

9:00 am – 12:00 noon

Workshop 3

Sustaining Lean

Scott Thompson, *Operations/Lean Systems Manager*, Freudenberg-NOK

To be Lean or not to be Lean, that is the question? Is the question that cut and dried, either you are or you are not? Can you be 50% Lean? If you believe in and are dedicated to continuous improvement, can you be 50% Lean and improve incrementally to 100%? Once you have completed your journey, how do you remain at the summit? Do you continuously improve? Do you read the latest book published by Productivity Press in search of the next big thing? Do you anxiously wait for an email from James Womack for insightful Lean hints?

Lean Systems must be as dynamic as the environment. Lean must be fun, exciting, challenging, and rewarding. Come see how Lean is as important to a manufacturing environment as the PC on your desktop. Could you imagine working without a computer? Could you imagine working without Lean Systems?

1:00 pm – 4:00 pm

Workshop 4

Mistake-Proofing – Aka Poka-Yoke

Kirk Eaton, *Lean Deployment Manager*,
The Gillette Company – Duracell Division

Discover how the "Mistake-Proofing" processes (aka Poka-Yoke) can work within your facility to reduce defects and errors, and reduce variation, rework, and scrap in your process. This will be a fun and engaging session combining an overview of the mistake-proofing process in lecture format with a hands-on simulation (people working in teams) to create a poka-yoke for a process. This is a simulation you will be able to take away and use with your associates to reduce errors in your processes.

Mistake-Proofing is a process often used in the context of designing devices, typically simple and inexpensive, that prevent defects from being made or, if they are made, from moving to the next process. Mistake-Proofing can be used wherever something can go wrong. It is a technique, a tool that can be applied to any type of processes including manufacturing processes; service processes; office, administrative and transactional processes.

Mistake-Proofing will help people and equipment "do it right the first time." People and equipment will always be prone to making mistakes, and we can't prevent all mistakes. However, processes should help people do it right, not help them make mistakes. Through the mistake-proofing process we can make it easier to do the job right.

9:00 am – 4:00 pm

Workshop 5

Engaging the Workforce with TPM & 5S

Fred Webberking, *Maintenance Engineer*, Alfmeier Corporation

What is TPM? TPM is company survival in a global market place. TPM is best defined by Seiichi Nakajima considered the father of TPM as "a plant improvement methodology which enables continuous and rapid improvement of the manufacturing process through the use of total employee involvement. The goal of TPM is to effect fundamental improvements within an organization by improving worker and machine utilization and effectiveness."

Machines and processes are designed, built, operated and maintained by people. If we are to become or remain leaders in our industries we must first improve human reliability through responsible leadership. Inspired by the culture of Japanese manufacturing organization, Fred Webberking presents his own powerful presentation of how North American industry leaders can improve their company's competitiveness by adopting TPM and 5s. The pursuit of manufacturing excellence is revealed as Fred creatively transfers the TPM and 5s philosophy into a step-by-step process towards a relentless, gradual, and a never ending will for continuous improvement to zero defects and zero machine breakdowns. Who will benefit from attending this workshop? Everyone... machine operators, maintenance technicians, design engineers, managers, supervisors and corporate vice presidents.



Pamphlet highlighting a full day 8 hours workshop that I conducted on TPM and 5S at the AME show at the palmetto expo center in Greenville, SC, 2005.



TPM Step 8 Sub-Step 1 'Initial Cleaning'.

Yours truly leading a TPM training event. Doing the work in the Gemba. with friends - Alfmeier Corporation, Greenville, SC, 1999.

I'm taking the picture working with my good friend and Sensei John Petak – also know affectionally as "Kaptain Kaizen".



TPM Step 8 Sub-Step 1 'Initial Cleaning'.

