NAVAIR
AIRSPEED

AirSpeed aims to reduce production TAT

A new NAVAIR depots' team has been chartered to develop a standardized cycle time reduction tool set and has been tasked with deploying this tool across the three depots. Assistant Commander for NAVAIR Depots (AIR 6.0) Rear Adm. Wally Massenburg chartered the team in April shortly after assuming his new job at NAVAIR.

The admiral's overall goal for the Air Speed team: decrease production turnaround time.

"In an environment of limited Department of Defense funds, the Navy has employed several initiatives to lower operational costs in an attempt to free-up dollars for the recapitalization of our fleet," said Frank Widick Jr., NAVAIR Depot North Island assistant production officer, Code 6.2. "Air Speed is Adm. Massenburg's initiative to reduce turnaround time and costs by employing a set of modern business techniques."

According to Widick, the "tools" contained in Air Speed use proven techniques that will assist to make the depots' corporation more efficient and effective "thereby reducing the number of depot pipeline assets resulting in a cost avoidance to the Navy."

Air Speed kicked off at the Depot late last month with the Landing Gear Components Shop in Building 472. Teammates will be trained on Lean techniques that will be used to redesign the shop for greater efficiency. Widick said that the F/A-18 Quickie Shop in Building 94 will be next in line for training.

"Air Speed is planned for deployment throughout the depot corporation for the next 30 months, and during this time it will be integrated with initiatives that are currently ongoing with organization and intermediate level fleet folks to create a totally integrated naval maintenance enterprise," said Widick.

Massenburg's vision for Air Speed is to incorporate the most current business and cycle time reduction processes across the NAVAIR enterprise to enable reduced cycle times to meet the requirements of the 21st century warfighter and beyond, stated NAVAIR Depot North Island Executive Officer Capt. Tim Trainer. "Air Speed will enhance Depot responsiveness and flexibility; increase the velocity of our maintenance, repair and overall processes; eliminate waste and inefficiencies; and identify constraints and barriers and focus management attention," Trainer said. "It will also share, export and integrate Air Speed cycle time reduction processes across the NAVAIR enterprise through the NAVAIR Readiness Integrated Improvement Program."

Though Massenburg's overall goal for Air Speed is to reduce production turnaround time, Trainer said that there are other goals to achieve as well. These are a reduction in Depot cycle time, increased throughput, reduced in-process inventory, reduced operation costs, and improve scheduling accuracy and on-time delivery.

"Air Speed will leverage Theory of Constraints – a management philosophy that improves the performance of a system by focusing on its constraints, Lean principles and Six Sigma to dramatically improve Depot maintenance cycle time, reduce Depot pipeline, and increase total supply chain velocity," said Trainer.

According to the executive officer, Theory of Constraints views organizations as systems consisting of resources that are linked by the processes they perform (interdependencies). Inherent in such systems are variability in its processes, suppliers, and customers. Within that system, a constraint is defined as any element that restricts the flow of the system, consistent with demand. "Otherwise, its throughput would go to infinity. Performance is measured relative to the system's goal," Trainer said.

Trainer said that the interdependencies and variability between and within processes are analogous to a chain. "Just as the chain is governed by the weakest link, Theory of Constraints maintains that the ability of the organization to achieve its goal is governed by a single (or very few) constraints," Trainer emphasized.

Lean Manufacturing emphasizes the elimination of a waste-free process that works correctly and delivers only

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the value-added products and capabilities that customers require. "Lean involves identifying and eliminating non-value adding activities in design, production, supply chain management and customers' interactions," said Trainer. "Lean producers employ teams of multi-skilled workers at all levels of the organization and highly flexible, increasingly automated machines to produce volumes of products in potentially enormous variety."

Six Sigma provides the data analysis to focus improvement activities on the activities that have the most significant effect on desired outcomes. Said Trainer, "Most companies do not have unlimited resources to remove all of the causes of variation at once; so the analysis focuses you on the right things first."

Trainer said that Air Speed goals are to be achieved through targeted use of Theory of Constraints methodology to proactively respond to scheduling variability inherent in the Depot overhaul and repair environment; apply Lean principles for stripping out waste reducing work in progress and driving continuous process improvement; and using Six Sigma statistical process techniques for defining, analyzing, improving and controlling process variation.

Trainer noted that the NAVAIR Readiness Integrated Improvement Program will provide enterprise wide coordination across NAVAIR and integrate numerous ongoing efforts. "These include driving the process with integrated and linked metrics across NAVAIR, improving supply chain management, improving component reliability (time on wing), and raising issues and barriers to improvement at the flag (admiral) and Senior Executive Service levels."

He said that NAVAIR is doing all of this to improve its competitiveness while putting more material in the hands of the warfighter. "We are also focusing our production on what the warfighter needs to keep aircraft flying, reducing the cost of operation for the NAVAIR enterprise, and producing the savings that are necessary for recapitalization. It is also an ideal BRAC strategy and demonstrates our world-class support to the warfighter."

As with any new venture, Trainer noted that Air Speed will have some implications. Faster, more efficient, high quality products will go to the fleet. Workload will not change; rather, the Depot will pump out parts faster. "Less equipment in Work in Progress means more items on the flight line thereby allowing potential to reduce inventories," he said. "This makes us more competitive with industry and the prospect for additional workload. And we must accomplish this for future viability," he said.

So what is the plan for NAVAIR Depot North Island? For the remainder of this fiscal year, the Depot will employ Lean techniques in the Landing Gear Shop, F/A-18 Quickie Shop, and the C-2 Service Life Extension Program. "We will also deploy auto-crib material handling system (automatic tool dispensers) within the F/A-18 Planned Maintenance Interval 1 line," said the captain, "and employ Theory of Constraints techniques on start up of the H-53 Integrated Maintenance Concept and C-2 SLEP lines."

In fiscal year 04, which begins on Oct. 1, Trainer mentioned that the Depot will continue Lean deployment in Composites and the Hydraulics shop; the F/A-18 Disassembly, Assembly and Wing shops; the E-2 Super Modules and induction, and the Paint and Test Line. The Depot will continue Theory of Constraints deployment to F/A-18 PMI-1 line, E-2, H-60 and H-1 lines.

Then starting in fiscal year 05, "we will deploy Lean to Manufacturing, Calibration, Dynamic and the Avionics and Electrical components shops," Trainer said. "The Depot will also deploy Theory of Constraints to Voyage Repair Team, the LM 2500, Mobile Facilities, and Field Services."