

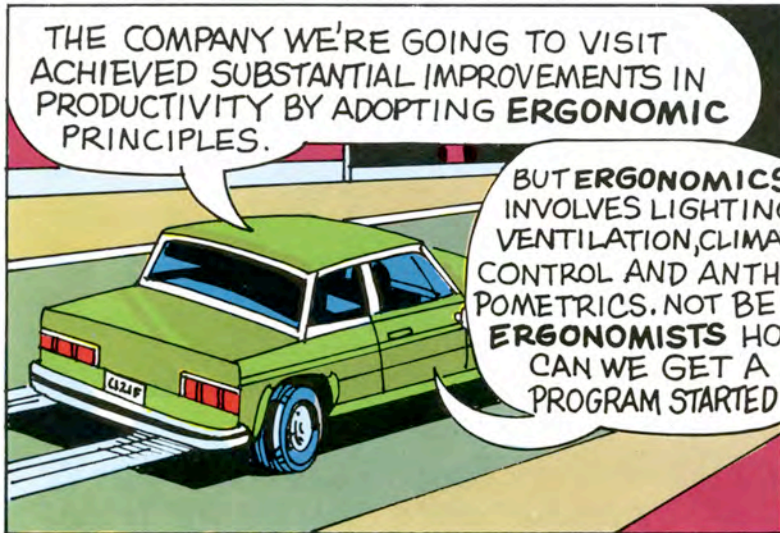
ERGONOMICS

THE PRACTICAL APPLICATION

JACK, I SEE YOUR COMPANY IS INVOLVED IN **ERGONOMICS**... IT SOUNDS LIKE A LOT OF THEORY TO ME.

FAR FROM IT, HARRY, **ERGONOMICS** CAN MORE THAN PAY FOR ITSELF. THE SECRET IS TO FIND PRACTICAL APPLICATIONS FOR THE THEORIES. IF YOU HAVE SOME TIME I CAN SHOW YOU A COMPANY THAT KNOWS HOW TO MAKE **ERGONOMICS** WORK.





BUT ERGONOMICS INVOLVES LIGHTING, VENTILATION, CLIMATE CONTROL AND ANTHRO-POMETRICS. NOT BEING ERGONOMISTS HOW CAN WE GET A PROGRAM STARTED?