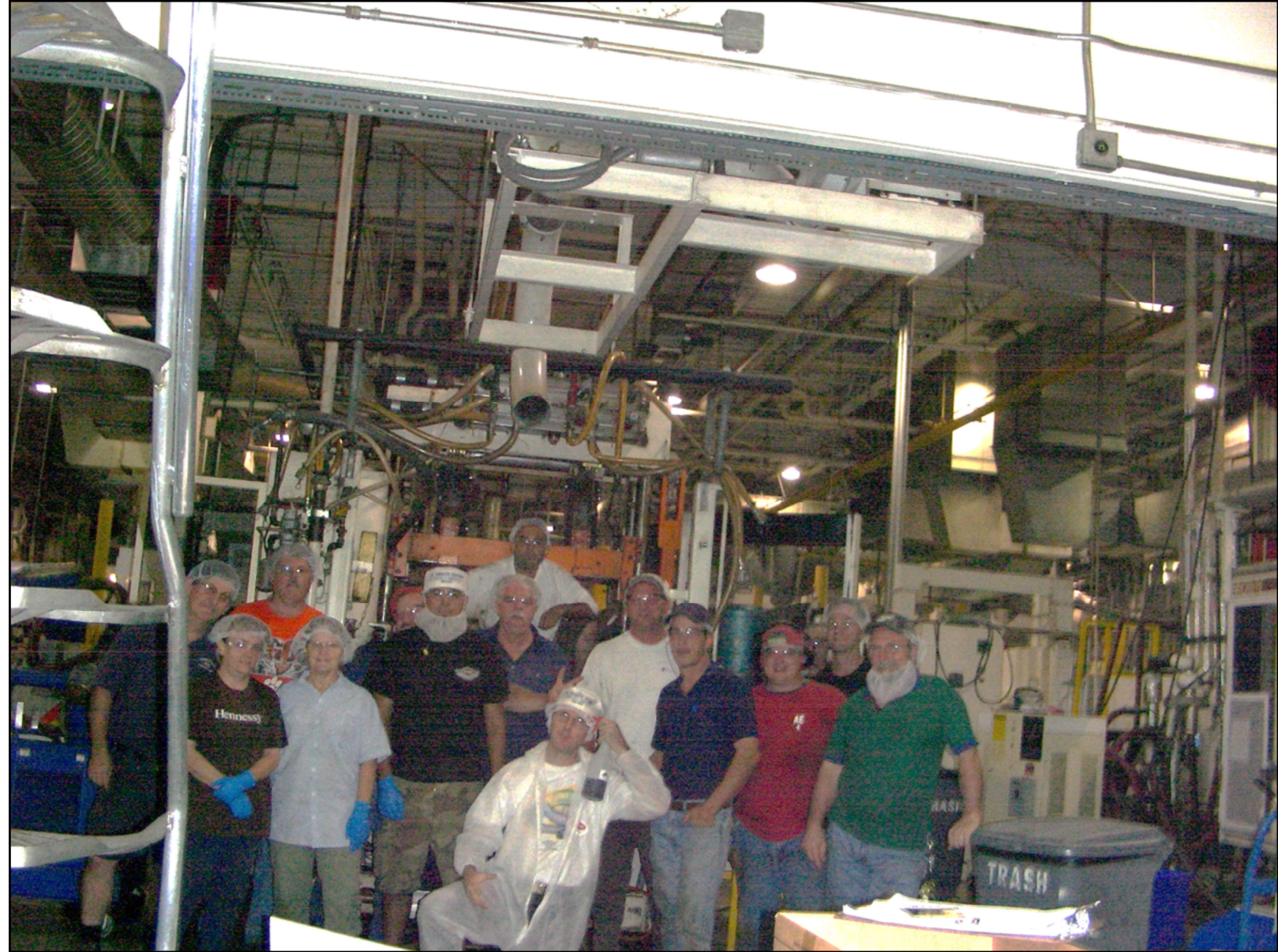
Yours truly leading a TPM training event. Doing the work in the Gemba. with friends - ASC, Monterrey, Mexico, 2004.

I'm the one with no hair...



TPM Step 8 Sub-Step 1 'Initial Cleaning'.

Yours truly leading a TPM training event. Doing the work in the Gemba. with friends - Stankiewicz International, Spartanburg, SC, 2005.



TPM Step 8 Sub-Step 1 'Initial Cleaning'.

Yours truly leading a TPM training event. Doing the work in the Gemba.' with friends - Fabri-Kal Corporation, Greenville, SC, 2007.



TPM Step 8 Sub-Step 1 'Initial Cleaning'.

Yours truly in the belly of the beast.



