

MANUFACTURING INSIGHTS

SCENE 1.

CG: FBI warning
white text centered on black to blue
gradient

WARNING

Federal law provides severe civil and
criminal penalties for the unauthorized
reproduction, distribution or exhibition
of copyrighted media.

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Society of Manufacturing Engineers

SCENE 2.

SME logo, with music

SCENE 3.

MI open, with music

MUSIC UP AND UNDER

NARRATION (VO) :

MANUFACTURING INSIGHTS, MANUFACTURING
ENGINEERING MAGAZINE'S VIDEO SERIES FOR
PROCESS IMPROVEMENT.

SCENE 4.

03.51.52 - 03.52.02

NARRATION (VO) :

THIS PROGRAM, *LEAN MANUFACTURING IN A SMALL
SHOP*, WILL DEMONSTRATE HOW PETERSON PACIFIC
CORPORATION, HAS APPLIED LEAN TECHNIQUES TO
GREATLY IMPROVE EFFICIENCY.

SCENE 5.

Machine in field

Blower truck

03.02.39 - 03.02.55

NARRATION (VO) :

PETERSON PACIFIC MANUFACTURES GRINDERS,
CHIPPING MACHINES AND BLOWER TRUCKS FOR
SEVERAL INDUSTRIES. ALL OF ITS DIVERSE
PRODUCT LINE IS MANUFACTURED IN EUGENE,
OREGON, WHERE IT HAS BEEN LOCATED SINCE THE
COMPANY STARTED IN 1981.

SCENE 6.

NARRATION (VO) :

Group shot of employees standing on
Machine.

EVEN THOUGH PETERSON PACIFIC IS A SMALL
COMPANY EMPLOYING ABOUT 150 PEOPLE, THE
COMPLEXITY OF ITS MULTIPLE PRODUCT LINES
DICTATES AN ENORMOUSLY COMPLEX PRODUCTION
SYSTEM, WHICH IS DRIVEN BY A COMPUTERIZED
MATERIAL RESOURCE PLANNING OR MRP SYSTEM.

CAD SYSTEM 04.03.54 - 03.04.07

SCENE 7.

NARRATION (VO) :

Forestry machine

RECENTLY, LEADERSHIP FELT COMPETITIVE
PRESSURES IN THE MARKETPLACE AND SAW SHRINKING
PROFITS.

SCENE 8.

second Forestry machine

NARRATION (VO) : TO THEIR OWN DETRIMENT,
COMPANY LEADERS KNEW THAT THEY WERE LOSING
ORDERS TO THE COMPETITION BECAUSE OF THEIR
LONG DELIVERY SCHEDULE.

SCENE 9.

03.44.00 - 03.44.12

NARRATION (VO) :

WHEN THE COMPANY'S LEADERS STARTED LOOKING
INTO WAYS TO IMPROVE, THEY RECOGNIZED LEAN
MANUFACTURING WAS THE WAY TO GO. EVERYONE
UNDERSTOOD IT WAS GOING TO BE A LONG JOURNEY
TOWARD LEANING THE COMPANY, BUT THEY
UNDERESTIMATED HOW LONG IT WOULD TAKE TO GET
STARTED.

9b 03.44.13 - 03.44.32

SCENE 10.

03.44.34 - 03.44.55

NARRATION (VO) :

AS THE FIRST LEAN EFFORTS BEGAN, SOME
DEPARTMENTS SAW IMPROVEMENTS, BUT THE CUSTOMER

DELIVERY SCHEDULED REMAINED UNAFFECTED.

SCENE 11.

NARRATION:

02.02.19 - 02.02.26

LARRY CUMMINGS, CEO OF PETERSON PACIFIC, IS
MOVING THE COMPANY FORWARD ON ITS LEAN PATH.

SCENE 12.

Larry Cummings CEO cut A

02.01.23 to 02.02.05 first starting
point of lean

When I came here, we had a very large, centralized store area. We purchased our fabricated items in multiples and put them into the storage area, and then picked them out of those storage areas into kits in the individual areas. It seemed like that was maybe a starting point of one area that we had excess inventory and an opportunity to streamline our operations. So we used that for our very first opportunity for a kaizen project, to see if we could streamline that particular process.

