

Current Readiness & Enterprise AIRSpeed Newsletter



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Ensign John Berry, a student aviator from Training Squadron (VT) 28, navigates the new flight simulator for the T-6B Texan II training aircraft while Tony Floyd, an instructor from Fidelity Technologies, simulates the flight conditions in this photo dated Aug.13. (Photo by Richard Stewart/Navy.mil)

The Texan takes off in Texas

By Naval Air Training Command

As Naval Aviation looks to the future, it is clear that while the number of missions may be growing, the funds we use to accomplish those mis-

sions often do not, and in some cases, may even decrease. Therefore, the challenge has become how to become more efficient. Some ways the Naval Air Training Command

(NATRACOM) has tried to be more efficient are by increasing commonality among aircraft, decreasing the cost of maintenance to the different aircraft, “downloading” training into earlier and less expensive phases of training, and making flight operations safer. The T-6B Texan II is an effort to do all of these things.

The Navy has already completed the transition from the T-34C to the T-6B at Training Air Wing 5 at NAS Whiting Field in Milton, Fla. This past July Training Air Wing (TAW) 4 at NAS Corpus Christi received its first two T-6B Texan IIs. And due to the hard work at the NATRACOM headquarters and at TAW 4, NAS Corpus Christi started T-6B flight operations in late November.

At first glance, it may seem easy to change from a legacy aircraft to a new, more modern trainer. The Navy has done this before and has done it extremely well. The Navy is transitioning to just two types of operational helicopters, the MH-60R and MH-60S, and the electronic attack aircraft of choice is moving from the venerable EA-6B Prowler to the new and impressive EA-18G

(Texan continued on Page 2)

We want to hear from you!

The Naval Aviation Enterprise is conducting a communications assessment to gauge the progress of our communication efforts and to identify additional outreach opportunities. A link to the assessment was emailed to readers and other stakeholders on Dec. 13.. Please take a few minutes to give us your inputs. Questions can be emailed to NAE@navy.mil.

In this issue:

1. [The Texan takes off in Texas](#)
New capabilities in the T-6B will reduce the cost of flight training in the future. Page 1
2. [Marksmanship Training Company uses CPI to hit its targets](#)
Lean, Six Sigma improves first pass yields, changes culture at the range. Page 3
3. [NAE Master Schedule - 2013-2014](#) (CAC-enabled link)
4. [Links of interest](#) Page 6

(Texan continued from Page 1)

Growler. But the transition of training aircraft comes with a certain set of challenges that fleet aircraft transitions do not typically face.