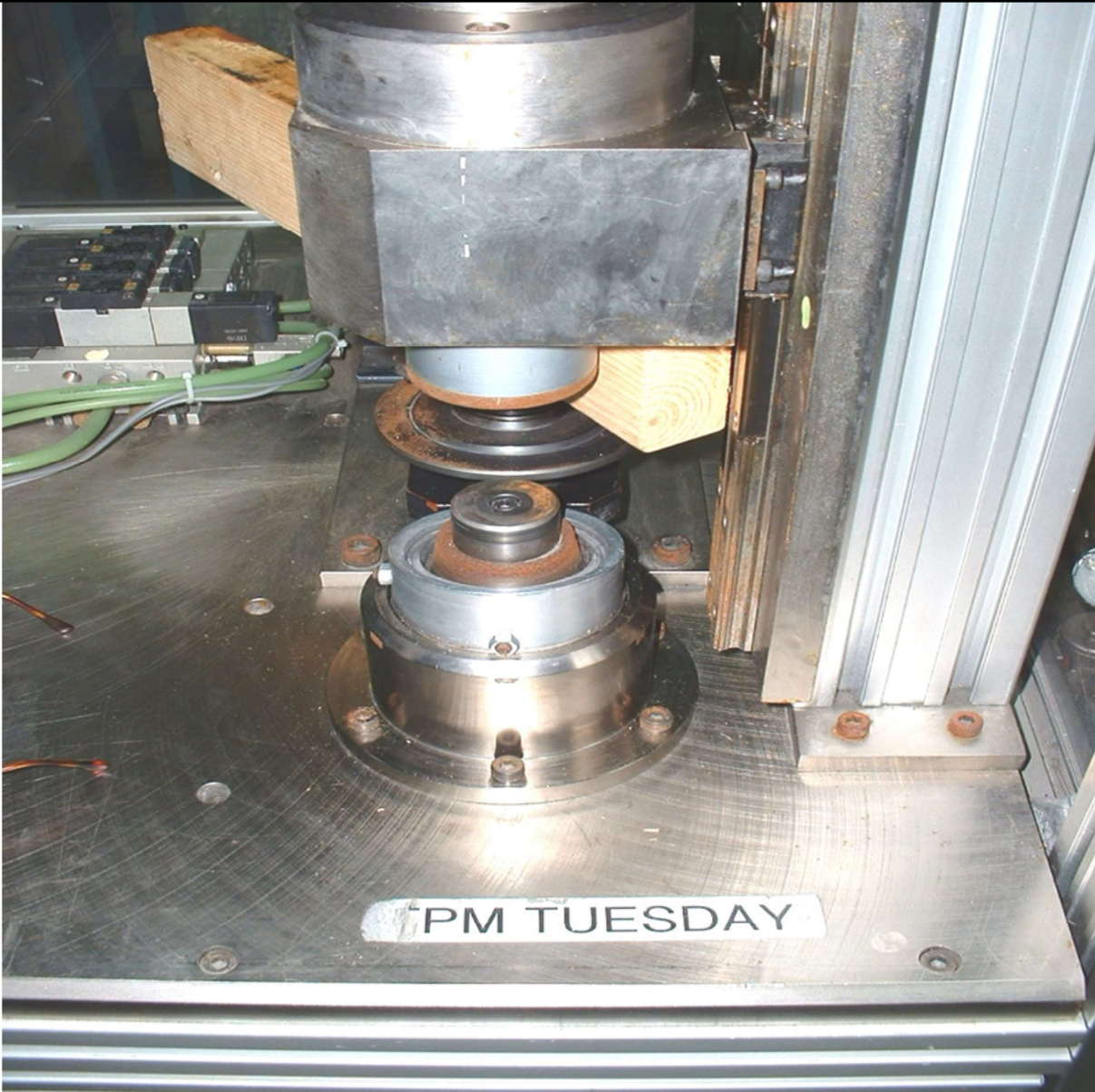
TPM Step 8 Sub-Step 1 'Initial Cleaning'

Yours truly leading a TPM training event. Doing the work in the Gemba. with friends – Fitesa Corporation, Simpsonville, SC, 2012.