12b Cut away 03.50.32 - 03.50.53
inventory

SCENE 13.

photo of first kaizen event

To come from CHRIS HOFF

NARRATION (VO) :

OVERSEEING THE FIRST LEAN EFFORTS AND
REALIZING IMPROVEMENTS OVER THE LAST SEVERAL
YEARS, THE COMPANY'S LEADERS CAN NOW REFLECT
BACK ON THEIR CHOICES.

SCENE 14.

Larry Cummings CEO cut B

02.02.35 to 02.02.54

We should probably have started in final assembly. I think that was because in a pull system, if we start at the end and work backwards we may have been more successful. But we started in some other areas first, and in retrospect maybe we should have started in final assembly first.

SCENE 15.

03.28.38 - 03.29.06

NARRATION (VO) :

MAKING FUNDAMENTAL CHANGES TO THE PRODUCTION
SYSTEM WAS ROUGH AT FIRST.

SCENE 16.

John Skalos cut B

01.37.02 to 01.37.21 slow start but
worth it

NARRATION (VO) :

We've had a lot of battles to fight, and we're still running into brick walls here and there. But slowly but surely, I think everybody is going to reach a plateau where you run into these problems. It may take a year, it may take two years to overcome and get to another plateau, but every time you do you seem to

gain. You seem to gain in profitability, morale, everything.

SCENE 17.
Chris Hoff cut A
02.17.45 to 02.18.51

Video- electrical department working

04.04.32 - 04.04.45

When our CEO came, he introduced the book "Lean Thinking" by James Womack, and required a lot of our middle management staff to read that and begin the process of thinking differently on how we build things here and how we run things in general. As you know, lean is a holistic approach throughout the entire company. So it was one of those things of 'pull the trigger and see what happens.' They tried doing some projects in our electrical department. They tried a couple projects in our materials department. Back then the big push was reducing inventory. But they didn't really understand the human factor element, managing the human element as I like to call it. Because we didn't have people on board, we didn't have any follow through with any of these events or any of these projects. That's why they failed initially, why it never took off.

SCENE 18.

Photos of training sessions?
Lego simulation photos?
PHOTOS FROM CHRIS HOFF

NARRATION (VO) :

A TRAINER WAS BROUGHT IN TO TEACH EMPLOYEES ABOUT LEAN MANUFACTURING. GARY CONNER, OF LEAN ENTERPRISE TRAINING, TAUGHT SEVERAL CLASSES TO EMPLOYEES. HE INTRODUCED LEAN CONCEPTS BY SIMULATING A LEAN COMPANY USING LEGOS TO ASSEMBLE A PRODUCT BY BOTH BATCH AND SINGLE-PIECE FLOW TECHNIQUES.

SCENE 19.
CHRIS HOFF OR BRUCE MACKENDER PHOTOS
OF GENIE FACTORY TOUR

NARRATION (VO) :

THE JOURNEY GAINED ADDITIONAL MOMENTUM AFTER PETERSON PACIFIC EMPLOYEES BENCHMARKED OTHER LOCAL COMPANIES.

SCENE 20.
Chris Hoff cut B
02.19.04 to 02.19.49 cut B

We went and took some tours at different companies. We toured Caterpillar, we toured Genie. We looked and saw what John

Deere was doing. We started really understanding this was more about managing people than it is making the principles work. So there was a big push to get people involved, let's get people off the shop floor and let's get them in these kaizan events. Let's get them involved, let's hear their ideas and validate where they're coming from. Let's work together as a team to make them a bigger part of the picture. When we did that, as you know when we implemented this in our final assembly department, we had immediate success, and I believe it was just because of that, we got the people involved that needed to be involved.

SCENE 21.
04.06.15 - .32

NARRATION (VO) :

ONCE VISUAL EVIDENCE OF LEAN IMPROVEMENTS
BEGAN TO BE SEEN, THE PACE OF CHANGE BEGAN TO
ACCELERATE. LEADERS AT PETERSON PACIFIC
DECIDED TO START FOCUSING ON THE PART OF THE
BUSINESS THAT WAS CLOSEST TO THE CUSTOMER. FOR
PETERSON PACIFIC, THIS WAS THE FINAL ASSEMBLY
AREA, WHICH HELD THE MOST PROMISE FOR
IMPROVING CUSTOMER DELIVERY TIMES.