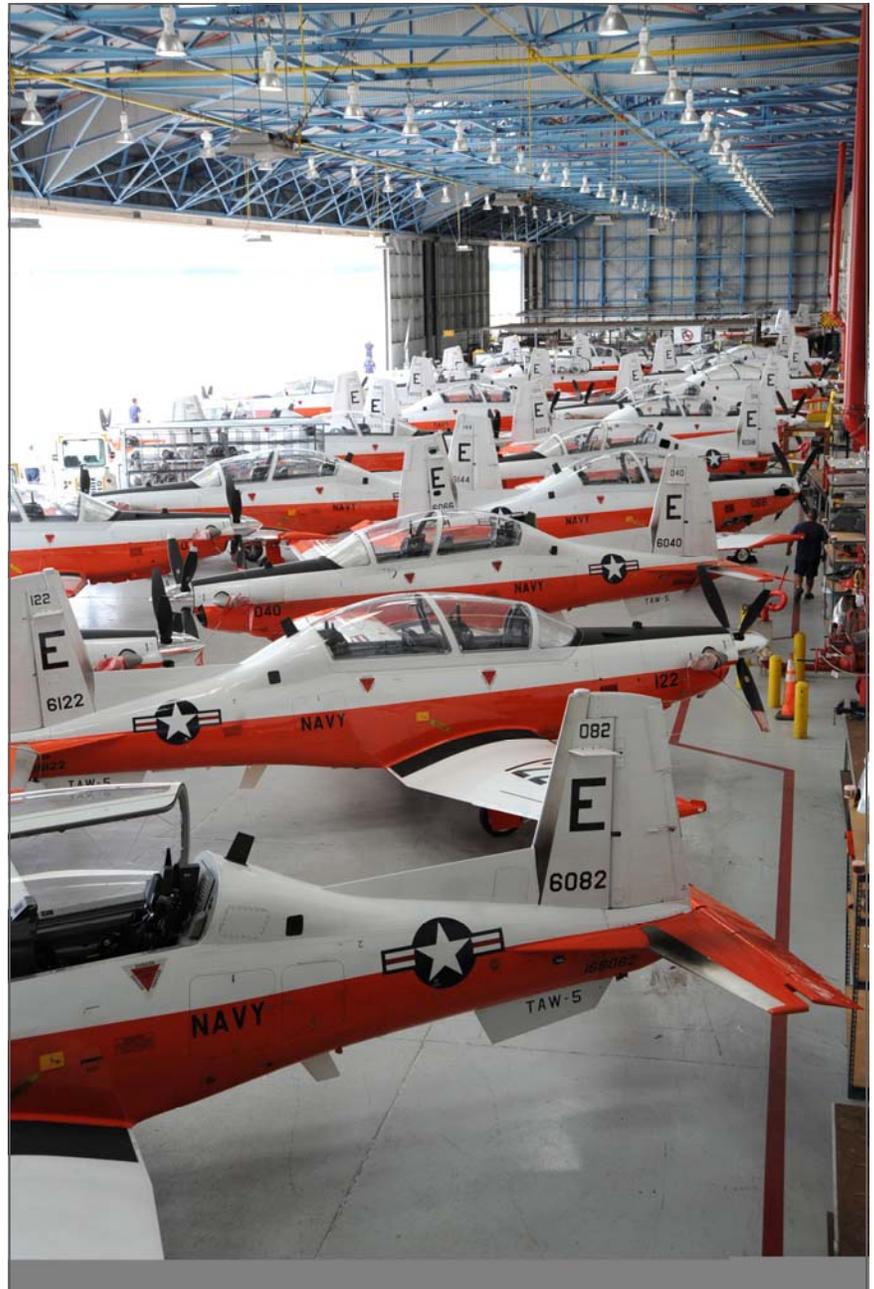
Perhaps the biggest challenge is to complete this transition “on the go,” because the Fleet’s demand for trained aviators has not paused, and neither can the production of aviators. While Fleet squadrons operate within deployment cycles, providing opportunities for fleet squadrons to transition to new aircraft, the fleet provides a constant demand for trained and qualified pilots and flight officers from the training squadrons.

This challenge has been overcome by the diligent cooperation of all the primary training squadrons and training wings involved with the transition. The staffs at each organization shared best practices and resources with each other to make sure the Fleet continued to receive the right number of aviators throughout the transition.

The advantages the T-6B holds over the T-34C make all this additional effort worthwhile. The T-6B is not simply a younger aircraft than the T-34C; it is a quantum leap forward. The T-6B has a digital cockpit, making it easier for students to transfer to the glass-cockpits that are now commonplace in the fleet. While much of the training will still take place in the aircraft where students will experience vital “seat of the pants” flying, the advanced simulators make it possible to do more of the training in the cost-effective, simulated environment.

In addition to completing more training in simulators, CNATRA is currently analyzing training that is now being conducted in more expensive aircraft in advanced squadrons and fleet replacement squadrons to determine what might be “downloaded” to the T-6B aircraft. Training missions that once required jet aircraft may be accomplished in the T-6B at a fraction of the fuel costs.

While these advantages will reduce the cost of flight training in the future, perhaps the most important improvement of the T-6B cannot be measured in terms of dollars saved: safety. The ejection seat provides a level of safety never seen before in Navy primary training. Because the T-34C lacked an ejection seat, pilots would have to “bail out” with a parachute in certain emergencies. If those emergencies happen at a low altitude, surviving in a T-34C would be nearly impossible. The ejection seat of the T-6B will make



T-6B Texan II aircraft fill the North Field hangar at Naval Air Station Whiting Field in this photo dated Aug. 27. (Photo by Jay Cope/Navy.mil)

previously fatal mishaps survivable.

