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NADC Reflector

Volume 34 Number 2 NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA. February 1989

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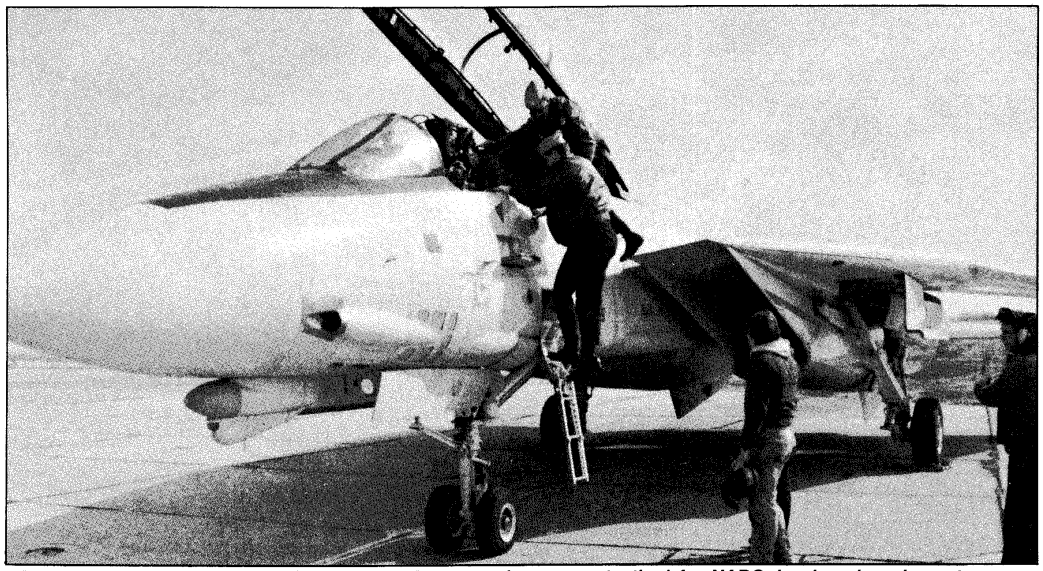
"Top Gun" sets sights for NADC

By Mary Ann Brett

One of the Navy's "Top Gun" aircraft, the world-renowned F-14 "Tomcat", recently arrived at the Center for an 18-month stay. Thanks to nearly a year of dedicated efforts by Tactical Air (TACAIR) Systems Department personnel, the F-14 will be used as a testbed for NADC-developed equipment and systems and as a hands-on resource to design enhancements for fighter and attack aircraft.

The first of these enhancements will be to install a night vision goggle (NVG) capability which will allow the pilot to fly low-level at night using daytime flight techniques. "For these goggles to work," explained TACAIR's Joyce H. Iavecchia, "NADC must redesign the cockpit crewstation lighting system." The current red lighting design floods the NVGs, blocking the pilot from seeing anything outside the airplane. Iavecchia is the

Continued on Page 7



F-14 "Tomcat" arrives at NADC for 18-month stay and use as a testbed for NADC-developed equipment and systems.

Conductive composites fly successfully

By Mary Ann Brett

Jack Reilly, Chemical Engineer in the Aerospace Materials Division, has developed three conductive composite materials to replace aluminum in electrical power monitor boxes. All three prototypes have successfully passed a battery of tests including salt spray, electromagnetic interference (EMI), mechanical shock, vibration and fifty flight hours aboard F/A-18 aircraft. In addition to planned testing aboard A-7 aircraft here at the Center, an entire squadron of F/A-18s will soon be fitted with these boxes for fleet testing.

According to Reilly, the composite boxes consist of chopped fiber reinforced polyphenylene sulfide (PPS) materials. They are 20% lighter than aluminum while retaining EMI performance, lower corrosion maintenance costs, and increased system reliability and readiness. "In fact," said Reilly, "there are approximately 500 different avionics

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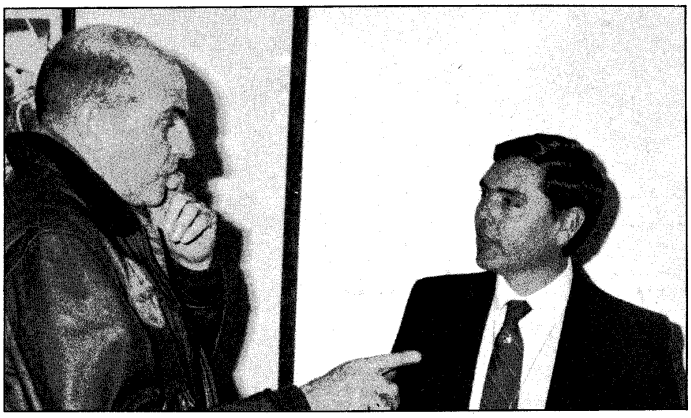
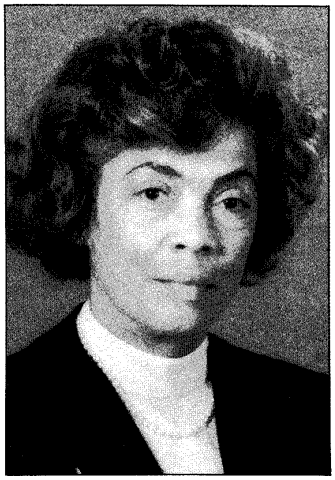


Vice Admiral Richard M. Dunleavy (in flight gear), Commander, Naval Air Force, Atlantic Fleet, makes comments on "G" Training Improvement Program (G-TIP) conducted by Dr. James E. Whinnery, NADC's Chief Aeromedical Scientist.



Dr. Gloria Chisum

Chisum: Black engineer of the year

By Lynn Edwards

Dr. Gloria Chisum, Engineering Research Psychologist in the Air Vehicle and Crew Systems Technology Department was recently selected by the Black Engineer of the Year Selection Committee to receive a 1989 Black Engineer of the Year Award in the category of Outstanding Achievement in Government.

The Black Engineer of the Year Awards sponsored by the *U.S. Black Engineering Magazine*, honor Black

Continued on Page 7

Atlantic Naval Air commander visits

Vice Admiral Richard M. Dunleavy, Commander, Naval Air Force, U.S. Atlantic Fleet, visited NADC to see first-hand the Center's G-Tolerance Improvement Program (G-TIP) in which several hundred of his Top Gun pilots recently took part.

Admiral Dunleavy said that feedback from the pilots who have already been through the G-TIP training here has been very positive. He said they feel better prepared to face combat situations and win because they will be able to control the G-affects. "My problem", said the admiral, "is holding them down — they want to come back here."

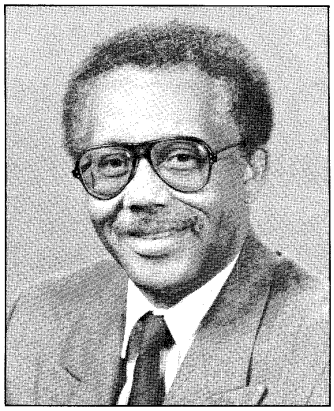
The G-TIP training teaches pilots of the F-14 "Tomcat" and the F/A-18 "Hornet" how to withstand the sudden increases in G forces of tactical maneuvers in these high-performance aircraft. A "G" is the normal force of gravity. In tight high-speed turns, pilots can experience as much as 9G's or nine times the force of gravity.

Planned as a Navy-wide program, G-TIP's curriculum is being developed by NADC. The technical personnel who will staff future training facilities are also being trained here.