03.53.17 - 03.53.40

SCENE 22.

NARRATION (VO) :

03.03.25 - 03.03.45

ONCE OTHER EMPLOYEES BEGAN TO SEE THE
EFFICIENCIES GAINED IN FINAL ASSEMBLY, THERE
WAS GREAT INTEREST IN "LEANING" OTHER AREAS OF
THE SHOP. THIS MOMENTUM GOT AN EVEN BIGGER
PUSH WHEN EMPLOYEE PROFIT-SHARING STARTED.

SCENE 23.
Rick Spencer cut B
01.18.52 to 01.19.23

Our biggest problem was- we moved parts too often. We picked them up, moved them around, so we THOUGHT about it and we said there is a better way, and that was our start into lean manufacturing.

Too much movement

SCENE 24.

NARRATION (VO) :

03.24.10 - 03.24.20

EVEN THOUGH SOME EMPLOYEES BEGAN TO REMBRACE
LEAN, IT SOON BECAME CLEAR TO LEADERS THAT
THEIR BIGGEST OBSTACLE WAS GOING TO BE GETTING
EVERYONE TO UNDERSTAND WHY THEY WERE MAKING
THESE CHANGES.

SCENE 25.

Mike on camera

Mike Schlosser cut A
01.04.06 to 01.04.30

people are afraid of change, and I think that
was one of the reasons we had the issues for
the first year and a half, with nothing moving
very fast. We started the process and they
stopped because they were not seeing the
results.

SCENE 26.

NARRATION (VO) :

03.26.36 - 03.26.55

PETERSON PACIFIC OVERCAME RESISTANCE TO CHANGE
WITH EMPLOYEE TO EMPLOYEE TRAINING AND
SELECTING AREAS TO IMPROVE THAT WOULD SEE
MEASURABLE IMPROVEMENTS.

SCENE 27.

Lonnie
cut A

01.40.33 to 01.41.10 most of my
crew 12 years experience

Most of my crew has been here for... well
the newest guy I have is about three
years, and I have some people that have
been here 12 years. They're people that
have been set in their ways of single
stall build, and the lean manufacturing
was new to them. They didn't really
understand it. We had to do a little
training so they would understand it
better, but even at that they were
skeptical. But once they began to see it
happen, they really climbed on board, and
they've done a really good job adapting to
lean,

Stall build cut away
03.31.04 - 03.31.16

SCENE 28.

Lonnie cut C

01.45.00 to 01.45.57

There was one person in particular, one of
the older guys, and he had worked in this
business for almost as many years as I've
been in it. He was real set in his ways

KAIZEN PHOTO FROM CHRIS HOFF

and he didn't quite understand what we wanted to do. To train them we had a Kaizan event, and a few of the guys participated in that. With those guys up there in this kaizan event, when they came back they were able to share one on one with the guys, so rather than coming from a supervisor it was one of their peers. It began to take hold, and they could see machines going through the line, things were going smoother, there were fewer problems, and the machine was built in fewer hours with fewer people.

SCENE 29.

NARRATION (VO) :

03.19.45 - 03.20.00

COMPANY LEADERSHIP WAS CAREFUL TO BE SENSITIVE TO THE FEELINGS OF EACH EMPLOYEE.

SCENE 30.

Chris Hoff cut C

02.20.09 to 02.21.14

NARRATION (VO) :

A lot of it was just attitude and culture. As Toyota would call it, it was kind of the blockhead syndrome, where people are stuck in their ways, they just refuse to change. It's a hard thing for people. Change in general is a hard thing. You're asking a guy who has 20+ years experience fabricating, to do it differently. You're going to come into his world and say, we want you to do this differently. Sometimes that can be taken as an insult, like he doesn't know what he's doing, like he doesn't know his work. When you begin to challenge their expertise, they take that personally. One of the things that is really important is getting them to understand that this has nothing to do with your expertise, you're probably one of the most skilled people we have here. What we're trying to do is think outside the box and try to see a whole new world, or a whole new way of doing something, to try to achieve our goals.