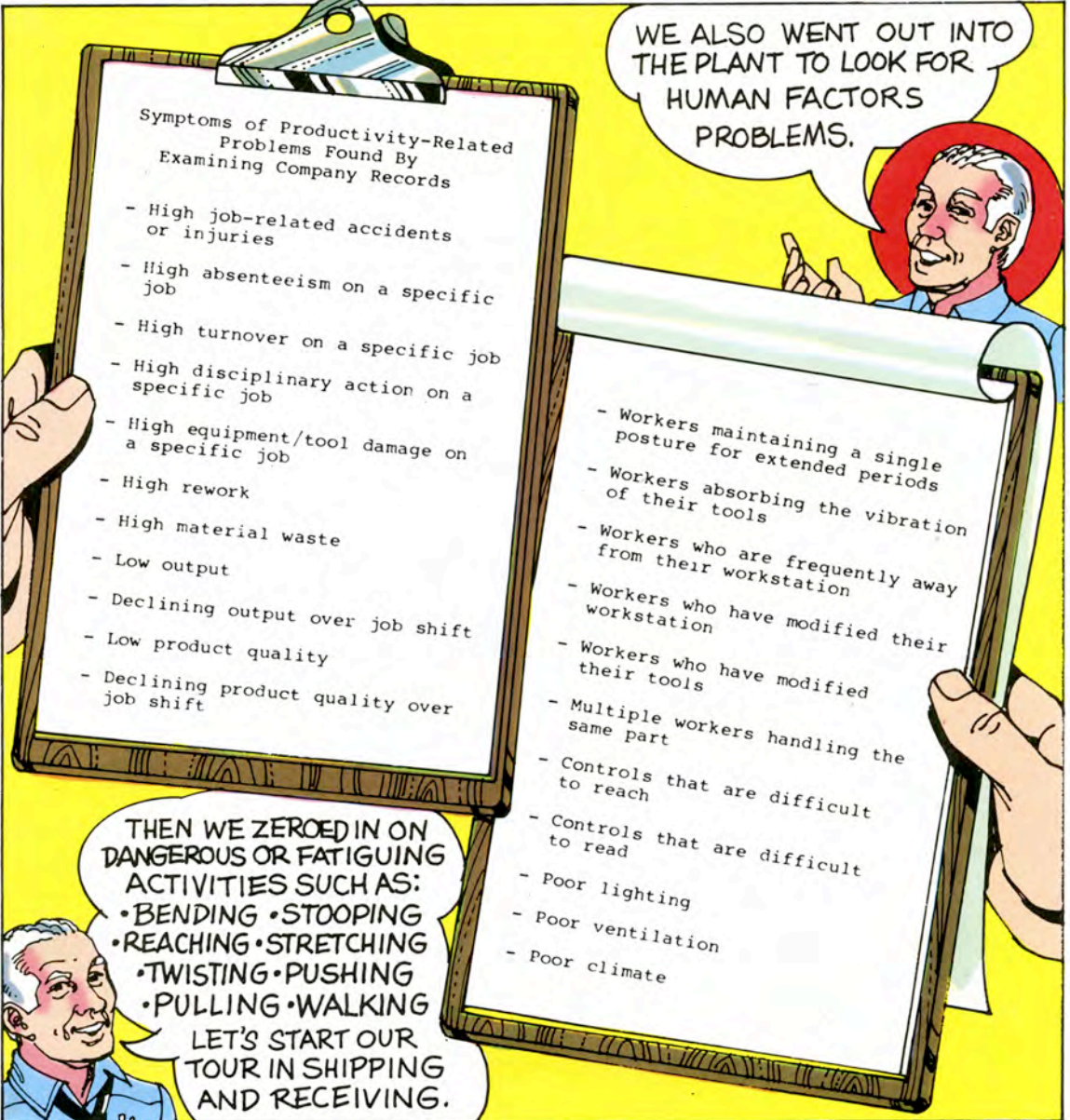




COME ON, LET'S TAKE A WALK THROUGH THE PLANT AND I'LL SHOW YOU WHAT WE'RE DOING.



WE STARTED OUR PROGRAM BY LOOKING AT OUR COMPANY RECORDS, INCLUDING OUR SAFETY RECORDS FOR SYMPTOMS THAT WOULD INDICATE PROBLEMS REQUIRING ERGONOMICS SOLUTIONS.



WE ALSO WENT OUT INTO THE PLANT TO LOOK FOR HUMAN FACTORS PROBLEMS.

Symptoms of Productivity-Related Problems Found By Examining Company Records

- High job-related accidents or injuries
- High absenteeism on a specific job
- High turnover on a specific job
- High disciplinary action on a specific job
- High equipment/tool damage on a specific job
- High rework
- High material waste
- Low output
- Declining output over job shift
- Low product quality
- Declining product quality over job shift

- Workers maintaining a single posture for extended periods
- Workers absorbing the vibration of their tools
- Workers who are frequently away from their workstation
- Workers who have modified their workstation
- Workers who have modified their tools
- Multiple workers handling the same part
- Controls that are difficult to reach
- Controls that are difficult to read
- Poor lighting
- Poor ventilation
- Poor climate

THEN WE ZEROED IN ON DANGEROUS OR FATIGUING ACTIVITIES SUCH AS:

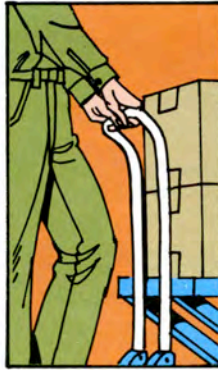
- BENDING • STOOPING
- REACHING • STRETCHING
- TWISTING • PUSHING
- PULLING • WALKING

LET'S START OUR TOUR IN SHIPPING AND RECEIVING.

