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COVERS – Front: The TC-7 catapult facility at NATC Patuxent River, Md., is used to evaluate aircraft-catapult compatibility. The steam ingestion test verifies that aircraft and engines can suck in copious quantities of steam and still function properly (illustration © Hank Caruso). Back: An F11F-1 *Tiger* poses majestically on a pedestal at the end of *Intrepid*'s flight deck at the Sea-Air-Space Museum (Joan A. Frasher).

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Light Attack Never Slacked

By VAdm. Dick Dunleavy, ACNO (Air Warfare)

An era ended this March with the return from deployment of the Navy's last two light attack squadrons, VAs 46 and 72. Soon, these last two fleet A-7 *Corsair II* units will be gone, retiring an airplane that has served the Navy splendidly in seven fights, big and small. Fittingly, the *Clansmen* and *Bluehawks* took the A-7 to its last war in real style, pounding the Iraqi armed forces in Operation *Desert Storm* without suffering a single combat loss.

The light attack community, a descendent of the SBD dive-bomber squadrons that won so many battles in WW II and the F4U *Corsair* units that did more bombing than dogfighting in Korea, crystallized in the mid-1950s with the arrival of the single-seat A-4 *Skyhawk*, rugged, simple, and every inch a warplane. A decade later the Light Attackers took their *Scooters* to war over North Vietnam, flying the lion's share of Navy's missions through the flak. Midway through the war, the A-7 started to replace the A-4, beginning another legend.

Many Light Attackers made the ultimate sacrifice over Vietnam. Their wingmen were forged by that experience into a leadership that has positively influenced Naval Aviation far greater in proportion to their relatively small numbers. Being alone in the cockpit bred confidence and sharpened minds and instincts. Their accomplishments spawned an unequalled esprit de corps made evident every time they flew. You could also see it in their acronyms (CLAW-1) and their bumper stickers (No Slack in Light Attack).

Though the Light Attack label is disappearing, the community has really only changed names and changed planes to the Strike- Fighter community with the FA-18 *Hornet*. The self-escorting *Hornet* pilots recently proved graphically the validity of the strike-fighter concept on the first day of *Desert Storm*, putting bombs on target after quickly swatting two MiGs.

Although our carriers will no longer sling A-7s into the air as they have done for a quarter century, the spirit of Light Attack will live on in the *Hornet* strike-fighter squadrons. Light Attack never slacked in defending America's interests; neither will the Strike-Fighters. Keep strokin'.

Cdr. John Leenhouts

Osborn

Harrier Hassle

A fleet replacement squadron instructor pilot (IP) and a pilot in training (hereafter referred to as MP, for mishap pilot) were scheduled for back-to-back air combat maneuvering flights in AV-8B *Harriers*. The aircraft assigned to the instructor had Airframe Change #332 incorporated. This change involved installation of a redundant DECS (digital engine control system) enable switch mounted on the top of the fuel shutoff handle bracket. This switch is wired in parallel with microswitches in the fuel shutoff handle to provide power to the DECS. Either the redundant switch or the shutoff handle microswitches can energize the DECS. Formal approval of a DECS power check procedure was pending. (An urgent Naval Air Training and Operating Procedures Standardization (NATOPS) change containing the prestart checks had been submitted by the Model Manager prior to the mishap.) Because of this, the aircraft had been flown primarily by instructor pilots to avoid any confusion that a replacement pilot might experience with the new DECS enable switch.

The MP's VRS, a visual recording system used on training flights and in debriefs to enhance the "lessons learned" aspect of instructional hops, was inoperable. Therefore, the MP and IP, whose VRS was working, swapped aircraft. The MP thus flew the *Harrier* with Airframe Change #332.

The first flight went well and the *Harriers* returned to base for refueling. The AV-8B launched again. Climbing through 1,000 feet, the MP heard a caution tone and observed a PROP (fuel flow proportioner) caution light. The MP secured the PROP, turned it back on, and the caution light remained on. He then informed the IP about the light. The IP interpreted the report as relating to the mean pump light. The MP repeated his problem and spelled out "P-R-O-P" over the radio. He then secured the PROP switch and left it off. It was not clear to the IP as to what cockpit indications the MP really had, but the flight continued.