SCENE 31.

Larry Cummings cut D

02.03.55 to 02.04.36 resistance to

So once that project was implemented, and was successful, people started to see the benefits of working to that particular process that was established in that kaizan project. Then the

changes

momentum seemed to develop in other areas, and the other areas were more anxious to see if they could emulate those successes. It was probably the most important project, the ones before that didn't have the magnitude or didn't develop the momentum that the final assembly did.

SCENE 32.

Mike Schlosser Cut B

01.05.11 to 01.05.41

yeah, there were standout naysayers that did change their opinions because they saw the results, they see their job is actually easier, they don't have to work as hard, profits of our company are up, which as a company that shares its profits with our employees, money always talks with everybody, but, you are always going to have naysayer. The best you can do is educate them and what we do is we put them in the process so that they become involved in it, and as they become involved in it for the most part everyone becomes a champion of it.

SCENE 33.

03.16.30 - 03.16.55

NARRATION (VO) :

LEADERS AT PETERSON PACIFIC FOUND THAT A PERSON'S ATTITUDE MADE THE DIFFERENCE BETWEEN SUCCESS AND FAILURE OF LEAN IMPROVEMENTS.

SCENE 34.

03.15.32 - 03.15.45

NARRATION (VO) :

TO IMPROVE ATTITUDES, LEADERS KNEW THEY NEEDED TO INCREASE EMPLOYEE SATISFACTION ON THE JOB. SO, THE COMPANY INVESTED IN NEW TOOLS WHENEVER THEY WERE NEEDED.

SCENE 35. Rick Spencer cut C

01.21.30 to 01.21.58

you put the money up front, get those tools in here so the guys aren't spending their time looking all over the shop. Everybody said, yea right, like that will ever happen. Then it did happen and the guys said yea, this is kind of cool, having what you need right where it needs to be.

SCENE 36.

John Skalos cut A

01.32.01 to 01.32.28

So there's a little bit of a negative attitude at first. But I believe when they see how much easier things flow through the shop and that there is still plenty of work available

and nobody's losing their job.

SCENE 37.

Rick Spencer cut D

01.24.25 to 01.24.

Getting people excited about lean manufacturing is a tough thing, but once you do get them excited about it, it spreads. It's hard to spread positive, it is easy to be negative but spreading positive is a hard thing. Once they start seeing positive, it's easier.

SCENE 38.

A 03.30.55 - 03.31.02

B 03.53.40 carry to end of next scene 03.54.10

NARRATION (VO) :

POSITIVE ENERGY SPREAD THROUGHOUT PETERSON PACIFIC WHEN THE COMPANY CHANGED FROM BUILDING EACH MACHINE IN A SINGLE "STALL," TO FLOWING THE PRODUCT FROM ONE WORK CELL TO THE NEXT.

SCENE 39.

See scene above

03.54.10

NARRATION (VO) :

IN MOVING A SINGLE PRODUCT FROM FABRICATION TO PAINT, THEN TO FINAL ASSEMBLY, PETERSON PACIFIC BEGAN REALIZING THE BENEFITS OF SINGLE-PIECE FLOW AND STANDARD WORK, AND THUS STARTED TO SHOW POSITIVE BOTTOM-LINE RESULTS.

SCENE 40.

03.59.43 - 04.00.02

03.19.08 - 03.19.30

Text on screen over image

NARRATION (VO) :

USING MARKET DATA, IT WAS CALCULATED THAT THE COMPANY NEEDED TO SHIP ONE NEW MACHINE EVERY 21 HOURS TO MEET CUSTOMER DEMAND. THIS TAKT TIME CAN BE CHANGED TO REFLECT CHANGES IN DEMAND BY ADDING ADDITIONAL RESOURCES IN EACH CELL.

Available time = TAKT
customer demand TIME

TAKT TIME IS CALCULATED BY DIVIDING THE AVAILABLE TIME BY CUSTOMER DEMAND.

