads to incidents of upper & lower back injuries



Containers



Understanding the issues



Understanding the issues

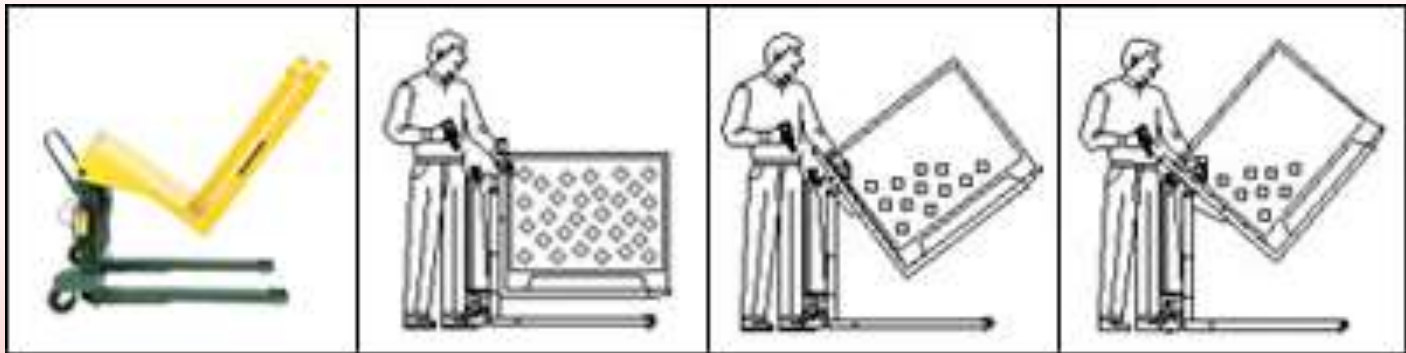


Spring loaded positioners
to elevate the goods.

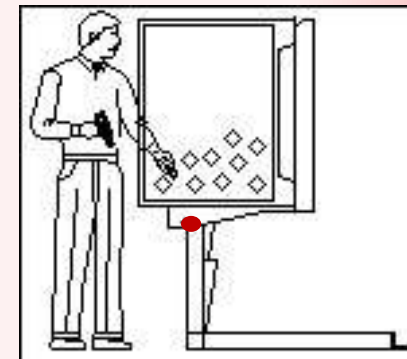
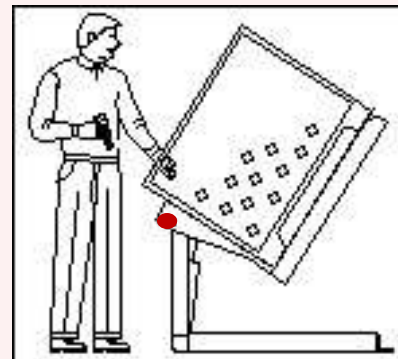
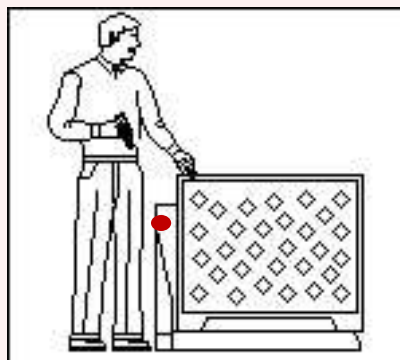
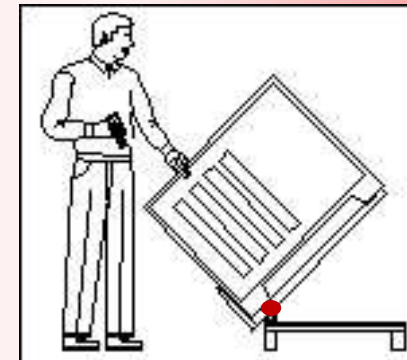
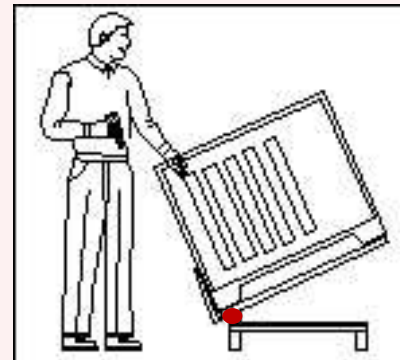
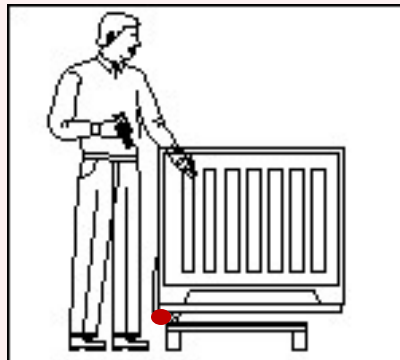


