

# Until Automation Does It All

Apply Good Ergonomics to Protect Your Workers Now

**Rob Jordan – Blickle Wheels & Casters USA**

**Dave Lippert – Hamilton Caster & Mfg.**

**Jim Galante – Southworth Products**



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WELCOME



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# Jim Galante

Chairman

**EASE Council**



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17 Member Companies  
60 Industries/technologies  
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Health and safety News  
Case Studies  
Checklists and Technical Support  
White Papers  
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Workshops and Outreach to the user





THE TRACK TO BETTER PICKING



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## Products available - solutions to material handling problems

**Ergonomic research services**

**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**

**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

.... Apply Good Ergonomics to Protect Your Workers Now



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# A Long, Long, Long Time Ago...

- Circa 1982-83, Modern Materials Handling published a year long editorial series...titled “Factory of The Future”  
...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.
- 90% of autonomous might be done...The final 10% is years away.



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

Expensive....

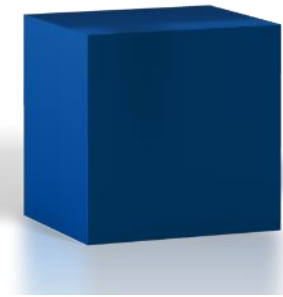
Complexity....

Inflexible...

Resources....

Maintenance....

Return on Investment....



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# EASE Encourages Automation

## It contributes to:

- Efficiency
- Capacity
- Consistency
- Predictability

## It solves:

- Safety
- Productivity
- Quality
- Worker Issues
- Better than ergonomics

# A new eFulfillment DC

- 2.1 million square feet - operating 24/7
- 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

# 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?



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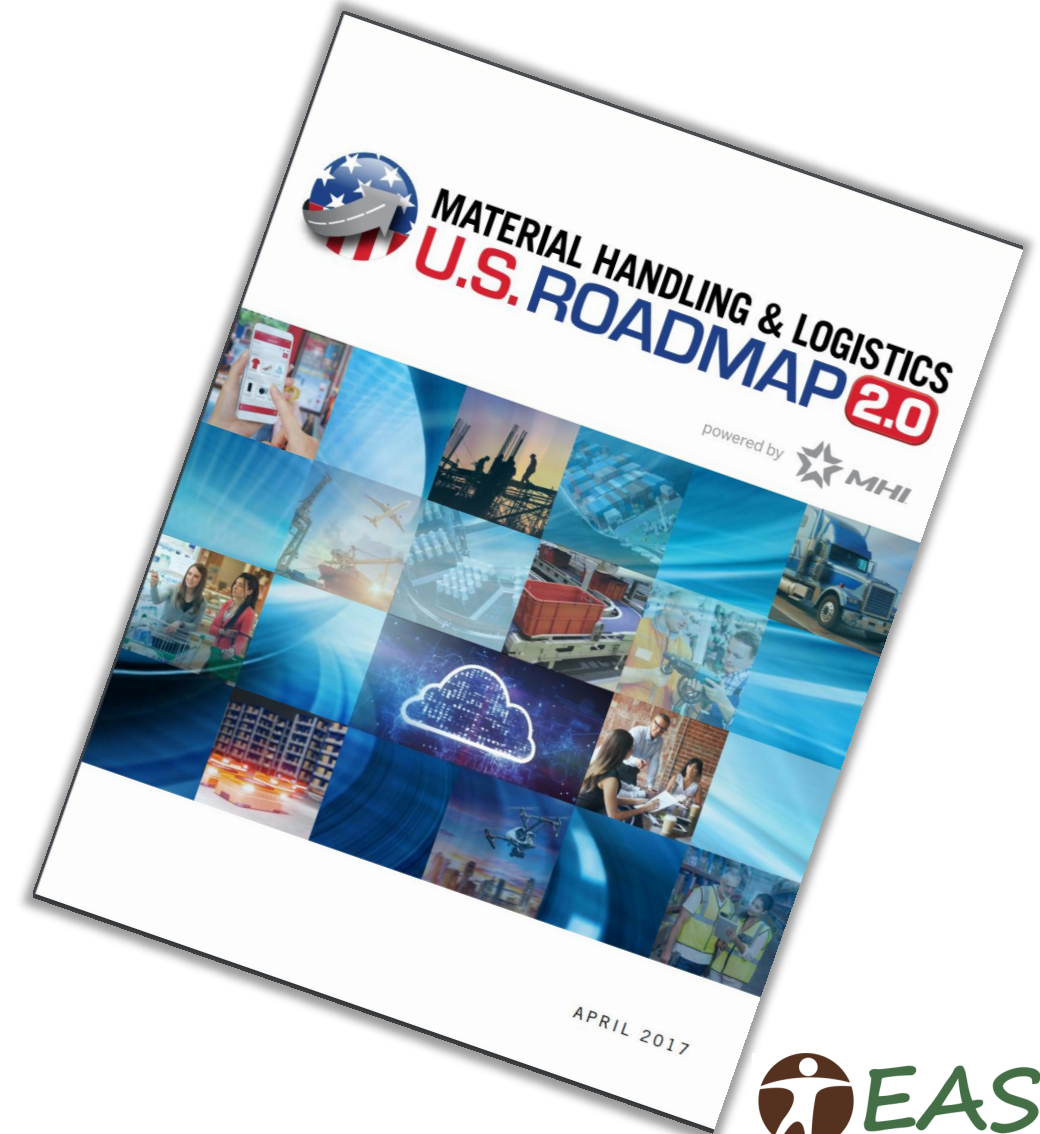
# What Will Happen After...