After being briefed on the program and seeing the facilities, Dunleavy remarked that everything was "Very professional!" He added, "I'm tickled to death with all the talent you have here. We never had any doubt you could do this here."

Command Corner

Captain Curtis J. Winters
Center Commander



Guy C. Dilworth, Jr.
Technical Director

To all hands:

EEO is for everyone

". . . affirmative action is a journey. . ."

This month, Americans are celebrating the 64th annual Black history observance. As we recognize the many contributions Black Americans have made to the growth and development of America and its defense, let's remember that affirmative action is a journey, not a goal — we need to keep working at it.

The Naval Air Development Center has realized many achievements in EEO and our current Adopt-a-College efforts with historically Black colleges should result in productive contracts and new coops.

". . . take an active role . . ."

We need to work a bit more on recruitment and retention of black employees. Although a Black Interest Group has been formed to address this objective, it does not take the accountability from the supervisors and managers. The Worker Trainee and Federal Junior Fellowship Programs are successful long-term programs, but supervisors and managers need to take an active role in ensuring that Blacks are included in selection pools for full time permanent positions and that career counseling is conducted with their current Black employees. Now that the Center is in a hiring mode, we need to work together to increase our black representation.

GUY C. DILWORTH
Technical Director

C. J. WINTERS
Commander

Letter to the Editor

The following is in response to Janet Wild's letter to the Editor which appeared in the January 1989 REFLECTOR.

Dear J. Wild:

In reply to your concerns, we have asked Public Works to reduce the size of the smoking area in the auditorium corridor by approximately 50%. Where it previously extended from Col 2G29 to 2P29, it will now encompass only Col 2L29 to 2P29. This will essentially limit it to the immediate vicinity of the auditorium and will, we hope, alleviate the discomfort you are experiencing.

As you noted, the enforcement of the smoking policy in some areas is a problem. While we believe that the majority of our smokers do abide by the rules, there are still some who disregard these regulations and the rights of others. Unfortunately, the smoking restrictions depend to a large extent on self regulation, and there really is no effective means of policing them. We hope that with continued awareness and education, everyone will finally understand their responsibilities.

A suggestion to set up smoking areas in each building was considered at length before the Center's smoking regulations were issued. Unfortunately, a number of factors such as; availability of suitable spaces, amount of ventilation, location in relation to work areas, etc. had to be taken into account. Subsequently, the use of certain corridors as smoking areas proved to be the only viable alternative. As in any compromise, it does not fully satisfy anyone, but at least it generally provides adequate conditions for everyone.

M. J. Masington
Safety Officer

Commander Salutes

AT1 Kevin Landis (Code 90): For outstanding support in meeting commitments for the Ocean Water LIDAR System program and the Navigation and Communication update of the ASW Laser Research aircraft.

Robert McAvoy (Code 60): For assistance as an evaluator on the System Engineering Subteam for the Long Range Air ASW Capability Aircraft.

James Kingston (Code 04) and **Jon Jones** (Code 80): For assistance and professionalism during the Philadelphia Area Staffing Society (PASS) 1988 Awards Ceremony.

AMH2 Gary Poulin, PR2 Mark Spencer, AO1 Kurtis Sawyer, AD2 William Rogan, AD2 Joseph Zarzaca, AT2 John Twiest, AOCS William Swilley, AT2 Bradley Levault, AME2 Jeffrey Tonn, AOC Julian Boddie, AME2 David Blood, AT1 James Nuyen, AD2 Howard Kritzberger, AE1 James Mutchler, AO2 Ernest Hasz, AO1 Paul Fries, AE1 Elizabeth Deiss, AMS1 Barry Case, VN3 Anthony Fletcher: For outstanding and professional performance during the Wings of Freedom "88" Airshow at NAS Willow Grove.

MSC Blas Ibasco, MS3 Shawn Sebring, M52 Morris Ward, MS2 David Pauly, MS2 Nicholas Wandishin, MS2 Arthur Mason, MS1 Randy Collins (Code 80): For time and effort resulting in spectacular meals for both the Navy Birthday and Thanksgiving.

Catherine Schoenherr, Robert Reichert, Cynthia Yanoff (Code 80): For academic achievement during the "Management of Defense Acquisition Contracts Advanced" course at the Aviation Supply Office.

John Walker (Code 70) and **Brian Brady** (Code 20): For exceptional performances in supporting the AQM-127A target program and the Naval Air Systems Command.

Ferdinand Reetz (Code 20): For invaluable assistance regarding the development, construction and implementation of the USMC Night Imaging and Threat Evaluation (NITE) Lab.

Dr. Philip Whitley, Dr. James Whinnery and **Dr. Barry Shender** (Code 60): For assistance provided to Northrop in the testing of their Advanced Fighter Crew Protection System.

Blair Nicodemus, Joseph Laska (Code 50): For technical support to the AN/ALE-47 Countermeasures Dispenser Systems Source Selection.

Karl Geist, Squadron Leader John Coote, RAF (Code 10): For dedication and outstanding support to the Naval Air Systems Command Avionics and Computer Resources Division.

AC3 Douglas Champagne, AC1 Daniel O'Neil: (Code 90) For providing essential assistance to the NAS Willow Grove control tower and radar operational facility during an emergency.

Mary Baron (Code 84): For academic excellence during the Management of Defense Acquisition Contracts Course (Advanced).

Maureen Marron, Bettie Simpson, Dorthy Kirkpatrick, Betty Beans, Joan Miller, Neil Abramson (Code 03), **Raymond Satterfield, Andrew Schmith, Kenneth Smith, Gregory Gans, Ross Barcklow, Richard Michi, Harry Schmidt, Robert Goodyear, William Rondfuss, Linda Calderwood** (Code 80): For outstanding contributions ensuring the success of the Eleventh Annual Commander/Technical Director Awards Ceremony and the Center's First (to be annual) Fellow Awards Dinner.

David Hammond (Code 10); **Charles Pizzichello** (Code 50); **Thomas Karr, Mark Drager** (Code 80): For thoroughness and professionalism during the ERAPS procurement effort.

Harvey Jaffe (Code 80): For significant contribution as a member of the team conducting the Procurement Management Review at the Naval Underwater Systems Center.

James Zoog (Code 10): For substantial contributions to the P-3 Update IV Program with the production of the P-3 Update IV Computer Resources Life Cycle Management Plan and the development of the Software Quality Effectiveness Program.

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Commander, NADC ..... **CAPT Curtis J. Winters**
Technical Director ..... **Guy C. Dilworth, Jr.**
Public Affairs Officer ..... **James S. Kingston**
Editor ..... **Mary Ann Brett**

Productivity can produce rewards

By Stuart B. Simon

The Center has instituted a Productivity Program to focus all productivity improvement efforts, and simplify methods of submitting recommendations for change. All ideas that are entered into the system will be evaluated for merit and feasibility of implementation. A reward system has been approved allowing up to $3000 payment for submissions that will improve the productivity of the Center and the Navy.

The primary means for submitting new ideas will be by Email on the Center's Central Computer System (CCS). The Productivity Enhancement Program (PEP) mailbox will be available to all employees who have a CCS computer user account number. Once a user has connected to the CCS, the PEP may be accessed directly from the CCS menu under "Administrative Services". The input is via a fill in the blanks type screen that asks for:

— Your name, code, and telephone extension
— The problem you are addressing
— The need for change
— The method to accomplish the change, and
— The expected benefits ($, work years, time, other)

Employees who do not have access to the CCS can submit their ideas in writing by filling out a copy of the computer screen that is enclosed in NADCNOTE 5200 of Jan 1989.