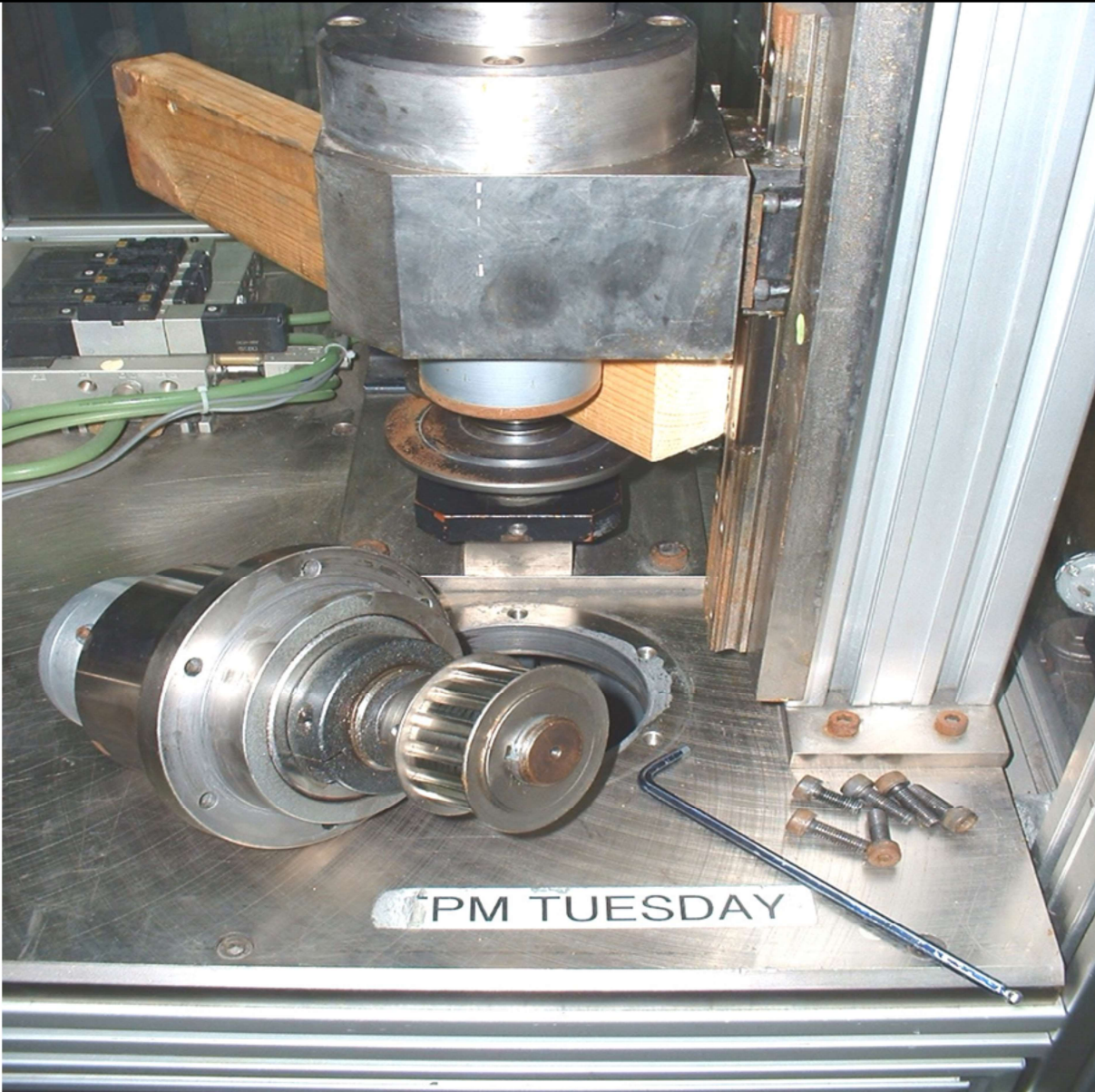
TPM Step 8 Sub-Step 1 'Initial Cleaning'.

Yours truly leading a TPM training event. Doing the work in the Gemba. Cleaning' with friends – Acme Company, Anywhere, US 2015.



