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Manufacturing Insights:
Ergonomic Safety

SCENE:
CG: FBI warning

SCENE:
ANI: SME Logo

SCENE:
tape
Montage with music

SCENE
PLANT B-ROLL

Narrator (VO):

IN TODAY'S MANUFACTURING WORLD,

PRODUCTIVITY AND QUALITY ARE AT THE

CENTER OF ANY SUCCESS STORY.

SCENE:
PLANT B-ROLL

Narrator (VO):

MANY COMPANIES ARE FINDING THE KEY TO

SUCCESS LIES IN THE ABILITY TO RECOGNIZE

POTENTIAL ERGONOMIC SAFETY PROBLEMS AND

CORRECT THEM.

SCENE:
PLANT B-ROLL

Narrator (VO):

THIS PROGRAM WILL LOOK AT WAYS TO ACHIEVE

AND MAINTAIN PLANT FLOOR ERGONOMIC SAFETY,

USING ERGONOMICS AND TRAINING.

SCENE:

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PLANT B-ROLL

Narrator (VO):

THERE ARE MANY EXAMPLES WHERE CHANGING
THE WORKPLACE DESIGN TO INCLUDE SAFETY
AND ERGONOMICS HAS DIRECTLY INFLUENCED THE
BOTTOM LINE.

SCENE:

Narrator (VO):

PLANT B-ROLL

WE WILL FOCUS ON THREE DIVERSE
MANUFACTURING FACILITIES IN THIS PROGRAM.

Narrator (VO):

ALL THREE HAVE MADE RELATIVELY MINOR
ADJUSTMENTS IN THE WORKPLACE AND HAVE
EXPERIENCED MAJOR CHANGES IN PRODUCTIVITY,
QUALITY AND OPERATING COSTS.

SCENE

Narrator (VO):

DEERE PLANT FOOTAGE

AT THE JOHN DEERE DAVENPORT WORKS FACILITY
IN DAVENPORT IOWA, CHANGES IN THE
PRODUCTION LINES, COMBINED WITH AWARENESS
TRAINING HAVE
BROUGHT DRAMATIC RESULTS. IN A FIVE-YEAR
PERIOD THEY HAVE REDUCED BACK INJURIES

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ALONE BY 50-PERCENT.

SCENE:
WINPAK PLANT FOOTAGE

Narrator (VO):

NEXT, THE IMPRESSIVE TURNAROUND AT WINPAK
PORTION PACKAGING IN SOUTH CHICAGO
HEIGHTS, ILLINOIS, WILL BE REVIEWED.

SCENE:
WINPAK FOOTAGE

Narrator (VO):

ABOUT TEN YEARS AGO, WINPAK TOOK THE
STRATEGY THAT ERGONOMICS AND SAFETY START
AT THE TOP.

SCENE:
WINPAK FOOTAGE

Narrator (VO):

EVERYONE BECAME ACCOUNTABLE FOR SAFETY.
WINPAK'S WORKER COMPENSATION PREMIUMS
DROPPED 80 PERCENT.

SCENE:
WINPAK FOOTAGE

Narrator (VO):

ABSENTEEISM IS POINT-FIVE PERCENT AND THE
TURNOVER RATE IS ZERO.

SCENE:
LOCKHEED MARTIN FOOTAGE

Narrator (VO):

FINALLY, LOCKHEED MARTIN MADE DRAMATIC
CUTS IN THEIR WORKER'S COMPENSATION CLAIMS

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BY USING COMMON SENSE AND DEVELOPING A
PLAN OF ACTION.

SCENE:
PLANT B-ROLL

Narrator (VO):

ALL THREE FACILITIES EXPERIENCED MAJOR
IMPROVEMENTS FOR A MINIMAL INVESTMENT.
THE KEY FOR EACH WAS TO KNOW WHERE AND HOW
TO CARRY OUT THOSE CHANGES.

SCENE:
PLANT B-ROLL

Narrator (VO):

IN THIS PROGRAM, WE WILL REVEAL THEIR
SECRETS TO SUCCESS AND HEAR FROM THE
EXPERTS ABOUT WHAT SIMPLE STEPS YOU CAN
TAKE TO START AN ERGONOMIC SAFETY
PROGRAM.

SCENE:
PLANT B-ROLL

Narrator (VO):

WE WILL EXAMINE THE COST OF ERGONOMIC
SAFETY PROGRAMS VERSUS THE EXPENSE OF
INJURY AND ILLNESS RELATED COSTS, SUCH AS
WORKERS COMPENSATION.

SCENE:
font: Tom Leamon, Ph.D.

SOT: (LEAMON) t.c. 2:03:34, TIME: 06
SECONDS

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V.P. and Director
Liberty Mutual
Research Center for
Safety and Health

WE THINK THE BOTTOM LINE IS IT MAKES
BUSINESS SENSE. WE DON'T REALLY MIND
WHETHER THERE'S REGULATION OR NOT
REGULATION.

SCENE:

Narrator (VO):

B-ROLL OF CENTER

THE LIBERTY MUTUAL RESEARCH CENTER HAS
THIRTEEN LABS RUNNING CONTINUOUSLY. THE
CENTER IS THE ONLY ONE OF ITS KIND IN
AMERICA.

SCENE:

LEAMON AND HIS TEAM MAY HIRE A GROUP OF

B-ROLL OF CENTER

PEOPLE TO TURN A HANDLE ONCE PER SECOND
FOR SEVEN AND A HALF HOURS PER DAY, IN AN
EFFORT TO MEASURE THE STRESS OF REAL
WORKING CONDITIONS.

SCENE:

THEIR FOCUS IS ON UNDERSTANDING

B-ROLL OF CENTER

ERGONOMIC CONCERNS AND FINDING WAYS TO
INTERVENE BEFORE A PROBLEM OCCURS.

SCENE:

FOR THE LAST SIX YEARS, THE CENTER HAS

B-ROLL OF CENTER

BEEN RESEARCHING A MAJOR CONCERN, SLIPS &
FALLS. THIS YEAR FOUR-THOUSAND PEOPLE

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WILL FALL ON A LEVEL SURFACE AND DIE.

SCENE: LEAMON INTERVIEW

SOT: T.C.: 2:03:41, TIME 1:17

WE AND OUR CUSTOMERS FIND OUT THAT REMOVING THE CAUSE OF ACCIDENT AND INJURY GOES RIGHT TO THE BOTTOM LINE. FOR TWO REASONS. ONE, IN THE WORKER COMPENSATION SYSTEM, OR COURSE, BASICALLY WHAT YOU PAY IS BASED UPON YOUR EXPERIENCE.

SCENE: LEAMON INTERVIEW

HOW MANY PEOPLE ARE INJURED DRIVES UP THE PREMIUM. THE FEWER PEOPLE INJURED, THE BETTER THE PREMIUM RATES. SO WE SEE A DIRECT SAVING. ADDITIONALLY, YOU'VE GOT TO CONSIDER THE WHOLE RATIONALE OF ERGONOMICS.

SCENE: LEAMON INTERVIEW

ERGONOMICS IS REALLY THE STUDY OF HUMAN PERFORMANCE, OF WHICH HEALTH AND SAFETY IS ONE ASPECT. IN OTHER WORDS, IF I'M ASKING YOU TO DO SOMETHING WHICH IS REALLY DUMB, YOU MAY OR MAY NOT BE ABLE TO DO IT WITHOUT BEING INJURED, BUT ON THE OTHER HAND, WHY ON EARTH SHOULD I PAY YOU TO DO SOMETHING WHICH DOESN'T ADD VALUE TO THE PRODUCT.

SCENE: LEAMON INTERVIEW

THE CLASSIC EXAMPLE HERE IS, YOU WALK INTO A MANUFACTURING PLANT, AND YOU SEE ONE PERSON PICK SOMETHING UP FROM THE GROUND, HE DOES SOMETHING WITH IT, AND PUTS IT BACK ON THE GROUND, AND THEN SOMEONE ELSE PICKS IT UP.

SCENE: LEAMON INTERVIEW

THE REAL QUESTION IS, HOW MUCH MONEY

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SHOULD WE SPEND ON HAVING SOMEONE DO
SOMETHING AS DUMB AS THAT, WHEN VERY OFTEN
A STILLAGE, A TABLE, A STORAGE RACK, WOULD
REDUCE THE EFFORT REQUIRED, WOULD SPEED
THE PROCESS, AND WOULD MAKE THE EMPLOYMENT
OF THAT INDIVIDUAL WORKER MUCH MORE
EFFECTIVE.

SCENE:
PLANT B-ROLL

Narrator (VO):

A SUCCESSFUL ERGONOMIC SAFETY PROGRAM
ACCOMMODATES THE HUMAN OPERATOR. THIS
APPROACH RESULTS IN IMPROVED PERFORMANCE,
HIGHER PRODUCTIVITY AND LOWER INJURIES
AND ILLNESSES IN THE WORKPLACE.

SCENE:
PLANT B-ROLL

Narrator (VO):

SOME PLANTS REPORT THAT AN ACTIVE PROGRAM
IMPROVES EMPLOYEE MORAL AND LESSENS
TURNOVER, AND ABSENTEEISM. WHEN THE
EMPLOYEE IS ON THE JOB HE OR SHE WAS
TRAINED FOR, IT SEEMS REASONABLE THERE
WILL BE LESS CHANCE OF INJURY.

SCENE
PLANT B-ROLL

Narrator (VO):

THERE ARE FOUR STEPS THAT MOST EXPERTS

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AGREE ARE NECESSARY TO SET UP AN
EFFECTIVE ERGONOMIC SAFETY PROGRAM.

SCENE

Narrator (VO):

FONT (BUILD):

THE FIRST STEP IS EMPLOYEE INVOLVEMENT.

1. EMPLOYEE INVOLVEMENT

SCENE,

SOT: (DANOFF) T.C. 1:08:18, TIME: 30
seconds

FONT: Marvin Danoff

Professor of
Psychology and
Director of the Center for
Ergonomics, Miami University.

I THINK THE ROLE OF EMPLOYEES IN FINDING
SAFETY HAZARDS IS CRUCIAL. IN MY VIEW,
EMPLOYEES ARE ACTUALLY THE BEST EXPERT ON
THEIR OWN JOB.

SCENE: DANOFF INTERVIEW

THEY PERHAPS CAN USE ENGINEERING AND
TECHNICAL AND ERGONOMIC GUIDANCE, BUT THEY
ABSOLUTELY SHOULD BE INVOLVED IN PROBLEM
SOLVING. THEY ARE THE BEST SOURCE OF
IDENTIFYING REAL HAZARDS.

SCENE:

Narrator (VO):

B-ROLL OF STUDENT LAB ON
CAMPUS

DANOFF TEACHES ERGONOMICS TO PSYCHOLOGY,
COMPUTER SCIENCE AND MANUFACTURING
ENGINEER STUDENTS. THE STUDENTS WORK ON
SMALL ASSEMBLY LINES THAT INCLUDE ROBOTS
TO GET A TRUE UNDERSTANDING OF ERGONOMICS.

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DANOFF SAYS TO GET TO THE HEART OF
ERGONOMIC SAFETY ISSUES GO TO THE PEOPLE
ON THE FLOOR.

SCENE:

Narrator (VO):

FONT (BUILD):

ONCE YOU'VE OPENED THE DOOR TO EMPLOYEE

1. EMPLOYEE INVOLVEMENT

INVOLVEMENT, THEN HELP EMPLOYEES

2. TRAINING

UNDERSTAND ERGONOMICS THROUGH TRAINING.

WHEN WORKERS KNOW WHAT TO LOOK FOR, THEY

CAN FUNCTION WITH YOU TO SPOT POTENTIAL

SAFETY PROBLEMS.

Narrator (VO):

WHEN MAKING EMPLOYEES PART OF THE

SOLUTION, YOU AVOID A CLASSIC ERGONOMIC

PITFALL.

SCENE: DANOFF INTERVIEW

SOT: (DANOFF) T.C. 1:09:07, TIME: 31

ONE OF THE PROBLEMS IN SAFETY PROGRAMS,
PARTICULARLY THOSE APPLIED BY "OUTSIDE
EXPERTS" IS THAT EMPLOYEES CAN VERY OFTEN
FIND A WAY TO DERAILED THE PROGRAM. IN MY
MIND, THE WAY TO OVERCOME THAT IS TO MAKE
THEM PART OF THE SOLUTION, TO HAVE THE
EMPLOYEES ACTIVELY INVOLVED IN PROBLEM
SOLVING AND SUGGESTING SOLUTIONS. THAT

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WAY, THEY THEMSELVES HAVE SOME DEGREE OF OWNERSHIP IN THE SOLUTION.

SCENE:

Narrator (VO):

FONT (BUILD):

ONCE EVERYONE UNDERSTANDS THE BASICS OF

1. EMPLOYEE INVOLVEMENT

ERGONOMICS, THE NEXT LOGICAL STEP IS TO

2. TRAINING

3. FORM PROBLEM SOLVING TEAMS

FORM A PROBLEM SOLVING TEAM.

