NAVAL AIR STATION NORTH ISLAND, Calif. - Systems analysts James Brown and Marty Hernandez are looking to change things. Things like workplace culture and how to effectively solve problems that get in the way of aircraft production.

Brown and Hernandez are assigned to the Fleet Readiness Center Southwest (FRCSW) training department. They are two of seven “Black Belts,” or those who have achieved an advanced skill set in the continuous process improvement program they teach: AIRSpeed.

AIRSpeed was introduced to the Navy in the early 2000s, and first taught here about 13 years ago at the then-Naval Aviation Depot North Island (NADEP).

AIRSpeed, itself, has not changed. But the way it’s used, and its perception at FRCSW has:

In the past, Brown said, people were having AIRSpeed “done to them.”

“An AIRSpeed team would come out to a work center and tape out production areas. Now the whole point is project management. AIRSpeed is used to find out what the customer thinks his problem is, and then dissecting that to see what is causing it,” Hernandez said.
“People simply see the issues in front of them. They don’t know what caused them, they just know they’re there.”

New employees learn the value the command places in AIRSpeed within their first 90 days of reporting here, as they are required to attend “Yellow Belt,” or basic skills AIRSpeed training.

The course covers the process improvement tools of “Lean,” or identifying waste (time, material, etc.) in a production process and developing remedies to find efficiencies and reduce time, and Six Sigma which strives to improve production and services by eliminating variation in a process.

During Yellow Belt training, employees move through production areas to see examples of existing and previous AIRSpeed projects and applications. Training is augmented by charts, explanatory digitals and films, Hernandez said.

“By going on the floor and then showing them the films, it clicks better. We’ve seen a difference especially with the last class, they got it a lot faster; so visual representation, and instruction along with film gets them to the `Green Belt,’” he said.

The Green Belt course is one-week long and is the intermediate level of AIRSpeed. It teaches the Theory of Constraints which is used to identify restrictions to processes, and targets eliminating organizational conflicts to optimize a system flow.

Green Belt training, unlike Yellow Belt, is not required by the command. Instead, employees must request the training through their supervisors and have a definitive problem or project they wish to address.

Participants receive hands-on training and learn the sequences of AIRSpeed to resolve and conclude the project.

“Once people start understanding the methodology and how to look for issues, they start looking below the surface for the root causes that are causing problems,” Brown said. “What was done in the past was just band aids put on the problems, but we show them how to get to the root cause, and how to mitigate that to eliminate it. This is essential to project management.”

“If you know what it is you’re going to fix and what causes it, then you have to know how to manage it,” Hernandez noted.

Concentrating their efforts within the F/A-18 Hornet production line in the Building 94 hangar, Hernandez and Brown cited the Hornet fuel cell shop as an example of how a Green Belt project resolved production barriers and improved readiness.
Because there was no established schedule for them, the shop’s artisans had to wait when servicing the fuel cells that are located behind the cockpit on top of the aircraft. Only the hours to perform the work were allotted.

“If you don’t schedule a process to be done and give it the time it needs and it’s spread all through the overhaul of the aircraft, the continuity or the loss of continuity could cause something to be missed,” Hernandez said.

Fuel cell personnel must be finished with the aircraft before it continues through assembly. Power runs, checks and operations are not possible with an artisan working in the cell.

To remedy the issue, a work schedule was set and other improvements within the shop were made.

“We have a schedule of 14 days now to complete work on the five fuel cells in the legacy Hornets. And we have our own designated area for installation that includes storage,” said Vidal Nuno, fuel cell work leader and one of the Green Belt project participants.

“We also received new fuel stands about eight months ago which don’t require harnesses, and one more set is on order,” he added.

Prior to their relocation to the hangar floor, the shop was located in the building’s mezzanine. Artisans had to walk seven to 10 miles a day to carry their gear to aircraft work sites. It now takes them about 40 steps to gather what they need.

“Anytime you have to walk to do something it’s a waste because it’s taking time away from doing your job,” Brown said. “When you walk a process that someone says takes about 10 minutes to do, you often find they may stop to get a tool they need, or stop to get rags or hazmat, and it can turn into an hour. This is what we look to mitigate.”

Meanwhile, the mezzanine has been converted to the shop’s kitting area.

“Material storage cages are used in the kitting area. Before, the shop couldn’t pull its inventory. Now they know exactly what they’re supposed to have, can track it, and when they are supposed to have it by compartment on the aircraft,” Hernandez said.

Artisans enter the fuel cell through a 17-by-12-inch hatch where they remove and install the fuel bladder and work among the cell’s components.

“Parts that are removed have to be dispositioned. They go through an evaluator and examination (E & E) to determine if they can go directly to kitting, or are good but in need of slight repair, or if they need to be scrapped out and a new replacement part ordered,” Hernandez said.

The recent addition of E&E and production control personnel have significantly increased
the efficiency within the kitting area and the shop’s timeliness in meeting other requirements, Nuno noted.

Procedure turn-around time (TAT) is another factor commonly evaluated through an AIRSpeed project.

“With TAT we are looking at time available divided by customer demand. That gives us an idea of how much time we have to work on something,” Brown said.

TAT also serves in determining work center staffing requirements based upon the number of people needed to complete a procedure in an allotted amount time.

If or when a process fails, it may usually be attributed to either training, communication or accountability, Brown noted.

“We continuously validate the processes to make sure they are still working. That’s part of the continuous process improvement, because the Theory of Constraints (restrictions to processes) will always move. Theory of Constraints works well in a manufacturing environment, but here, because we have different configurations of aircraft, we have different requirements like a Planned Maintenance Interval 1 and 2, so it depends on the hours on the aircraft,” he said.

Though AIRSpeed is the vehicle to efficiency in program readiness, the changing culture of the FRCSW work force is the catalyst to its implementation.

“The biggest change I’ve seen in this group (F-18) and others is the ability to walk them through an area in work or completed in work and let them ask the questions: `how, why, when, who, where and what,’ and then show them through the training how it all connects,” Hernandez said.

“There are cultural barriers, but what makes this program successful for the F-18 is that Marty and I are out there all of the time, and now that the work force knows we are there to help them, someone may stop us and say, ‘Hey, I’ve got an idea,’ whereas that really wasn’t happening before,” Brown said.

“People are seeing the value in the training and we pack a class of 30 people every session for the Yellow Belt, and we have people waiting to get in to the Green Belt training,” he added.

FRCSW is commanded by CAPT Craig Owen
AIRSpeed: Solving Problems to Increase Efficiency