



Reflector

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- NADC sponsors Corrosion Conference
- UNICOAT paint scores high
- Acoustic source development successful
- T&E keeps them flying

Inventions pay off

Dilemno rewarded for new acoustic simulator

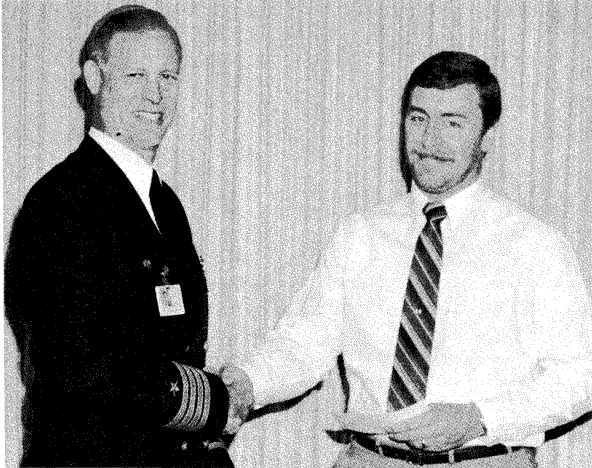


Photo by NADC Photo Lab.

Center Commander CAPT Curtis Winters presents initial \$5,000 check to Marc Dilemno for his multi-channel acoustic simulator.

By Mary Ann Brett

"I knew it was important," said Marc Dilemno of his invention. "But, it's nice that others agree with me," he added. Dilemno, of the Precision Navigation Systems Development Division, was awarded an initial \$5,000 for his invention entitled, "Multi-Channel Acoustic Simulator (MCAS)." Pending approval by authorities at the Space and Naval Warfare Systems Command, Dilemno could be awarded an additional \$6,700.

According to Division Head Jules Drelick, the MCAS significantly improves the simulating of signals by hydrophones in multi-transducer sonar sounding systems. Prior to the MCAS, it was not possible to provide acoustic signals generated by a large array of hydrophones accurately representing the ocean bottom and, in real time, apply the signals to an array sounding system for development, testing and troubleshooting.

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NADC-developed tactical helmets tested

By Daniel Schmidt and Mary Ann Brett

Innovations of lighter, more durable materials have made cumbersome tactical aircrew helmet assemblies outdated if not obsolete. Previously constructed of fiberglass, helmet shells can now be made of commercially developed products such as Kevlar and

nylon with graphite epoxy which are significantly lighter while still providing equal or greater protection.

In FY-88, the Center was funded by the Naval Air Systems Command to develop a Tactical Air Helmet Replacement (THR). After evaluating

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New processing and tooling method developed

By Ed Rosenzweig

In a cooperative effort, the Aero Materials and Aero Structures Division have successfully consolidated a void-free composite panel from APC-2 polyether-etherketone thermoplastic by applying a unique NAVAIR-DEVCCEN developed vacuum pressure processing method and

tooling. This is the first time a thermoplastic panel has been successfully consolidated under vacuum pressure only (less than 15 psi pressure) without the use of an autoclave where pressures of 200 psi are normally required. This approach offers promise for low cost fabrication and repair of thermoplastic composite structures.



Photo by NADC Photo Lab.

Roland Cochran and Edwin Rosenzweig with void free composite resulting from NADC developed processing and tooling method.