Speeds picking the
parts and reduces the
bending/reach issues

High hinge tilters
are ideal for
gaining access to
the bottom and
back of containers



What is in the container will effect the style of tilter needed to present the parts at the best ergonomic position



• Hinge point



This a low
hinge tilter.
It can sit flat
on the floor
and be
raised with a
built-up base



Corner Tilters

Excellent for
granular
material or
other semi
liquid
material that
flows



Tilter adapted to
handled drums



Lift and Tilt to the operator
access as needed



Sometimes people need to work in containers



Handling various containers may require special end effectors



Carts, Dollies, Platform Trucks and U-boats



These manual devices reduce carrying loads

They come in all shapes and sizes and to gain the maximum benefit should applied to the application



EASE
Ergonomic Assist Systems & Equipment
www.easeusa.com



Wheel and Caster Technology



Pneumatic



Soft faced,
molded and
composition

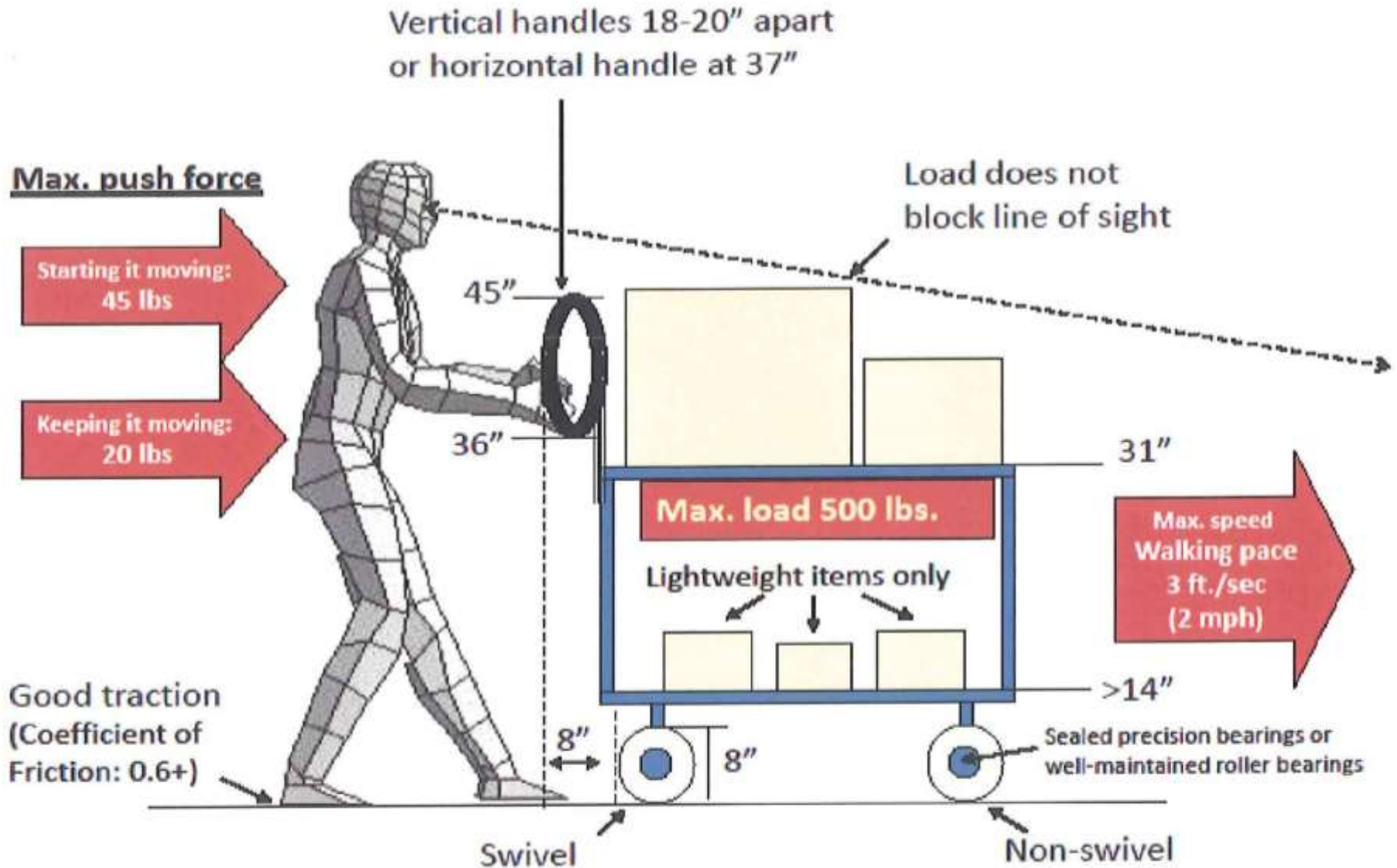


Metal



The wheel choice can have a huge impact on the rolling friction of any cart, dolly or portable rack.

Wheel and Caster Technology



Rule #1 – don't overload a cart!



Rule #1even if you have help moving it



Rule #1or even if it has a motor!



New specialty cart shows real promise in retail stocking



Eliminates going up & down a step stool



Adjustable height shelf



....they provide easy access to loads to eliminate reaching



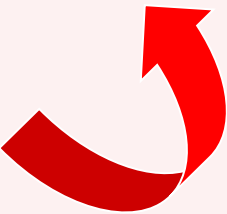