Productivity improvement consists of saving money, time or manpower to produce a given product or producing more products given a fixed set of resources. Productivity improvement in the Navy is the job of every employee from the Secretary of the Navy to all DoN employees. Remember, productivity improvement is everyone's job and the rewards can be significant both in job excellence and satisfaction as well as monetary gain.

PRODUCTIVITY IMPROVEMENT GUIDING PRINCIPLES

In *these serious and changing times, we must all improve the Department of the Navy's productivity and reach the two basic Department of Defense productivity goals. They are:*

To *contribute directly and indirectly in creating and keeping Armed Forces of such quality and excellence as will guarantee the fulfillment of basic national security objectives of the United States.*

To *ensure that the Department of Defense always attains the highest possible level of defense capability, and readiness, through the most efficient use of the funds provided by the American taxpayer.*

Therefore, *our team of Navy and Marine Corps personnel — military, civilian, and contractor — will follow these guiding principles:*

We *will maintain a level of readiness which ensures viable deterrence and supports the nation's defense.*

We *will work efficiently, effectively, and with maximum productivity within constrained resources.*

Since *people are our greatest asset, we will maintain an atmosphere of trust which fosters innovation, motivates superior accomplishments, and assures individual dignity and self-respect.*

We *will emphasize the customer approach to working with others both internal and external to our organization.*

We *will improve the quality of what we do because better quality improves mission performance, increases productivity, and reduces cost.*

We *will commit to excellence, to a relentless pursuit of continuous improvement, and to removing barriers to increased performance, productivity, and timeliness in all that we do.*

We *will use these principles daily to build on the excellence that has earned the Department of the Navy the public's trust and pride.*

A.M. GRAY
Commandant of the Marine Corps

JAMES H. WEBB, JR.
Secretary of the Navy

C.A.H. TROST
Chief of Naval Operations

Thousands $ awarded for bene suggs

Beneficial suggestions benefit the suggestor, too! Just ask Steve Garber of the Communications Systems Design Branch. He received $3800 for his suggestion on "Enhanced Stand-Alone RF Scanner for Low Cost Sonobuoys (LCS)."

His idea offered a very good alternative to the current method of testing LCS. Using a dedicated microprocessor controlled receiver versus the full-up ASCL receiver reduces the testing costs. Using a microprocessor to control the test set versus the USQ-78 computer on the P-3 aircraft will further reduce testing and software development costs. Using a stand-alone unit will enable the buoys to be tested at depot in the future.

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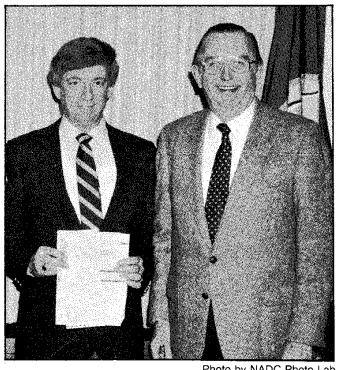


Photo by NADC Photo Lab

Steve Garber displays his suggestion award in the presence of Peter Krailo, Manager of the Communication Technology Division.

Conductive composites fly

Continued from Page 1

boxes on a P-3B aircraft. If each box was replaced with one of our conductive composite boxes, a 63-pound weight savings would occur."

Reilly explained that while existing aluminum boxes provide the metallic properties necessary for EMI protection, they are highly susceptible to corrosion, especially in a salt-water environment. On the other hand, polymeric materials or plastics are not electrically conductive which makes them vulnerable to EMI. So, his approach was to combine polymers with conductive reinforcements to obtain both characteristics. The three PPS composites he developed for this project are composed of 30% nickel-plated graphite (NiGr) fibers with 10% stainless steel fibers, 30% NiGr fibers with 20% nickel flakes, and 20% NiGr fiber mat.

Two fabrication processes were used: injection molding and stamp molding. Either process could be employed depending on the shape of the box required. Stamp molding has lower tooling costs and lends itself to simpler shapes, while injection molding, i.e. injecting a molten composite into a cooler molding tool, is better for intricate pieces.

"This is a good example of a product taken from 6.2 exploratory development to actual fleet use," said Reilly who developed the composites, then coordinated the fabrication, testing, and installation of the boxes with funding from the Electromagnetic Environmental Effects Branch. "This technology is also applicable to commercial aircraft," he added. "While it can be used is any vehicle which requires EMI protection, its light weight makes it especially attractive for aircraft."

Photo by NADC Photo Lab

COUNSELING AWARD FOR AGNEW — ***Dennis Agnew (center), Section Head of the Materials Application Branch receives congratulations from Maureen Marron, Head of Employee/Labor Relations and Dr. John De Luccia, Manager of the Aerospace Material Division. Agnew received an award based on his nearly 15-year successful association with the Employee Assistance Program and later with the Bucks County Employee Assistance Consortium. During this time, Agnew has been confronted with a number of social problems. He feels these programs have been successful in identifying problems, recommending referrals and getting people back on track.***

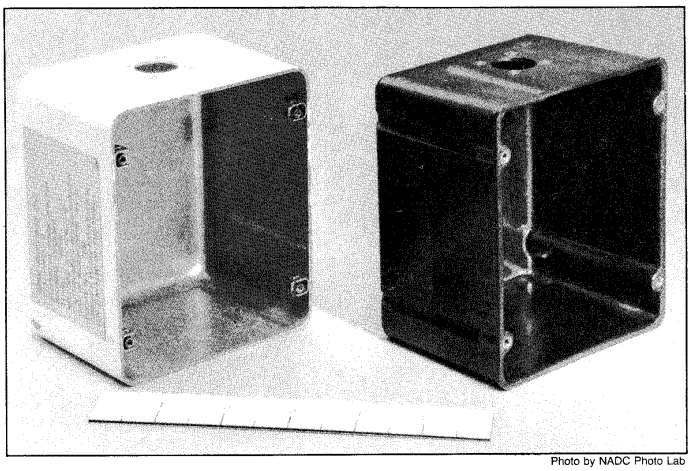


Photo by NADC Photo Lab

Standard aluminum avionics box left and new conductive composite box (before painting) at right.

AIDS

Center committed to provide information

By Neil Abramson

Through the following discussion of the Public Health Service' Centers for Disease Control (CDC) guidelines on the nature and transmission of Acquired Immune Deficiency Syndrome (AIDS), note the terms "AIDS" and Human Immunodeficiency Virus or "HIV". The term "AIDS" refers either to the general AIDS phenomenon or to clinically diagnosed AIDS as a medical condition. The term "HIV" refers to an infection which may develop into a variety of medical conditions ranging from immunological and/or neurological impairment in early stages of HIV infection to clinically diagnosed AIDS.

Since the CDC guidelines on AIDS in the workplace state that the kind of nonsexual person-to-person contact occurring among workers does not pose a risk, it is the Center's policy that HIV-infected employees will be allowed to continue working as long as they are able to maintain acceptable performance and do not pose a safety or health threat to themselves or others in the workplace.

In cases where HIV infection does result in medical conditions impairing an employee's health and ability to perform safely and effectively, the Center will treat these employees in the same manner as those who suffer from other serious illnesses. These employees may be granted sick leave, annual leave, or leave without pay when they are incapable of performing their duties or they have medical appointments.