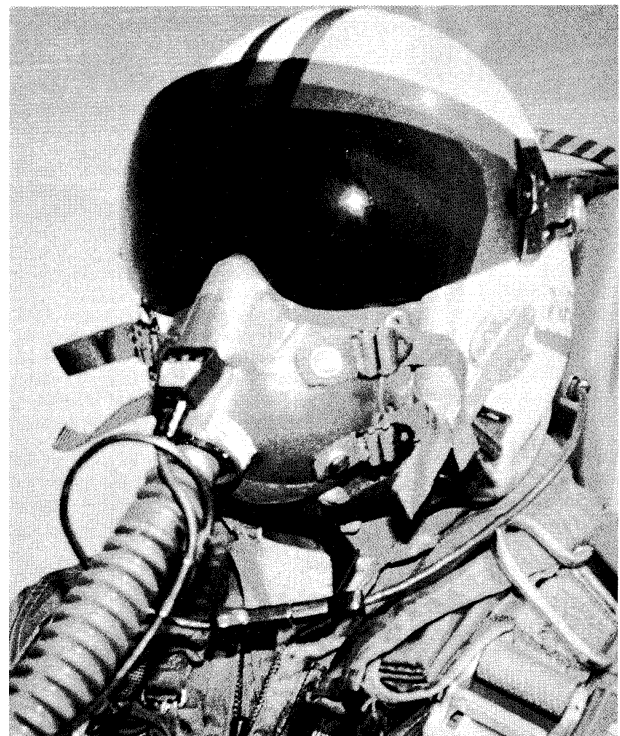


Photo by NADC Photo Lab.

CDR Winston Scott, Deputy of the Tactical Air Systems Department evaluates NADC-developed tactical helmet and visor.



Mixed League Bowling News

By Tom Reiter

The season is now two months old, and as usual we are having fun but this year we're drinking less (I think) since Thunderbird Lanes opened their own bar. Now that coolers and brown bags are no longer admitted, the league has dropped its testing policy. The next step, and only a revolution away, could be banning smoking on the lanes.

Interdivisional knockdowns again humbled the A Division 34-14. Wes Gleason's League Champion Gutter Duster's were dusted this time by Al Knobloch's Goofers 3-1. I'm not picking on Wes, It's just that everybody likes to go after the champs, just like at Notre Dame.

Standings and high individual scores so far are:

"A"

22-14	Gutter Dusters
20-16	Eleventh Frame
19-17	Dynamic Duos
19-17	Magic Markers
18-18	Red Winos
17-19	Nine Pins
17-19	Warvey Hallbangers
15-21	Steve's Side Show
15-21	Destroyers
13-23	Big Spenders
9-27	Neiners
7-29	Lucky Strikes

"B"

32-4	Goofers
23-13	Spare Us
21-15	From The Gutter
21-15	Bullshooters
20-16	Les Champignons
20-16	Alley Cats
19-17	Rolling Thunder
19-17	Blue Lite Special
18-18	Screwballs
16-20	Ten Piners
16-20	White Winos
16-20	Who Cares

Wes Gleason	256
Chuck Halko	194
Larry Sicher	212
Nick Doto	214
Mike Dent	267
Jim Campana	217
Jack Figgles	209
Steve Jerdan	230
Karen Thomas	193
Neal Polin	208
Lester Smith	186
Art Duhaime	214

Mary Vaughn	186
Helen Catto	177
Lois Savage	192
Jane Gifford	171
Elaine Granieri	181
Linda Stickney	221
Caroline Tierney	168
Judy Jerdan	159
Mike Robinson	180
Helen Catto	195
Anne Reichert	178
Cathy Burian	154

Leo Markushewski	213
Dick Coughlan	193
Rick Yeager	199
Bob Smiler	184
Dave Oliver	209
Jack Eyth	235
Mike D'Aulerio	223
Scott Kee	198
Jack Horning	181
Bob Scaropp/Joe Emperly	204
Rick Eppright	205
John Bowes	220

Lorraine Reidlinger	200
Donna Morgan	184
Char Pohle	179
Eileen Cunnane	199
Betty Beans	178
Kathy Barnes	201
Sharon Robinson	200
Barb Dilemma	204
Elsie Apple	178
Jacque Emperly	193
Terese Wells	170
Denise Eck	182

Summer faculty recruiting to begin

Carol VanWyk and Maryann Brett

NADC can use the resources of academic institutions to help expand and strengthen their in-house research capabilities and open the way for dramatic new advances in technology. Sponsoring a professor for a ten week on-Center task through the Office of Naval Research (ONR) Summer Faculty Program (SFP) taps his/her expertise while providing exposure to Navy research interests.

The SFP facilitates this process and eliminates most of the usual red-tape hassles. The American Society for Engineering Education (ASEE) has a grant from ONR to do the administrative work of the program. They do the advertising, actual hiring, and send the paychecks. Translated, that means the professors are not employed by the Center and do not count towards management-to-payroll.