SCENE: DANOFF INTERVIEW

SOT: (DANOFF) T.C. 1:11:54, TIME: 24

SECONDS

I HAVE FOUND PROBLEM SOLVING TEAMS WHICH HAVE A MIX OF PEOPLE, INCLUDING LINE EMPLOYEES, PARTICULARLY IMPORTANT IS HAVING FIRST-LINE SUPERVISORS, AND AS WELL SAFETY AND ERGONOMIC PROFESSIONALS, ENGINEERING PROFESSIONALS, ALL OF THESE CAN FORM A VERY EFFECTIVE PROBLEM SOLVING TEAM.

SCENE:

Narrator (VO):

FONT (BUILD):

THE FINAL STEP TO SETTING UP AN EFFECTIVE

1. EMPLOYEE INVOLVEMENT

ERGONOMIC SAFETY PROGRAM IS TO EMPOWER THE

2. TRAINING

3. FORM PROBLEM SOLVING TEAMS

COMMITTEE WITH A BUDGET. ACCORDING TO

4. BUDGET

DANOFF, IT DEMONSTRATES MANAGEMENT'S

COMMITMENT AND IS NECESSARY TO MAKE

CHANGES IN MANUFACTURING AND TRAINING

TECHNIQUES.

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Narrator (VO) :

THE ERGONOMIC SAFETY COMMITTEE ALSO NEEDS
TO EXPAND THEIR AWARENESS THROUGH TRADE
SHOWS AND SUBSCRIPTIONS TO ERGONOMIC AND
SAFETY LITERATURE.

SCENE: DANOFF INTERVIEW

SOT: (DANOFF) T.C. 1:21:54, TIME: 1:03

ONE OF THE PROBLEMS WITH RECOMMENDING
ERGONOMIC SOLUTIONS OR ERGONOMIC
INTERVENTIONS IS THAT PEOPLE WILL LOOK AT
THE UP-FRONT COST AND SAY THAT 'S A LOT OF
MONEY. I WOULD ARGUE THAT THERE IS NOW A
LOT OF EVIDENCE THAT SUGGESTS THAT
ERGONOMICS IS QUITE COST-EFFECTIVE.

SCENE: DANOFF INTERVIEW

ONE OF THE BEST DEMONSTRATIONS OF THAT WAS
A STUDY CONDUCTED IN NORWAY IN A
MANUFACTURING PLANT, IN WHICH, OVER A TEN-
YEAR PERIOD, THE EFFECT OF AN ERGONOMIC
INTERVENTION IN AN ASSEMBLY PLANT RESULTED
IN A DROP OF TURNOVER, A REDUCTION OF
TURNOVER FROM NEAR 40 PERCENT TO BELOW 10
PERCENT. COST ACCOUNTANTS LATER WORKED
OUT THAT THE RETURN ON INVESTMENT OF THAT
INTERVENTION WAS ALMOST 850 PERCENT.

SCENE: PLANT B-ROLL

Narrator (VO) :

THE BEST PLACE TO START ANALYZING
ERGONOMICS AND SAFETY IS BEFORE THE

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PRODUCT OR PROCESS IS IN PLACE. LEAMON
RECOMMENDS TAKING THE KNOWN INFORMATION OF
HUMAN PERFORMANCE AND INTEGRATING IT WITH
THE WORKPLACE DESIGN OR PRODUCT DESIGN
WITH A TEN-POINT ERGONOMIC APPROACH.

SCENE/GRAPHIC (REVEAL IN
SECTIONS)
TEN POINT ERGONOMIC APPROACH

Narrator (VO):

HIS PLAN REVIEWS THE COMPLETE WORKPLACE
ENVIRONMENT, INCLUDING THE CONTROLS,

1. Controls
2. Displays
 - a) lamps, gauges
 - b) lines of sight
 - c) auditory warning signals

DISPLAYS,

3. Work Space
 - a) operator position
 - b) seating
 - c) access
 - d) layout of controls

WORKSPACE, VISUAL ENVIRONMENT,

and displays

4. Visual Environment
 - a) light levels
 - b) machine lighting
 - c) visual task analysis

5. Thermal Environment
 - a) working environment
 - b) local heating

THERMAL ENVIRONMENT, AUDITORY ENVIRONMENT,
VIBRATION, WORK ANALYSIS, MAINTENANCE

6. Auditory Environment
 - a) hearing conservation

PROCEDURES AND JOB PROCEDURES. THE PLAN

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- b) communication PUTS THE HUMAN MACHINE SYSTEM, WHICH
- 7. Vibration INCLUDES THE PERSON AND THEIR JOB,
- a) whole body THROUGH THE COMPLETE JOB. THIS GIVES
- b) limb
- 8. Work Analysis YOU A GREAT DEAL OF DATA READY FOR
- 9. Maintenance Procedures ANALYSIS.
- 10. Job Procedures

SCENE: LEAMON INTERVIEW

SOT: (LEAMON) T.C. 2:24:09, TIME: 56

SECONDS

ONCE WE'VE DONE THAT, WE THEN CARRY OUT A SO-CALLED TASK ANALYSIS. IN GREAT DETAIL WE INVESTIGATE WHAT THE TASK REQUIRES A HUMAN TO DO.

SCENE: LEAMON INTERVIEW

NOT WHAT THE HUMAN BEING DOES, BUT WHAT THE TASK REQUIRES. THE DIFFERENCE OF COURSE IS THAT MANY TASKS ARE NOT REQUIRED IN THE ACTUAL ASSEMBLY OR THE PROCESS ITSELF.

SCENE: LEAMON INTERVIEW

INSTEAD THEY ARISE FROM INADEQUATE WORKPLACE DESIGNS. THE PIECE IS NOT IN THE RIGHT POSITION, THE WORK PIECE CAN BE FITTED TWO WAYS, SO THE OPERATOR HAS TO TRY BOTH WAYS TO SEE WHICH IS RIGHT.

SCENE: LEAMON INTERVIEW

MAJOR DESIGN ERRORS LIKE THAT ARE ACCOMMODATED EVERY DAY IN THE AMERICAN WORKPLACE. AND WE GET BACK TO THE ORIGINAL QUESTION, DO YOU WANT SOMEONE TO FIDDLE AROUND WITH EVERY SINGLE PIECE HE ASSEMBLES?

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SCENE: LEAMON INTERVIEW OR DO YOU WANT THE DESIGNER TO GET IT
RIGHT THE FIRST TIME, SO IT'S NOT
NECESSARY TO FIDDLE AROUND IN ORDER TO
MAKE THAT ASSEMBLY WORK.

SCENE: **Narrator** (VO):
RESEARCH CENTER OR PLANT
FOOTAGE WITH THE ANALYSIS COMPLETE, YOU CAN

FURTHER ESTABLISH WHAT YOU EXPECT THE
HUMAN REQUIREMENTS ARE IN THE WORKPLACE BY
BUILDING A SIMPLE PROTOTYPE.

SCENE: PLANT OR CENTER FOOTAGE **Narrator** (VO):

A PROTOTYPE CAN BE CONSTRUCTED FROM A
TYPIST CHAIR, MODELING CLAY, A STACK OF
CARDBOARD AND BAMBOO POLES, ARRANGED AS
THE PROPOSED WORKPLACE. A PERSON CAN NOW
SIT IN THE WORKSTATION PROTOTYPE AND
SIMULATE THE JOB'S TASKS. THE JOB CAN BE
EVALUATED ONCE AGAIN TO SEE WHAT IT
DEMANDS OF THE WORKER. IF AN ADDITIONAL
REVIEW IS NECESSARY, LEAMON SAYS, YOU CAN
MAKE A SECOND PROTOTYPE OF PLYWOOD.

SCENE: PLANT OR CENTER FOOTAGE WITH THE INFORMATION FROM THE PROTOTYPE

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EVALUATION, LEAMON SAYS YOU CAN CONSTRUCT
AN ACTUAL WORKING PROTOTYPE INCORPORATING
RECOMMENDED CHANGES.

SCENE: LEAMON INTERVIEW

SOT: (LEAMON) T.C. 2:27:17, TIME: 33
SECONDS

WHAT HAPPENS IT TURNS OUT FREQUENTLY THAT
YOU GET MANY BENEFITS FROM VERY MODEST
INVESTMENT. IN THAT SENSE, THE COST
BENEFITS LOOK VERY GOOD.

SCENE: LEAMON INTERVIEW

THE TRAGEDY IS THAT SO MANY PEOPLE SPEND
SO MUCH BUILDING EXPENSIVE PROTOTYPES,
WHICH REALLY DON'T TURN OUT TO BE
PROTOTYPES AT ALL. THEY MAY IMPRESS
SOMEONE, BUT THEY CERTAINLY DON'T IMPRESS
THE WORKER, WHO THEN HAS GOT TO OPERATE
THAT PROCESS FOR THE NEXT TWENTY YEARS.

SCENE: LEAMON INTERVIEW

IT DOESN'T IMPRESS THE PROFESSIONAL
ERGONOMIST. I'M NOT SURE WHO IT DOES
IMPRESS, MAYBE THE PURCHASING OFFICER OR
THE PLANT MANAGER.

SCENE: PLANT FOOTAGE OR OSHA
200 LOG

Narrator (VO):

LEAMON ALSO TAKES ISSUE WITH THE OSHA 200
LOG. HE SAYS IT IS AN EXAMPLE OF THE
MISINTERPRETATION OCCURRING BETWEEN
GOVERNMENTAL RECORDS AND THE SAFETY

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ENGINEER.

SCENE: PLANT FOOTAGE OR OSHA
200 LOG

Narrator (VO):

THE FORM HAS SIX CATEGORIES FOR DISEASES
THAT ARE ONLY 6 PERCENT OF LOST DAYS.
WHILE INJURIES THAT MAKE UP THE REMAINING
94 PERCENT OF LOST DAYS ARE NOT
CLASSIFIED, LEAVING 90 PERCENT OF THE
REASON FOR LOST DAYS NOT ANALYZED.

SCENE:
(nice touch if we could use
published articles as b-roll,
suggestions include:
"New York Times," March 27,
1993
"Advances for Health
Information Professionals,"
March 22, 1994)

Narrator (VO):

THIS CAN LEAD TO MISINTERPRETATION OF
INJURY DATA IN THE WORKPLACE. ONE EXAMPLE
IS REPEATED TRAUMA DISORDERS OR R-T-D'S.
R-T-D'S HAVE RECEIVED A GREAT DEAL OF
PUBLICITY RECENTLY AS A GROWING CONCERN
IN AMERICAN INDUSTRY.

YET, REPETITIVE MOTION IS RESPONSIBLE
FOR LESS THAN 4 PERCENT OF INJURIES.
CARPAL TUNNEL SYNDROME CAUSES LESS THAN 2
PERCENT OF INJURIES.

SCENE/graphic
Worker's Compensation Claims
1990
1. Manual Materials Handling
40%

Narrator (VO):

THE MAJOR PLAYERS IN WORKPLACE INJURIES
ARE MANUAL MATERIALS HANDLING AT A

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2. Slips & Falls - Same Level	13%	WHOPPING 40 PERCENT, SLIPS AND FALLS ON
3. Slips & Falls - Elevation	11%	THE SAME LEVEL ARE 13 PERCENT AND SLIPS
4. Struck by or Struck	10%	AND FALLS FROM AN ELEVATED LEVEL ARE AT 11
Against	6%	PERCENT ACCORDING TO WORKERS' COMPENSATION
5. Motor Vehicle Accidents	20%	CLAIMS REPORTED IN 1990.
Other (includes RTD & CTS)		

SCENE: LEAMON

SOT: (LEAMON) T.C. 2:10:55, TIME:47
SECONDS

REALLY THE SCOPE OF INJURY IS ABSOLUTELY
STAGGERING. ABOUT SIX MILLION AMERICANS
WILL BE INJURED IN THE WORKPLACE THIS
YEAR. THE LARGEST NUMBER OF THOSE WILL,
AS I SAID, BE PEOPLE LIFTING THINGS,
PULLING THINGS, PUSHING THINGS.

SCENE: LEAMON

SECONDLY THE LARGEST NUMBER WILL BE PEOPLE
FALLING. PROBABLY MORE PEOPLE WILL FALL
AND BE INJURED SERIOUSLY BY FALLING ON THE
SAME LEVEL.

SCENE: LEAMON

IT'S NOT FALLING OFF THE SEARS TOWER WHICH
IS THE CRITICAL ISSUE, ALTHOUGH OBVIOUSLY
INDIVIDUALLY THOSE CASES ARE VERY COSTLY,
BOTH IN TERMS OF THE INDIVIDUAL AND IN
TERMS OF THE EMPLOYER.

SCENE: LEAMON

AND FINALLY, AM STRUCK BY OR CAUGHT
AGAINST MOVING MACHINERY.