Center management is committed to providing employees with the latest available information on AIDS including having medical experts visit the Center to speak on the subject. The Deputy Equal Employment Opportunity Office (Code 03E), designated as the point of contact for information and counseling, will provide referrals to employees with AIDS or to employees who have apprehensions on the communicability of AIDS or other related concerns. BEACON, a confidential counselling and referral service available to employees and their families, and the Center's Dispensary are also prepared to assist Center employees seeking information and counseling.

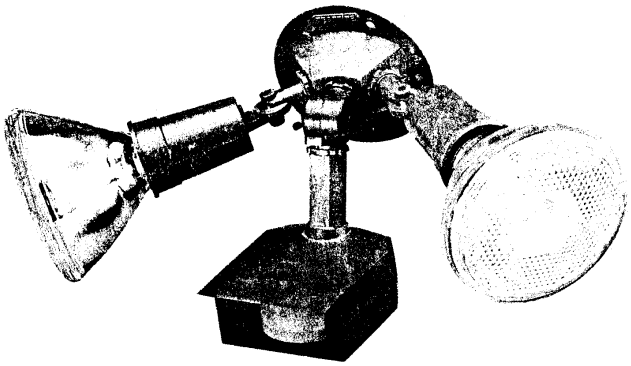
Energy savings and security

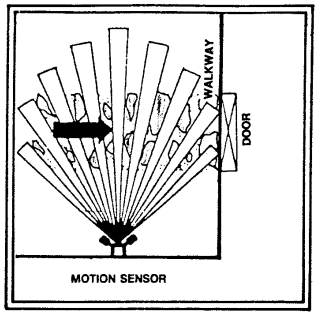
By Michael Blank, P.E.

In the market today you can find various energy saving and sophisticated infrared security systems for residential or business use. These systems can be very useful by illuminating the garage and entrance to your house so you can find your keys, informing you of the presence of intruders by activating alarms, or turning lights on at multiple locations within your home surroundings. The infrared motion sensor can detect motion in an approximately 2,000 square feet range. Usually, motion sensors have range adjustments, sensitivity controls, timing adjustments, and a daylight sensor, as well as the latest in built-in electronics to make operation simple, durable and reliable. The motion sensor emits no harmful radiation, is fully automatic and easy to install. It is usually designed to control one or more lights simultaneously to a maximum of 500 watts incandescent light.

The sensors can be mounted at the height and angle you desire. A practical height is 8 feet. Below illustrations show two of the many locations for mounting a motion sensor. The arrows indicate the most frequently traveled pathway to your garage or doorway.

A few tips: A motion sensor can not be mounted over air conditioning vents or heater flues. If a motion sensor is aimed toward a street, the angle of the beam has to be adjusted so that passing cars don't activate it. A motion sensor is prevented from turning the lights on unnecessarily during the day with photoelectric cells or daylight sensors which automatically sense daylight and disable the system.





Above: A typical infrared motion sensor
Left: One suggested mounting position

Personal finances expert to speak

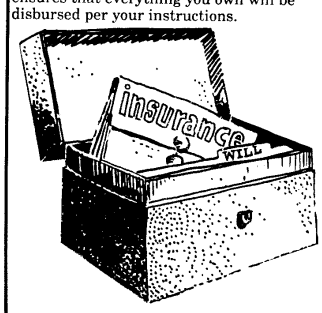
Financial expert Sally Biever-Ward will speak on "Investments for the Beginner" at 1130 in the Center Auditorium on Thursday, March 9, 1989.

The first woman to have been president of the Phila. Association of Life Underwriters, Ward has sold at least $1 million worth of insurance policies for each of the past eleven years. An agent for Aetna Life and Casualty in Philadelphia, she is also a member of the Million Dollar Round Table (only 2% of all insurance agents qualify for membership).

Ward was invited to NADC by the Center's Career Readiness (CORE) group which includes management, administrative and clerical series.

Financial Planning

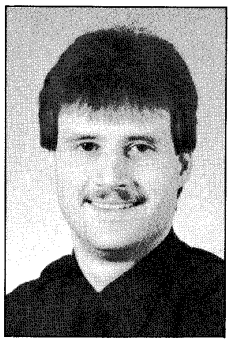
Financial planning means more than buying stocks, bonds and real estate. It also means investing in your family's future with a will. Even if property is jointly owned, a will ensures that everything you own will be disbursed per your instructions.



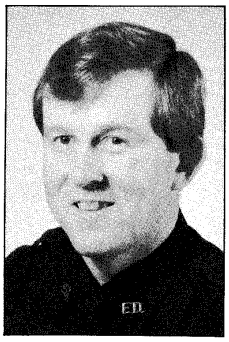
Firefighters recognized for outstanding service

Since the beginning of fiscal year 1989, each month the Center's Fire Department, headed by Chief Don Meadows, has selected one exemplary firefighter for distinction. Those selected for a job well done during December 1988, January and February 1989 are Steve Mobley, Kurt Braeunle, and Rick Gerhard, respectively.

Steve Mobley



Kurt Braeunle



Rick Gerhard

And the nominees are...

There are nearly one hundred honorary awards available throughout each year for which NADC's outstanding employees might qualify. However, unless deserving individuals are nominated, these awards will surely elude us. The nominations themselves are a way to recognize dedicated and diligent employees. Those awards accepting nominations through April 1, 1989 are:

- Outstanding Handicapped DON Employee of the Year Award
- Outstanding Handicapped Federal Employees of the Year Award
- William T. Pecora Award
- Warner W. Stockberger Achievement Award
- International Personnel Managers Association Award for Excellence
- International Personnel Managers Association Honorary Life Membership Award

For specific information about these or any awards, contact Bettie Simpson, Code 031, extension 3079.

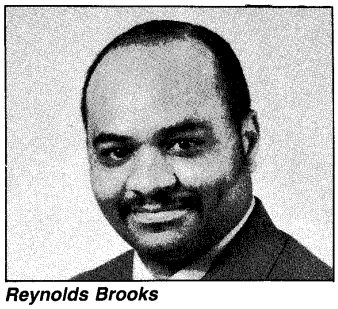
VIEWPOINT

Prepared by Shirley Jones

Photos by NADC Photo Lab

A black point of view . . .

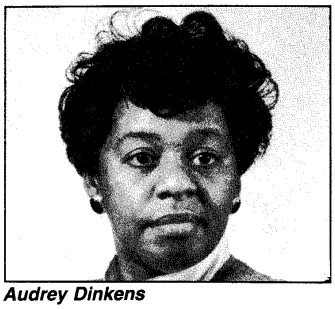
Question: What advice would you give to blacks trying to reach their full potential?



Reynolds Brooks

Dorothy Case

Dr. Gloria Chisum



Audrey Dinkens

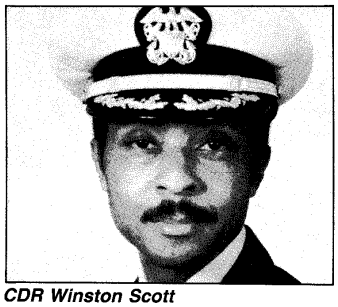
Jonathan Harding

Elaine Johnson

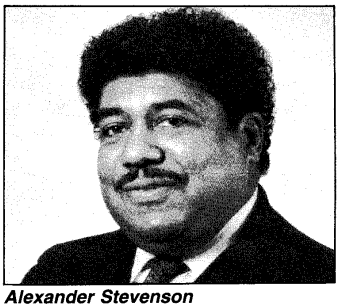
Robert Jones

Jeanie McCain

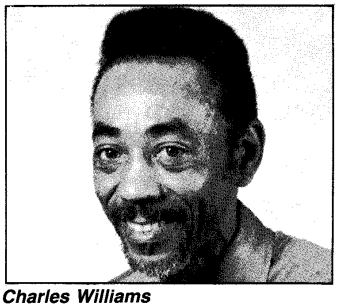
Richard Mitchell



CDR Winston Scott



Alexander Stevenson



Charles Williams

Responses:

Reynolds Brooks
Electrical Engineering Technician

"Look to improve your skills throughout your career, through schooling and learning all you can on the job."