SCENE 41.

04.06.34 - 04.07.02

NARRATION (VO) :

AS EACH NEW CELL WAS SET UP, EMPLOYEES HELPED TO DEVELOP STANDARD WORK INSTRUCTIONS THAT MADE WORK EASY, REPEATABLE, AND MEASURABLE. THE ASSEMBLY WORK WAS ALSO BALANCED SO THAT ALL THE DIFFERENT CELLS COULD FINISH WITHIN THE TAKT TIME.

03.22.52 - 03.23.04

SCENE 42.

A 03.45.14 - 03.45.32

NARRATION (VO) :

At the same time, improvements were made to material handling methods. assembly workers used to waste time searching for parts in the storeroom. So, as part of building a lean PROCESS, it was essential for PETERSON pacific to address parts PRESENTATION. now parts are delivered as a kit of parts to each work cell. This required purchasing ADDITIONAL carts so the right number of kits are ready to go when needed.

B 03.50.16 -03.50.30

C 04.07.50 - 04.08.11

D 03.45.46 - 03.45.50

SCENE 43.

Larry Cummings cut C

02.03.30 to 02.03.55

It was well mapped out and there was a good strategy and plan for how that area could be laid out in a more effective way, to turn it into a staged manufacturing, sort of a line manufacturing, as opposed to a stall built approach that we worked in the past. That was the most visible project that I think became an impetus for the other areas.

SCENE 44.

a 03.41.20 - 03.41.39

NARRATION (VO) :

THE ORIGINAL LOCATION FOR THE PAINT BOOTH WAS IN THE MIDDLE OF THE SHOP. THIS WAS RIGHT WHEN

B 03.42.18 - 03.42.33

C 03.41.55 - 03.42.07

MACHINES WERE BUILT IN THE STALLS, BUT PETERSON PACIFIC NEEDED TO IMPROVE PRODUCT FLOW THROUGH THE SHOP. SO, THE BOOTH WAS MOVED NEXT TO THE BACK DOORS. NOW, UNPAINTED FRAMES ARE MOVED RIGHT INTO THE BOOTH STRAIGHT FROM THE FABRICATION SHOP.

SCENE 45.

NARRATION (VO) :

03.20.58 - 03.21.30

ALL THE FACILITY LAYOUT CHANGES WERE WELL PLANNED SO TIME AND RESOURCES WERE NOT WASTED IN MOVING HEAVY EQUIPMENT MORE THAN NECESSARY.

SCENE 46.

NARRATION (VO) :

03.20.14 - 03.20.55

PART OF A MUCH LARGER 5S PROGRAM, CLEARLY MARKED LINES ON THE FLOOR DEFINE WORK AREAS AND AISLE WAYS, AND HELP EMPLOYEES KNOW WHERE TO STORE ITEMS.

SCENE 47.

NARRATION (VO) :

03.29.10 - 03.29.40

BESIDES THE CHANGE FROM STATIONARY MACHINE BUILDING TO FLOW PRODUCTION, THE OTHER MAJOR IMPROVEMENT SEEN WAS A REDUCTION OF LARGE INVENTORIES OF PURCHASED PARTS.

SCENE 48.

NARRATION (VO) :

03.44.56 - 03.45.13

THE COMPANY'S PRODUCT LINE CONTAINS A LARGE PERCENTAGE OF PARTS NOT MANUFACTURED BY PETERSON PACIFIC. SO IT WAS COMMON PRACTICE TO

BUY ENGINES, PUMPS, TIRES AND MANY OTHER ITEMS
IN LARGE QUANTITIES TO GET BULK DISCOUNTS.

SCENE 49.

a 03.46.32 - 03.46.45

NARRATION (VO) :

ONCE THIS STOCK WAS RECEIVED, THE MRP SYSTEM
WOULD, IN THEORY, KEEP TRACK OF WHAT WAS BEING
CONSUMED ON THE SHOP FLOOR AND DEVELOP REPORTS
FOR WHAT NEEDED TO BE PURCHASED. BUT IN
PRACTICE, THIS MRP DATA WAS NOT ALWAYS IN SYNC
WITH WHAT WAS IN STORAGE.