As the transition from the T-34C to the T-6B continues, the Naval Air Training Command, to include the staff at headquarters, the training wings and the training squadrons, looks for ways to better complete its mission: to safely produce well-trained aviators to the Fleet at the right time, in the right numbers, at the right cost and with the right skills. This transition is an important step in ensuring that mission continues to be met successfully. ■

Marksmanship Training Company uses CPI to hit its targets

By Jacquelyn Millham, NAE Current Readiness CFT/Enterprise AIRSpeed Public Affairs

Photos courtesy of the Weapons Training Battalion, Marine Corps Base Quantico

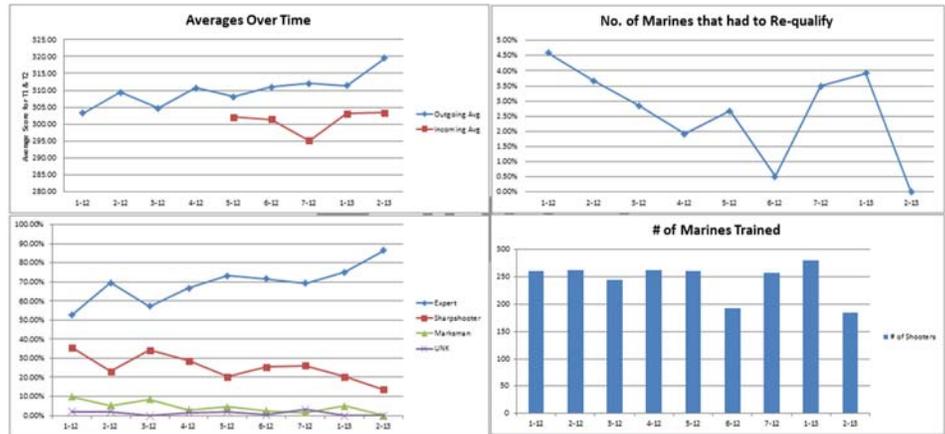
It took Cpl. Rebecca Facey two tries to qualify on her rifle at her first duty station in Okinawa, Japan. Even then, she barely passed.

Today Facey, who has been in the Marine Corps for three years and is the barracks manager at the Distribution Management Office, Weapons Training Battalion (WTBn) at Marine Corps Base Quantico, Va., is qualified as an expert shooter.

Her success can be attributed to continuous process improvement (CPI) principles applied to WTBn Marksmanship Training Company's (MTC) training processes.

The WTBn at Quantico got its first taste of CPI in November 2010 when Sgt. Tchaikawsky Samuels, a black belt previously stationed at Marine Aviation Logistics Squadron 12 in Iwakuni, Japan, was reassigned there. With a CPI-trained eye, he immediately recognized where he could apply his skill sets in his new job.

His first year was spent improving throughput of operations in the armory. "I was then assigned as the



headquarters platoon sergeant and made responsible for the Marines assigned to operate the ISMT (Indoor Simulated Marksmanship Trainer) amongst other responsibilities," said the intermediate-level jet engine mechanic for the F/A-18 F-404 jet turbine engine. "With the support of my leadership, we used Lean as our first step to improve its performance."

Through trial and error, the team began by sorting gear to figure out why they had a high failure rate. "I also called the contractor to learn why

the ISMT was so unreliable. It turned out to be more so due to insufficient training and lack of understanding by the users than a bad system. By replacing the gear and mapping the processes for running the system, we identified wasteful steps, useless equipment, and necessary procedures that achieved the level of success we have now," he said.

Samuels also tapped into the ISMT's capabilities by programming simulations that complemented the training styles of MTC coaches.

Those improvements increased ISMT's reliability by 50 percent. Reorganization also doubled the ISMT's capacity and reduced its preparation time from two hours to 15 minutes.