Professors like the opportunity to work at the Center because they can see applications for their research. Most of them are local and are amazed they could live so close to the Center and not know about the nature of the on-going work. Our research is of a much higher caliber than expected and the equipment much better than available at the university. Exit interviews reveal that after exposure to the Center's needs the professors change their curriculum to better prepare their students.

Our scientists and engineers (S&E's) are pleased with the program. In particular, they report significant accomplishments for those professors returning for their second summer. The majority of the FY-89 SFP professors are continuing their

research on an Inter-governmental Personnel Act contract.

Often our best recruiters are those S&E's working on their advanced degrees. They know the best faculty members and can encourage them to apply to the program.

Some new initiatives proposed by the Center to ONR for the expansion of the program have been approved. One will permit graduate students, working on our Navy research, to accompany the professor during the summer appointment. The second permits professors on sabbatical to participate in the program. This will allow for more extended research projects at the cost of about a half worker-year.

Brochures for the FY-90 SFP have been sent to the universities. In late January, around 80-90 applications should start arriving at the Science and Technology Office (Code 01B). In turn, the applications will be sent to our technical departments for evaluation. Any scientist or engineer who could use help with a research task can stop by the Code 01B Office to peruse the applications as well. Carol Van Wyk, the program manager reports, "January is the most important time for the Center's S&E's to contact the applicants, assess the professor's capabilities, define the research, and begin ordering library materials and equipment. Those who do, report the greatest satisfaction with the program. Once the fellow arrives, he is independent and works well with little supervision."

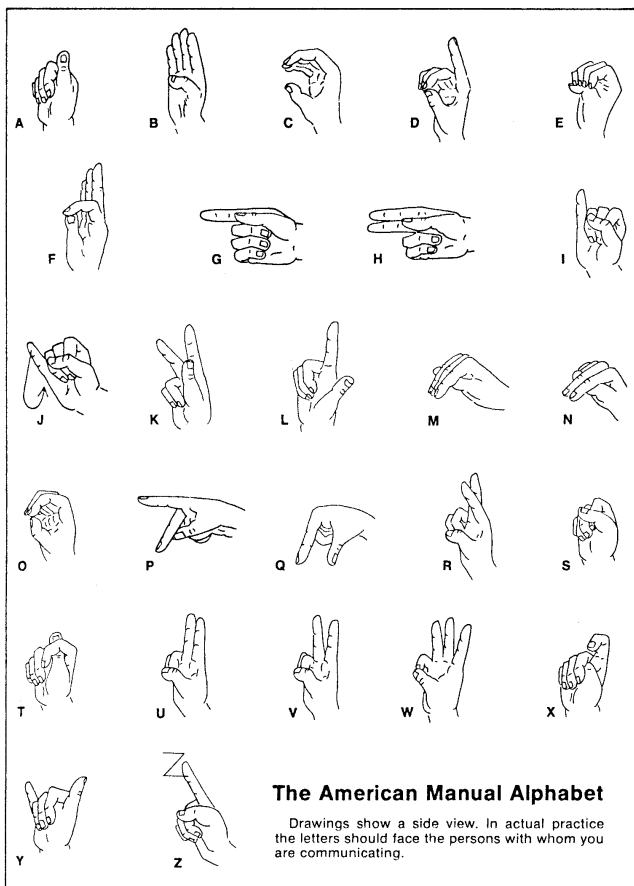
Brochures and application forms are now available from the Code 01B Office. Anyone wishing details of the program should call Carol Van Wyk, x2375.

A lesson in sign

Mary Ann Brett

Sign language, a means of communication for the hearing impaired, is as foreign to many of us as any obscure European or Asian tongue. Since the Center employs at least seven

people, with varying degrees of hearing impairments who use sign, the Reflector in cooperation with the Equal Employment Opportunity Office, will present an introduction to signing. The American Manual Alphabet is the first item in a series to appear monthly.



The American Manual Alphabet

Drawings show a side view. In actual practice the letters should face the persons with whom you are communicating.