SCENE: LEAMON

THOSE THREE PROBABLY ACCOUNT FOR ABOUT
SEVENTY-PERCENT OF ALL THE INJURIES
RECEIVED IN THE AMERICAN WORKPLACE.

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SCENE: **Narrator** (VO):
EXTERIOR OF JOHN DEERE
DAVENPORT
PROACTIVE IS THE KEY WORD AT THE JOHN
DEERE DAVENPORT WORKS IN DAVENPORT, IOWA.

SCENE: **Narrator** (VO):
DEERE FOOTAGE
DEERE AND COMPANY ARE THE WORLD'S LEADING
PRODUCER OF AGRICULTURAL EQUIPMENT AND A
MAJOR PRODUCER OF INDUSTRIAL EQUIPMENT.

SCENE: **Narrator** (VO):
DEERE FOOTAGE
WORLD WIDE, DEERE EMPLOYS ABOUT 34-
THOUSAND PEOPLE.

SCENE: **Narrator** (VO):
DEERE FOOTAGE
THE DAVENPORT WORKS FACILITY PRODUCES
EXCAVATORS, MOTOR GRADERS, 4-W-D LOADERS
AND LOG SKIDDERS.

SCENE: **Narrator** (VO):
DEERE FOOTAGE
WHEN IT COMES TO ERGONOMICS AND SAFETY,
THE SAFETY DIRECTOR SAYS IT'S AS SIMPLE AS
A WALK THROUGH THE PLANT.

SCENE: SOT: (COX), T.C. 6:03:35, TIME: 08
FONT: seconds

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Christopher J. Cox
Director of Occupational
Safety and Health, John Deer
Davenport Works

BUT I REALLY THINK THAT IT'S REALLY
IMPORTANT THAT WE SPEND TIME ON THE FLOOR
WITH OUR EMPLOYEES ASKING THEM "WHAT CAN
WE DO TO MAKE YOUR JOB SAFER?"

SCENE:

Narrator (VO):

DEERE FOOTAGE

ON HIS DAILY WALKS THROUGH PLANT, COX CAN
IDENTIFY ERGONOMIC AND SAFETY CONCERNS
BEFORE THEY BECOME A PROBLEM AREA.

BY TALKING WITH EMPLOYEES, COX TAPS INTO
A READY RESOURCE OF PRACTICAL INFORMATION.

SCENE:

SOT: (DAVENPORT) T.C.7:01:49, TIME: 32

FONT:

seconds

WILLIAM DAVENPORT

UNION SAFETY REP. , LOCAL 281
JOHN DEERE DAVENPORT WORKS

SUCCESSFUL SAFETY PROGRAMS ONLY WORK IF
EVERYONE PARTICIPATES. THAT'S WHAT WE TRY
TO DO HERE. WE TALKED EARLIER ABOUT BEING
PROACTIVE. WE TRY TO MAKE SURE THAT
EVERYONE IS INVOLVED IN SAFETY AND HEALTH
IN THIS FACTORY.

SCENE: DAVENPORT INTERVIEW

THAT'S OUR GOAL AS A JOINT SAFETY AND
HEALTH COMMITTEE. ONE OF THE THINGS WE
TRY TO DO CONTINUOUSLY IS TO DRIVE SAFETY
AND HEALTH DOWN TO ITS LOWEST LEVEL AND TO
REWARD AND RECOGNIZE THOSE FOLKS WHO ARE
SUCCESSFUL IN PREVENTING INJURIES AND
ILLNESSES IN THE FACTORY AND OFF THE JOB
AS WELL.

SCENE:

Manufacturing Insights:
Ergonomic Safety

DEERE FOOTAGE

Narrator (VO):

RECOGNITION AWARDS ARE ONLY PART OF DEERE
DAVENPORT WORKS' PLAN TO KEEP ERGONOMICS
AND SAFETY FIRST.

SCENE:

Narrator (VO):

B-ROLL OF CLASS ROOM

THERE IS ALSO A FOCUS ON AWARENESS. THE
FACILITY WANTS TO TAKE LEARNING BEYOND
BASIC TRAINING AND EDUCATE THE WORKFORCE
ON HOW TO IDENTIFY AND REPORT POTENTIAL
PROBLEMS.

SCENE: PLANT FLOOR

Narrator (VO):

WHEN A NEW PROCESS OR PRODUCT IS
INTRODUCED, THE WORKFORCE IS INFORMED AND
ENCOURAGED TO GET INVOLVED IN THE CHANGES.

SCENE: PLANT FLOOR

Narrator (VO):

SAFETY UPDATES ARE HELD REGULARLY WITHIN
AND OUTSIDE OF THE PLANT.

SCENE: COX INTERVIEW

SOT: (COX) T.C. 6:08:35, TIME: 49 seconds

Manufacturing Insights:
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THE OTHER THING WE DO HERE WE FIND IS VERY PROACTIVE, WE'VE DID THIS FOR ABOUT THE LAST SIX OR SEVEN YEARS. AND THAT IS WHAT WE CALL OUR FIRST LINE LEADERSHIP.

SCENE: COX INTERVIEW

FIRST LINE LEADERSHIP IS HELD AT LOCAL UAW 281 HERE AT OUR UNION HALL AND IS WITH OUR FIRST LINE LEADERSHIP. THOSE PEOPLE ARE THE UNION STEWARDS OF OUR FACTORY AND FIRST LINE SUPERVISORS.

SCENE: COX INTERVIEW

ALONG WITH THE JOINT COMPANY UNION SAFETY COMMITTEE, AND THAT IS ALL. AND WE HAVE AN OPPORTUNITY, MYSELF AND THE JOINT SAFETY COMMITTEE, WE HAVE TO EDUCATE OUR PEOPLE.

SCENE: COX INTERVIEW

WE WILL BRING THEM UP TO DATE ON THINGS WE'RE DOING IN THE FACTORY. BECAUSE THESE ARE THE LEADERSHIP OF THE FACTORY. THESE ARE THE PEOPLE WHO ARE LOOKING TO GIVE INFORMATION OUT TO OUR EMPLOYEES.

SCENE: COX INTERVIEW

THEY ARE THE ONES RECEIVING QUESTIONS FROM OUR EMPLOYEES. WE WILL LIKEWISE BRING IN OUTSIDE SPEAKERS REGARDING WHAT'S GOING ON IN THE WORLD OF OCCUPATIONAL HEALTH.

SCENE:

Narrator (VO):

FONT:

- FORCE
- POSTURE
- REPETITION

JOHN DEERE DAVENPORT WORKS APPROACH TO PROBLEMS IS TO RANK ANY SAFETY CONCERN BY THE FOLLOWING CRITERIA:

- FORCE

Manufacturing Insights:
Ergonomic Safety

- POSTURE
- REPETITION

THE JOBS RANKING HIGHEST IN THESE AREAS
WILL GET ATTENTION THE FASTEST.

SCENE:

Narrator (VO):

PLANT B-ROLL- POSSIBLY
EMPLOYEE NEAR MACHINE

DAVENPORT WORKS IS ASKING SUPPLIERS TO
HELP PREVENT PROBLEMS FROM GETTING A FOOT
IN THE DOOR.

SCENE:

Narrator (VO):

QUESTIONNAIRE

THE SAFETY DEPARTMENT ALONG WITH THE UAW
DEERE COMMITTEE HAS DEVELOPED THE MACHINE
TOOL QUESTIONNAIRE.

SCENE: COX INTERVIEW

SOT (COX) T.C. 6:05:57, TIME: 58

THE QUESTIONNAIRE, THE MOST IMPORTANT PART
OF THE QUESTIONNAIRE IS PRIOR TO THE
MACHINE TOOL ACTUALLY BEING PURCHASED,
BEING BROUGHT HERE, THE QUESTIONNAIRE IS
RETURNED BY THE MANUFACTURER OR THE
MACHINE TOOL AND ALL THOSE AREAS THAT
WE'VE ASKED IN TERMS OF QUESTION ARE
CHECKED OFF, EITHER YES, NO, NOT
APPLICABLE

SCENE: COX INTERVIEW

AND WE ASK FOR SPECIFIC INFORMATION SUCH

Manufacturing Insights:
Ergonomic Safety

AS BUT NOT LIMITED TO AN EXAMPLE WOULD BE NOISE. WHAT IS THE D-B-A OUTPUT OF YOUR MACHINE TOOL THAT WE'RE GOING TO BRING INTO OUR FACTORY? WE WOULD LIKE TO HAVE THOSE THINGS A EIGHTY-DECIBELS OR BELOW. THE REASON IS WE DO NOT WANT TO INVEST IN NOISE ABATEMENT PROJECTS WHEN WE KNOW IT COULD HAVE BEEN DONE OUTSIDE THE FACILITY BEFORE IT EVER SHOWED UP HERE.

SCENE: COX INTERVIEW

THAT IS PROBABLY THE BEST EXAMPLE OF PROACTIVE. WE WANT TO MAKE SURE THAT IT IS ALL LOCKABLE. THAT IT CONTAINS ZERO ENERGY STATE UNDER THE APPROPRIATE STANDARDS AND OUR POLICIES AND PROCEDURES HERE. IT IS ALL VERY IMPORTANT RATHER THAN CHANGING SOMETHING AROUND. THAT'S REALLY TOO LATE AND IT'S REALLY REACTIVE.

SCENE:

T.C. 5:21:57

Narrator (VO):

SOLVING EXISTING PROBLEMS CONTINUES TO BE A MAJOR FOCUS OF THE SAFETY DEPARTMENT. ONE OF THE FIRST ISSUES ADDRESSED WAS A PROBLEM WITH AIR HOSES, STORED ON THE FLOOR.

SCENE:

T.C.5:22:04

Narrator (VO):

IT WAS A SAFETY CONCERN BECAUSE WORKERS WOULD TRIP OVER THE HOSES, AND IF CUT, THE

Manufacturing Insights:
Ergonomic Safety

AIR HOSE COULD RELEASE NINETY TO ONE-
HUNDRED-FIFTEEN P-S-I'S OF AIR... A
POTENTIALLY DANGEROUS SITUATION.

SCENE:

Narrator (VO):

T.C. 5:22:25

THERE WAS AN ERGONOMIC CONCERN AS WELL.
THE AIR HOSES RUN THE PNEUMATIC EQUIPMENT.
EVERY TIME A HOSE WAS USE, IT WAS
MANUALLY LIFTED AND MOVED. EMPLOYEES
COMPLAINED OF UPPER BACK PROBLEMS.

SCENE: COX INTERVIEW

SOT: (COX) T.C.6:14:46, TIME: 21 seconds

B-ROLL: TAPE 4, T.C. 04:22:00

SO WHAT WE REALLY WANTED TO DO WAS TAKE
OUR HOSES AND GET THEM UP OFF THE FLOOR.
SO WE DESIGNED IN HOUSE HERE, A SPRING
LOADED DEVICE WHICH WOULD ACTUALLY HOLD
THE HOSE UP AND RETRACTS NOT ON A COIL BUT
SIMILAR TO THAT OF A FISHING POLE.

SCENE: COX INTERVIEW

IT IS VERY ACCESSIBLE THEN THEREFORE FOR
OUR MAINTENANCE PERSONNEL IF IN FACT THERE
EVER NEEDS TO BE A REPLACEMENT.

SCENE: COX INTERVIEW

SOT: (COX) T.C. 6:15:34, TIME: 15 seconds

POSSIBLY B-ROLL INTERVIEW WITH
5:00:35 AND BACKTIME INTO NEXT
NARRATION.

IT BECOMES A STANDARD APPLICATION FOR ALL
PROCESSES NOW AT OUR FACTORY. THEY HAVE

Manufacturing Insights:
Ergonomic Safety

BEEN SO SUCCESSFUL THAT THEY ARE USED
THROUGHOUT THE FACTORY AND WE KEEP THEM
RIGHT IN HOSE HERE SO IF YOU HAVE ONE
BREAK, IT WEARS OUT, YOU WOULD WISH TO ADD
ONE TO A DIFFERENT AREA, THEY ARE
AVAILABLE RIGHT OUT OF OUR CRIB STORAGE.

SCENE:
PLANT B-ROLL

Narrator (VO)

ONE OF THE FIRST ERGONOMICS PROJECTS
TACKLED AT DAVENPORT WORKS WAS DISCOVERED
BY COX ON A DAILY WALK THROUGH THE PLANT.

SCENE:
T.C 5:16:21

Narrator (VO) :

HE OBSERVED THE HOIST PENDANT USED TO
GUIDE HEAVY PRODUCTS WAS ALMOST AS
DIFFICULT TO MANEUVER AS THE ITEM BEING
MOVED.