Dorothy M. Case
Computer Assistant

"Young people striving to reach their potential, should have a positive attitude toward achieving a qualified education."

Dr. Gloria Chisum
Engineering Research Psychologist

"Approach every task with sincere resolve to perform to the best of your ability — independent of the assessment of others, deserved rewards will eventually come to you. You must satisfy yourself that you have done your best. In choosing a career, select on the basis of your interests and realistic assessment of your abilities. You will spend most of your life, 30 or so years, in pursuit of that career. Get involved in some volunteer activity. The more you prosper, the more you owe to others. Pay your dues."

Audrey Dinkins
Budget Analyst

"First of all, you aren't going to reach your full potential by working for anyone but yourself. You should complete and further your education. Realizing your potential, start your own business and work hard to make it successful, so you won't have to rely on anyone else."

Jonathan Harding
Superintendent of Life Support Engineering Division

"Seize every opportunity to increase your information or your body of knowledge. Devote all the time you can afford to match the proper person with each task. Treat every person the way you would like or expect to be treated under similar circumstances."

Elaine Johnson
Logistics Management Specialist

"My advice is to keep your sense of perspective: success can change your values if you concentrate only on 'getting to the top' without remembering where you started. Surround yourself with positive role models in all aspects of your life. Their influence on you and their advice to you will be beneficial in shaping your goals and the way you achieve them. I stress the word 'positive' because there are a lot of negative influences in today's world that will, at best, slow you down, or at worst, rob you of purpose. It's a conscious decision on your part how these influences will affect you.

"Be prepared to work hard — not only will you sleep better at night, but you'll also have the satisfaction of knowing you have done your best. Be able to accept constructive criticism: it's a good indication of how others see you, and what they see in you that you sometimes are not aware of. If friends of coworkers feel it's something worth mentioning, it may be a good indication that it's an area needing work.

"And, last but not least, a good sense of humor helps! At the end of a long, trying day, I go home and pull out my Gary Larson 'Gallery' book — it usually reduces me to eye-watering hysteria in about 3 minutes. Then I feel my normal optimism springing back into shape, and I'm off and running again."

Robert Jones
Manager, Software Technologies Application Division

"Strive to become a professional employee. My definition of a 'professional' is one who is *competent,* masters the skills of his/her job; has *integrity,* if it is not the right thing to do, doesn't do it; and is *dedicated,* gives the job a full eight hours of effort for a day's pay."

Jeanie H. McCain
Supervisory Operations Research Analyst and Center Specialist for Reliability and Maintainability Engineering and Integrated Logistics Support Analysis

"In trying to reach one's full potential, I would encourage Blacks to set high goals, make long-range plans toward their achievement and not be intimidated by those who would endeavor to hold you back by not displaying confidence in your ability to succeed. You must believe in yourself and pursue higher education or develop whatever skills are necessary to make you competitive in your chosen field. Along with the above, you must work, hard, be a team player, and learn the rules of whatever game you find yourself in. I've never met a successful person who worked only 40 hours a week, who didn't need some type of

Continued on page 6

VIEWPOINT

A Black Point of View

Continued from page 5

support, and who didn't know the boundaries (i.e., rules) of his operating environment. Most of all, don't be afraid to take risks. As the expression goes a turtle progresses only when his neck is out."

Richard O. Mitchell
Head, Systems and Software Technology Dept.

"Acquire good skills; take on challenging opportunities and then depend very heavily on your own skills for success. Be prepared for hard work, disappointments and sometimes delayed gratification."

CDR Winston Scott
Deputy Director, Tactical Air Systems Dept.

"Prepare oneself to the maximum extent possible through education and training. Never give up. There is no substitute for perseverance in achieving goals."

Alexander Stevenson
Communications Equipment Operator

"I would tell them at any level, it is very important to give all your effort and energy. Go straight to the well, and go all the way down every time, not half way. Also, be honest and things will go right."

Charles J. Williams
Equipment Specialist

"To all minorities I say there are three major qualities needed to reach your fullest potential. The qualities are perseverance, insight and receptiveness.

"In perseverance, one must analyze himself, learn to be tolerant within his surroundings and dedicated to all responsibilities bestowed upon him.

"Insight is needed because you learn through life's experiences. Experience is obtained through prior and present employments and through your peers. One must keep in mind there is no eraser large enough to remove knowledge from one's mind.

"Receptiveness is needed because at times, we need constructive criticism in order to better the man and his work. It is easy to criticize others but it is highly unacceptable to receive criticism when it is due.

"These three qualities helped me. As an employee and then as a manager, I was able to understand myself and to reach my fullest potential."

Phobias and Panic

Some people have panic attacks. Others are terrified of crowds, planes or elevators. Whatever the cause of these phobias, many are treatable, according to the National Institute of Mental health.

It's all explained in the institute's new book entitled *Useful Information on Phobias and Panic.* For a free copy write to:
Consumer Information Center
Department 593T
Pueblo, CO 81009

Black History Cryptogram

By Joseph Cameron

CRYPTOGRAM CLUES

to get rid of

A X C O M J A

thing

V Z T S O D

S K S J F Q M G X C

C V Q S Z V A F Z S O M H C S

W S X C M O W X B A V N

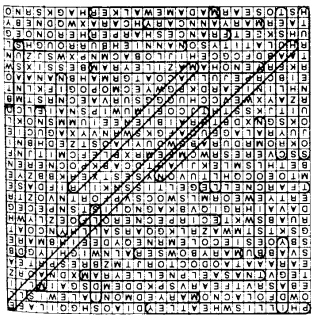
R V A Q M J D X G B H D W S J

Y X G R

— Solution —

EVERY MAN IS SOMEBODY
BECAUSE HE IS A CHILD OF GOD
— MARTIN LUTHER KING

— Solution —



Black History Word Search

SEARCH WORD CIRCLE

1. Mary McLeod Bethune
2. Mary Bowser
3. Nannie H. Burroughs
4. Mary Ann Cary
5. Bessie Coleman
6. Ellen Craft
7. Crystal B. Fauset
8. Ida Gray
9. Elizabeth Greenfield
10. Frances Harper
11. Mary Edmonia Lewis
12. Mary Eliza Mahoney
13. Nina Mae McKinney
14. Mary Ellen Pleasant
15. Florence Price
16. Susan McKinney Steward
17. Ella Phillips Stewart
18. Mary Church Terrell
19. Sojourner Truth
20. Harriet Tubman
21. Madame Walker
22. Maggie Walker
23. Ida B. Wells
24. Phillis Wheatley

The names of our twenty-four HISTORIC BLACK WOMEN are contained in the diagram below. Look in the diagram of letters for the names given in the list. Find the names by reading FORWARD, BACKWARDS, UP, DOWN, and DIAGONALLY in a straight line of letters. Each time you find a name in the diagram, circle it in the diagram and cross it off on the list of names. Words often overlap, and letters may be used more than once.

