



About the seminar leader:

Robert M. Williamson is an internationally known educator, consultant, and writer on the subjects of *Total Productive Maintenance (TPM)* and *Lean Equipment Management*, specializing in the people-side of world-class manufacturing and maintenance. He has consulted with and trained in over 400 company or plant locations in 43 different industry types over the past 38 years. Since 1996 he has been an associate of the University of Dayton, Center for Competitive Change in Dayton, Ohio, offering on-campus as well as in-plant TPM-related workshops and consulting. In 2005 he was made an associate of the Maintenance and Reliability Center (MRC) at the University of Tennessee-Knoxville. Also in 2005 he was invited to be the "Lean and TPM" affiliate with PIT Instruction & Training, a nationally-known motorsports pit crew training center located in Race City, USA (Mooresville, North Carolina) owned by the legendary crew chief and racing sportscaster Jeff Hammond and race team owner Tom Deloche.

Robert is a senior associate at the Center for Competitive Change at the University of Dayton. His consulting activities focus on improving manufacturing reliability, improving throughput, lowering costs by addressing the necessary procedural and organizational changes to eliminate equipment-related problems. He has mastered his abilities as a mechanic, tool designer, trainer and consultant through 12 years' college-level teaching and technical division administration; 12 years' leading maintenance, operations, and construction training program development for one of the world's largest engineering and construction firms and their clients; and operating his own independent consulting and training business since 1992.

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To Register -

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Leadership for Lean Equipment: The Secrets of Achieving World Class Equipment Performance

What You Can Expect From This Seminar

Equipment performance and reliability in a capital-intensive operation is the foundation for low-cost, high volume, endless variation, and on-time customer response. Reliable equipment drives throughput at the lowest possible cost whether in discreet manufacturing, petro-chemical processes, primary metals, mining, transportation, distribution, or utilities. Conversely, unreliable equipment in capital-intensive businesses significantly reduces competitiveness. Top leaders create the environment for reliability success well beyond what maintenance can do alone.

Historically, a variety of maintenance programs were developed to be administered by the maintenance departments to improve equipment performance and reliability. However, in many companies, especially lean or resource constrained businesses, these maintenance programs have become difficult to sustain and/or resulted in minimal improvement. In today's globally competitive environment many of the traditional approaches to improving maintenance performance will not necessarily result in improved equipment performance and reliability. Unfortunately, maintenance is the least defined of all industrial activities in the world today. This seminar is designed to help today's business leaders use a proven combination of Lean Manufacturing and Maintenance/Reliability tools to lead world-class results-oriented equipment and process reliability transformation.

Seminar Content

Lessons learned from over 35 years teaching maintenance & manufacturing reliability

Equipment can run without any unplanned downtime (old and new)

Reliable equipment is the foundation for our Nation's competitiveness

Maintenance has been misunderstood and misapplied

Maintenance is the least defined of all industrial activities in the world today

* Compared to: Environmental, safety, quality, accounting, health, banking, education

- Cutting maintenance resources rarely improves performance

- Eighty-percent (80%) of the skilled maintenance personnel have not been formally trained to do the jobs they do every day

- Craft or skills based maintenance only works where there are strong and up-to-date apprenticeship programs

- Procedure-based maintenance and operations can lead to 100% reliability (equipment running like it's supposed to run, first time, every time.)

- Maintenance & reliability is rarely understood, supported, and resourced by top management

Understanding Lean Operations and Lean Equipment Management:
Principles of Lean Manufacturing

* Systematically identifying and eliminating waste to reduce operating costs



- Doing more with less of everything

* Using applicable lean tools for fast and sustainable results

- Mistakes and misunderstandings of Lean
- Decoding the DNA of the Toyota Production System (HBR Sept 1999)
- Weakest links for improving reliability:

* Leadership & management

* Maintenance activities & programs

* Plant floor training

* Lack of focus on results (ROI)

* Turf issues between reliability influencers

* Maintenance as an expense, non-value add, overhead activity

Leading from on Top of the Pit Box

- NASCAR Racing: A Model for Equipment Reliability & Teamwork in Business and Industry
- Teamwork cannot happen without focused, decisive leadership
- The Historical Development of the DuPont Winston/Nextel Cup Race Team

* The most successful team in modern NASCAR history

Why traditional maintenance leadership approaches may no longer be competitive:

- Incompatibility with Lean Tools
- Maintenance as a supplier versus partner
- Maintenance directly controls 5- to 10-percent of reasons for equipment losses

* The entire organization influences equipment reliability

Why traditional plant-floor training approaches may no longer be competitive:

- Informal OJT versus structured OJT
- Written testing versus performance demonstration/qualification
- Classroom training versus structured OJT
- Knowledge versus applied skills
- Proven Training & Qualification models date back to WWII

* Training Within Industry

* Duty-Task Analysis

* Performance-Based Training

Comparing traditional maintenance approaches to Lean Equipment Management

- Maintenance programs and activities administered by maintenance departments
- Total Productive Maintenance (TPM)
- TPM: The most misunderstood equipment improvement strategy of the past 20 years

Six key elements of Lean Equipment Management (Total Productive Maintenance):

1. Targeting the major equipment-related losses (data)
2. Involving equipment operations (not autonomous maintenance)
3. Improving maintenance efficiency and effectiveness
4. Training to improve skills and knowledge (focused)
5. Improving equipment operability & maintainability throughout the equipment's life cycle
6. Teamwork and leadership focused on common goals



Traditional maintenance and reliability tools and their purposes:

- Preventive maintenance (PM)
- Predictive maintenance (PdM)
- Condition based maintenance (CBM)
- Computerized maintenance management systems (CMMS)
- Planning & scheduling
- Spare parts management

Focus on improving Overall Equipment Effectiveness (OEE)

- OEE evolved from TPM's focus on the Six big losses
- OEE was not intended to be a maintenance metric
- OEE was not intended to compare different operations
- How to properly use Overall Equipment Effectiveness Losses and OEE%

Focus on results and change the culture along the way

- Avoiding the maintenance activity or program traps
- The Breakthrough Strategy (Robert Schaffer)
- Leading Change (John Kotter)
- Applications to equipment & process reliability

Eating the elephant (one bite at a time)

- Where to Start: company - plant department process

* Current & future business goals, KPIs, market demands, priorities

- Where to start: process flow equipment issue related issue

Who Should Attend?

How to Get the Most from this Seminar

Bring ideas from your company for evaluation and discussion. Come with an open mind and with a team that can make it happen.