SCENE:
T.C. 5:16:47

Narrator (VO) :

THE PENDANT WAS FOUR BY FOUR INCHES AND
WEIGHED ABOUT THIRTEEN POUNDS. THE
OPERATOR USED ONE HAND TO DIRECT THE
OBJECT BEING LIFTED. WITH THE OTHER HAND,

Manufacturing Insights:
Ergonomic Safety

THE OPERATOR HELD THE PENDANT AND PUSHED
THE CONTROL BUTTONS TO WORK THE LIFTING
DEVICE. TO PUSH THE BUTTONS REQUIRED FIVE
TO TEN POUNDS OF PRESSURE.

SCENE:

Narrator (VO):

T.C.4:23:10

WORKING WITH THE PENDANT WAS DIFFICULT AND
AWKWARD. OPERATORS COMPLAINED OF THUMB
CRAMPS AND STIFFNESS. IF THE OPERATOR
LOST THEIR GRIP ON THE PENDANT, THE
PENDULUM MOTION COULD CAUSE INJURY.

SCENE: COX INTERVIEW

SOT: (COX) T.C. 6:18:00, TIME: 13 seconds

SO BY LOOKING AND CHALLENGING SOME OF OUR
SUPPLIERS, WE WERE ABLE TO FIND A PENDANT
AVAILABLE ON THE MARKET THAT CAME PRE-
WIRED AND COST ALMOST EXACTLY THE SAME AS
THE LARGE PENDANT AND HAD GREAT
DURABILITY.

SCENE:

Narrator (VO):

T.C. 4:03:46

THE NEW PENDANTS ARE APPROXIMATELY ONE AND
A HALF BY TWO INCHES AND WEIGH FOUR
OUNCES.

SOT: (COX) T.C.6: 18:14, TIME: 52 seconds

Manufacturing Insights:
Ergonomic Safety

SCENE: COX INTERVIEW

THE MAJOR ADVANTAGE TO THAT WAS IT GAVE ALL OF OUR EMPLOYEES AN OPPORTUNITY NO MATTER WHO YOU WERE, BEGIN MALE, BEING FEMALE, BEING TALL, BEGIN SMALL, BEING NARROW, BEING WIDE, WHATEVER THE CASE MAY BE AN OPPORTUNITY TO ALL EQUALLY BE ABLE TO DO THE SAME JOB. AS OPPOSED TO PEOPLE WHO HAD LARGE, LONG HANDS OR LONG FINGERS BEGIN THE ONLY PEOPLE ABLE TO DO IT SO IT FORWARDED US A GREAT OPPORTUNITY HERE, WE FOUND THAT OUR MAINTENANCE COST ON THIS HAS BEEN JUST ABSOLUTELY OUTSTANDING.

SCENE: COX INTERVIEW

WE DID THEM THROUGHOUT THE ENTIRE FACTORY AND THE PRIORITIZATION WAS BASED ON THE USAGE. WHEN I ACTUALLY WENT OUT AND TOOK A LOOK IN THE FACTORY, I LOOKED AT THOSE JOBS THAT REQUIRED A GREAT DEAL OF TIME OR THE MOST AMOUNT OF TIME IN THEIR JOB TO HAVE THIS HOIST PENDANT IN THEIR HAND.

SCENE: COX INTERVIEW

AND THAT'S BASICALLY HOW I PRIORITIZED. IT WAS BASED ON THE AMOUNT OF TIME THAT THEY WERE HAVING TO GRIP A HOIST AS A REQUIREMENT OF THEIR JOB.

SCENE: PLANT B-ROLL

Narrator (VO):

JOHN DEERE DAVENPORT WORKS HAS TAKEN A PROACTIVE APPROACH IN SEVERAL DIFFERENT AREAS, INCLUDING THE ADDITION OF

LIGHT CURTAIN T.C. 4: 20:11
ZERO BALANCERS, T.C. 5:10:24

LIGHT CURTAINS,

Manufacturing Insights:
Ergonomic Safety

TOOL CART, T.C. 5:13:15

ZERO GRAVITY BALANCERS TO KEEP AIR GUNS

ACCESSIBLE AND THE WEIGHT OFF WORKERS

HANDS.

A TOOL DISTRIBUTION CART DEVELOPED TO HELP

TRANSPORT LARGE DRILLS.

A BOOM TO ASSEMBLY LINES, THE CART WAS AN

EASIER WAY TO BOLT AND MOUNT BIG TIRES.

SOT: (COX) T.C.6: 21:17, TIME: 34 seconds

WE ACTUALLY TOOK TWO IMPACT WRENCHES AND
TIED THEM TOGETHER TO MOUNT OUR WHEEL
BOLTS INTO OUR PRODUCT THAT WE HAVE HERE
IN THE HUB OF THE AXLE. THAT WAS A VERY
IMPORTANT THING THAT WE DID HERE BECAUSE
OF THE AWKWARD POSTURES AND PISTONS THAT
OUR EMPLOYEES WERE INCLUDING BEGIN OVER-
EXTENDED, THOSE WERE CLASSIC EXAMPLES
WHERE YOU COULD GET TENDINITIS, OR
TENISENDONITIS.

SCENE: COX INTERVIEW

THE CLASSIC CUMULATIVE TRAUMA TYPES OF
DISORDERS SO THAT WAS VERY IMPORTANT THING
THAT IMPACTED OUR EMPLOYEES HERE IN
VARIOUS AREAS OF OUR ASSEMBLY HERE
THROUGHOUT THE FACTORY.

Narrator (VO):

SHORT TERM PLANS FOR JOHN DEERE DAVENPORT

Manufacturing Insights:
Ergonomic Safety

WORKS INCLUDE CONTINUING TO BUILD ON THE
COMMUNICATION PROCESS ESTABLISHED BETWEEN
MANAGEMENT AND EMPLOYEE. THE GOAL IS TO
FIND AND RESOLVE ERGONOMIC SAFETY PROBLEMS
AS QUICKLY AS POSSIBLE.

THE LONG TERM PLAN FOR THE SAFETY
DEPARTMENT IS TO BECOME COMPLETELY
PROACTIVE, THROUGH EDUCATION AND
STRATEGIC PLANNING.

SCENE: COX INTERVIEW

SOT: (COX) T.C. 6:26:24, TIME: 1:06

SO INSTEAD OF WHEN WE'RE BUYING MACHINE
TOOLS OR BUYING PURCHASING ANYTHING
OUTSIDE THIS FACTORY FROM A HANDGUN TO A
LARGE MACHINING CENTER HERE. ERGONOMICS
WAS INTEGRATED RIGHT INTO THE DESIGN AND
THE PROCESS, AND THAT IS THE IMPORTANT
PART.

SCENE: COX INTERVIEW

IF YOU CAME AND ASKED ME HOW MANY
ERGONOMIC PROJECTS YOU DID HERE THIS YEAR,
I MIGHT SAY A THOUSAND.

SCENE: COX INTERVIEW

IF YOU CAME BACK IN TWO YEARS FROM NOW AND
ASKED ME THE SAME EXACT QUESTION, I MAY
SAY THREE BECAUSE WHAT'S HAPPENED IS FROM
AN EVOLUTIONARY STANDPOINT ARE ABLE TO
SPREAD THE WORD TO THE PEOPLE WE PURCHASE

Manufacturing Insights:
Ergonomic Safety

EQUIPMENT FROM.

SCENE: COX INTERVIEW

IT MAKES THEM ALSO BETTER, IT MAKES THEM MORE COMPETITIVE. BECAUSE WE ARE GOING TO ASK FOR IT BEFORE IT EVER ARRIVES INTO THE FACTORY.

SCENE: COX INTERVIEW

I THINK THAT IS REALLY IMPORTANT. FROM THE SAFETY AND HEALTH STANDPOINT, I THINK WE'LL CONTINUE TO IMPROVE. WE'VE REDUCED INJURIES AND ILLNESS THROUGHOUT ALL OF OUR CORPORATION FOR MANY YEARS, AND NOW WE'RE GETTING SO CLOSE DOWN THERE WE NEED TO ACTIVELY LOOK FOR NEW AND BETTER WAYS BY WHICH TO COMMUNICATE SAFETY BOTH ON AND OFF THE JOB FOR ALL OF OUR EMPLOYEES.

SCENE:

PLANT FOOTAGE

Narrator (VO):

WINNING AWARDS FOR SAFETY IS NOT THE GOAL BUT THE BY-PRODUCT OF THE ERGONOMIC, SAFETY PROGRAMS DEVELOPED BY THE WINPAK PORTION PACKAGING OF SOUTH CHICAGO HEIGHTS IN ILLINOIS.

SCENE:

PLANT FOOTAGE

Narrator (VO):

WINPAK EXTRUDES AND THERMOFORMS POLYSTYRENE SINGLE SERVE CONTAINERS FOR THE DAIRY AND FOOD INDUSTRY. WITH LESS THAN

Manufacturing Insights:
Ergonomic Safety

ONE-HUNDRED EMPLOYEES, WINPAK HAS BEEN
INJURY-FREE FOR THE LAST SEVEN YEARS.

SCENE:
PLANT FOOTAGE

Narrator (VO):

THE SAFETY TURNAROUND STARTED WHEN WINPAK
UNDERWENT A MANAGEMENT CHANGE AND FOCUSED
ON SAFETY.

SCENE/ FONT:
JOE O'CONNELL
SAFETY COORDINATOR
WINPAK PORTION PACKAGING
SOUTH CHICAGO HEIGHTS,
ILLINOIS

SOT: (O'CONNELL) T.C. 7:06:23, TIME: 26
SECONDS

SAFETY HAS ALWAYS BEEN A MAJOR CONCERN
HERE AT WINPAK. WE TOOK THIS AWARENESS
WITH TO A GREATER LEVEL WITH A MANAGEMENT
CHANGE THAT OCCURRED ABOUT NINE YEARS AGO.

SCENE: O'CONNELL INTERVIEW

AND AT THAT TIME, WE TOOK A LITTLE MORE
IN- DEPTH LOOK AT THINGS AND CAME UP WITH
A SYSTEMIZED APPROACH TO ANALYZING WHERE
WE STOOD IN SAFETY, WHERE WE WANTED TO BE
AND IDENTIFY THE COURSE OF ACTION THAT HAS
TAKEN US TO WHERE WE ARE TODAY.

SCENE: O'CONNELL INTERVIEW
COVER WITH PLANT FOOTAGE

SOT: (O'CONNELL) T.C.: 7:09:21, TIME: 14
SECONDS

MANAGEMENT IS AT THE FORE-FRONT OF ALL OF
OUR SAFETY EFFORTS. THEY KEEP IT ALIVE BY
THE FOLLOW UP THAT THEY DO THROUGH
TRAINING AND MEETINGS, INCENTIVE CONTESTS
AND THERE'S RESPONSIBILITY AND
ACCOUNTABILITY THAT MANAGEMENT SEES TO.
IT'S THE BACKBONE OF WHAT WE DO.

Manufacturing Insights:
Ergonomic Safety

SCENE: PLANT B-ROLL

Narrator (VO):

WITH ROLES AND RESPONSIBILITIES DEFINED
FOR EACH EMPLOYEE, EVERYONE BECAME
ACCOUNTABLE FOR SAFETY. AT WINPACK, A
DEPARTMENT'S SAFETY RESULTS BECAME A PART
OF A SUPERVISOR'S JOB REVIEW.

SCENE:

PLANT B-ROLL, POSSIBLY
MAGAZINE COVER OF OCCUPATIONAL
HAZARDS/
OSHA STAR AWARD (PLAQUE OR
FLAG?)

Narrator (VO):

WINPAK'S APPROACH TO ERGONOMICS AND SAFETY
HAS EARNED MANY AWARDS, INCLUDING THE 1995
OCCUPATIONAL HAZARDS MAGAZINE'S CHAMPION
OF SAFETY AWARD, TEN NATIONAL SAFETY
COUNCIL AWARDS OF MERIT AND SINCE 1994,
THE RECIPIENT OF AN OSHA VOLUNTARY
PROTECTION PROGRAM STAR SITE.

SCENE:

Narrator (VO):

THE BENEFITS ARE WITNESSED IN OTHER AREAS
AS WELL. OVER THE LAST DECADE, WORKER
COMPENSATION PREMIUMS HAVE FALLEN 80-
PERCENT.

Manufacturing Insights:
Ergonomic Safety

Narrator (VO) :

WINPAK'S TURNOVER RATE HOVERS AT ZERO. IN
1986 WHEN THE CHANGES STARTED ABSENTEEISM
WAS AT 7 PERCENT, TEN YEARS LATER IT IS
HALF A PERCENTAGE POINT.

SCENE: PLANT FOOTAGE

Narrator (VO) :

THE TEAM TACKLING SAFETY INCLUDES THE
PLANT MANAGER, THE HUMAN RESOURCE MANAGER
AND THE DISTRIBUTION WAREHOUSE MANAGER.
NO ONE IS ASSIGNED FULL TIME TO SAFETY,
RATHER IT IS A TEAM APPROACH.