CPI also brought about a change in culture at WTBn Quantico. The ISMT is now regarded as a highly-effective and reliable resource. Shooters with previous simulator experiences now count on it to improve their marksmanship and knowledge. "The change in expectations and reliance on the simulator was evident when a pistol went down during training. Instead of just accepting the situation and moving on, everyone saw it as unacceptable and wanted it fixed. It was fixed on the spot," he said.



Cpl. Jordan Smith instructs a Marine, previously identified as at risk for not qualifying, on proper rifle marksmanship techniques during an ART

(Shoot continued on Page 4)

(Shoot continued from Page 3)

Facey credits her training on the ISMT with improving her marksmanship. "In September, Sgt. Samuels asked me to try out the ISMT. The battalion cadre took the time to explain to me how to improve my technique. The ISMT gave me the time to practice and apply what I learned," she said. Not only did she qualify as expert on her first attempt, she ended up with the second highest score out of 193 shooters. In November, she repeated her performance without first practicing on the ISMT.

Samuels also drew upon his Six Sigma expertise to improve training. "I realized that using a regression analysis could assist us in predicting a shooter's score in advance," he said. "This would enable us to setup our firing line in a manner to best leverage our senior coaches against our worst shooters. Another solution was to structure the range in a way that would best allow us to increase our

first pass yield (FPY) and save time and money by reducing the number of shooters that were in need of requalification drills."

MTC base lined the performance of rifle and pistol coaches, and requested shooters' scores in advance of their arrival, comparing it to the score they achieved when they qualified, said Samuels. Using these criteria, 12 percent of the worst incoming pistol shooters and five percent of the worst incoming rifle shooters were pulled aside and provided a day of training on the ISMT and face-to-face instruction with coaches. Then, shooters were assigned their target points

based on incoming scores; roughly 70 percent of incoming Marines are expert on the rifle; 28 percent for pistol. This helped in two ways. First, MTC now ensures no one coach has more than one troubled shooter at a time. The Marine Corps Order that sets

policy for the range allows a maximum ratio of one coach to four shooters. Each coach instructs a shooter that previously scored marksman or lower, one that qualified as a sharp shooter, and two that qualified as experts, he said.

Second, the scores dictate how coaches and shooters are assigned positions on the range, improving safety. "Based on two ARTs [annual rifle training], the coaches and staff decided it best to keep the junior coaches and shooter with the lowest incoming score towards the center of the firing line nearest the highest concentration of senior range personnel," said Samuels. "Because the range safety officer has limited visibility of the edges of the ranges, the senior coaches are best used at that position. The ratio of senior coaches with shooters also is 1-to-4: one expert, one sharpshooter, and two marksmen. Junior coaches would not have the skills to assist three shooters with lower qualifications."

This improvement has resulted in a 100 percent FPY of all of the worst incoming shooters on both rifle and pistol.

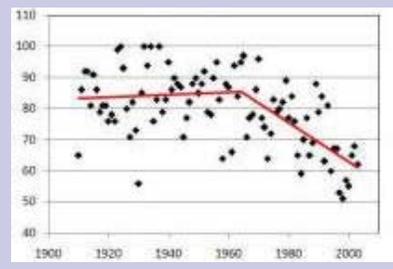
In addition, the time to produce targets has been reduced by 80 percent. "It used to take six hours over the course of two days to rebuild 165 6-foot-by-6-foot targets," said Samuels. "We now rebuild targets as quick as one to one-and-a-half hours on average. This was accomplished by setting up a production line and prepositioning supplies at the point of use instead of at a centralized location."

The improvements also increased the number of experts for ART in the National Capitol Region from 60 to 70 percent to 70 to 86 percent. Six Sigma was also used to establish the scoring criteria for badge ratings (unqualified, marksman, sharpshooter, and expert) for the recently

(Shoot continued on Page 5)

Regression analysis:

A statistical technique for estimating the relationships among independent and dependent variables.