- the same **work cell + process** were designed for the robotic operation...were assigned to an average worker?
- 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 gain...but a lot more than doing nothing!



# Workforce Crisis

- Most prevalent critical issue is the ever diminishing pool of available workers
- Most often proposed solution “Automation”
- Most often heard answer to “When?”
- .... *“Good question!”*



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ugh!



Boss said that  
10 years ago



*For those companies that can't make the leap to automate  
they should ..... **DO SOMETHING!***



**EASE Can Show You How**

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# Rob Jorden

VP of Engineering

**Blickle Wheels & Casters USA**



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# Pallets



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



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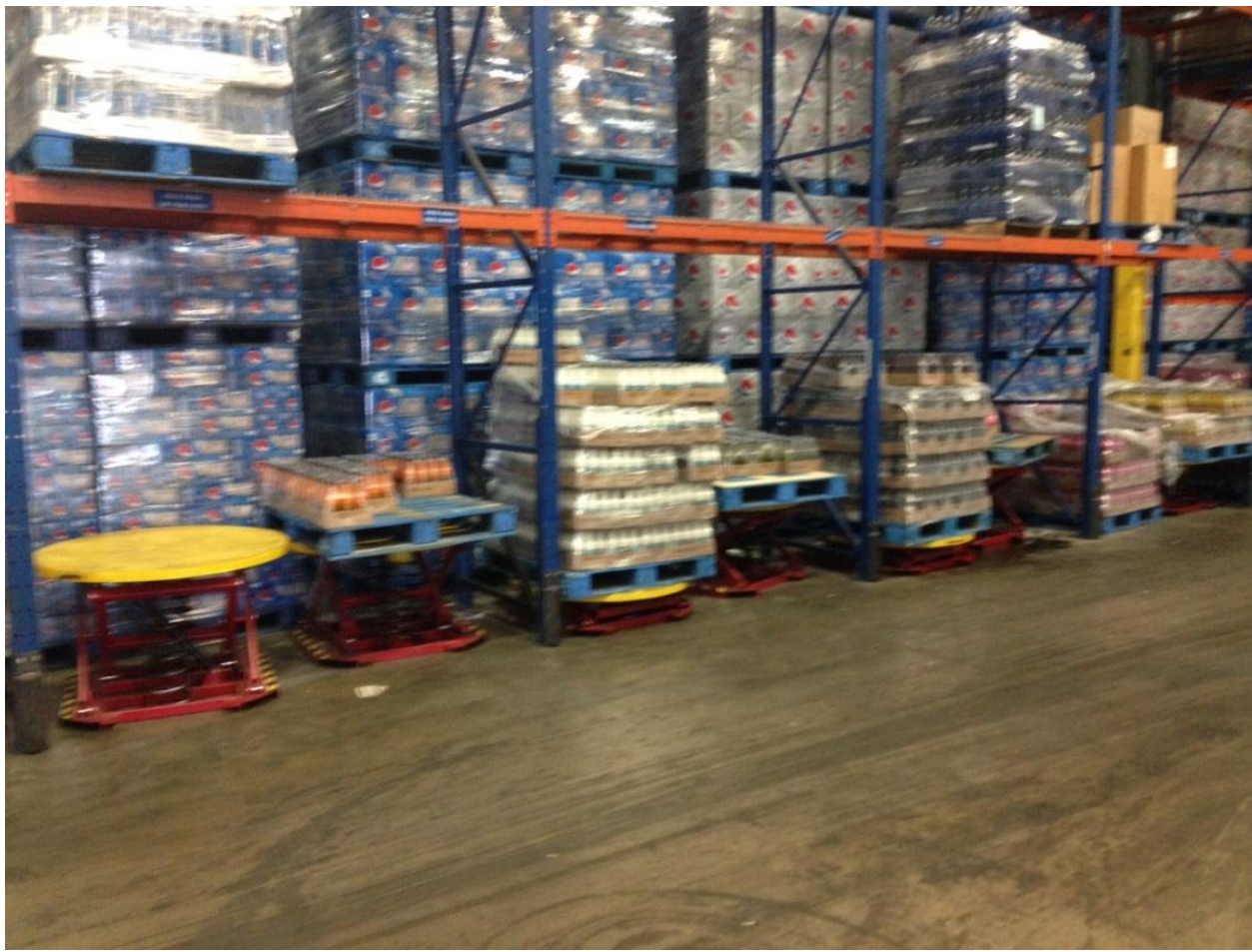