...and increase efficiency and productivity!

These lightweight aluminum stackers are highly maneuverable...

Adjustable height carts with a tilt stand positions totes



This?



Speeds stocking and eliminates the stressors.
Good ergonomics!

Or This?



Wheel and Caster Technology



Platform elevated

**Examples
of good
applications**



Correct push bar height



Larger wheels



Platform too low

**Examples
of poor
applications**



No push bar



Wheels too small

Some solutions not only solve the back problem, they can eliminate wasted motion and increase efficiency.



Battery powered scissors lift





Self leveling carts

Calibrated spring provides linear moment and it is adjustable





Self leveling Uboats

Calibrated spring provides
linear moment

These can be retro-fitted
to existing Uboats





Calibrated spring provides linear moment





Self leveling floats
bring the bottom
half of the load...



....into the correct operating
range which eliminates bending
and reduces reaching

Roller conveyor can be used in rack and shelving

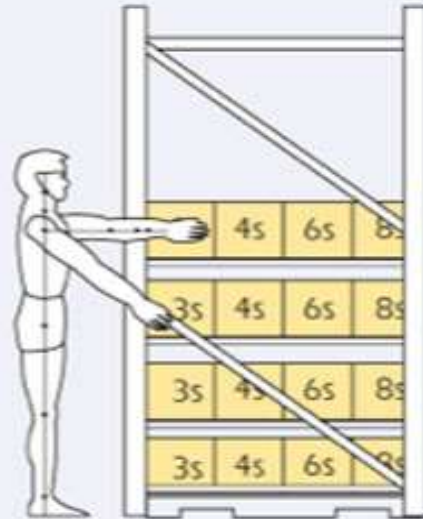


Greatly reducing the stress on storing or retrieving heavy cases and cartons

Carton Flow - Retrofit Application

Pick Rates

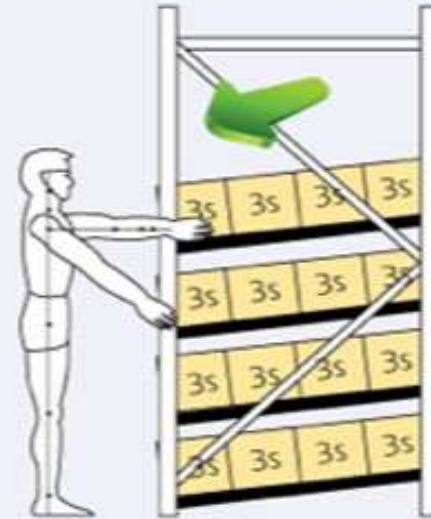
Pallet Rack
Static Storage



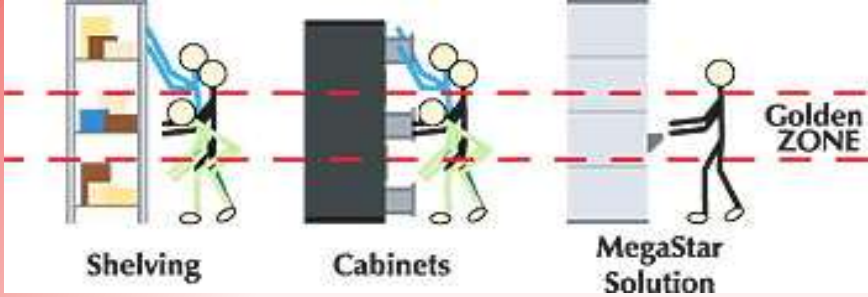
Average Pick

5.2 Sec

Carton Flow
Dynamic Storage



3.0 Sec



High density vertical storage systems speed order picking and put each item at the correct height