SCENE: O'CONNELL INTERVIEW

SOT: (JOE) T.C. 7:10:06, TIME: 21 SECONDS

THE FIRST CHANGES WE MADE WERE WITH THE
PHYSICAL CONDITIONS OF THE EQUIPMENT.
AFTER WE HAD DONE THAT WE MOVED ON TO THE
WAY PEOPLE WORKED, THE PROCESS THAT THEY
WORKED WITH. WE TRIED TO IDENTIFY THE
HAZARDS ASSOCIATED WITH EACH TASK. AFTER
THAT, WE DID THE TRAINING PROGRAMS THAT
WERE NECESSARY TO BRING THE PEOPLE UP TO
SPEED. AND WE TRIED TO BUILD AN OWNERSHIP
WITH THE EMPLOYEES OF OUR SAFETY PROGRAM.

SCENE: PLANT FOOTAGE

Narrator (VO) :

Manufacturing Insights:
Ergonomic Safety

FOR WINPAK, INVOLVING EMPLOYEES IN IDENTIFYING ERGONOMIC PROBLEMS AND SOLUTIONS HAS BEEN THE KEY TO THEIR SUCCESS. IT HAS ALSO HELPED TO AVOID DERAILING THE SYSTEM SYNDROME.

SCENE: FONT

SOT: (VICTOR) T.C.8: 08:56, TIME: 1:16

VICTOR REMKEVICIUS

PLANT MANAGER

WINPACK PORTION PACKAGING

SOUTH CHICAGO HEIGHTS,

ILLINOIS

YOU HAVE TO SPEND TIME ON THE FLOOR AND YOU HAVE TO SEE WHAT THE PEOPLE ARE DOING AND HOW THEY'RE DOING IT.

SCENE: REMKEVICIUS INTERVIEW

YOU CAN DEVELOP A SYSTEM THAT YOU THINK IS ERGONOMICALLY CORRECT AND YOU FIND OUT THAT PEOPLE ARE UTILIZING IT DIFFERENTLY OR UTILIZING DIFFERENT TECHNIQUES THAT THEY FEEL MORE COMFORTABLE WITH.

SCENE: REMKEVICIUS INTERVIEW

NOW, ALL OF THOSE TECHNIQUES ARE NOT NECESSARY ERGONOMICALLY SOUND. SO, SOME OF IT IS REINFORCEMENT FOR INSTANCE, YOU MAY SEE AN EMPLOYEE THAT WILL LIFT A BOX AND NOT BE LIFTING CORRECTLY. LIFTING WITH THE BACK VS. THE LEGS. AND YOU HAVE TO ADDRESS THAT PERSON AND TELL THEM, SHOW THEM, REINSTRUCT THEM, REINFORCE PROPER LIFTING TECHNIQUE.

SCENE: REMKEVICIUS INTERVIEW

THAT'S JUST ONE PERSPECTIVE BUT, IN ALL THE DIFFERENT JOBS THAT OUR EMPLOYEES DO, YOU HAVE TO MONITOR, YOU HAVE TO OBSERVE, YOU HAVE TO LISTEN TO THE EMPLOYEES TOO,

Manufacturing Insights:
Ergonomic Safety

FOR THOSE ARE THE PEOPLE WHO DO THEIR JOBS
DAY IN AND DAY OUT AND YOU SORT THROUGH
THE INFORMATION AND THE DATA AND YOU MOVE
INTO A DIRECTION THAT YOU FEEL WILL
PROVIDE A SAFE, ERGONOMICALLY CORRECT WORK
ENVIRONMENT.

SCENE: O'CONNELL INTERVIEW
B-ROLL, T.C.: 9:04:53

SOT: (O'CONNELL) T.C.7: 11:33, TIME: 20
SECONDS

MACHINE GUARDING WAS AN AREA WE ATTACKED
WITH A COMMITTEE OF 3 PEOPLE. WE HAD
MYSELF, AND OUR PLANT ENGINEER, AND OUR
MAINTENANCE SUPERVISOR. WE EXAMINED EACH
PIECE OF EQUIPMENT, DETERMINED WHAT TYPE
OF GUARD WAS APPROPRIATE, INSTALLED IT AND
THE WHOLE PROCESS TOOK SEVERAL MONTHS.
BUT WE ARE VERY HAPPY WITH THE RESULTS.

SCENE: O'CONNELL INTERVIEW

SOT: (O'CONNELL) T.C.: 7:11:59, TIME: 16
SECONDS

AISLE MARKING WAS DONE BY DETERMINING THE
TRAFFIC FLOW THAT WE WANTED IDENTIFYING
THAT AND WE WORKED AT PUTTING DOWN THE
TRAFFIC AISLES THAT DESIGNATE PEDESTRIAN
TRAFFIC FROM FORKLIFT TRAFFIC AND FROM
STORAGE AND PRODUCTION AREAS. AND WE HAD
A GENTLEMAN THAT WE ASSIGNED AT DOING THAT
TASK AND SET AN EXCELLENT JOB ON KEEPING
THAT UP.

SCENE: O'CONNELL INTERVIEW

SOT: (O'CONNELL) T.C. 7:13:19, TIME: 9
SECONDS

WE MODIFIED EQUIPMENT BY CHANGING

Manufacturing Insights:
Ergonomic Safety

CONTROLS, ADDING GUARDS, ADDING HAND
RAILS, PUTTING IN STEPS WHEN NECESSARY TO
PROMOTE ACCESS.

SCENE: WINPAK FOOTAGE

Narrator (VO):

WINPAK HAS DEVELOPED A PRE-STARTUP SAFETY
AUDIT. WHEN A NEW PIECE OF EQUIPMENT OR
PROCESS CHANGE IS BEING CONSIDERED, WINPAK
PUT IT THROUGH A REVIEW. LIKE A DRESS
REHEARSAL, THE PRE-STARTUP AUDIT REVIEWS
ITEMS LIKE THE INNERLOGS, GUARDING AND
EXPOSURE POINTS.

SCENE: WINPAK FOOTAGE

Narrator (VO):

THE AUDIT HELPS THE SAFETY TEAM KEEP IN
MIND HOW THE EMPLOYEE WILL INTERACT WITH
THE EQUIPMENT OR PROCESS.

SCENE: WINPAK FOOTAGE

Narrator (VO):

THE GOAL OF THE PRE-STARTUP AUDIT IS TO
CATCH ANY CONCERNS OR PROBLEMS AND RESOLVE
THEM BEFORE AN EMPLOYEE ENCOUNTERS IT.

Narrator (VO):

Manufacturing Insights:
Ergonomic Safety

THE AUDIT STOPS SOME TROUBLE AT THE DOOR,
BUT NOT ALL.

SCENE: REMKEVICIUS INTERVIEW

SOT: (REMKEVICIUS), T.C.8: 11:18, TIME: 43
SECONDS

WE'VE HAD A RECENT INSTALLATION OF WHICH
WE'VE REVIEWED, GONE THROUGH PRE-STARTUP
SAFETY ANALYSIS WITH AND EVEN HAVING DONE
SO, ONCE WE WERE IN THE PROCESS AND WE
WERE RUNNING, AND PEOPLE WERE INTERACTING
WITH THE EQUIPMENT WE'VE SEEN THAT
CONTROLS WEREN'T LOCATED IN THE RIGHT
POSITION.

SCENE: INTERVIEW REMKEVICIUS

THAT THERE WAS AWKWARD GETTING TO A PIECE
OF EQUIPMENT AND WE'VE MADE MODIFICATIONS
TO THE EQUIPMENT AND THE LOCATION OF
CONTROLS THAT WOULD FACILITATE EASE OF
REACHING, ACCESSING CONTROLS, WITH
MINIMIZED BENDING AND PROVIDING ACCESS
WHERE THE EMPLOYEE NEEDED ACCESS, BUT YET
SAFEGUARDING TO MAKE CERTAIN THAT THE
EMPLOYEE WASN'T EXPOSED.

SCENE: PALETTE LIFTING, T.C.8:

Narrator (VO):

17:31

MATERIAL HANDLING PRESENTS MANY ERGONOMIC

Manufacturing Insights:
Ergonomic Safety

CHALLENGES, HERE'S HOW WINPAK RESOLVED

SOME MAJOR CONCERNS.

SCENE: INTERVIEW REMKEVICIUS SOT: (REMKEVICIUS), T.C. 8:10:29, TIME:
38SECONDS

WELL, WE HAVE RECENTLY, ONE OF OUR
PROBLEMS IS STACKING OF BOXES ON A
PALETTE. AND, WE STACK TYPICALLY 5 HIGH,
WHICH IS APPROACHING THE 5-6 FOOT LEVEL
AND LIFTING BOXES THAT WEIGH OVER 40
POUNDS OVER ONE HEAD,

SCENE: INTERVIEW REMKEVICIUS, CREATES A PROBLEM AND PROVIDES EXPOSURE TO
POSSIBLE B-ROLL T.C.:8:21:58 BACK STRAINS. AND WE'VE INSTALLED A
VACUUM-ASSISTED LIFTING SYSTEM THAT
COUNTERBALANCES THE WEIGHT OF THE BOX AND
ALLOWS AND EMPLOYEE TO LIFT OVERHEAD
WITHOUT HAVING TO DEAL WITH LOAD AND
PLACING THE BOX ON A PALETTE.

SCENE: INTERVIEW REMKEVICIUS SOT: (REMKEVICIUS), T.C.: 8:12:19, TIME:
COVER WITH PLANT B-ROLL OF DIE 54 SECONDS
HANDLER, T.C.8:18:08

ONE OF THE IMPROVEMENTS THAT WE'VE MADE
REGARDING TOOLING AND THE HANDLING OF
TOOLING, AND OUR TOOLING CAN GET QUITE
LARGE AND HEAVY, WAS TO INSTALL A DIE
HANDLER.

SCENE: INTERVIEW REMKEVICIUS AND WHAT THAT ALLOWS TO DO IS
HISTORICALLY WHEN YOU'RE WORKING ON
EQUIPMENT THAT LARGE, YOU WOULD BE WORKING
OFF A TABLE OR OFF A SURFACE THAT MAY HAVE
BEEN A LITTLE AWKWARD REQUIRED PROLONGED

Manufacturing Insights:
Ergonomic Safety

BENDING OVER IT AND DISASSEMBLING IT TO
WORK ON IT.

SCENE: INTERVIEW REMKEVICIUS

WHAT WE'VE DONE IS PURCHASED SOME
EQUIPMENT THAT WOULD HANDLE THIS TOOLING
AND LIFT IT VERTICALLY AND ROTATE IT TO
PROVIDE A MORE COMFORTABLE POSITION FOR
OUR EMPLOYEES TO WORK AT. IF YOU CAN MAKE
IT COMFORTABLE FOR THE PERSON WORKING ON
THE TOOLING AND ELIMINATING EXPOSURE IN
THE BACK AND A LOT OF THE BENDING.

SCENE: INTERVIEW REMKEVICIUS
COVER WITH PLANT B-ROLL OF
WORKERS WITH EAR PLUGS OR JUST
WORKING.

SOT: (REMKEVICIUS) T.C.8: 13:25, TIME:
50 SECONDS

NOISE ABATEMENT IS AN ON-GOING PROGRAM
AROUND HERE. WE'VE STARTED IT A NUMBER OF
YEARS AGO.

SCENE: INTERVIEW REMKEVICIUS

IT STARTS WITH EAR PROTECTION AND ALL YOUR
METRIC TESTING IN MONITORING OUR EMPLOYEES
HEARING BUT WE ALSO TAKE IT TO AN
ENGINEERING STANDPOINT WHERE ANY NEW PIECE
OF EQUIPMENT THAT'S RECEIVED, WE INCLUDE
SOUND ENCLOSURES, MUFFLERS, ANYTHING THAT
WE CAN INCORPORATE OR REDUCE THE LEVEL OF
NOISE AND EXPOSURE ON THE MANUFACTURING
FLOOR.

SCENE: INTERVIEW REMKEVICIUS

AND EXISTING EQUIPMENT, WE'VE ALSO
ADDRESSED FROM AN ENGINEERING PERSPECTIVE
TRYING TO REMEDY THE HIGH NOISE LEVEL IN
THE PLANT, AND REDUCING THE LEVEL BY
INCORPORATING LININGS AND GUARDS AND
BAFFLING SYSTEMS TO REDUCE THE LEVEL OF
NOISE.

Manufacturing Insights:
Ergonomic Safety

SCENE: PLANT FOOTAGE

Narrator (VO):

T.C.8:23:49

FOR A VARIETY OF REASONS SOMETIMES A JOB
CAN'T BE CORRECTED, THEN IT'S TIME TO
CHANGE THE EMPLOYEE.