Before - a simple improvement in machine reliability with a weakness in its design where I rectified a repeated failures of thrust bearings by installation of a grease insert nipple and then setting the task of greasing to a TPM lubrication schedule.

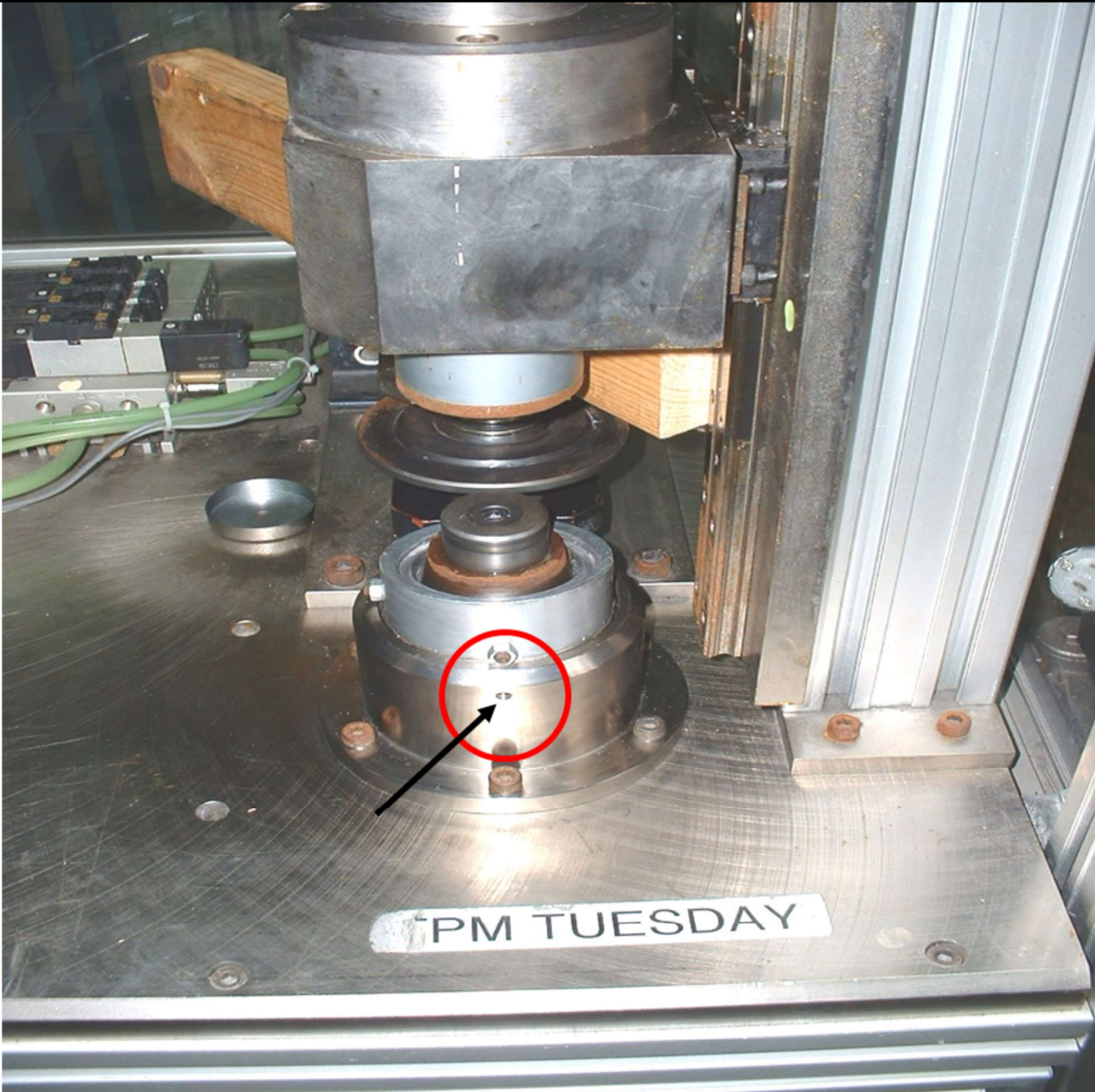
Problem solved - never broke down again...



