

Who's Got Time to Train Anymore?

Reliability and Maintenance is—and has been—a woefully overlooked career. We need our nation's best and brightest young minds in reliability and maintenance careers NOW! What are we doing to attract and retain them? What are we doing to train them to maintain the highest levels of equipment performance and reliability? What are we doing to promote pride in workmanship?

"I learned this job years ago from one of the best. I was under his wing for nearly eight months learning all the aspects of the precision work on this one type of machinery. In the 35 years I have worked here, I have never seen such a lack of training of our new guys. They get a few days training at best. Why, we even have some of the new employees teaching the newer employees how to work on this equipment. Pretty scary if you ask me! Most of them have never even seen the manual that came with these machines, the one that I learned from years ago. The only copy we have now is locked up in the maintenance office. Doesn't anyone in top management care anymore?"

This skilled mechanic was truly concerned. We had just discovered that another mechanic at one point cranked down on one of the precision adjustments so far that it badly damaged the machine. The procedure in the equipment manual was not followed. Even though it was still running and making acceptable parts, the \$10,000 precision cylinder had been scored beyond repair and there was no spare in stock. After a 12-week estimated delivery time, it will take several days to replace the damaged parts.

"We've Always Done It That Way"

In another plant, I noticed that four fine-threaded machine adjustment bolts had been severely beaten with a hammer. They were so mushroomed that a wrench would no longer fit (*"That's why we have channel lock pliers."*). Logically, and mechanically, any adjustment had to be made by turning the threaded adjusters. No other movement was possible. The mechanics all responded:

"Why do we hit the adjusters with a hammer? That's the way we were taught. I guess we've always done it that way."

"We Can't Find the Manufacturer's Manual"

A one-year-old machine's programmable controller was operated with a touch-screen panel. While working on a processing line that fed this final stage unit, we noticed a gaggle of people gathered around the panel poking at it. Then they just wandered away. When we went to start up the machine, we discovered that the program had been erased and the machine would not cycle properly. Upon searching for the machine's operations and maintenance manual, we discovered it underneath a workbench... and half of it was missing.

"Somebody must have messed with the program again. If you touch this icon, then this one, it erases the program. I figured that out the hard way since we've never really had training on the programming controls. The manual has some of the control panel information, but it's still not easy to understand."

“Sure. We Do Regular Preventive Maintenance”

During a hands-on PM workshop on a large integrated manufacturing line, one person discovered a loose bolt (no, it was not a maintenance person). Upon further investigation, we discovered that only one of the four bolts holding this unit together and in alignment was actually in place. One was missing, another was completely broken off, and a third had the head sheared off. The remaining bolt was doing the work of four and was the only link between full operation and catastrophic downtime. After two hours of disassembly and repair, the broken bolt problems were corrected.

“I don’t understand how we could have missed that one. Our monthly PM was just completed a few days ago.”

What’s changed?

We are in the midst the “de-skilling” of the American industrial workforce—not by design but by default. And it is not a new phenomenon. This frightening trend has been overlooked by far too many of our business, government, and education decision makers for much too long. We are at a near-critical point-of-no-return as the critical mass of skilled and knowledgeable people leave today’s workplace. Too many of today’s maintenance, reliability, and operations workforce have not been adequately **trained** and **qualified** to do the jobs they are asked to do day in and day out. Many, if not most of the younger and newer employees do not have the same basic skills and knowledge as those whom they are replacing on the job.

Unfortunately, today’s decision makers often ASSUME that the fundamental skills and knowledge that were “common” when they began work 30-plus years ago are the same today. Well, I hate to bring bad tidings, but these decision makers are sorely wrong! There has been a fundamental *paradigm shift*, and it is hurting our capital intensive industries’ performance and reliability.

Think about it. How many of today’s older teenagers and twenty-something’s have ever...

- Built a birdhouse, a utility box, or even a shed?
- Changed the oil and filter in a car or truck?
- Disassembled a lawnmower, motorcycle, jet ski, or snowmobile engine, and put it back together and it ran?
- Assembled a radio, a computer, or an electronic robot?
- Glazed a wood frame window?
- Rebuilt an automobile engine?
- Made something useful on an engine lathe or a milling machine?
- Owned and used a set of mechanic’s or carpenter’s tools?
- Used a volt-ohmmeter to check a circuit?
- Welded an angle iron frame or built a metal stand?
- Soldered copper tubing or brazed steel tubing?
- Installed and wired a doorbell?

Not many parents spend time with their children and teenagers making things, building projects, or making repairs around the home any more. Many of the fundamental skills and knowledge we took for granted in the 1960s, 70s, and early 80s are apparently no longer valued. There are some very good high school vocational programs out there and some very good post-secondary technical colleges too, despite thousands of closed schools and programs over the years. But not nearly

enough schools and programs to address the problem we have now—a problem that’s going to get worse before it gets worse.

An Overlooked Career

Reliability and maintenance technician jobs often pay \$18 to \$24 per hour plus benefits. Some industries pay in the \$30 per hour range, and higher. So, why do a huge number of recent high school grads take jobs that pay under \$10 per hour? And why do they hop from job to job for years until they find their niche? Why do they go on to a four-year college to try to figure out what career they want to pursue in life? (That’s an expensive “career education” program if you ask me!)

We should promote careers (not just “maintenance jobs”) in reliability and maintenance! Clean up the workplace and give career-day tours. Help teachers and students understand that good money can be made in a rewarding career with a one- or two-year technical degree. Begin attracting the best and the brightest. Offer high-school cooperative education experience in your plant.

Recruit a few of your senior, highly skilled maintenance personnel to be trainers and on-job coaches. Have them dedicate time documenting proper maintenance and reliability procedures for the critical equipment. Set new expectations: Insist that critical maintenance tasks follow “standard procedures” or “standard job plans.” Train everyone who needs to know, everyone who touches the critical equipment to follow these new standards. And hold everyone accountable for following these procedures. Problems will begin disappearing!

Show everybody that you care about how the equipment and plant is maintained. Be proud of your workmanship. Share a positive vision for careers in Reliability & Maintenance. Let’s make 2008 the year of *Transforming Careers in Reliability & Maintenance*.

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