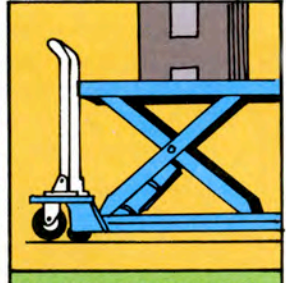


SHIPPING DEPT

YOU'LL SEE A LOT OF SIMPLE BUT PRACTICAL APPLICATIONS OF **ERGONOMICS** HERE.

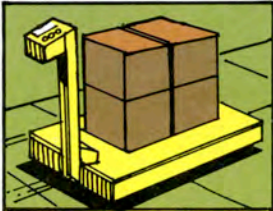


CASTERS ARE CHECKED FOR FLAT SPOTS AND WEAR.

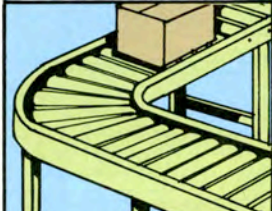


WE USE TRUCKS WITH ELEVATING PLATFORMS TO ELIMINATE LIFTING.

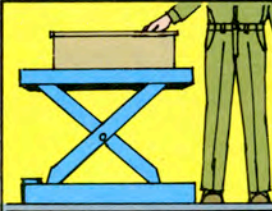
TRUCK HANDLES ARE AT THE RIGHT HEIGHT.



FOR HEAVY LOADS, WE USE OVERSIZE CASTERS AIR FILM TRANSPORTATION OR POWERED TRUCKS.



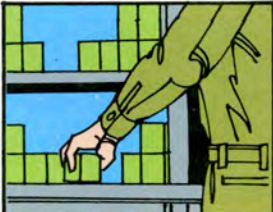
BETTER LAYOUT AND CONVEYORS ELIMINATE LONG TRUCK TRAVEL.



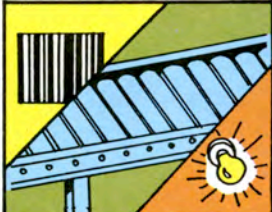
BY VERTICALLY POSITIONING CONTAINERS, WE MINIMIZE BENDING.



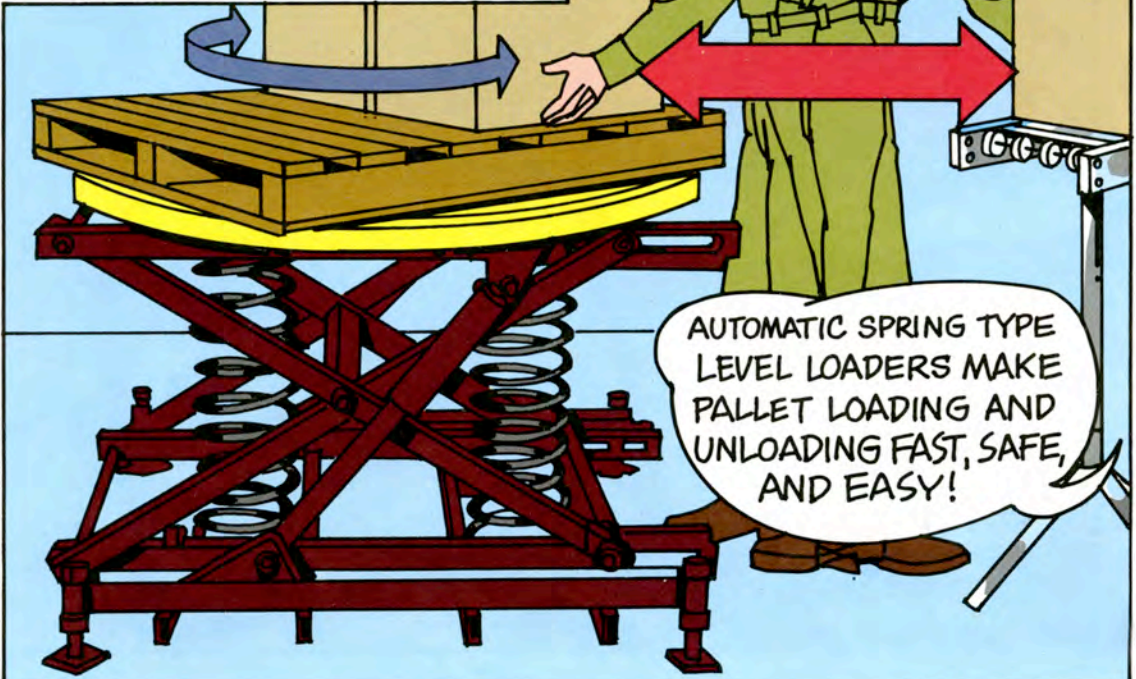
TOTES AND CONTAINERS ARE SIZED TO ELIMINATE HEAVY HANDLING.