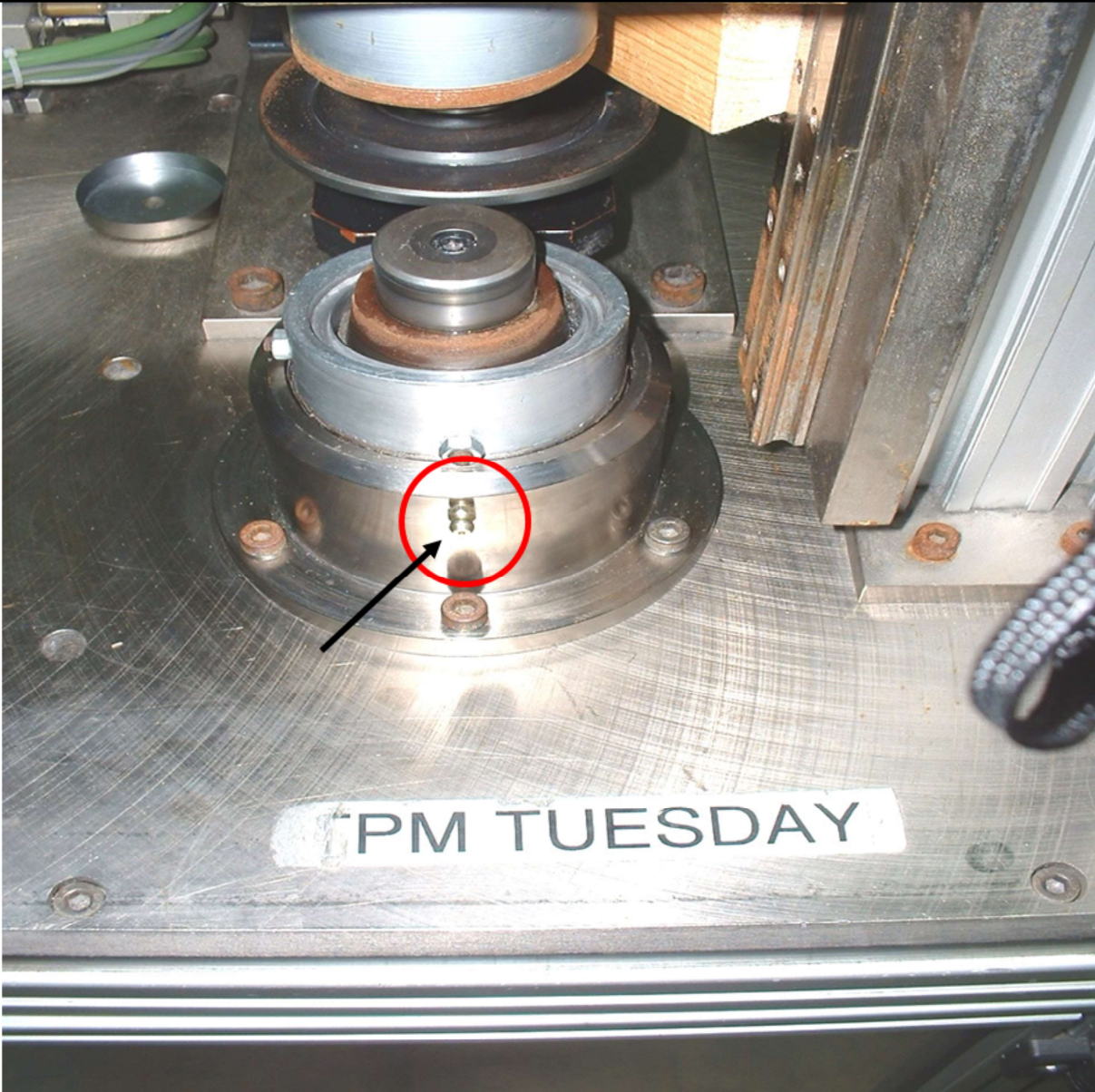
During - disassembly of the turret body...



During - getting ready install new thrust bearings...