## The problem.....



....is manually  
handling, loading  
& unloading  
pallets.





Opening up  
the  
pick slots





# Spread pallets out.....



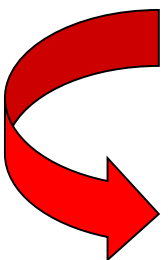
...allowing  
access to all  
the goods  
on the pallet

Load positioners automatically hold the top layer of goods in the 30" to 40" ergonomic window

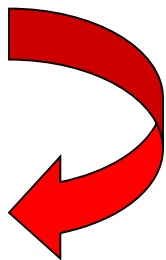


Turntables  
eliminates having  
to walk around





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



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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 positioner adapted to an an walkie rider

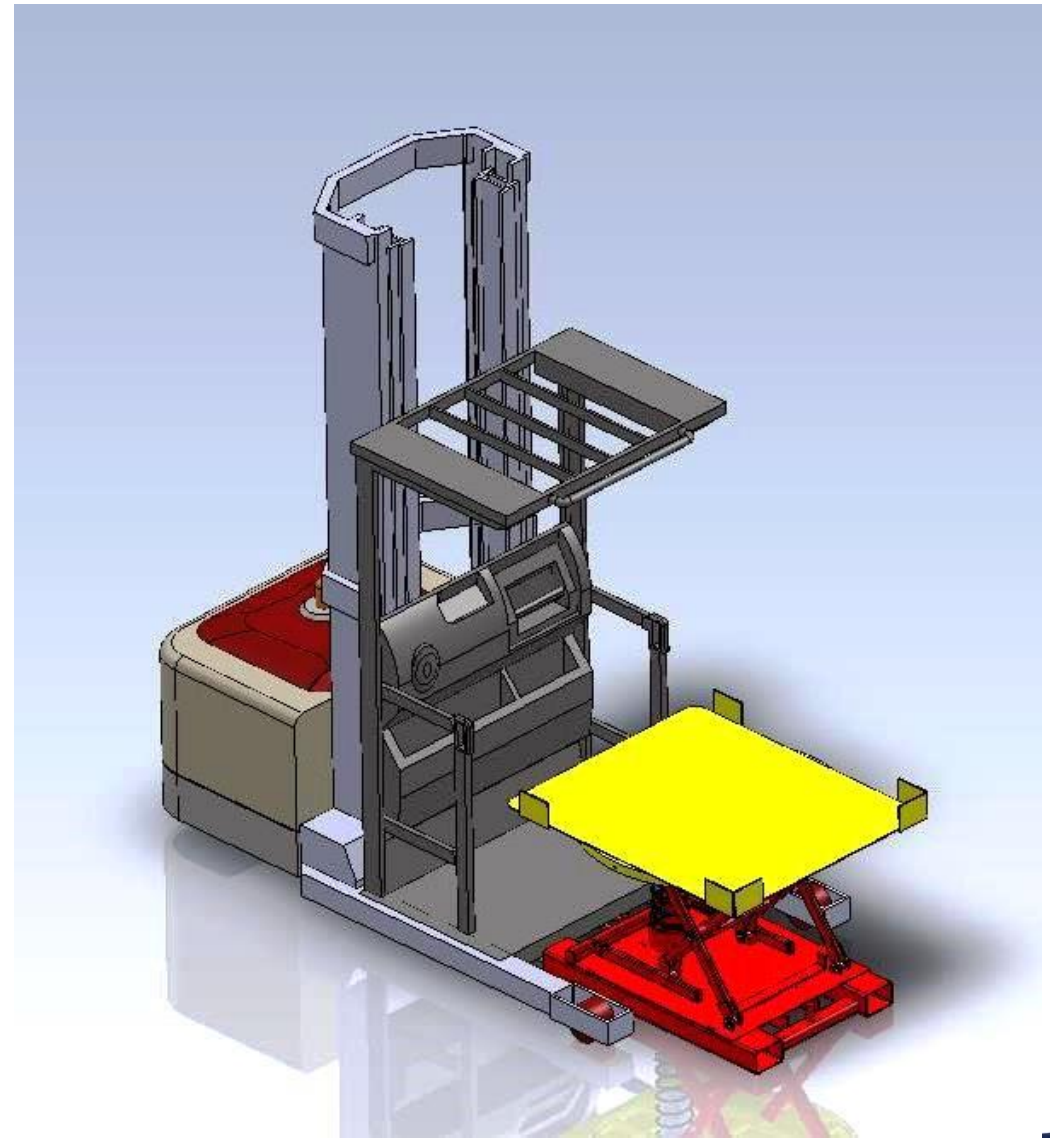


Notice the top layer is about at the same elevation





Pallet positioner  
adapted to an  
order picker





# Manual Turntables





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



Pallet rotators make quick work exchanging pallets





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



Vacuum lifters are also highly efficient for handling bags and pails





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



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



These  
lightweight  
aluminum  
stackers are  
highly  
maneuverable...



...and increase efficiency  
and productivity!

# Powered two wheel hand trucks



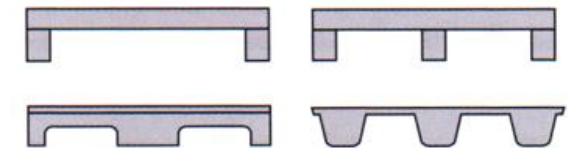


# Skid lifters

Manual and powered



Careful only for skids or  
open bottom pallets





Manufacturing and  
assembly operations are  
moving to towables



Fork free  
plants



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Lifts and positioners to position  
the carts in the work cell



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Tilters or turntables.....



...to ergonomically position the carts

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# Freestanding workstation cranes



Effortless and precise control

Articulating hanger assemblies

Enhanced structure stability – no cross bracing



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# Single & Double girder cranes



Increased efficiency with handling heavy loads in tight work areas



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# Monorail Systems and Aluminum Modular cranes



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# Pillar & Wall Mount Jib cranes





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



These are powered  
adjustable height  
benches



# More than half the benches sold today are powered



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# Dave Lippert

President  
Hamilton Caster & Mfg.



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# Containers

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



All shapes  
&  
sizes



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# 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