HIGH ACTIVITY ITEMS ARE POSITIONED TO MINIMIZE BENDING, STOOPING, STRETCHING AND REACHING.



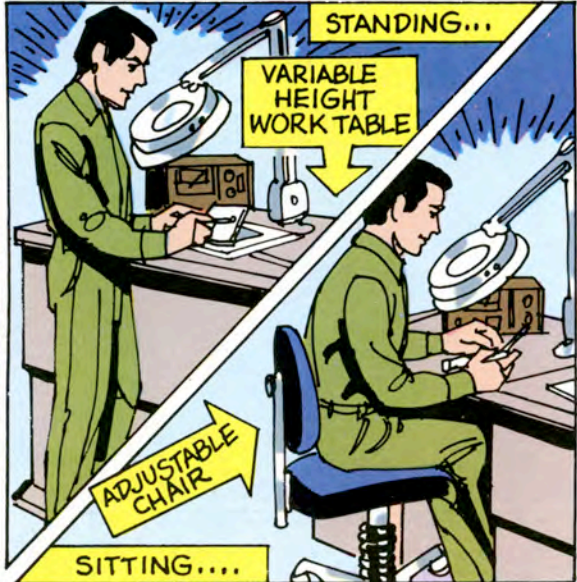
CONVEYORS, BAR CODING AND SIGNAL LIGHTS PROVIDE FAST HANDLING AND LOCATION OF STOCKS.



AUTOMATIC SPRING TYPE LEVEL LOADERS MAKE PALLET LOADING AND UNLOADING FAST, SAFE, AND EASY!



NOW, LET'S TAKE A LOOK AT PRODUCTION. WE'VE TRIED TO MINIMIZE UNCOMFORTABLE, FATIGUING OR INJURIOUS CONDITIONS. WE TRY TO KEEP THE WORK AT A COMFORTABLE HEIGHT AND ALLOW THE WORKERS TO CHANGE POSITION FREQUENTLY.



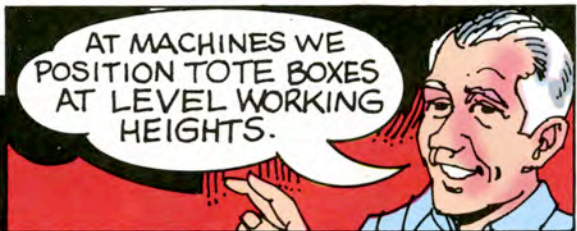

PETE HAD A SORE ARM AND WE WERE WORRIED ABOUT CARPAL TUNNEL SYNDROME* SO WE ADAPTED THE WORK ENVIRONMENT TO AVOID THE PROBLEM.



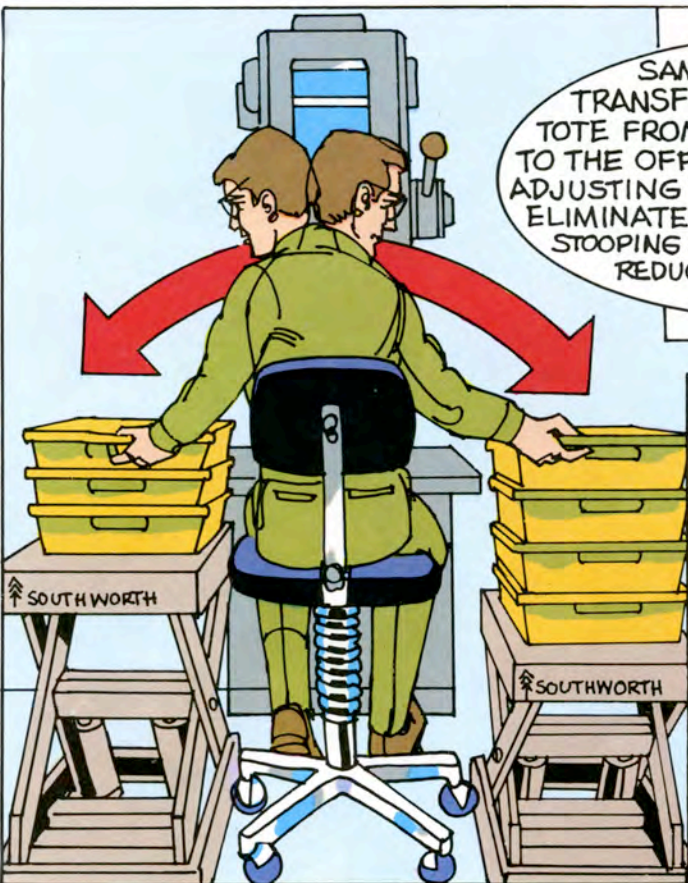
HOW'S THE ARM, PETE?