B 03.51.07 - 03.51.25

SCENE 50.

NARRATION (VO) :

OTHER INVENTORY PROBLEMS SURFACED WHEN
ENGINEERING CHANGES WERE MADE.

SCENE 51.

04.02.37 - 04.03.30 carry into next
scene

NARRATION (VO) :

THE WASTE BECAME CLEAR. ENGINEERING CHANGES
MADE SOME PARTS OBSOLETE.

SCENE 52.

see scene above ^^^^^

AN MRP SYSTEM IS STILL IN PLACE BECAUSE OF THE
COMPLEXITY OF EACH MACHINE. HOWEVER, LOT SIZES
ARE "RIGHT SIZED" TO AVOID EXCESS INVENTORY.

Out number 04.03.30

SCENE 53.

Larry Cummings, CEO cut E

02.05.33 to 02.05.54

NARRATION (VO) :

The amount of material that becomes
obsolete through changes is reduced, and
we've reduced our overall wip dollars by
purchasing the items just as we need them.

SCENE 54.

NARRATION (VO) :

03.35.19 - 03.38.20

TAKT TIME DICTATES THAT NEW MACHINES ONLY MOVE
EVERY 21 HOURS, BUT WHEN THEY DO MOVE,

PETERSON PACIFIC USES OVERHEAD CRANES TO
EXPEDITE TRANSFERRING THE FRAMES.

SCENE 55.
04.05.01. - 04.05.16

NARRATION (VO) :

NOW, USING SINGLE-PIECE FLOW, THE PRODUCT
MOVES FROM FABRICATION, THROUGH THE PAINT
BOOTH, AND THEN ON TO FINAL ASSEMBLY.

SCENE 56.
driving a completed machine out the
door

A 03.43.35 - 03.43.40

B 03.43.43 - 03.43.46

NARRATION (VO) :

WHEN THE PRODUCT REACHES FINAL ASSEMBLY, ALL
THE PURCHASED PARTS ARE ASSEMBLED AND IT IS
READY FOR TESTING.

SCENE 57.
Chris Hoff cut I
02.38.03 to 02.39.09
Lean purchasing

NARRATION (VO) :

We don't need to use work orders any more.
We know what the takt time is; we know the
standard work, so there's no need for them
to do that anymore. So now the purchasing
process has become just that, just
purchasing.

SCENE 58.
03.47.33 - 03.47.47

NARRATION (VO) :

ANOTHER PROBLEM WAS THE AMOUNT OF TIME SPENT
BY THE PAINTERS TO FIND ALL THE DIFFERENT
PARTS TO PAINT FOR EACH MACHINE.

SCENE 59.
03.47.08 - 03.47.23

NARRATION (VO) :

TO STOP THIS WASTE A RACK WAS BUILT TO HOLD
JUST THE PARTS NEEDED FOR ONE MACHINE. PARTS
ARE SORTED ONTO THE RACK AND ROLLED RIGHT TO

THE PAINTER WHO NOW SPENDS HIS TIME PAINTING,
NOT SEARCHING.

SCENE 60.
Lonnie cut B
01.41.19 to 01.42.07
Old ways of working created problems

NARRATION (VO) :

What we would do is move the machine from paint, set it in the stall, and bring parts to it. The machine didn't move again until it was ready to go outside and be set up for pressures. That was really congested at times. We would bring parts in and put around the machine. Everybody had a toolbox parked around the machine. We had as many as six or eight people on one machine. It was very congested and not very efficient. We had to go find our own parts, which was very time consuming. There were times the parts didn't get painted, parts were left in the fab shop and didn't get sent to paint, it was really challenging.

SCENE 61.
Chris Hoff cut H
02.35.12 to 02.35.35 eliminate extra handling

Every time a guy has to stop what he's doing to go handle a piece of material or a part, that's non value added time, that's taking away from painting a part or painting a machine. If we can present the parts to him in a manner that all he has to do is pick up a gun and paint the parts, and he never has to handle that material, that's the goal

SCENE 62.
04.43.13 - 04.43.21

NARRATION (VO) :

MANY MANUFACTURING COMPANIES HAVE TROUBLE WITH
THEIR PAINT BOOTHS.