This vertical carousel storage system puts all the parts at the correct ergonomic elevation

Pick to light



This horizontal carousel storage system is the ultimate in high speed parts picking.

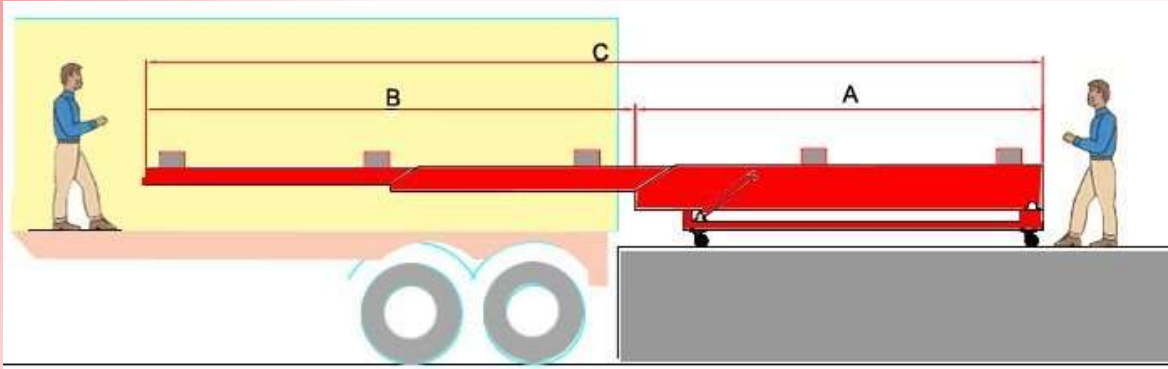


Expandable conveyor

The individual boxes and cartons are conveyed out

Notice how the odd sizes and shapes are handled easily by a single piece of equipment





This expandable conveyor is driven right into the truck



The members of the EASE Council come from 16 different companies and represent over 50 industry segments and technologies in the material handling industry.



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Promoting Safer, Healthier, and More Productive Employees

About EASE
 The EASE Council advocates the benefits of ergonomic assist systems and equipment in the workplace and to promote the general safety and health aspects of work environments for people with or in the vicinity of mechanical equipment.

Solutions to Material Handling Problems

- Products Available:**
- Full Power Stackers
 - Industrial Magnets
 - Platform Trucks & Carts
 - Assist Devices
 - Mounted Jib Cranes
 - Turning Devices
 - Powered Turntables
 - Hand Trucks
 - Pallet Retrievers
 - Pallet Straighteners
 - Pallet Washers & Dryers
 - Palletizers
 - Pallets (Wood, Plastic, Paper & Metal)
 - Personnel & Work Access Lifts
 - Pillar & Wall Mounted Cranes
 - Pneumatic Hoists
 - Portable Cranes
 - Positioners (Automatic & Manual)
 - Hand Pallet Trucks (Powered & Manual)
 - Scissors Lifts
 - Self Leveling Positioners
 - Sortation Equipment
 - Stackers
 - Stainless-Steel Gondolas
 - Transfer Cars
 - Tipplers & Tilters (Portable & Fixed)
 - Two-Wheel Hand Trucks
 - Vacuum Lifts (Portable & Fixed)
 - Vertical Positioners
 - Vertical Reciprocating Conveyors
 - Wheels
 - Work Positioners
 - Work Station Cranes

EASE can give you the tools to create a safe and healthy work environment for your employees.

Whether you are looking to purchase equipment, find rules or safety codes or simply looking for guidance, we are here to offer our assistance.

Call, email or visit our website today to find out more about ergonomic assist systems and equipment and how we can help you to make the best choices for your business.