FINE... NOW THAT I CAN ADJUST THE WORKING HEIGHT WHEN I WANT TO.

* CARPAL TUNNEL SYNDROME IS AN AILMENT CAUSED BY REPETITIVE HAND AND WRIST ACTION. IT AFFECTS THOUSANDS OF WORKERS EVERY YEAR AND RESULTS IN TREMENDOUS LOST TIME COSTS TO INDUSTRY.

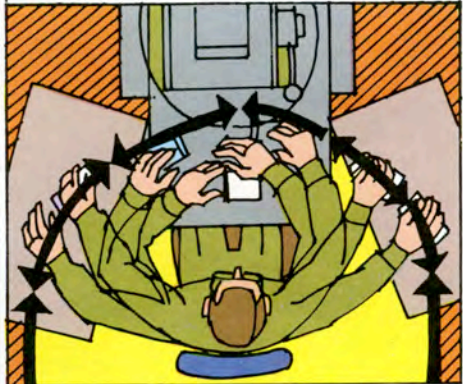


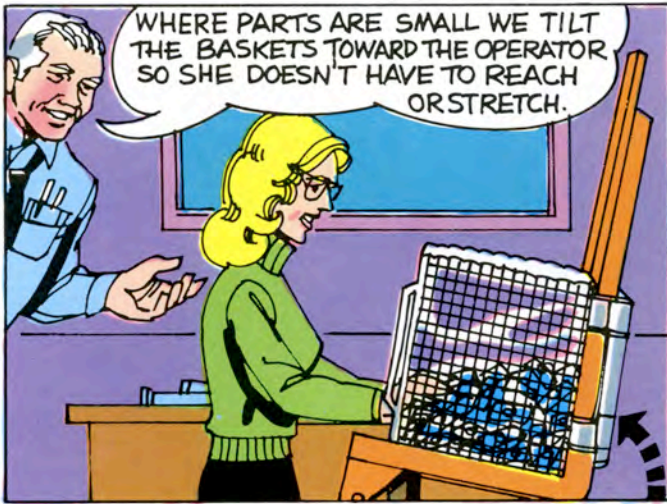
AT MACHINES WE POSITION TOTE BOXES AT LEVEL WORKING HEIGHTS.



SAM HAS JUST TRANSFERRED AN EMPTY TOTE FROM THE FEED SIDE TO THE OFF-LOADING SIDE. BY ADJUSTING THE LIFT TABLES HE ELIMINATES THE LIFTING, BENDING, STOOPING AND STRETCHING THAT REDUCE PRODUCTIVITY.

EVERYTHING IS PLACED WITHIN THE COMFORTABLE RADIUS OF THE WORKER'S REACH.





WHERE PARTS ARE SMALL WE TILT THE BASKETS TOWARD THE OPERATOR SO SHE DOESN'T HAVE TO REACH OR STRETCH.