SCENE 63.
John Skalos cut C 01.38.24 to
01.38.47

NARRATION (VO) :

There was the big challenge of marrying up the paint parts and the vendor parts. This is still a big challenge for us, trying to schedule things coming in from outside sources, from within the company, and from other outside sources that still need to be run through internal facilities like the paint booth. You've got three or four factors trying to work together and sometimes you have an issue there.

SCENE 64.
03.07.54 - 03.08.21

NARRATION (VO) :

ANOTHER PROBLEM THAT NEEDED TO BE RESOLVED WAS THE FACT THAT THE SAWS USED TO CUT RAW MATERIAL WERE ONLY RUNNING PART OF THE DAY. TO SOLVE THIS, A USER FRIENDLY "CUT LIST" WAS DEVELOPED.

SCENE 65.
Rick Spencer 01.12.46

NARRATION (VO) :

we have hour meters on our saws, and the saws were only running two hours a day out of an 8 hour day. There is something not quite right here so to get those saws running more we took the paperwork out of those guys hands, make it more user friendly. Now they don't have to go from this piece of paperwork to this piece of paperwork to their print. It's a saw list, print number; it even tells them if it's a straight cut or not. They just make the cut, deburr it; it goes straight down the line.

SCENE 66.

SCENE 67.
04.00.06 - 04.00.28

NARRATION (VO) :

AS PART OF ITS LEAN IMPLEMENTATION, PETERSON PACIFIC ALSO FOCUSES ON ANY QUALITY PROBLEMS AND CAPTURES THE REASON FOR EACH DEFECT.

SCENE 68.

NARRATION (VO) :

ALL QUALITY ISSUES ARE REPORTED TO THE MANAGER WHO POSTS THE INFORMATION USING STANDARD SIX-SIGMA QUALITY REPORTING TECHNIQUES.

SCENE 69.
03.24.45 - 03.24.55

NARRATION (VO) :

THIS INFORMATION IS THEN USED TO FORMULATE QUESTIONS TO GET TO THE ROOT OF WHAT CAUSED

THE PROBLEM.

SCENE 70.

Chris Hoff cut J

02.30.47 to 02.32.05

Missed welds 03.04.59 - 03.05.10

Replace weld tip 03.15.14 - 03.15.40

Inspecting weld 03.10.44 - 03.10.13

A quick example for you, down on our shop floor we were seeing a lot of missed welds. It was a specific cell where we were seeing a lot of missed welds. We went through the whole Six Sigma process, (edit out yada-yada) and as we did that, we went and did a root cause analysis. We used a cause and effect diagram, another Six Sigma tool. We identified what that root cause was and then we began to ask, let's analyze that, why are we having this problem, why are we having this root cause, how can we do something differently. What we came to understand is that it was a training issue. We just needed to implement some better best practices in that area, spending some quality time down there training the guy so that he understands what the parameters need to be set at on his welding machine, and how often he needs to change welding guns. It helped him not make those mistakes anymore. The next month when we ran the report, there were no missed welds, completely gone. So it was a simple training issue. That's kind of how we try to incorporate that into lean and what we're doing here.

SCENE 71.

03.38.22 - 03.38.33

NARRATION (VO) :

SINCE MOST OF PETERSON PACIFIC'S PRODUCT IS BUILT FROM PURCHASED COMPONENTS, IT'S NOT SURPRISING THAT MOST QUALITY ISSUES COME FROM OUTSIDE VENDORS.

SCENE 72.

Rick Spensor cut A 01.27.20 to 01.28.44

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When we first started, we had a lot of vendors, we narrowed that down, we partnered with some, told them what had to happen and of course vendors, like anybody else, they want your business.

Cut away 03.48.25 - 03.48.38

So they said yes, we can do that, and then they started to stumble so you try to help them, that's a big thing going into their house and say, this is what we need and this is how it is going to happen. If you can't do this we have to go some place else, OK we will be on board.