During air combat maneuvering in the working area, the MP was in a nose-low, left-hand turn with the IP at

his 7:00 position. As the IP was bringing his nose onto the MP's aircraft, the MP reduced throttle to idle then rapidly advanced it to full power.

As the engine spooled up, the MP heard a warning tone and saw a red EFC (engine fuel control) digital warning light and a yellow EFC caution light. The MP rolled wings level and retarded his throttle halfway. He noted a red overtemp warning light, which normally comes on at 765 degrees. The MP reported he had a problem with the DECS.

"Are you in manual fuel?" asked the IP.

"Yes, I am, and I have an overtemp of 800," answered the MP. But the engine was stable.

The MP assumed the lead and turned toward home base, 60 miles away. The JPT (jet pipe temperature) was 770 degrees. The MP reduced throttle and the temperature declined to the high 600s. The flight declared an emergency and began a shallow descent direct to the field.

Following a transmission, the MP thought the IP suggested setting power at 75 percent. The MP did so and the JPT increased, fluctuating in the high 700s. The IP later noted that the MP was "speaking calmly but that his transmissions were difficult to interpret as there was distinct electronic crackling."

The IP attempted to compare engine parameters. His aircraft was at 75 percent rpm, 72 ppm (pounds per minute) fuel flow, and 400 degrees JPT. The MP's JPT was "600 something," fuel flow 102 ppm, and the 15-second caution light was still on. The IP then asked for the status of the MP's IGVs (inlet guide vanes).

"Forty degrees," he responded. IGV angle at 75 percent is normally about five degrees. The mechanical stop for the IGVs fully closed is 40 degrees.

The IP did not pursue the IGV angle. He asked, "Is it [the engine] running OK?"

The MP said, "Yes," and the IP suggested that the cockpit indications could possibly be faulty.

The *Harriers* neared the airfield. On short final, the IP noted 15-foot, red-orange, high-pressure flames – like afterburner – emitting from his hot nozzles. They lasted four seconds then went out. The IP surmised that the MP was reverting to a fixed-nozzle, slow-landing technique and was modulating the throttle.

The IP warned, "Quit jockeying the throttle. What's your engine doing?"

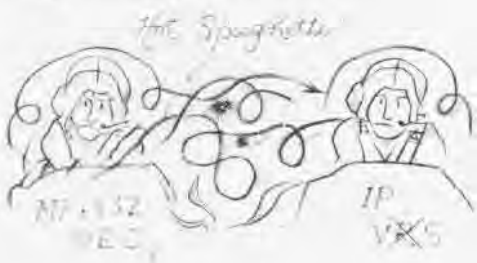
"I'm not; 56 percent," the MP said. The MP also observed the overtemp warning light on.

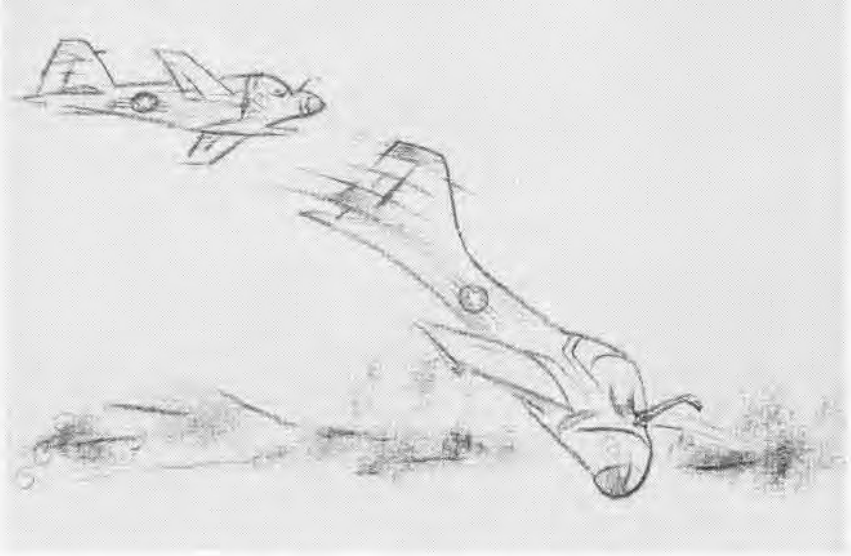
Flames again shot from the nozzles, at which point the IP advised, "You're on fire. Shut the throttle off. Eject, eject, eject. You're on fire."

