



Reflector

NAVAL AIR WARFARE CENTER • AIRCRAFT DIVISION • WARMINSTER, PA

G-TIP program trains 1,000th aviator

Imagine being on one of the steepest rollercoasters ever built. As you descend from the numerous hills, or whip around various loops, you're pushed back into your seat and breathing becomes more difficult. When you try to lift your arm or leg, it's as if each weighs a ton.

Welcome to the world of "G" forces...almost. "G" stands for gravity, and an aircrew of high performance aircraft can pull as many as nine, making the simplest task very difficult.

According to Cmdr. David McGowan, chief medical operations officer, just understanding what G's are is difficult. "We call one G the force of gravity. Two G's are twice the force of gravity, so a 150 pound person now weighs 300 pounds," said McGowan. "Our aviators are pulling six, seven and eight G's, so a 150 pound pilot at six G's now has 900 pounds that his body has to support."

A possible consequence of performing these high G's is losing consciousness. One reason this doesn't occur more, is the G Tolerance Improvement Program (G-TIP) training conducted by the Air Vehicle and Crew Systems Technology Department. The program teaches aviators how to identify and handle the onset of G's. The training has become so popular, the 1,000th aircrew member recently completed the course.

To prevent the loss of consciousness, G-TIP teaches the "hook" maneuver, a procedure developed a number of years ago by Dr. James Whinnery, a former center employee, Joe Cammarota and other research people. By straining the arms and legs, the pilot stops the blood from pooling down out of his head due to the force of gravity, which causes the loss of consciousness. This process, along with actually saying the word "hook" which closes the airway and

causes the chest to compress, forces the blood back up into the head.

McGowan said it's widely held that the Naval Air Warfare Center Aircraft Division Warminster centrifuge is the only place this training can be held. "You have a multi-million dollar aircraft and the pilots have certain training they're required to do," said McGowan. "That's not the time for them to learn G tolerance training. For a small amount of money, they can come here and get an experience they'll never get with their aircraft. The aviator can do more G's for a longer period of time and we can train them over and over until they get it right. They leave here knowing what they need to know so when they get back to their aircraft using jet fuel and valuable flight time, they'll be way ahead of the game because of the training."

(See G-TIP on page 6)



"I've heard from people who have gone through the program and each one of them has learned a lot."



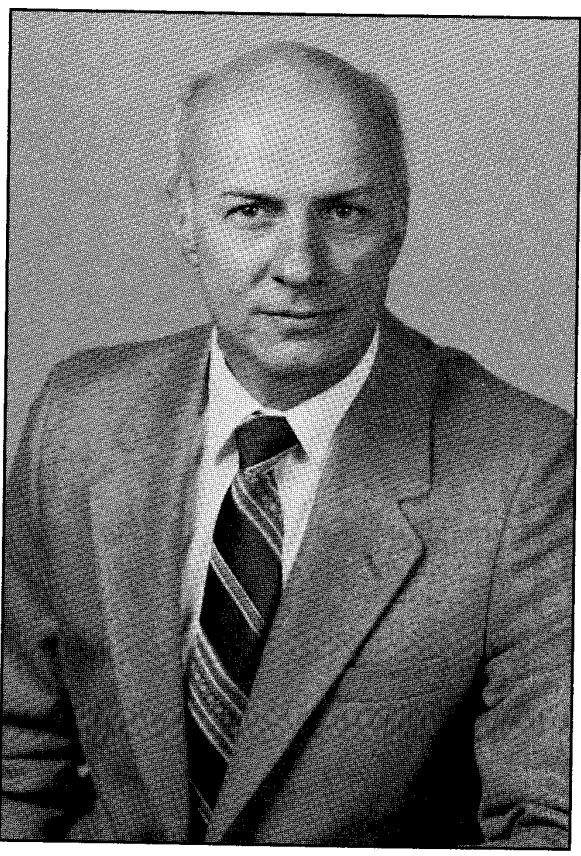
"I think the training will give me the awareness of what the G's feel like and how to prevent a G-LOC episode."



Photos by Jason Craig

"It will help my confidence inside the aircraft because I'll know what my limits are."

Meet Tom Castaldi of Code 50



Name: Tom Castaldi
Hometown: Philadelphia, Pa.
Birthday: April 19
Position: Head, Mission Avionics Technology Dept.
Years of government service: 29
Previous assignments: Science Advisor, CINCLANTFLT; Technical Advisor to Office of Naval Warfare; Head of the Systems Department

Ideal vacation: Touring the United States in a Winnebago
Favorite movie: "It's A Wonderful Life"
Preferred entertainment: Music, tennis and driving the TD nuts
Last book read: "Clear and Present Danger" by Tom Clancy
Strongest attribute: A sparkling personality coupled with a fantastic hairline
Worst flaw: My penchant for perfection.
Work philosophy: Do the best I can no matter what the job, or if I can't, give up and go to the beach
Pet peeve: When I get called back to a meeting in the front office right after I left there and walked a half-mile to my office
Favorite food: Anything Italian
Unfulfilled dream: To be a Supreme Court justice or sumo wrestler
Goal in life: To be the best I can be
How your tombstone should read: Here lies Tom Castaldi, a man who kept the things in life in proper perspective.

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The Reflector is published for people like Pete Brown of the Tactical Air System Dept.