P	H	I	L	L	I	S	W	H	E	A	T	L	E	Y	D	I	A	O	S	H	G	Q	I	L	A	E	E
O	W	D	F	O	L	A	C	N	O	M	A	R	Y	E	D	M	O	N	I	A	L	E	W	I	S	L	L
E	B	A	S	R	V	T	F	E	A	R	V	S	P	K	D	D	E	M	D	S	G	A	I	M	L	I	I
T	E	G	V	T	N	A	S	A	E	L	P	N	E	L	L	E	Y	R	A	M	X	D	N	A	O	R	Z
E	A	R	A	A	A	T	A	O	D	O	C	T	O	R	J	T	M	Z	B	R	E	S	P	R	T	E	A
S	V	A	B	B	U	M	A	R	Y	B	O	W	S	E	R	A	L	N	W	I	G	H	I	Y	G	D	B
S	B	Y	O	E	S	I	E	C	O	L	E	M	R	N	E	Q	Y	D	E	E	I	H	B	M	A	R	E
G	S	K	T	S	T	M	W	A	Z	R	L	K	G	Q	A	R	S	A	L	L	H	Y	N	C	O	A	T
R	U	A	B	S	W	K	T	E	C	I	R	P	E	C	N	E	R	O	L	F	Q	E	Z	L	Y	W	H
D	A	V	A	I	H	R	G	I	Q	V	B	K	A	G	N	Q	I	I	S	T	S	N	P	E	C	E	G
E	R	T	Y	E	W	E	O	R	M	L	S	W	O	C	S	V	P	F	O	R	T	N	V	O	Z	T	R
T	F	A	R	C	N	E	L	L	E	G	E	L	T	I	S	S	N	K	I	L	R	I	F	D	A	S	E
M	T	O	E	O	C	Q	H	L	T	U	V	O	N	Y	S	E	S	T	X	E	R	K	B	B	Z	Y	E
B	E	T	H	L	S	M	L	E	K	J	I	A	H	T	D	C	A	B	K	P	O	C	N	E	R	E	N
S	S	C	V	E	R	E	S	R	W	C	M	F	E	M	R	X	P	L	E	F	C	M	I	T	J	N	F
O	K	R	O	M	R	D	U	R	A	B	G	W	D	U	Y	L	A	O	S	T	Z	E	D	H	B	N	I
J	U	Y	R	A	L	A	G	E	U	Q	A	F	G	K	S	W	R	N	V	Y	X	A	G	U	C	I	E
O	K	S	G	N	X	D	B	T	H	R	A	I	B	L	E	N	E	E	I	U	M	M	S	N	O	K	L
U	I	T	J	K	S	S	T	H	T	J	C	O	E	I	M	U	W	I	P	S	N	A	I	E	L	C	D
R	Z	A	Y	X	W	E	V	C	C	H	U	G	G	G	S	U	R	V	A	E	C	N	R	S	T	M	B
N	H	L	I	N	I	E	A	R	D	K	P	G	W	Y	E	C	M	O	P	O	G	I	F	K	L	N	T
E	I	B	C	R	P	E	J	U	L	U	A	C	O	A	T	G	R	M	A	H	B	N	A	N	A	A	O
R	K	F	R	Y	E	N	O	H	A	M	A	Z	I	L	E	Y	R	A	M	B	E	S	S	I	X	S	W
T	A	A	B	D	F	C	G	C	E	H	I	J	L	O	B	A	C	M	N	P	X	W	S	J	Z	U	N
R	H	U	L	A	T	I	T	Y	S	O	N	A	N	N	I	E	H	B	U	R	R	O	U	G	H	S	L
U	H	S	K	E	E	T	F	R	A	N	C	E	S	H	A	R	P	E	R	H	E	R	O	N	O	E	G
T	A	E	R	M	A	R	Y	A	N	N	C	A	R	Y	H	C	A	R	A	X	W	Q	D	N	E	B	Y
H	S	T	O	S	E	A	R	M	A	D	A	M	E	W	A	L	K	E	R	H	A	G	K	S	R	N	O

Thousands $ awarded for suggestions

Continued from Page 3

28 Beneficial Suggestions received a cash reward during 1988. They are:

Sydney Oliver for "Cost Reduction for Laboratory Coats" — $1030

Thomas E. Gould for "Aircraft Liner Repair Interior" — $50

Gwynn K. McConnell and Sydney G. Oliver for "Improved Fairing/Filler Materials for Composite Aircraft Parts" — $300 each

Michael Hess & Robert Chestnut for Top Gun Publicity "Pipe Schemes" — $25 each

Suzanne M. Baier for "Direct Data Input by 0213 Personnel Into Mainframe" — $1870

Stephen Garber for Enhanced Stand-Alone RF Scanner for LCS (Low Cost Sonobuoy)" — $3800

Roy H. Deese and William Gill for "Install Permanent Lighting Above AC Control Panel in B-138" — $50 each

Frank T. Tarlecki for "Time Clock & Emergency Power in Bldg." — $50

Gwynn K. McConnell for "Navy Assist to the FAA Review Manufacturers" — $250

Francis W. Chamberlan and Norwood J. Metcalf for "Intergovernmental Maintainability of KA50 E0 Camera Systems" — $2600 each

Film/Videos for the Hearing Impaired" — $25 each

Ronald A. Nicol for "Guard for Elevator" — $75

Eugene R. Locuniak for "Matris Automated Info System" — $250

Michael M. Blank — Preventing & Eliminating Accident Hazards and Breakage — $50

Philip Joiner for "Cleaning of Computer Screens" — $100

William Roadfuss for "Spray Booth for Illustrators" — $50

Gwynn McConnell for "Emergency Assistance for DoD Travelers" — $50

James N. McLeod Jr. and David E. Stasen — Fabrication and Installation of Chipguard on "Onsrod" Router — $50 each

Charles Winslow for "Modification to Fire House Garage Door Lifting Units" — $250

William Adams, Richard Valesky and Thomas Young for "Roof Turret Pin (P19) Crash Fire Rescue Vehicle" — $25 each

Edward A. Swiski for "Identify/ Correct Safety Hazards on Roofs" — $50

Cron P. Eckman for "Security Awareness Reminders" — $100

Robert Smiler, Kris Gigliotti, and Margaret Callahan for "Captioned

Dickson D. Alley — Short Beam Shear Probe — $250

Russell J. Donahue and Richard K. Cline for "Modification of Wheel Puller to Bearing Remover & Bearing Press" — $125 each

Richard E. Adams for "Lever-Type Door Handles for Improved Safety" — $75

Betty J. Beans for "Receptacles for Waste" — $25

Elizabeth Bednarzik for "POD VIA EMS Bulletin Board" — $25

When Do Bonds Mature?

Savings Bonds purchased today will earn interest for 12 years. Bonds held for five years or longer will receive a guaranteed minimum rate of 6 percent or a market-based average, whichever is higher. At the guaranteed minimum rate bonds will reach face value in 12 years. If the market-based average is higher, the bonds will reach face value earlier, but will continue to pay interest for at least 12 years.

Bonds purchased between November 1982 and October 31, 1986, have a guaranteed minimum rate of 7.5 percent. They will earn interest for 10 years but may reach face value sooner.