Second lieutenants from Alpha Company, The Basic School, use the ISMT with the guidance of MTC coaches to sharpen their marksmanship skills. The shooters on the right are shooting on the new CPP target. The shooters on the far left are shooting the rifle known distance range.

(Shoot continued from Page 4)

approved Combat Pistol Program (CPP). The CPP is replacing the current Entry-Level Pistol Program – the first change to entry-level pistol marksmanship training in almost 30 years.

Leadership is allocating additional MTC coaches to the ISMT to support the improvements realized through the application of CPI.

Samuels continues to refine WTBn's procedures to ensure the program is sustained even after the changes become standard, including writing standard operating procedures on the improved process, working on checklists in Excel that compare and

track students' performance, and making modifications to online surveys.

For Samuels, using CPI to improve shooters' skill sets goes beyond the WTBn. He spent three months developing a prediction formula based on his regression analysis, and spent another seven months creating a now commercially-available mobile application that allow users to gather real-time, detailed marksmanship data; predict a shooter's score; track their performance; and provide other statistical information.

Samuels said that no matter what environment a CPI practitioner is as-

signed to, they have the skill set to see changes that need to be made and the tools to make them happen. "If anyone doubts the value of training Marines in Lean, Six Sigma, and the Theory of Constraints," said Samuels, "I ask that they strongly consider what I've done here and what countless of other well-trained Marines are doing fleet-wide."

Facey agrees. "In just a few hours of practice on the ISMT, I now better understand the fundamentals," she said. "The skills I've learned at WTBn have stuck with me." ■

Links of interest

- F-35B achieves milestone flight**
The flight marked the 1,000th developmental test flight for the F-35B Lightning II in the program's system development and demonstration phase.
<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=5216>
- F-35B completes second airborne weapons separation**
Another F-35 milestone was reached with the first aerial weapons release of a laser-guided bomb.
<http://www.hqmc.marines.mil/News/NewsArticleDisplay/tabid/3488/Article/135147/f-35b-completes-second-airborne-weapons-separation.aspx>
- F-35 Integrated Test Force preps maintainers for operational test**
Seventy-six personnel have successfully completed the program with 15 maintainers currently participating.
<http://www.hqmc.marines.mil/News/NewsArticleDisplay/tabid/3488/Article/135192/f-35-integrated-test-force-preps-maintainers-for-operational-test.aspx>
- USS Truman tests unmanned aircraft**
Watch the test flight on All Hands Update.
<http://www.navy.mil/viewVideo.asp?id=17891>
- Aerosonde unmanned air vehicle provides Marines ISR support**
The 70-pound air vehicle provides real-time full-motion video and other sensor capability to Marines deployed in Afghanistan.
<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=5215>
- Fire Scout breaks endurance records on USS Klakring deployment**
For the first time ever, Helicopter Anti-submarine Squadron Light 42 conducted dual air vehicle operations, allowing the ship's commander to keep a constant watch on targets of interest.
<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=5202>

(Links continued on Page 6)

(Links continued from Page 5)

7. **NAVAIR Video**

Integrated Warfighting Capabilities

Watch this NAVAIR video that describes how the program is working across vertical stove pipe programs to create integrated and interoperable solutions.

<http://www.navair.navy.mil/index.cfm?fuseaction=home.VideoPlay&key=5E2C7F88-5A6E-4207-A193-D05B53B08B8A>

8. **Old Hornet does one more trick; VMFA-115 F/A 18 Hornet soars beyond 9,000 hours**

For every one hour that the aircraft flew, 10 hours of meticulous maintenance was performed, including numerous upgrades and overhauls to ensure the aircraft was capable of flying to intercept and destroy enemy aircraft and attack and destroy surface targets.

<http://www.marines.mil/News/NewsDisplay/tabid/3258/Article/134572/old-hornet-does-one-more-trick-vmfa-115-fa-18-hornet-soars-beyond-9000-hours.aspx>

9. **Fleet Readiness Center East delivers last H-46**

Not only has FRC delivered its last “Phrog” to VMR-1, the only Marine squadron on the East Coast that flies the HH-46, but the training school for H-46 pilots on Marine Corps Base Camp Pendleton, Calif., has trained its last pilot and closed its doors.