Sometimes people need  
to work in containers

Position is everything in  
ergonomics



# Carts & Platform Trucks





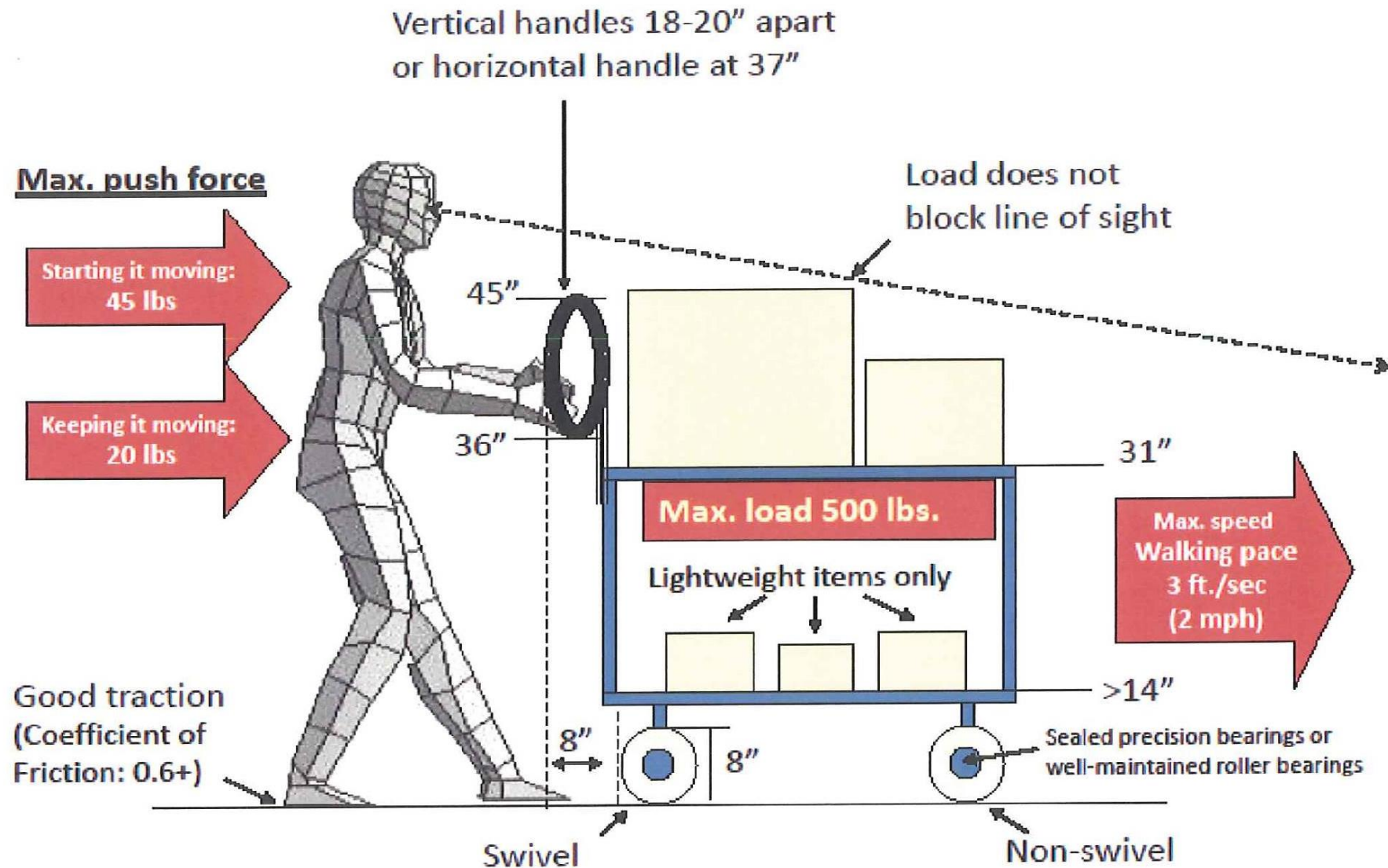
Using the right one for the task  
helps the worker be more efficient



## Rule #1 – don't overload a cart!







Wheel and bearing choice will have a huge impact on the rolling friction



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## Examples of good applications



## Examples of poor applications







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

Battery powered scissors lift cart



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



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

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Roller conveyor can be used in  
existing rack and shelving