Morale, Welfare and Recreation for all

— New fitness center to open —

Photo by Mary Ann Brett

THE WINNER OF TWO TICKETS ANYWHERE IN THE U.S. IS . . . ***Sheila Dorsey of the Systems and Software Technology Department. She won two tickets to anywhere in the U.S. as the result of a SATO (Scheduled Airline Traffic Offices) and USAIR promotion. Syd West, USAIR sales representative and Dorothy Mutter, SATO representative were present when Center Commander CAPT Curtis Winters drew Dorsey's name from the 520 contestants who visited NADC's SATO office to fill out a ticket.***

By Joy James

The Morale, Welfare and Recreation (MWR) Division will celebrate the Grand Opening of its new Fitness Center on April 3, 1989. NADC civilian employees can use the center by purchasing a membership.

The fitness center is equipped with a 12-station nautilus circuit, 3 Tredex treadmills, 3 computerized lifecycles and 3 video monitor liferowers. These machines are designed to strengthen every major muscle group and provide a cardiovascular workout. With a slight additional membership charge you can enjoy the racquetball court and relax in the sauna.

Whether you are an avid exerciser or just beginning a workout program, our fitness center is designed to meet your needs. We can also help you customize a workout to best suit you.

MWR is offering memberships for all its various programs beginning this April. A basic membership entitles you to take advantage of our discounted tickets, trips, and special events, as well as the option to purchase a special membership for facilities like the fitness center, racquetball court, swimming pool, sauna and youth center.

For example, a membership for the fitness center costs $25 per month; $55 per quarter or $180 per year.

Some medical benefits packages, such as HMO will pick up half the cost of a membership. Check with recreational servics personnel about this subsidy. It may be economically beneficial as well as physically beneficial to join.

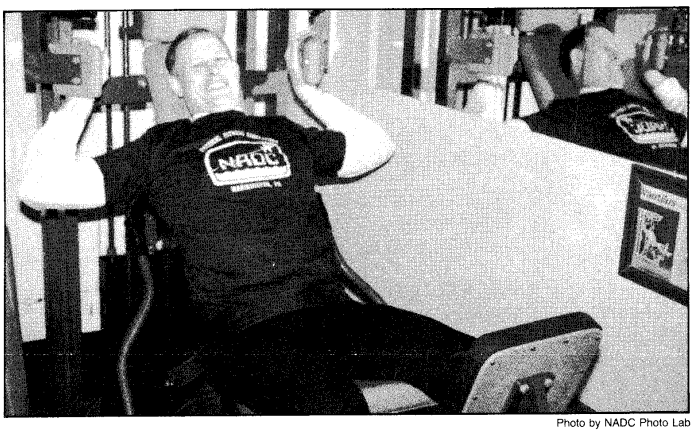


Photo by NADC Photo Lab

Center Commander Curtis Winters works out on nautilus equipment.

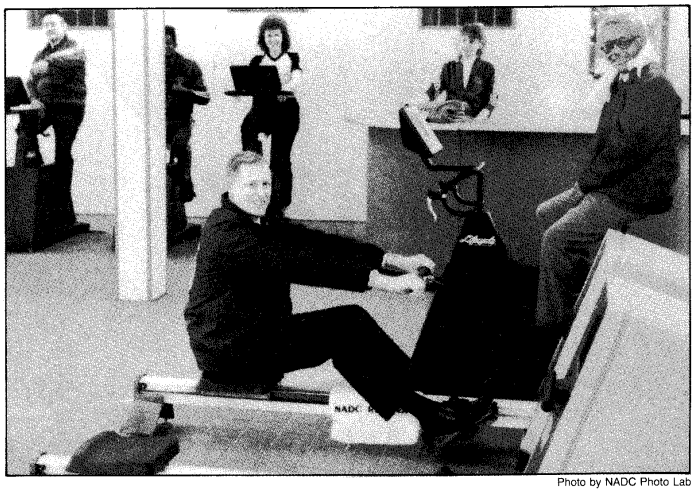


Photo by NADC Photo Lab

CAPT Curtis Winters tries out new video liferower while TD Guy Dilworth is at the computerized lifecycle at the new fitness center trailer near the Crew's Rest Club.

Legal Drugs Can Be Risky, Too

Just because a medication is prescribed by your doctor or can be bought over the counter doesn't mean it can't impair your driving.

Medication for pain relief, allergies and colds, as well as illegal drugs and controlled substances such as barbiturates and narcotics, can act on the same areas as alcohol. And the impairing effects of many drugs combined with alcohol can multiply.

Ask your doctor or pharmacist if it is safe to drive after taking a particular prescribed or over-the-counter drug.

Also ask your doctor if it's safe to drink while using a prescribed medication—and follow the advice.

"Topgun" aims at NADC

Continued from page 1

lead engineer for F-14 night vision efforts and coordinator for this testbed aircraft. Supported by technical experts John Parker from the Air Vehicle and Crew Systems Technology Department (AVCSTD), Laurie Bryner from the Mission Avionics Technology Department, and Maintenance Officer CDR Tim Cudia, the Center will design and install a prototype NVG compatable lighting system. Since NADC is both physical and reporting custodian of the aircraft, significant reporting responsibilities rest on Cudia as well to ensure proper upkeep and quality control.

Aerial target integration work is also scheduled for the testbed aircraft. William Seemans, Aerial Targets Program Manager, is leading the development of a Phoenix launcher adapter to supersonically launch the ACM-37 from the F-14. Integration tests are planned for this summer.

Other potential projects include heads-up display situational awareness improvements, integrated armament system design, new expendables design, life support equipment, demonstration and composite avionics enclosure development.

According to Thomas J. Brennan, TACAIR Department Head, NADC is in the forefront of the tactical air warfare arena, continually improving aircraft such as this F-14.

Chisum honored

Continued from page 1

Americans whose contributions best exemplify hard work, innovation, and achievement in the areas of science, engineering, and technology.

Dr. Chisum has been with NADC since 1960 and is currently the head of the Vision Research Laboratory. She is an internationally recognized expert in the area of visual performance enhancement and protection. A graduate of Howard University (B.S. and M.S. in Psychology), Chisum earned her Ph.D. from the University of Pennsylvania and has received Distinguished Alumni Awards from both universities. She has also been awarded three Honorary Doctorates and has been designated as a Fellow of three professional organizations.

On February 25, 1989 Chisum and the other award winners will be honored at the Third Annual Black Engineer of the Year Awards Banquet at the Baltimore Convention Center.

Planned your vacation yet?

To help with all of your personal travel arrangements, call SATO Travel, ext. 2729, Mon. thru Fri., 8 AM to 4 PM.

Security Reminder

CLASSIFIED MATERIAL — Classified material must be handed to an individual personally, and the individual must be made aware that they are receiving classified material. NEVER leave classified material on an unattended desk. New employees with a clearance and a need to know must be indoctrinated in the proper handling and safeguarding of classified material.

Technical Highlights

As a result of intensive NADC support, NAVAIR awarded a contract for the Full Scale Engineering Development of a Long Range Air ASW Capability Aircraft (LRAACA) to Lockheed Corp. The Center provided extensive planning, evaluation and requirements development which facilitated the final selection. The result will be an extended mission duration, higher capability ASW platform which will work in unison with current P-3 forces to provide worldwide ASW coverage.

The VP program concluded extensive technical support to NAVAIR in the generation of requirements and procurement documentation for the CP-901 tactical computer. This effort facilitated the NAVAIR approval of an ECP and award of a contract to Unisys for design of an upgraded CP-901 computer for the P-3 aircraft.