SCENE: INTERVIEW REMKEVICIUS

SOT: (REMKEVICIUS), T.C. 8:14:27, TIME: 36
seconds

FROM AN ERGONOMIC PERSPECTIVE, WE ALSO
ROTATE OUR EMPLOYEES WHO PACK OFF ON OUR
LINES. THERE ARE A NUMBER OF STATIONS ON
A LINE AND ROTATING THE PEOPLE THROUGH OUR
LINES PACKING DIFFERENT PRODUCTS AND
THROUGH

SCENE: INTERVIEW REMKEVICIUS

THE STATIONS ON A GIVEN LINE, WE CHANGE
REPETITIVE MOTIONS FROM WORKING WITH
PRIMARILY FROM YOUR RIGHT HAND TO YOUR
LEFT HAND, MINIMIZING THE AMOUNT OF
REPETITION WITH A GIVEN PART OF THE BODY
TO BE AT WRISTS, ARMS, SHOULDERS.

SCENE: PLANT/CLASS FOOTAGE

Narrator (VO):

TRAINING IS ANOTHER AREA WHERE WINPAK IS
MAKING A DIFFERENCE. THEY PROVIDE
CLASSES IN ALL THE SUBJECTS MANDATED BY
OSHA AND FEDERAL REGULATIONS.

SCENE: PLANT/CLASS FOOTAGE

Narrator (VO):

Manufacturing Insights:
Ergonomic Safety

WINPAK HAS COMPLEMENTED THE TRAINING PROGRAM WITH ADDITIONAL CLASSES IN ACCIDENT INVESTIGATION, HAZARD AWARENESS, FIRE SAFETY AND SEASONAL JOB SAFETY PROGRAMS.

SCENE: PLANT FOOTAGE

Narrator (VO):

WINPAK ALSO OFFERS MOTIVATIONAL AND INCENTIVE PROGRAMS TO ENCOURAGE EMPLOYEES TO KEEP SAFETY AT THE FOREFRONT OF EVERYTHING THEY DO.

SCENE: INTERVIEW REMKEVICIUS

SOT: (REMKEVICIUS), T.C. 8:07:03, TIME: 1:16

OUR SAFETY EFFORT, IT'S THE EQUIVALENT OF IF YOU LOOKED AT IT AS A HUB ON A BICYCLE WITH MANY SPOKES, IT'S NOT ONE PROGRAM. IT'S NUMEROUS PROGRAMS, IT'S EMPLOYEE INVOLVEMENT IT'S EMPLOYEE COMMITMENT,

SCENE: INTERVIEW REMKEVICIUS

IT'S UTILIZING EVERY RESOURCE THAT'S AVAILABLE TO YOU TO BE ABLE TO TAP AND GAIN EVERY ADVANTAGE THAT YOU CAN TO PROVIDE AN ENVIRONMENT THAT'S SAFE FOR YOUR EMPLOYEES TO WORK. AND ERGONOMICS IS ONE OF THOSE SPOKES, I MEAN IT'S A APPROACH THAT YOU CAN'T

IGNORE BECAUSE IT'S WHAT THESE PEOPLE THE

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MOTIONS THEY GO THROUGH AND HOW THEY DO THEIR JOB, THEY DO IT EVERYDAY, DAY IN AND DAY OUT. AND IT'S AN EXPOSURE IF THE SYSTEM IS NOT ENGINEERED PROPERLY AND YOU HAVE TO LOOK AT

THAT AS WELL AS ALL OUR PROGRAMS FROM ALL DIFFERENT ASPECTS TO REINFORCEMENT AND INCLUDING ALL OF THOSE, WHICH ERGONOMICS FITS INTO THAT AS WELL CONTRIBUTES TO AN OVERALL IMPROVED SAFETY PERFORMANCE.

SCENE: EXT. OF LOCKHEED
MARTIN

NARRATOR (VO) :

FOUR YEARS AGO NOT HAVING AN ACTIVE ERGONOMICS PROGRAM WAS TOO EXPENSIVE FOR LOCKHEED MARTIN TACTICAL AIRCRAFT SYSTEMS IN FORT WORTH, TEXAS.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

IN 1992, THE F-16 AIRCRAFT MANUFACTURER INCURRED ROUGHLY 20-MILLION-DOLLARS IN ERGONOMIC-RELATED LOSSES. THEY HAD OVER TWENTY-TWO-HUNDRED RECORDABLE INCIDENTS.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

WORKERS' COMPENSATION COST WAS APPROXIMATELY 44-MILLION DOLLARS OR ABOUT

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THE COST OF TWO F-16 AIRPLANES. IT WAS
CLEAR TO EVERYONE SOMETHING NEEDED TO BE
DONE.

SCENE: PLANT FOOTAGE

NARRATOR (VO):

THE NEW PROJECT MANAGER FOR ERGONOMICS,
BOB GETTY, WAS CALLED ON TO IMPROVE THE
SITUATION.

SCENE: PLANT FOOTAGE

NARRATOR (VO):

GETTY SAYS HE FIRST NEEDED TO UNDERSTAND
HOW TO CAUSE CHANGE WITHIN THE COMPANY.
HE REALIZED ANY SOLUTION MUST SUPPORT THE
COMPANY OBJECTIVE AND RELATE TO COMPANY
PROCESSES. THEN HE WANTED TO SET A
BENCHMARK FOR LOCKHEED MARTIN AGAINST THE
COMPETITION.

SCENE: GETTY INTERVIEW

SOT: (GETTY) T.C. 1:03:06, TIME: 54
seconds

WHEN WE FIRST STARTED, ERGONOMICS WAS NEW
IN OUR AEROSPACE ENVIRONMENT. I CALLED A
NUMBER OF ERGONOMIC ENGINEER ASSOCIATES
THROUGHOUT THE COUNTRY, CALLED OTHER
AEROSPACE COMPANIES, AND BASICALLY WE

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FOUND

SCENE: GETTY INTERVIEW

THAT THIS BENCHMARKING SHOWED WE NEEDED A BROAD SUPPORT. SOME COMPANIES GOT SIDETRACKED BECAUSE THEY WERE SPENDING SO MUCH TIME GETTING BUY-IN. ANOTHER COMPANY COMPLETELY LOST IT BECAUSE THEY TOOK ON A PILOT PROJECT THAT KIND OF TOOK ON A LIFE OF ITS OWN AND THEY LOST THEIR FOCUS.

SCENE: GETTY INTERVIEW

THE MAIN THING WE LEARNED IS THAT YOU DON'T GET RESULTS IMMEDIATELY. IN THIS COMPANY, RECORDABLE INCIDENT RATES WERE GOING UP. WHEN WE FIRST STARTED ERGONOMICS THEY EVEN WENT UP FURTHER. WE HAD TO TAKE MORE OF A BROAD SCOPE, RATHER THAN JUST FOCUS ON ONE INDICATOR.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

THE NEXT STEP FOR GETTY WAS TO FORM A CROSS FUNCTIONAL TEAM AND HEIGHTEN THEIR ERGONOMIC AWARENESS THROUGH TRAINING.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

TO FURTHER INCREASE AWARENESS, THE TEAM BEGAN REVIEWING THE OSHA 200 LOGS AND

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FOUND WHERE THEY NEEDED TO FOCUS THEIR
ATTENTION.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

THE TEAM IDENTIFIED THE MAJOR CAUSE AND
AREAS WHERE ACCIDENTS AND INJURIES WERE
OCCURRING. SPRAINS AND STRAINS ACCOUNTED
FOR THE LION'S SHARE OF INCIDENCE,
BETWEEN 60 AND 80 PERCENT.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

MANY OF THOSE INCIDENTS WERE IN THE HEAVY-
INTENSIVE OPERATIONS DIVISION WHERE
TWENTY-FIVE OF THE FIFTY DEPARTMENTS
EXPERIENCED 85- PERCENT OF THE PROBLEMS.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

THE TEAM THEN WENT TO THE FLOOR AND ASKED
WORKERS WHAT THEY SAW AS THE ERGONOMIC AND
SAFETY PROBLEMS.

SCENE: FONT:
DAVID FAITH
CHR., HEALTH AND SAFETY
COORDINATORS

SOT: (FAITH), T.C.3: 03:43, TIME: 29
SECONDS
PEOPLE ON AN EVERYDAY BASIS RESPOND WELL

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INTERNATIONAL ASSOCIATION OF
MACHINISTS AND AEROSPACE
WORKERS LOCAL LODGE 776

WHEN THEY ARE GIVEN A CHANCE TO EXERCISE
THEIR OPINION. IN THE PAST THAT MIGHT NOT
HAVE BEEN NEARLY AS OBVIOUS AS IT IS NOW.
THE ERGONOMICS PROGRAM HAS GIVEN US THIS
OPPORTUNITY.

SCENE: FAITH INTERVIEW

IT HAS BEEN VERY EQUALLY AND FAIRLY PUT ON
AT THIS FACILITY, AND IT'S STILL BEING
DONE IN SUCH A MANNER. WE ARE RECEIVING
TOOLS THAT OUR EMPLOYEES ARE NOT ONLY MORE
PRODUCTIVE, AND ARE HAVING LESS INJURIES
WITH, BUT ARE A LOT MORE COMFORTABLE WITH
AND A LOT HAPPIER.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

LOCKHEED MARTIN MANAGEMENT SUPPORTED MANY
OF THE ERGONOMIC CHANGES SUGGESTED BY
EMPLOYEES. THE EFFORT WAS FURTHER
STRENGTHENED WHEN THE UNION ASKED TO
BECOME INVOLVED WITH THE PROJECT.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

ANOTHER AREA OF CONCERN WAS BRINGING
WORKERS BACK TO THE JOB AFTER AN INJURY.
ACCORDING TO GETTY, STUDIES SHOW THE

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LONGER A PERSON IS AWAY FROM THE JOB, THE
HARDER IT IS FOR HIM OR HER TO COME BACK
TO WORK.

SCENE: FONT:

KAREN STEVENS

PROGRAM MANAGER FOR CASE
MANAGEMENT DISABILITIES
LOCKHEED MARTIN TACTICAL
AIRCRAFT SYSTEMS
FORT WORTH, TEXAS

SOT: (STEVENS), T.C. 1:22:10, TIME: 1:58

THE RETURN-TO-WORK PROGRAM WAS STARTED
HERE BECAUSE WE FELT THAT WAS AN EFFICIENT
AND EFFECTIVE WAY TO BRING OUR INJURED
WORKERS BACK AND TO DECREASE OUR COST.

SCENE: STEVENS INTERVIEW

IT WAS AN INTERESTING PROCESS IN THE FACT
THAT, FROM A HISTORICAL PERSPECTIVE, THE
FIRST THING WE NEEDED TO DO WAS TO GET
MANAGEMENT BUY-IN AND ALSO UNION BUY-IN,
BECAUSE RETURN-TO-WORK PROGRAM WAS NOT
SOMETHING WE HAD DONE BEFORE.

SCENE: STEVENS INTERVIEW

THE NEXT THING THAT WE DID, WE MADE THE
PLANT HOSPITAL KIND OF THE GATEKEEPER FOR
OUR INJURED WORKERS. EACH ONE OF THESE
ELEMENTS HAD TO BE PUT IN PLACE BEFORE WE
REALLY COULD HAVE AN EFFECTIVE RETURN-TO-
WORK PROGRAM. ONCE THE PLANT HOSPITAL WAS
THE GATEKEEPER, THEN WE WERE ABLE TO GO IN
AND DO THE PHYSICAL DEMAND ANALYSIS THAT
OUR INDUSTRIAL ENGINEERS DID, AND WE
COMMUNICATED THOSE TO OUR OUTSIDE
PROVIDERS, SO THEY REALLY HAD A GOOD
UNDERSTANDING OF WHAT THE PHYSICAL
DEMANDS WERE FOR THE WORKER WHEN THEY
WOULD RETURN TO WORK.

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SCENE: FONT: SOT: (STOKES) T.C. 2:05:17, TIME: 26
HARVEY STOKES SECONDS
ERGONOMIC ENGINEER SPECIALIST
LOCKHEED MARTIN TACTICAL WE CAME UP WITH A CHECKLIST WE CALL OUR
AIRCRAFT SYSTEMS PHYSICAL DEMAND ANALYSIS. THIS CONSISTS
FORT WORTH, TEXAS OF A BRIEF DESCRIPTION OF THE TASK BEING
PERFORMED.

SCENE: STOKES INTERVIEW THE PHYSICAL DEMAND IS BROKEN DOWN BY
FORCE, POSTURE, LOAD HANDLING, REPETITION,
VIBRATION, AND STATIC LOAD. IT IS FURTHER
BROKEN DOWN BY RISK FACTORS, EITHER LOW,
MODERATE OR HIGH RISK.