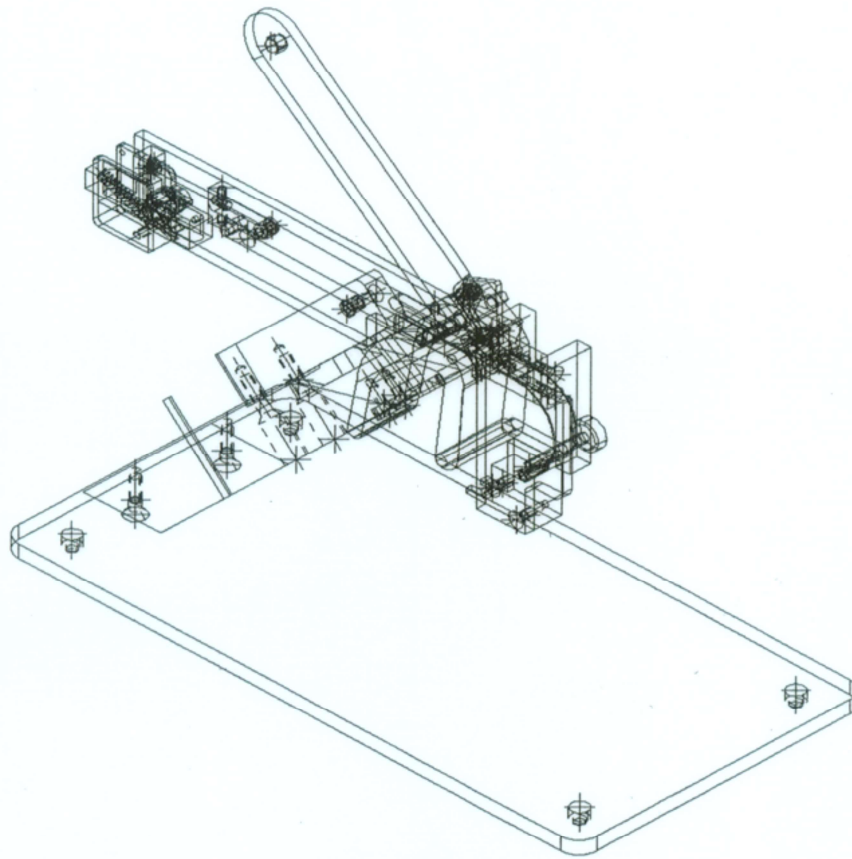
During - drill and tap $\frac{1}{4}$ -20 SAF-LT thread for a grease insert nipple...



After - installed grease insert nipple and then I established a TPM routine lubrication standard and trained the machine operators to that standard...