Free

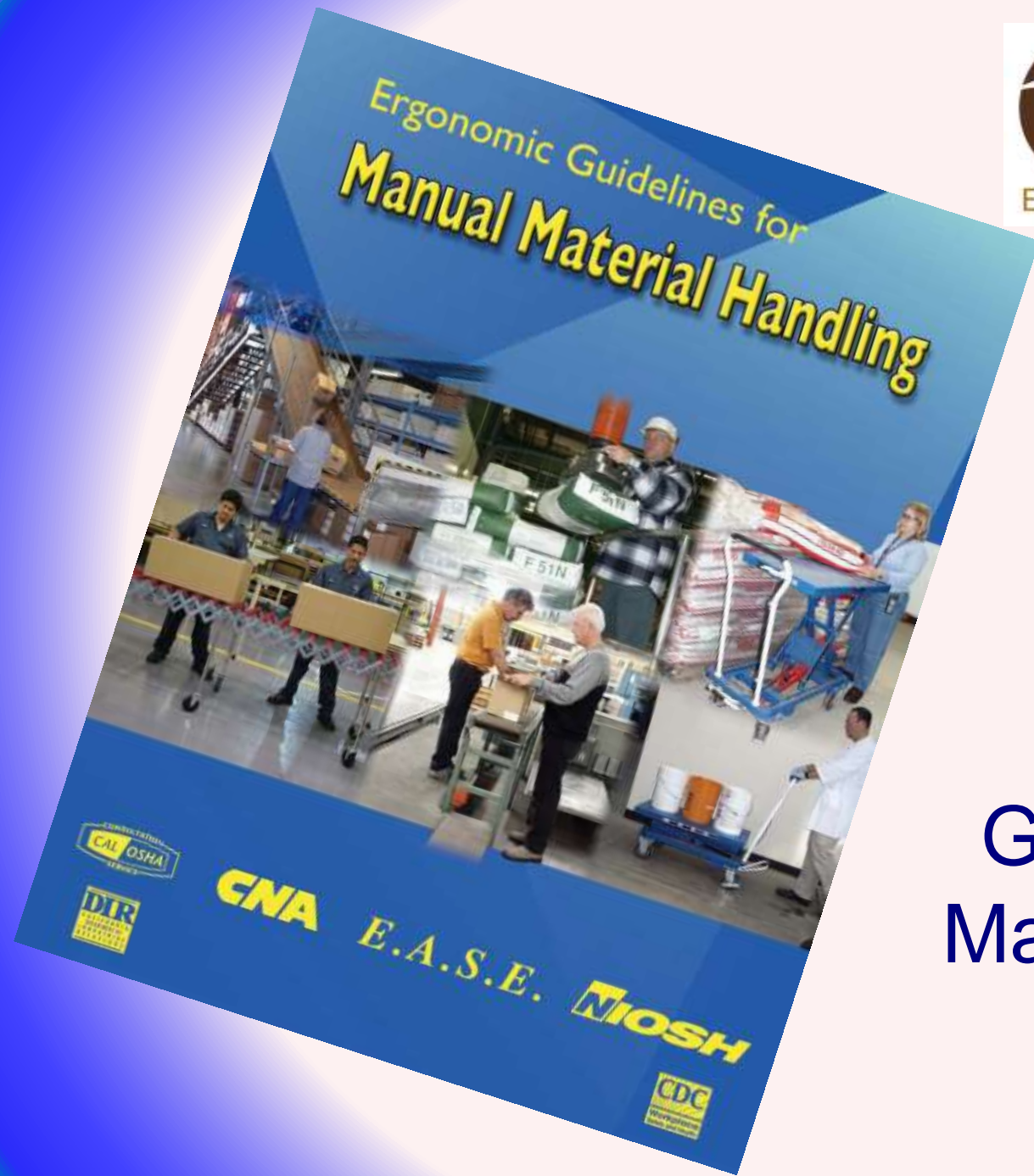
Look for the
“Safer Handling”
article each
edition

Free download at www.mhi.org/EASE



Free download

Ergonomic Guidelines for Manual Material Handling





EASE

Ergonomic Assist Systems & Equipment

ERGONOMIC SOLUTIONS FOR RETAILERS



Prevention of Material Handling
Injuries in the Grocery Sector

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health



Free download

Ergonomic Solutions for Retailers

Thank you!

Jim Galante
EASE Council

PH: 207-329-5555

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***The
End***

Questions ?

2017

Chicagoland Safety, Health & Environmental Conference