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

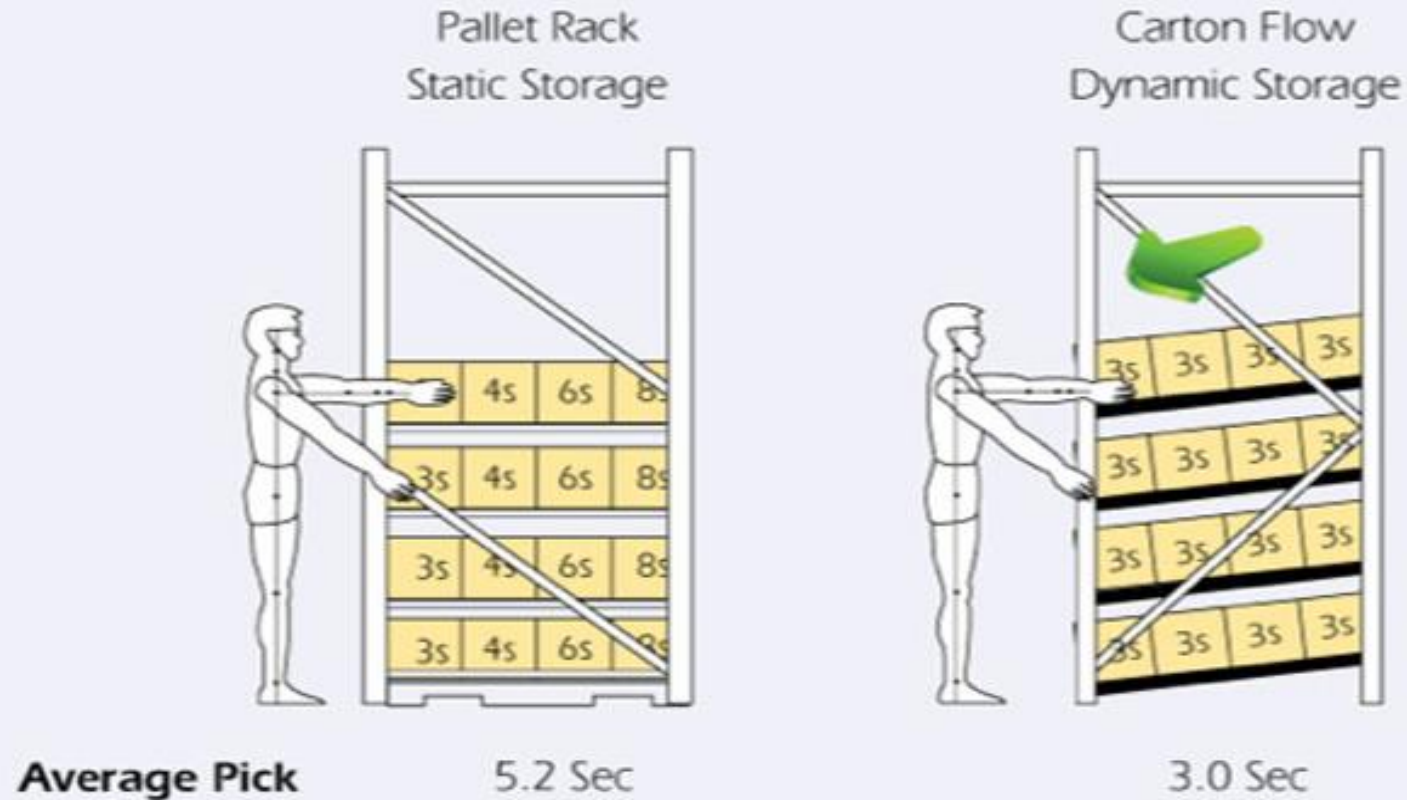


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## Pick Rates



## Carton Flow - Retrofit Application

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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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A GLASS ABOVE COMPANY

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Reinventing Unit Load Technology

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Ergonomic Assist Systems & Equipment



**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**

- |                                |                                   |  |                                     |
|--------------------------------|-----------------------------------|--|-------------------------------------|
| Adjustable Height Work Benches | Full Power Stackers               | Pallet Retrievers                      | Self Leveling Positioners           |
| Balancers                      | Industrial Magnets                | Pallet Straighteners                   | Sortation Equipment                 |
| Below Hook Slings              | Intelligent Assist Trucks & Carts | Pallet Washers & Dryers                | Stackers                            |
| Bridge Cranes                  | Pillar Mounted Jib Cranes         | Palletizers                            | Stainless Steel Gondolas            |
| Conveyor Flow Rack             | Load Unitizing Devices            | Pallets (Wood, Plastic, Paper & Metal) | Transfer Cars                       |
| Conveyance Systems             | Manipulators                      | Personnel & Work Access Lifts          | Tipper & Tilters (Portable & Fixed) |
| Conveyors (Pallet, Sheet)      | Manual & Powered Turntables       | Pillar & Wall Mounted Cranes           | Two Wheel Hand Trucks               |
| Conveyor Lifters               | Manual Stackers                   | Pneumatic Hoists                       | Vacuum Lifts (Portable & Fixed)     |
| Conveyors (Portable)           | Packaging Machinery               | Portable Lifters                       | Vertical Positioners                |
| Conveying Services             | Packaging Materials               | Positioners (Automatic & Manual)       | Vertical Reciprocating Conveyors    |
|                                | Pallet Changers                   | Hand Pallet Trucks (Powered & Manual)  | Work Positioners                    |
|                                | Pallet Inverters/Rotators         | Scissors Lifts                         | Work Station Cranes                 |

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- companies - Over 50 technologies
- and real solutions
- lean training
- large library
- technical reports
- organizations
- them

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.

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Free download

# Ergonomic Guidelines for Manual Material Handling

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## ***For More Information:***

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