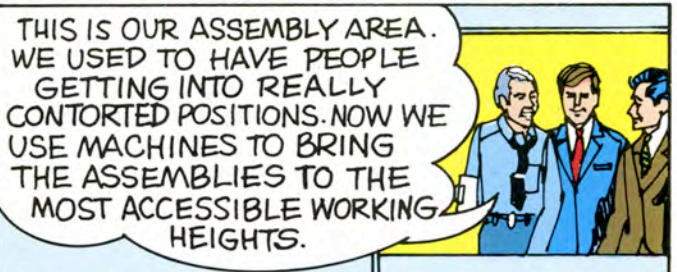


HOW'S IT GOING, ROSIE?

GREAT, NOW THAT I GET MY BENDING EXERCISE AT AEROBICS CLASS INSTEAD OF HERE ALL DAY.

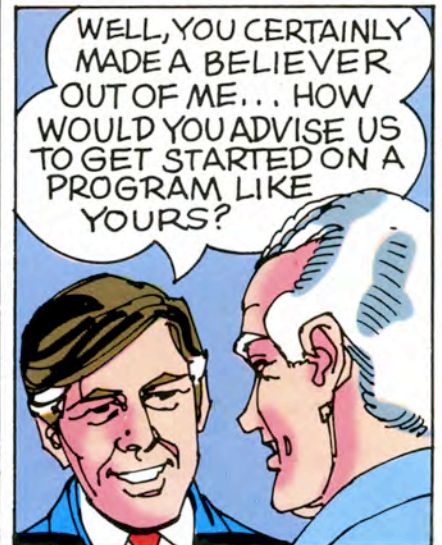
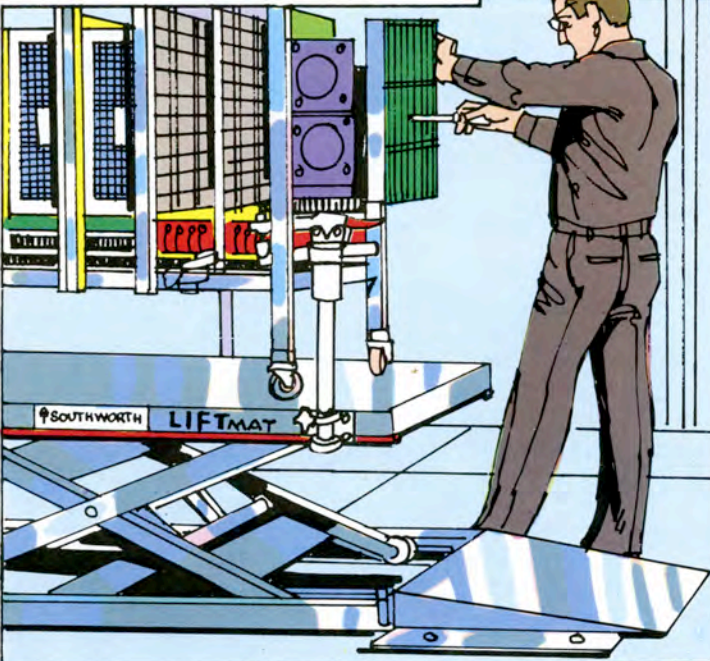
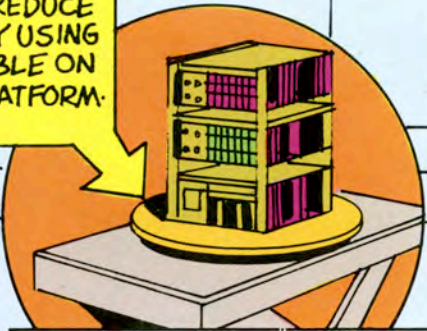


IN ADDITION TO THE IMPROVEMENTS IN SAFETY AND PRODUCTIVITY, **ERGONOMICS** HAS HELPED TO CREATE BETTER WORKER ATTITUDES.



THIS IS OUR ASSEMBLY AREA. WE USED TO HAVE PEOPLE GETTING INTO REALLY CONTORTED POSITIONS. NOW WE USE MACHINES TO BRING THE ASSEMBLIES TO THE MOST ACCESSIBLE WORKING HEIGHTS.

WE ALSO REDUCE WALKING BY USING A TURNTABLE ON THE LIFT PLATFORM.



WELL, YOU CERTAINLY MADE A BELIEVER OUT OF ME... HOW WOULD YOU ADVISE US TO GET STARTED ON A PROGRAM LIKE YOURS?