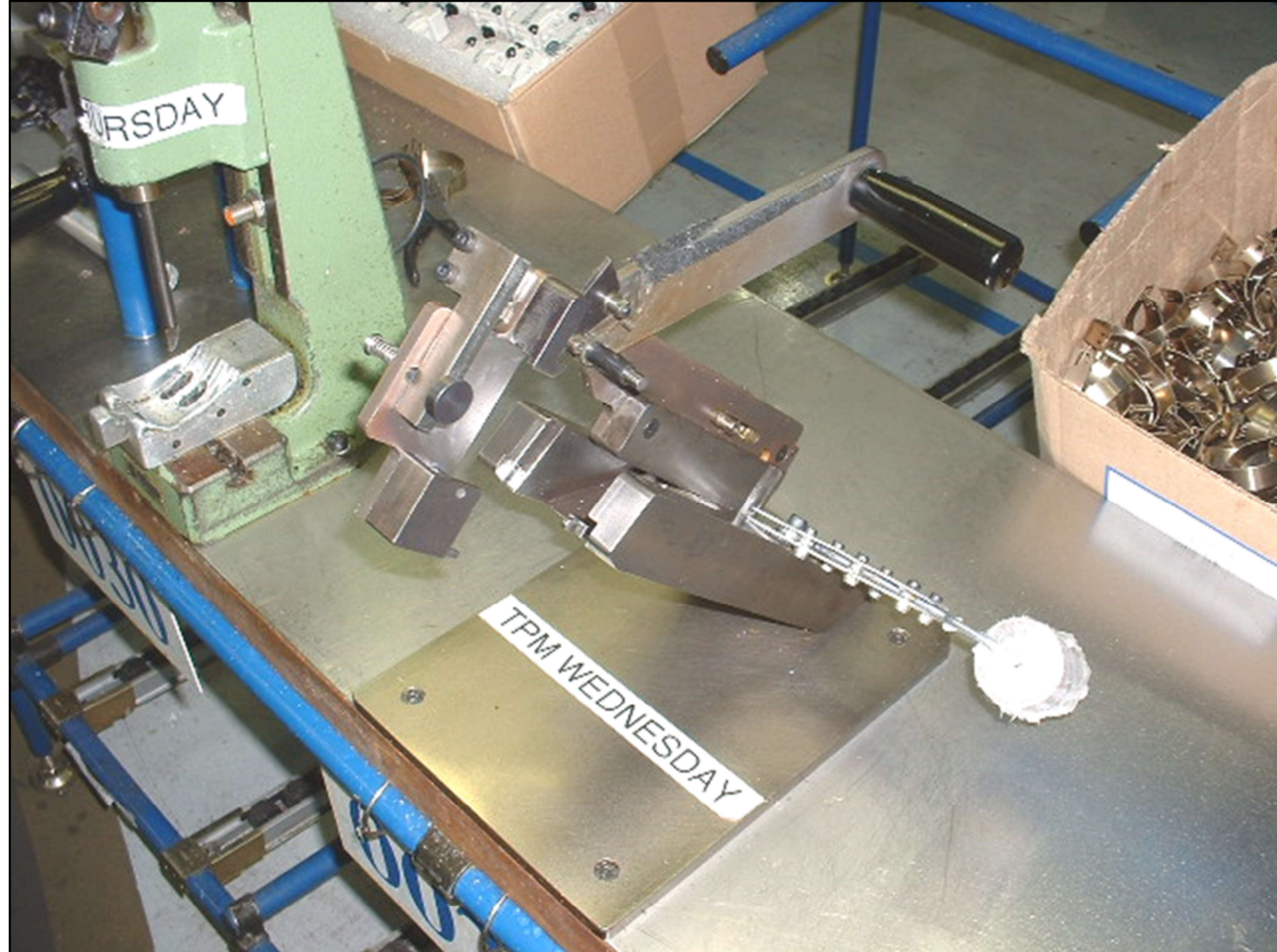
As I said before problem solved, a simple reliability improvement, never broke down again...

SPRING INSERTER



Repeat failure in disassemble of a simple machine used to install a leaf spring to a car gas filler neck recess cover flap - see inset picture.





Using the methods of P-M Analysis I determined that the machine was of good design mechanically but simply was made of the wrong choice in grade of material - metal fatigue.

I had all the parts made from D-2 grade steel and hardened to Rockwell C70. I re-assembled it and as part of the TPM Autonomous Maintenance for Operators, I developed a TPM Lubrication and Bolting standard checklist - see inset. This completely eliminated the problem from mean time between failure of 5 days to infinity - to the day we stopped making the product.

Amazing that a small machine like this can shut down a process that stops the revenue making of thousands of dollars by the hour.

TOTAL PRODUCTIVE MAINTENANCE

BOLTING CHECKLIST

Name: SPRINGHINGE ASSY.
Equipment: FH01-0020
Date: 21-MAY-04

Number Box	What to Check for Bolting	Materials Tools Needed	Frequency	Work Instructions
1	Bracket mount bolts	3mm Allen wrench	First day of weekly production	Check for bolting tightness. Do not over tighten.
2	Linkage bolts	3mm Allen wrench	First day of weekly production	Check for bolting tightness. Do not over tighten.
3	Slide box	3mm Allen wrench	First day of weekly production	Check for bolting tightness. Do not over tighten.

WEEKLY SCHEDULE

TOTAL PRODUCTIVE MAINTENANCE

LUBRICATION CHECKLIST

Name: SPRINGHINGE ASSY.
Equipment: FH01-0020
Date: 21-MAY-04

Number Box	What to Lubricate	Materials Tools Needed	Frequency	Work Instructions
1	Cam slot	Grease Applicator brush	First day of weekly production	Clean away old grease and apply a coating of grease to cam slot
2	Pin guide slot	Grease Applicator brush	First day of weekly production	Clean away old grease and apply a coating of grease to pin guide slot

WEEKLY SCHEDULE