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## Robins work force sends off C-5 after 171 days

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**ROBINS AIR FORCE BASE** - About 500 Robins Air Force Base workers gathered in front of C-5 tail number 80213 on Tuesday afternoon to say goodbye to a record-breaker.

The Travis Air Force Base cargo aircraft is going home today to California after extensive programmed depot maintenance - a multiphased process that calls for removal of major components, inspection and repair of aircraft structure and systems, reassembly, painting and flight testing.

The record breaking came in how long it has taken the Robins work force to perform the tedious overhaul: not the 350-plus days of two years ago or the 250 days of last year, but 171 days. That's the quickest since the depot began performing depot maintenance on the giant Lockheed jets in January 1998.

Col. Dennis Daley credits a number of factors. Hard work and innovation were key, he said, but he also pointed to two management techniques: critical chain project management and lean process improvement.

"Those two techniques are really interrelated," said the C-5 PDM branch chief. "CCPM is a scheduling technique that tells you how to apply your resources. It identifies the bottlenecks. Lean eliminates waste."

The branch at Robins has used both techniques with dramatic effect.

"For example, our paint shop can only run one aircraft through at a time," Daley said. "It was taking 13 to 14 days. CCPM identified it as a bottleneck, then some individuals formed a lean team to work the process. Now our jets are going through in seven to nine days."

Lean, first developed by Japanese manufacturer Toyota, has been used extensively by the C-5 branch. "They've operationalized it," Daley said. "They use it as a matter of course. It's impressive. They have it wired."

Critical chain project management came when Bill Best, the 402nd Aircraft Maintenance Group's deputy director, attended a graduate program at the University of Tennessee last fall. He brought it back and sold the concept, and it was implemented in March.

Tail number 80213 was the first C-5 to fully benefit. Best said the work force quickly accepted the new approach.

"They're not shy," Best said. "These guys have improved so much over the last three years. They said, 'Let's do it.' They're very bold, aggressive."

Team leaders David Johnson and Mark Vasquez were the prime movers, Daley said. Both said the two techniques make their jobs easier.

"They empower the workers," Johnson said. "It gives them a sense of ownership, and that results in a lot of pride in the finished product."

Vasquez said the reduction in time is accomplished without sacrificing quality. "In fact, the mechanics are much more cautious," he said.

"They can focus more and turn out better quality. We know that quality is improved because the number of defects are down."

And 171 days are not the limit. "Our goal is 160," Vasquez said, "but we've talked about 120 days. You always want to do better."

Best called the improvement incredible. "All the guys think they can do better," he said, "and they're not done yet."