<http://www.marines.mil/News/NewsDisplay/tabid/3258/Article/134153/fleet-readiness-center-east-delivers-last-h-46.aspx>

10. **DON CPI Gram – December***

This issue features articles on the Marine Corps Financial Management School’s pilot program to determine how to formally incorporate Continuous Performance Improvement (CPI) concepts into the Financial Management curricula offered at the school, and an article on how the Navy’s last dry-cargo ship was delivered under budget.

https://www.portal.navy.mil/comnavairfor/Naval_Aviation_Enterprise/AirSpeed%20Newsletters/Newsletter_Repository_2012/DoN_CPI_Gram/Dec_2012.pdf

11. **NAE S&T SITSUM, November edition***

Read about the improved and expanded repair options for chronic mechanical damage (chafing) on the AH-

(Links continued on Page 7)



Presidential V-22s on schedule for delivery in 2013

Aircraft 209, the fourth MV-22 to be assigned to the Presidential Support Squadron, awaits attachment of the tail empennage (painted the iconic dark green of the squadron) on the Bell V-22 assembly plant production floor in Amarillo, Texas, Dec. 1. The first MV-22 is on schedule to be delivered to Marine Helicopter Squadron One (HMX-1), the Marine squadron that provides executive level logistics and passenger support to the president, in early 2013. The MV-22s will replace the CH-46Es currently operating with the squadron. Photo courtesy of Bell-Boeing/NAVAIR

<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=5210>



Scan Eagle UAV conducts first flight on LPD class ship

A Scan Eagle unmanned aerial vehicle is recovered from flight aboard *USS San Antonio* (LPD 17) on Nov. 28. The flight on the San Antonio LPD-class ship was part of a post-installation and functional flight-check exercise.

(U.S. Navy photo/NAVAIR)

<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIR-NewsStory&id=5207>

(Links continued from Page 6)

1W Combining Gearbox magnesium housings.

https://www.portal.navy.mil/comnavairfor/Naval_Aviation_Enterprise/AirSpeed%20Newsletters/Newsletter_Repository_2012/NAE_S-T_SITSUM/Nov_2012.pdf

12. **Fleet Readiness Center Southwest *Almanac****

Volume 6, Issue 1

This issue features a look at the Jig and Fixtures and Toolmaker Shop, and its role in the production of a tail hook point for the X-47B Unmanned Combat Air System.

https://www.portal.navy.mil/comnavairfor/Naval_Aviation_Enterprise/AirSpeed%20Newsletters/Newsletter_Repository_2012/FRCSW_Almanac/Vol_6-1.pdf

Volume 6, Issue 2*

Read how FRCSW is supporting the U.S. Air Force in the upgrade 91 of its HH-60G Pave Hawk helicopters' airframes vibration monitoring system, hover and hold system, and personnel locating system.

https://www.portal.navy.mil/comnavairfor/Naval_Aviation_Enterprise/AirSpeed%20Newsletters/Newsletter_Repository_2012/FRCSW_Almanac/Vol_6-2.pdf

13. **Navy Live Blog**

#NavyAnswers: Contractor Bids

Vice Adm. Kevin McCoy, Commander, Naval Sea Systems Command, answers a question on how contracts will be awarded to build the future USS John F. Kennedy (CVN 79).

<http://navylive.dodlive.mil/2012/12/13/navyanswers-contractor-bids/>

14. **X-47B unmanned combat air system completes first at-sea tests**

The ship is the first aircraft carrier to host test operations for an unmanned aircraft. Among the multitude of tests performed, the X-47B was towed using carrier-based tractors, taxied on the flight deck via its arm-mounted control display unit, and had its digital engine controls tested within environments pervaded by electromagnetic fields.

http://www.navy.mil/submit/display.asp?story_id=71156

**- Site is CAC-enabled. Some readers may not be able to access the link.*

Content in this publication has been cleared for release.