SCENE: STEVENS INTERVIEW SOT: (STEVENS)
THEN WE HAD A VERY AGGRESSIVE CASE
MANAGEMENT PROGRAM THAT WE STARTED. WE
HAVE REGISTERED NURSES THAT CASE-MANAGE
PEOPLE ONCE THEY ARE READY TO RETURN TO
WORK. THEN THE LAST PIECE OF THE RETURN-
TO-WORK PROGRAM WAS THAT WE DESIGNED A
TRADITIONAL WORK PROGRAM. WHEN THE
EMPLOYEE IS RELEASED TO RETURN TO WORK,

SCENE: STEVENS INTERVIEW THEY HAVE BEEN CASE MANAGED BY OUR NURSES,
THEY WOULD COME BACK IN, BE CLEARED
THROUGH MEDICAL, AND THEN THEY WOULD
ACTUALLY GO INTO A TRANSITIONAL WORK
PROGRAM IF THEY HAD SOME RESTRICTIONS THAT
DID NOT ALLOW THEM TO RETURN THEM TO WORK.
THIS TRANSITIONAL WORK PROGRAM IS FOR A
MAXIMUM OF 60 DAYS, AND

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SCENE: STEVENS INTERVIEW

DURING THAT TIME WE HAVE A NURSE THAT WILL
MONITOR THEM AT LEAST ONCE A WEEK TO MAKE
SURE THEY ARE PROGRESSING SUCCESSFULLY TO
FULL DUTY. THAT'S BASICALLY KIND OF A
HISTORICAL PERSPECTIVE OF HOW THE
DEVELOPMENT OF THE INJURY MANAGEMENT
PROGRAM WAS SET UP WITH THAT RETURN-TO-
WORK ELEMENT IN IT.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

GETTING THE PERSON BACK ON TO WORK WAS
ONE PART OF THE SOLUTION, NOW THE TEAM,
ARMED WITH EMPLOYEE IDEAS AND INPUT,
WANTED TO IMPLEMENT CHANGES ON THE JOB.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

THE TEAM BEGAN DOING RESEARCH INTO OPTIONS
AVAILABLE FOR REDESIGNING JOBS. THEY
TALKED WITH VENDORS AND INVESTIGATED
CURRENT TECHNOLOGY.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

ONE REDESIGNED JOB IS THE CANOPY SANDWICH

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PANEL. IT TOOK FOUR DAYS TO DRILL FORTY-THOUSAND HOLES INTO THE PANEL. EACH HOLE TOOK 125 P.S.I. TO DRILL. ABOUT HALF OF THE DRILL HOLES HAD TO BE RE-DONE. THE NEW DESIGN CALLED FOR A POWER ASSIST DRILL. INSTEAD OF FOUR DAYS, THE JOB TAKES FOUR HOURS AND NO HOLES NEED TO BE REDONE.

SCENE: FONT:
JIM KELLY
ERGONOMICS SPECIALIST
LOCKHEED MARTIN TACTICAL
AIRCRAFT SYSTEM
FORT WORTH, TEXAS

SOT: (KELLY) T.C.: 2:11:11, TIME: 54
SECONDS

WE WENT TO THE EMPLOYEES AND GOT THEIR IDEAS ON A DIFFERENT WAY OF, I GUESS, POWER FEED SYSTEM TO GO THROUGH THE SIDE OF THE CANOPY WHERE YOU HAD A STEEL ALUMINUM STACK UP, A VERY DIFFICULT SITUATION TO DRILL,

SCENE: KELLY INTERVIEW

PRIMARILY BECAUSE OF THE, WITH THE TOOL SETUP AND DESIGN, IT WAS VERY DIFFICULT TO REACH IN A VERY TIGHT AREA. WE WENT OUT TO ONE OF THE VENDORS AND WE TOOK THE IDEAS OF THE EMPLOYEES, KIND OF MERGED SOME THINGS TOGETHER, GOT THE VENDORS IN HERE TO VISIT WITH THE EMPLOYEES AND OURSELVES, KIND OF A

SCENE: KELLY INTERVIEW

ROUNDTABLE DISCUSSION, AND WE CAME UP WITH A NEW PRODUCT LINE SO TO SPEAK, ONE THAT WAS SPECIFIC TO OUR APPLICATION. THIS IS

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ONE OF THE WAYS WE WERE ABLE TO REDUCE SIGNIFICANTLY THE INJURY AND ALSO IMPROVE THE QUALITY ASSOCIATED WITH THIS PARTICULAR TASK.

SCENE: PLANT FOOTAGE

NARRATOR (VO)

ANOTHER AREA THAT FELL UNDER THE SCRUTINY OF THE ERGONOMIC COMMITTEE WAS TOOLS.

SCENE: KELLY INTERVIEW

SOT: (KELLY), T.C. 2:12:25, TIME: 2:31

WHEN THE ERGONOMICS PROGRAM, WE STARTED UP THE PROGRAM, ONE OF THE THINGS WE WERE GOING TO BE CHARGED WITH WAS TRYING TO UPGRADE OUR CURRENT TOOLING SITUATION. THIS INCLUDED DRILL MOTORS, RIVET HAMMERS, FASTENING TOOLS OF ALL TYPES. SINCE WE PRIMARILY DO THE ASSEMBLY BY HAND, VERY LITTLE AUTOMATION IS

SCENE: KELLY INTERVIEW

INVOLVED SIMPLY BECAUSE OF THE WAY THE DESIGN IS SET UP OF THE AIRCRAFT ITSELF, IT MAKES IT VERY DIFFICULT FOR AUTOMATION.

SO ONE OF THE THINGS WE WERE GOING TO BE TASKED WITH WAS TO GO OUT AND TRY TO FIND WHAT WAS THE LATEST TECHNOLOGY ASSOCIATED WITH THESE TYPES OF TOOLS, THINGS THAT ARE COMMONLY USED EVERY DAY. ONE OF THE THINGS THAT WE DID APPROACH FIRST WAS THE MOST COMMONLY USED

SCENE: KELLY INTERVIEW

ITEMS, SUCH AS DRILL MOTORS. DRILL MOTORS ARE USED IN JUST EVERY COMPONENT ASSEMBLY AREA UP AND DOWN THE ASSEMBLY LINE. ONE

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OF THE THINGS WE DID LOOK FOR, ONE OF THE MAJOR THINGS, I WON'T SAY IT'S NECESSARILY AN ERGONOMIC TOOL, BUT SOME OF THE THINGS WE LOOKED FOR WAS VIBRATION THAT'S ATTENUATED THROUGH THE TOOL INTO THE PERSON'S HANDS.

SCENE: KELLY INTERVIEW

WE WANTED TO GET THE LOWEST VIBRATION TOOL AVAILABLE, TEMPERATURE VARIANCE IN THE HANDLE THAT ALSO IS TRANSMITTED TO THE HANDS; THOSE WERE SOME OF THE THINGS WE WERE LOOKING FOR TO TRY TO CHANGE. SOME OF THE OTHER TOOLS WE LOOKED AT, THE CORDLESS RIVET GUNS AS YOU MENTIONED. THOSE ARE FAIRLY NEW ON THE MARKET, VERY DIFFICULT IN THE WAY THAT THEY FEEL VS. THE OLD STYLE TOOLS,

SCENE: KELLY INTERVIEW

THE OLD ABC13 TYPE TOOLS WE COMMONLY USE AROUND HERE. IT IS A DIFFICULT THING TO TRY TO GO IN AND GET THIS TYPE OF CHANGE INCORPORATED IN A FACTORY THIS LARGE WITH EMPLOYEES THAT HAVE BEEN DOING IT A CERTAIN WAY FOR MANY YEARS. THE REASON IS THAT YOU HAVE NOW INTRODUCED, OR TAKEN AWAY I SHOULD SAY, THE FEEL OF WHAT THEY COMMONLY WERE USED TO. NOW THEY HAVE NO FEELING WHATSOEVER WHEN YOU PUT THIS NEW GUN IN THEIR HAND.

SCENE: KELLY INTERVIEW

IN THAT ASPECT, IT WAS A DIFFICULT TASK TO GO OUT THERE AND PUT THESE NEW TOOLS IN THEIR HAND AND TO ACTUALLY PUT THEM INTO APPLICATION OUT IN THE ASSEMBLY AREA OR COMPONENT AREA. SOME OF THE OTHER MORE SIMPLISTIC APPROACHES THAT WE TOOK WAS

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JUST TAKING A COMMON, EVERYDAY SCREW DRIVER AND PUTTING A CORDLESS SCREW DRIVER IN PLACE OF THAT.

SCENE: KELLY INTERVIEW

AT FIRST THIS AGAIN WAS SOMETHING THAT WAS OUT OF THE ORDINARY, WE DID NOT COMMONLY USE THAT IN THIS PARTICULAR FACILITY. BUT SINCE WE DO AN AWFUL LOT OF FASTENING, A LOT OF HAND TIGHTENING, THE REPETITIVE MOTION ASSOCIATED WITH THAT TASK WAS PRETTY MUCH INSTANTLY RELIEVED, SO THEREFORE WE RECEIVED, IN MY OPINION, QUITE A FEW BENEFITS FROM THAT. THOSE ARE JUST A FEW OF THE EXAMPLES THAT WE'VE DONE SO FAR.

SCENE: PLANT FOOTAGE

NARRATOR (VO):

AS PART OF REDESIGNING PROBLEM JOBS, THE TEAM REVIEWED THE DRILL MOTOR OF TOOLS. THE LOCKHEED MARTIN WORK ENVIRONMENT IS DEMANDING ON TOOLS, SO REPLACEMENT TOOLS NEEDED TO BE TOUGH ON THE JOB, NOT ON THE WORKER.

SCENE: PLANT FOOTAGE

NARRATOR (VO):

THE TEAM WAS LOOKING FOR DRILL MOTORS WITH LOW VIBRATION, GOOD SPINDLE RUNOUT, AND TEMPERATURE VARIANCE TRANSMITTED THROUGH

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THE HANDLE INTO THE WORKER'S HAND.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

IN THE FIRST YEAR, THE LOCKHEED MARTIN
ERGONOMIC PROJECT HAD SHOWN ENOUGH
PROGRESS IN WORKERS' COMPENSATION SAVINGS
TO WARRANT A SIX-HUNDRED-THOUSAND-DOLLAR
BUDGET FOR 1994.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

AS PART OF THE PROGRAM, THE CROSS-
FUNCTIONAL TEAM STARTED INVESTIGATING
SPRAINS AND STRAINS INJURIES. THEY FOUND
SOME OF THE INJURIES ARE CAUSED FROM
POSTURE PROBLEMS.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

THE TEAM ALSO ANALYZED JOBS TO FIND THE
EXACT CAUSE OF AN INJURY THAT MIGHT BE
RADIATING PAIN TO ANOTHER PART OF THE
BODY.

SCENE: STOKES INTERVIEW

SOT: STOKES 2:02:48, time: 42 seconds

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WE HAD A MAJOR PROBLEM WITH BACK AND SHOULDER INJURIES IN THE FINAL ASSEMBLY. WE HAD THREE PEOPLE PICKING UP A 175-POUND HORIZONTAL STABILIZER. WE HAD ONE ON EACH SIDE, AND ONE IN THE MIDDLE.

SCENE: STOKES INTERVIEW

THEY WOULD ALL LIFT IT TOGETHER, AND THEN THEY WOULD GUIDE IT IN. THE ONE IN THE MIDDLE HAD PRIMARILY THE FULL LOAD ON HIM. THE ONES ON THE SIDE WOULD KIND OF SHAKE THE HORIZONTAL STABILIZER IN. WE HAD NUMEROUS BACK AND SHOULDER INJURIES ON THIS.

SCENE: STOKES INTERVIEW

WHAT WE DID, WE GOT WITH OUR FACILITY ENGINEERS, AND WE DESIGNED A LIFT TO PICK IT UP AND INSERT THIS. RIGHT NOW WE'VE GOT ONE PERSON DOING THE JOB IN THE SAME TIME IT TOOK THREE. SO WE NOT ONLY SAVE INJURIES, BUT OUR PRODUCTIVITY INCREASED.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

ANOTHER PROBLEM WAS DETECTED WHEN THE TEAM REVIEWED A JOB THAT REQUIRED THE WORKER TO USE THEIR BODY WEIGHT TO SET THE PART.

SCENE: STOKES INTERVIEW

SOT: (STOKES) T.C. 2:03:46, TIME: 49 seconds

WE HAD A PROBLEM WITH SHOULDER AND LEG INJURIES. WE WERE PULLING DOWN A STRAP TO GET THE LEADING EDGE BONDED ON THE PART. THEY WERE PULLING IT DOWN WITH THEIR HANDS SOMETIMES, SOMETIMES THEY WERE DOING IT BY

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STEPPING ON IT WITH THEIR FEET AND
ACTUALLY LIFTING THEMSELVES OFF THE
GROUND. WE HAD ONE LADY THAT HAD MAJOR
SHOULDER SURGERY BECAUSE OF THIS.

SCENE: STOKES INTERVIEW

WE WENT OFF AND BOUGHT A SIMPLE COME-
ALONG, PUT A TEFLON BACKING ON IT SO IT
WOULDN'T MAR THE PART, AND THEY CAN
RATCHET IT DOWN. IT INCREASED THEIR
PRODUCTIVITY AND WE HAD BETTER QUALITY.
NO FORCE ON THEIR SHOULDERS WHATSOEVER.