HERE'S A GOOD PLACE...START BY CONCENTRATING ON SAFETY.



FELLOWS, THIS IS GEORGE WARREN, OUR SAFETY DIRECTOR.

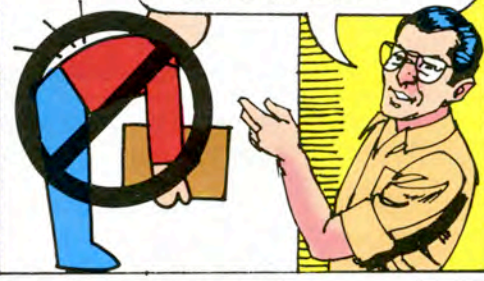
HE CAN TELL YOU HOW IMPORTANT **ERGONOMICS** IS FROM A SAFETY STANDPOINT.

STATISTICS SHOW THERE ARE ABOUT 5 MILLION WORK PLACE INJURIES IN THE U.S. EVERY YEAR. 33% ARE BACK INJURIES MOSTLY RELATED TO LIFTING. EVERY BACK INJURY CAN RESULT IN

EDUCATING PEOPLE ON HOW TO LIFT HELPS BUT THERE JUST ISN'T ANY RIGHT WAY TO LIFT. WE DON'T WANT ANY OF OUR PEOPLE LIFTING IF WE CAN AVOID IT.



DIRECT COSTS OF FROM \$5,000-\$10,000. CARPAL TUNNEL SYNDROME, CAN RUN AS HIGH AS \$60,000. REPLACEMENT, TRAINING, ABSENTEEISM, AND TURNOVER CAN MAKE THE ACTUAL COSTS 5 TO 10 TIMES GREATER.



WE USE MACHINES TO ELIMINATE LIFTING AND OTHER JOB RELATED INJURIES. HERE COMES OUR CONTROLLER, RAY WHEELER. HE CAN TELL YOU HOW THEY HAVE REDUCED OUR INJURY COSTS.

SIMPLE... IT MORE THAN PAYS FOR ITSELF, OUR PRODUCTIVITY HAS INCREASED, OUR FACTORY VARIANCES ARE DOWN, WE'RE SAVING SUBSTANTIAL DOLLARS ON INSURANCE PREMIUMS,

RAY, MAYBE YOU COULD OFFER AN OPINION ON OUR **ERGONOMICS** PROGRAM.

AND OUR EMPLOYEE RELATIONS ARE THE BEST THEY'VE EVER BEEN. WE BELIEVE IN **ERGONOMICS** BECAUSE IT WORKS.



INJURY COSTS	
BACK INJURY	\$5,000 - \$10,000
CARPAL TUNNEL	UP TO \$60,000
ASSOCIATED LOSSES	5 TO 10 TIMES GREATER



*YOUR SOUTHWORTH REPRESENTATIVE CAN HELP
TO PUT **ERGONOMICS** TO WORK FOR YOU.....*



- ASK HIM FOR A PLANT SURVEY.
- HE'LL WALK THROUGH YOUR PLANT AND SPOT AREAS WHERE **ERGONOMICS** COULD IMPROVE PRODUCTIVITY OR SAFETY.
- THEN HE'LL GIVE YOU A COMPLETE REPORT DETAILING PROBLEM AREAS AND RECOMMENDED SOLUTIONS.

ABOUT **SOUTHWORTH**^{COO}

SOUTHWORTH, INC. HAS BEEN HELPING COMPANIES TO IMPROVE PRODUCTIVITY AND SAFETY FOR OVER 50 YEARS.

WITH PLANTS IN PORTLAND, MAINE AND MANILA, ARKANSAS AND HIGHLY TRAINED DISTRIBUTORS ALL OVER THE COUNTRY SOUTHWORTH DESIGNS AND MANUFACTURES A WIDE RANGE OF MACHINES TO MAKE OTHER MACHINES AND PEOPLE MORE PRODUCTIVE.

FOR MORE INFORMATION ON HOW YOUR COMPANY CAN BENEFIT FROM

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SOUTHWORTH



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