The BQM-126 has completed Contractor Technical Evaluation during January 1989. The program has been put on hold pending the availability of production funding and the outcome of the mid-range Remotely Piloted Vehicle target program. We will conduct a limited Navy Technical Evaluation, document the deficiencies and wait for a production decision. The remaining target assets will be used for weapon system presentations with one complete system to be sent to this Center for laboratory use.,

The Center submitted a copy of the NADC proposal for using SASS Phase IV for shallow Water Bathymetry on OSP ships to Admiral Pittenger, Oceanographer of the Navy (OP-096).

NADC was informed that the DoD Program Office will provide funding in the amount of $2.5 million for development of a VHSIC chip to perform polyphase filtering functions. The effort will feature the design and fabrication of a 1/2 micron VHSIC device that will provide the multiple band filtering required for the Advanced ASW Receiver program. NADC will provide technical management with contractual efforts handled via the Army VHSIC program office at Fort Monmouth as a task in the basic IBM Phase II VHSIC contract.

The NACES ejection seat developed at NADC successfully completed in-flight testing. The NACES was ejected from the aft cockpit of a YF-4J flying at 9,000 ft. mean sea level and at a speed of 500 KEAS.

NADC has successfully demonstrated the non-autoclave/staging process for repairing new classes of composite materials being planned for use on emerging composite structure. The process will allow ambient storage of high quality composite patches for use by field repair activities.

Ejection seat tested on horizontal accelerator

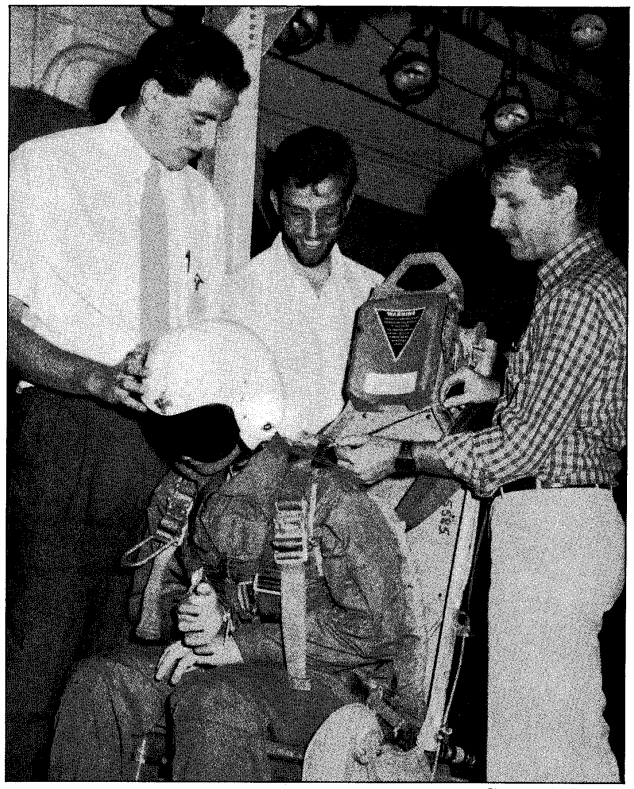


Photo by NADC Photo Lab

Gary King, Mechanical Engineer (ME), John Quartuccio (ME), and Peter Yost, Aerospace Engineer in the Life Support Engineering Division set up the man/seat release mechanism on the OV-10 aircraft ejection seat. Three tests at the Center's Horizontal Accelerator were conducted using the actual seat ballistic activation system, and 3 tests were conducted using an NADC-designed pneumatic system that accurately simulated the ballistic system. Yost is taking the inertia reel strap measurement.

NADC in the NEWS

The big news is...

NADC testing flight suit
NADC engineers designing space shuttle ejection system
T-2 Modification Test Flights 'Encouraging'
NADC team designing system to escape from space shuttle
Neighbors
Naught but toughest test for astronauts
At air center, the right stuff is the ren' thing
Laser Advances Spur Pentagon Efforts To Protect Flight Crewmembers' Eyes

"I read the newspaper every day...and I never see anything about NADC! This comment says two things: either the reader is not really reading every day or is not reading the right publications.

News items about NADC do appear frequently in the Intelligencer, Bucks County Courier Time, Today's Spirit, Montgomery County Record and the regional edition of the Philadelphia Inquirer. However, more often news items about the Center are regularly found in trade publications such as Aviation Week and Space Technology, Naval Aviation News, Defense News, Aerospace Daily and the like.

As a means of assuring that NADC is, indeed, in the news, we will be listing here the kinds of news we have released and some of those publications where stories appeared.

Recent news released includes NADC items of interest and accomplishments on Small Business achievements, the Modified P-3 Laser Testbed Aircraft, NADCs role in the Navy Advanced Tactical Fighter, Laser Disk Symposium and Technology at NADC, Vice Admiral Dunleavy's visit, the Technical Review Committee (NADC and community environmental cooperation), Aviation Safety Record (14 years of accident free flying), G-tip training at the Dynamic Flight Simulator, and the arrival of the F-14 aircraft.

The most recent news clippings include:

- Aerospace Daily, Feb 2, 1989, "NADC modifies fourth P-3 for testbed work"
- Aerospace Daily, Jan 25, 1989, "Navy seeks G-suit proposals"
- Aerospace Daily, Jan 19, 1989, "NADC wants ADAR definition"
- Aviation Week and Space Technology, Jan 16, 1989, "Airframe Alloys"
- Navy News Wire Service, Feb 4, 1989, "Topguns get G-force training"
- Navy News This Week video news, Jan 7, 1989, "Navy pilots in a spin"
- Today's Spirit, Feb 8, 1989, "Technical Review Committee established"

SPORTS WORLD

By Tom Reiter

New Year's Resolutions that were already broken:

Who Cares — "We're going to stop losing". **Rolling Thunder** — **Jim Palmer** will learn to relax. **11'th Frame** — **Al** will listen to **Helene Goldstein** and stop lofting the ball. **Red Winos** — **Mike Dent** will try harder to win the Sportsmanship Award. **Nine Pins** — **Rick Stickney** will outscore his wife **Linda**. **Spare Us** — **Donna Morgan** will convince **Bob Bollard** to bowl more often. **Les Champignon** — Will schedule five people to come out on the same night. **Destroyers** — **Aggie Harris** will stop picking on **John Lommack**. **Alley Cats** — **Kevin Ryan** will keep **Gene Toner** healthy. **Goofers** — **Leo Markushewski** won't needle **Al Knobloch**. **From The Gutter** — **Lois Savage** will give **Rick Yeager** advice on shooting spares. **Warveyhallbangers** — **Mike Kreuter** will stay away from **Granny Tierney's** buttered popcorn. **Magic Markers** — **Jeff Irvin** will hold **Diana & Ed Beach's** baby while they bowl. **Pinheads** — **Lisa Johnson** will stop listening to **Scott Boozer's** advice. **White Winos** — **Rick Eppright** says it will be no problem scheduling everybody. **Bullshooters** — **Carla Mackey** will get **Harry Ukele's** name spelled right on the bowling roster. **Dynamic Duos** — **Nick Doto** will not pay his team's $32.50 will all loose change. **Lucky Strikes** — **Art Duhaime** will try to bowl without wearing a hat. **Screwballs** — **Pat Tease** and **Jack Horning** will concentrate on bowling and finish the same time as the rest of us. **Neiners** — Won't miss **John Vincent** and **Terry Clauss** will not break one of her nails. **Falcons** — Will try to have at least two government employees on their team. **Big Spenders** — Will decide who their captain is this week. **Blue Light Special** — Won't let **Scott Kee** play any softball this season. **Gutter Duster's** — Resolved to sweep both halves but somebody **will** steal their broom.