SCENE: PLANT FOOTAGE

NARRATOR (VO):

LOCKHEED MARTIN HAS MADE ONE-POINT-FIVE-
MILLION DOLLARS IN IMPROVEMENTS. THE
DRAMATIC RESULTS WERE SEEN WITHIN SIX
MONTHS OF STARTING. THE LOST WORK DAY RATE
WAS REDUCED BY 25%. THEY SAVED OF OVER
THREE MILLION DOLLARS IN WORKERS
COMPENSATION PREMIUMS. ELEVEN-MILLION-
DOLLARS WERE PROJECTED IN SAVINGS FOR THE
COMING YEAR.

SCENE: PLANT FOOTAGE

NARRATOR (VO):

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THE FUTURE HOLDS EVEN MORE ADVANCEMENTS
FOR LOCKHEED MARTIN.

SCENE: KELLY INTERVIEW

SOT: (KELLY), T.C. 2:25:24, TIME: 1:40

IN THE PLANS FOR THE FUTURE, THE VIRTUAL
REALITY IS SOMETHING WE FEEL COULD BE
ADVANTAGEOUS, PRIMARILY ON NEW PROGRAMS.
MEANING THAT BEFORE A NEW PROGRAM COMES
INTO EFFECT, BEFORE WE ACTUALLY GET INTO
THE MANUFACTURING OF THE TOOLS THAT ARE
USED.

SCENE: KELLY INTERVIEW

THE HARD TOOLS, I'M TALKING ABOUT FLOOR-
BASED TOOLS NOW, THAT THE COMPONENTS WILL
ACTUALLY SIT IN AND THE PEOPLE WILL
ACTUALLY WORK TO THOSE. WE HOPE TO
UTILIZE THIS TECHNOLOGY TO HELP FORESEE
ANY THINGS THAT MIGHT POSSIBLY CREATE A
PROBLEM OR AN INCONVENIENCE TO THE
OPERATORS OR THE EMPLOYEES WHEN THEY GO IN
AND MOVE AROUND IN THE STRUCTURES.

SCENE: KELLY INTERVIEW

THIS WILL HELP US IDENTIFY HIGH RISK, LOW
RISK, MEDIUM RISK FACTORS, AND POSSIBLY
ELIMINATE THOSE UP FRONT IN THE DESIGN
STAGE. AFTER THE DESIGN HAS BEEN DONE, IT
BECOMES A VERY COSTLY ITEM, AND EVEN MORE
COSTLY AFTER THE TOOL HAS BEEN BUILT.
THAT'S WHY WE HAVE SOME OF THE
RESTRICTIONS THAT WE DO NOW, BECAUSE OF
THE COST ASSOCIATED WITH REWORKING A

SCENE: KELLY INTERVIEW

LARGE CO-JIG OR A LARGE FIXTURE THAT
BECOMES IMPOSSIBLE, SO WHAT WE END UP

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HAVING TO DO IN MANY CASES IS WORK AROUND
THOSE TO CREATE THE BEST SITUATION
POSSIBLE. WE FEEL LIKE IN THE VIRTUAL
REALITY SETTING WE'LL BE ABLE TO FORESEE A
LOT OF THOSE AND DO A PREDICTION TO WHERE
A LARGE PERCENTAGE OF THAT COULD BE
ELIMINATED UP FRONT

SCENE: GETTY INTERVIEW

SOT: (GETTY) T.C. 1:19:04, TIME: 1:03

HERE AT LOCKHEED, WITH A MANUFACTURING
LINE THAT'S BEEN GOING FOR 20 YEARS, WE'VE
BEEN DOING MORE OF A CONTINUOUS
IMPROVEMENT EFFORT. WE TAKE A PROCESS
THAT WE CAN MAKE MORE CONSISTENT WITH THE
CAPABILITIES REQUIREMENTS OF THE
INDIVIDUAL AND IMPROVE THAT, AND IT'S A
CONTINUOUS IMPROVEMENT EFFORT.

SCENE: GETTY INTERVIEW

BUT WE'D LIKE TO MOVE BEYOND THAT INTO THE
DESIGN EFFORT. WE'D LIKE TO, ON NEW
PROGRAMS, SHOW THAT ERGONOMICS WILL MAKE
MANUFACTURING MORE AFFORDABLE, REDUCE
QUALITY PROBLEMS, INCREASE PRODUCTIVITY
GOALS.

SCENE: GETTY INTERVIEW

CONSEQUENTLY WE HAVE ACTUALLY BROUGHT DR.
AYUBE AND DR. SMITH FROM TEXAS TECH DOWN
AND HAVE GIVEN CLASSES TO SOME OF THE
MANUFACTURING ENGINEERS, SO THAT THEY HAVE
THESE CONCEPTS AS THEY ARE GOING THROUGH
THE DESIGN PROCESS. THAT'S REALLY ONE OF

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THE WAYS WE CAN MOVE THE BENEFITS WE'VE
GAINED AFTER THE FACT INTO MORE OF A
PROACTIVE MODE.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

AS THE MANUFACTURING INDUSTRY BECOMES MORE
AWARE OF THE BENEFITS TO SOUND ERGONOMIC
AND SAFETY PRACTICES, THE CHANGES ARE
PUSHED FURTHER UPSTREAM.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

ONE COMPANY THAT TOOK AN EARLY STAND IN
DEVELOPING WAYS TO DESIGN FOR ERGONOMICS
WAS TECNOMATIX TECHNOLOGIES OF ISRAELI.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

USING A VIRTUAL REALITY BASED PROGRAM,
TECNOMATIX CAN SIMULATES WORKSTATIONS
USING COMPUTER-AIDED PRODUCTION
ENGINEERING, OR CAPE, SOFTWARE.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

CAPE CAN DETECT AND CORRECT ERGONOMIC
PROBLEMS LONG BEFORE THE WORKSTATION

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DESIGN IS CONSTRUCTED.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

VIRTUAL REALITY IS JUST ONE OF MANY
DEVELOPMENTS IN FUTURE ERGONOMIC AND
SAFETY PRACTICES. AS YOU STRIVE TO CREATE
MORE ROBUST SYSTEMS, KEEP IN MIND SOME OF
THE TRENDS LEAMON IS PREDICTING.

SCENE: LEAMON INTERVIEW

SOT: (LEAMON) T.C. 3:01:08, TIME: 3:00
IN TERMS OF ERGONOMIC ADVANCEMENTS, I
THINK CERTAINLY THE ONE THAT MANY PEOPLE
ARE WAITING FOR IS SPEECH INPUT, TO AVOID
KEYING OPERATIONS. KEYSTROKE OPERATIONS
ARE VERY TAXING ON THE HUMAN BEING, NOT
INTRINSICALLY, BUT JUST BY SHEER VOLUME.

SCENE: LEAMON INTERVIEW

THE NUMBER OF KEYSTROKES A SKILLED TYPIST
CAN INPUT IN A DAY IS ASTRONOMICAL, AND
REALLY DO PRODUCE LOADS ON THE HANDS AND
WRISTS, PROBABLY UNPRECEDENTED.

SCENE: LEAMON INTERVIEW

THE SECOND ISSUE, I THINK, WILL BE SO-
CALLED PARTICIPATIVE ERGONOMICS. AND HERE
I HAVE SOME RESERVATION, BECAUSE IT CAN BE
USED TWO WAYS, ERGONOMICS HAS ALWAYS
INVOLVED THE OPINIONS OF THE WORKERS AND
PEOPLE IN THE SYSTEM. IF THAT'S
PARTICIPATIVE ERGONOMICS, I'M FOR IT.

SCENE: LEAMON INTERVIEW

WE'VE ALWAYS INVOLVED THE WORKERS AND THE
USERS OF THE SYSTEMS IN THE APPLICATION.

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IN OTHER WORDS, HERE'S A NEW PRODUCT,
HERE'S A NEW PROCESS, LET'S WORK TOGETHER
TO MAKE IT WORK. IF THAT'S PARTICIPATIVE
ERGONOMICS, I'M FOR IT.

SCENE: LEAMON INTERVIEW

ON THE OTHER HAND, IF PARTICIPATIVE
ERGONOMICS MEANS THAT WORKERS START TO
NEGOTIATE WHAT'S RIGHT AND WHAT'S WRONG,
THAT I THINK THIS A NICE LAYOUT, THEN I
CAN'T BUY INTO THAT, LARGELY BECAUSE, LIKE
ANY OTHER SCIENCE OR TECHNOLOGY, THE MERE
FACT YOU THINK THIS IS THE RIGHT COLOR OR
YOU THINK THAT'S THE RIGHT EXPOSURE, OR
YOU THINK THAT'S THE RIGHT WORKING
TEMPERATURE, IS PRETTY IRRELEVANT.

SCENE: LEAMON INTERVIEW

WHAT WE CAN DO IS MEASURE AND FIND OUT
WHAT THE CONDITIONS ARE WHICH ARE OPTIMAL.
SO PARTICIPATIVE IN TERMS OF GATHERING
INFORMATION, PARTICIPATIVE IN TERMS OF
IMPLEMENTATION, AND GREAT WELL-
ESTABLISHED PROCESS.

SCENE: LEAMON INTERVIEW

ON THE OTHER HAND, ALLOWING PEOPLE TO VOTE
ON WHICH IS THE APPROPRIATE WORKPLACE
LAYOUT IS SOMETHING THAT PROFESSIONALLY I
HAVE A LOT OF DIFFICULTY WITH.

SCENE: LEAMON INTERVIEW

THE FINAL MAJOR CHANGE IN THE NEXT DECADE
WILL BE A REVERSION TO ROOTS. ORIGINALLY
ERGONOMICS WAS THE STUDY OF HUMAN
PERFORMANCE, AND SURE ENOUGH THAT MEANS
THE NUMBER OF WIDGET PRODUCED. HEALTH AND
SAFETY AND QUALITY AND OUTPUT ARE EQUAL
PARTNERS IN MEASUREMENT OF HUMAN
PERFORMANCE.

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SCENE: LEAMON INTERVIEW

CURRENTLY WE CONCENTRATED ONLY ON THE COSTS THAT INADEQUATE ERGONOMICS BRINGS IN TERMS OF HEALTH AND SAFETY. I BELIEVE IN THE NEXT TEN YEARS WE SHOULD GET BACK TO THE POINT OF VIEW THAT THE MANUFACTURING INDUSTRY SAYS IF WE USE THESE PEOPLE PROPER

SCENE: LEAMON INTERVIEW

THE MANUFACTURING INDUSTRY WILL GET BACK TO THE POSITION WHICH SAYS, IF WE ACCOMMODATE THESE PEOPLE IN THE WORKPLACE, IF WE TAKE A COUNT OF CAPABILITIES, THEN WHAT WE WILL DO IS AVOID THE COSTS OF INJURY AND DISEASE,

SCENE: LEAMON INTERVIEW

BUT EVEN MORE IMPORTANTLY, WE WILL FIND WE CAN ADD VALUE TO THE PROCESS. AND WHEN ALL IS SAID AND DONE, THAT IS WHAT THE MANUFACTURING INDUSTRY IS IN BUSINESS TO DO.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

AS WE APPROACH THE NEXT MILLENNIUM, CLEARLY ERGONOMICS AND SAFETY WILL BECOME EVEN STRONGER PLAYERS IN THE MANUFACTURING GAME.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

YOU CAN TAKE STEPS NOW TO KEEP UP WITH THE ERGONOMIC EVOLUTION. THE ESSENTIAL STEP

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IT SEEMS IS TO TAKE A TOP DOWN APPROACH.
IF COMPANY MANAGEMENT SUPPORTS AN
ERGONOMIC SAFETY PROGRAM, YOUR CHANCES
FOR SUCCESS ARE MUCH GREATER.

SCENE: PLANT FOOTAGE

NARRATOR (VO) :

WITH MANAGEMENT'S BUY-IN, YOU CAN PUT A
TEAM TOGETHER THAT UNDERSTANDS ERGONOMICS
AND SAFETY. THE TEAM NEEDS TO START
TALKING WITH THE WORKERS ON THE FLOOR.
THE EMPLOYEES' INPUT WILL HELP YOU
PINPOINT THE PROBLEMS.

NARRATOR (VO) :

FIND THE PROBLEM AND THEN LISTEN A LITTLE
LONGER. YOU WILL GET SOME GOOD IDEAS
ABOUT HOW TO REACH A SOLUTION.

NARRATOR (VO) :

ERGONOMICS AND SAFETY ARE LIKE THE OLD
ADAGE; "YOU CAN EITHER PAY ME NOW, OR PAY
ME LATER." EITHER WAY, YOUR COMPANY WILL
END UP DIRECTING DOLLARS TO THE CARE AND

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WELFARE OF WORKERS. YOU DECIDE WHERE

PUTTING MONEY WILL GIVE YOUR COMPANY THE

BEST COMPETITIVE EDGE.