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**Mercedes' factories embrace a new order**

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**VANCE, Ala. --** Cathy Williams, a 50-year-old former home remodeler from central Alabama, thinks of it as "having a little fun."

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In the past few months, she and her team members at the Mercedes-Benz sport-utility plant in Vance, Ala., have compiled a "dirt library" to help identify the source of extraneous particles and fibers in the paint or on finishes on vehicles. They also have found a 23-cent plastic prong that works better at keeping the vehicle doors open during painting than the $2.50 prongs the plant used previously. And they have redesigned the line-side racks that hold assembly parts for the M class, saving workers about as many steps, as one Mercedes team member put it, "to walk from Alabama to Stuttgart every year."

But the tinkering and problem solving of Williams and her co-workers represent more than fun for Mercedes-Benz's global manufacturing operations.

DaimlerChrysler AG's Mercedes business has undergone a quiet revolution. In the past few months, its factories in Germany, Brazil, the United States and South Africa have adopted a rulebook on operating procedures the automaker plans to encourage its global suppliers to adopt as well. Mercedes' commercial truck business, including its Freightliner Inc. unit in the United States, also has agreed to adapt the procedures to its operations.

The procedures grew out of Mercedes' New World experiences in Alabama. It was there, in the late 1990s, that the century-old automaker took advantage of a clean-sheet approach to building cars. Pairing some of its Alabama ideas with other "best practices" from plants in Europe, the automaker has devised the Mercedes Production System.

A Mercedes-Benz team in Stuttgart codified the practices last year, then began training its top managers on how the changes would work in daily production and labor routines. In the past year, the system rolled out to factories on both sides of the Atlantic.

**The approach bears a striking resemblance to the lean Toyota Production System that has inspired automotive plants worldwide in the past decade**. **Both approaches require just-in-time inventory**. **Both reduce job descriptions to simplified, standardized routines**. **Both strive for stable production flows in the belief that stability leads to product quality**. Both organize their plants into work teams that strive for skill development. Both chant the mantra of continuous improvement.

**A good thing**

Or as Williams described it: having a little fun on the job. "We look for things that bug people. We fix them," said Williams, who was given a six-month break from her paint shop job to circulate around the Alabama factory implementing improvements. "I have a family I go home to at the end of the day. If this makes everybody's job a little easier and lets us all go home at night a little less tired, I'd call that a good thing."

So would Stuttgart. Alabama-style continuous improvement caught the fancy of people such as Helmut Petri, DaimlerChrysler board member in charge of worldwide Mercedes-Benz production. Petri realized continuous improvement allows team members to go home a little less frazzled. But he realized it also had the power to unleash quality and cost-savings ideas in places that the company never thought to look.

Case in point: The transfer case stud gun.

In Alabama, the sport-utility's transfer case rolls along an assembly line. A team member picks up a gun with a socket. The socket holds a stud that goes into the casing. But twice a week, just like clockwork, the gun malfunctions and becomes damaged. So Mercedes shells out $400 twice a week for a socket repair kit. Frequently, the damage is so severe, the entire $1,100 gun must be replaced.

Transfer case line worker Don Delaney found the failings annoying. The 34-year-old former tractor supplies worker spent $25 to build his own stud gun at home. He then brought it into work and used $25 of Mercedes' money to refine the tooling. Six months ago, with the factory's blessing, he replaced the official Mercedes tool with his homemade one.

"It hasn't malfunctioned once," Delaney said of the replacement device, "which saves me a lot of time. I was spending a lot of time repairing the other tool."

**Cautious approach**

As obvious as the art of employee innovation is, the idea of changing over all of Mercedes factories was no simple matter. Mercedes has a long heritage of building cars with skilled craftsmen who apprenticed at the feet of other skilled craftsmen. On its surface, bottom-up engineering flaunts tradition, and that didn't immediately fly with the German auto union, IG Metall.

According to its working agreement with IG Metall, Mercedes management must consult with the union before making any changes in operations or shifts. Before agreeing to convert the German factories, union leaders in Germany wanted to see how concepts such as standardized work and continuous improvement worked. They flew to Alabama to observe operations, talk to workers and study the practices first-hand.

The union visits were all the more noteworthy because Vance is a non-union plant. In fact, the Alabama factory has been the scene of an unsuccessful UAW organizing contest for the past two years. UAW President Steve Yokich, himself a member of the DaimlerChrysler advisory board, has toured the plant. But the UAW has had little success interesting Mercedes' 2,000 Alabama workers in UAW membership.

In the end, IG Metall embraced the operating ideas for worldwide practice. Petri noted that under the production system there are still minor differences of language and culture from plant to plant. For example, in Germany, the union still has a voice in line speed changes. There is still an apprenticeship tradition there that doesn't exist elsewhere. Language, tools and products still differ from factory to factory, he said.

"But we found resolution," Petri said. "MPS is a common language for us."

**Thinking exercise**

In Vance, workers view continual improvement as sort of an elaborate treasure hunt. Teams have used scrap metal to build new parts racks. They have stuck wheels onto the bottom of desks. They doubled the number of hand tools in the assembly shop so that each line worker can proceed at his own pace.

One team also hit on the idea of "line-side limos," a fairly common contraption that allows a worker, his tool cart and parts to move alongside a vehicle as it moves down the assembly line. The improvement team found ready-made limos available from an industrial equipment producer for $40,000 a piece. The team scoffed, scrounged up the necessary materials and built 16 of them in-house for $4,100 each.

Bill Taylor, CEO of the Alabama operation, takes particular pride in the team's line-side limo exercise. Taylor was hired from Toyota Motor Corp.'s Canadian automaking subsidiary in 1993 to help design, start and operate the Mercedes plant. In the past seven years, he has helped translate and mold Toyota production ideas into a Mercedes experience.

"This isn't just a Japanese thing," Taylor said of Mercedes' new global procedures. "It's a systematic approach to improving quality and manufacturing processes. The Japanese have no monopoly on that."