And they try, but if they are not doing the same things as you are doing it is tough. And we are still finding that we don't have a lot of choices in this area, there is not a lot of vendors here in our area. If the vendors can't do what we want, we've got to go help them and partner with them. This is a tough issue we still struggle with.

SCENE 73.

NARRATION (VO) :

A 03.09.13 - 03.09.27

SO THIS IS THE BASIC CHRONICLE OF WHERE PETERSON PACIFIC IS ON ITS LEAN JOURNEY.

B 03.56.10 - 03.59.38

REALIZING THAT LEAN IS A CONTINUOUS JOURNEY, COMPANY LEADERS NOW KNOW THAT TRAINING AND RESPECT ARE KEY TO PETERSON PACIFIC'S FUTURE SUCCESS.

SCENE 74.

02.25.22 to 02.26.01

Lean is a systematic approach to identifying and eliminating waste, so here's the tools and the toolbox we're going to use. We're going to use takt time, standard wip, parts presentation, single piece flow, kanban, all these different ideas. We're not going to necessarily do it the way Toyota does it or the way John Deere does it, we need to learn how to customize it to our operation. So conveying that to them so they understand that we're not going to try to put you in a box, we're going to try to get your input on how we can customize these tools to get the most bang for your buck.

SCENE 75.

Five Metrics

NARRATION (VO) :

PETERSON PACIFIC USES FIVE METRICS TO JUDGE
THE SUCCESS OF ITS LEAN EFFORTS.

SCENE 76.

Chris Hoff cut D

02.21.14 to 02.021.33 5 metrics

Lead Time
Standard Work in Process
Space Utilization
Quality
Production Capacity

We have five metrics we're shooting for, and that's to reduce our lead time, reduce our standard wip, improve our space utilization, improve quality, and improve production capacity. Those five metrics are what we're using to measure whether or not we're successful in implementing lean here.

SCENE 77.

03.47.58 - 03.48.17

NARRATION (VO) :

BUT NO MATTER WHAT MEASUREMENT IS SELECTED,
THE DECISIVE FACTOR FOR SUCCESS IS EMPLOYEE
ATTITUDES.

SCENE 78.

Mike Schlosser 01.10.24 to 01.11.02
cut C

but our old lead time if you placed an order today would be 12 weeks. And as we had our original work force a year ago and thought the kaizen events and determining takt time we were able to get that down to just about 6 weeks, 6 1/2 weeks with out major overtime so we cut it almost in half. And that is just by realigning processes and eliminating waste from the plant **(need cut away footage cause he looks away from the camera)**

SCENE 79.

Chris Hoff cut E

02.22.20 to 02.23.42

Eighty to ninety percent of it is working with people. Lean is all about team, it has nothing to do with individual performance. I think that's why the Japanese are so successful. If you look at their approach, there's no such thing as individuality there, it's all about family and team and doing it together. Whereas living in more of a capitalistic society, and I know I'm kind of getting philosophical, but living in America we're so geared to "how can I climb the ladder faster than my neighbor, how can I achieve the American dream faster than my neighbor." It's all about me, it's all about the individual. You bring a whole

bunch of people like that together, and it makes it really hard to get anything done, because everybody is trying to one-up the other person. Lean says eliminate that whole mentality, that whole attitude, and let's make family and team the focus, and let's be willing to sacrifice some of our goals for the sake of the whole. By doing that, all these tools you learned in school, you get the results just like that. You don't have any human roadblocks in the way and everybody has a clear path to success.

SCENE 80.
end

ON SCREEN TEXT

IF YOU HAVE ANY QUESTIONS ABOUT THE LEAN
JOURNEY AT PETERSON PACIFIC, CONTACT CHRIS
HOFF AT VALUE1ADDED@YAHOO.COM

SCENE 81.
CGS: credit roll
white text, fade up mid-screen,
black to blue gradient background

Manufacturing Insights wishes to thank the
Peterson Pacific Corporation for their
assistance in the production of this program:

Produced By:
Society of Manufacturing Engineers

Producer/Director/Writer:
Steven Bollinger

Cameraman:
David Rembiesa

Edited By:
Jerome Cook

SCENE 82.
SME logo, with music