The MP pulled the handle and successfully ejected. The *Harrier* impacted nose down in a river. Wind carried the MP overland, where he broke an ankle on impact with the ground but was otherwise OK. The elapsed time from the initial malfunction to ejection was seven minutes. At no time did the MP observe a fire warning light.

Grampaw Pettibone says:

Lots of complicated things can happen in a high-tech aircraft in





seven eternal minutes. The MP improperly analyzed the multiple malfunctions that ruined his whole day. He experienced the DECS problem and properly switched to manual fuel. Then there was the high JPT, and retarding the throttle was the right thing to do. (Incidentally, there is no NATOPS procedure that tells the pilot to land ASAP in the event of fuel flow proportioner failure.)

But, for whatever reason, increasing throttle to 75 percent made things "hotter." If he had dealt specifically with the overtemp situation alone and used the pocket checklist, the MP would have operated the engine at minimum power and made a conventional landing. The MP didn't realize he had an IGV problem. When the MP called up the engine page on the digital display indicator, the 40 degrees IGV angle didn't seem unusual to him. Had he recognized this as a predicament, the "stuck IGVs" section of the checklist would have "told" him to operate the engine at minimum power.

When the IP, a highly respected aviator who had the MP's fullest confidence, indicated the possibility of indicator failure, that became readily – if incorrectly – acceptable as a reason for the problems.

In the end, the *Harrier* engine couldn't take the heat.

Ole Gramps feels that crew coordination among these single-seat flyers left room for improvement. Better explanatory advice and a more lucid exchange of vital factors might have produced a happier – and less costly – end to the flight. You folks in the community of one seat/one pilot aircraft: Think about it!

Bombing Blunder

Two A-6 *Intruders* launched on a night mini-WASEX (war at sea exercise) to be followed by a secondary mission of practice bombing using the MK-58 smoke flare. Shortly after the brief, the original wingman became ill and a second was assigned. The flight was rebriefed on the salient points for the WASEX and thoroughly briefed on the conduct of the night bombing mission.

For the bombing phase, the flight was to drop flares in section at 1,000 feet followed by a breakup into a racetrack pattern for level or shallow (5-10 degree) continuously computed impact point deliveries. Minimum altitude was 1,000 feet with downwind pattern altitude briefed at 2,500 feet, flying at 250 knots.

Weather featured broken to overcast layers of clouds with no definable horizon. The wingman experienced vertigo in formation during the initial part of the WASEX. However, both A-6s flew two profiles in formation against a target ship at 1,800 feet with no apparent difficulties.

Approaching the bombing pattern after the WASEX, the wingman noted that lead was in an excessive rate of descent, 5,000 fpm, while dropping down in formation for the flare drop. At 2,500 feet, rate of descent was 2,500 fpm. The flight went down to 700 feet before lead brought it back up to 900 feet, still 100 feet below briefed, minimum release altitude.

After flare release, lead broke left and up. The wingman broke four seconds later. The wingman noticed lead roll out downwind at 2,000 feet. The wingman stabilized at 2,200 feet. At this time, he could see lead's wingtip and tail lights only.

The wingman momentarily lost sight of lead as he began the inbound turn to the target. Lead called inbound at eight miles and the wingman observed him at the 9:30 position, two miles away and slightly below the wingman's altitude.

The wingman then scanned inside the cockpit to execute the inbound turn, and as he neared completion of it, both the pilot and bombardier navigator (BN) observed a bright flash near the run-in heading. There was a large, expanding fireball that lasted eight seconds on the water surface.

The wingman climbed to transmit a distress call and assumed on-scene commander responsibilities. Rescue efforts continued through the night and were concluded the next morning. The pilot and BN were lost, the aircraft destroyed. Multiple pieces of aircraft debris were sighted but were unrecoverable due to the sea state and presence of sharks in the area. There was no sign of the crew except for their helmets, which were recovered.

Grampaw Pettibone says:

Whether it's the "real thing," as in Desert Storm, or preparing for same, there's no substitute for solid basic airwork: flying the aircraft by the numbers, scanning the gages, and watching airspeed, altitude, angle of bank *and* respecting old man vertigo – particularly when his bosom companion, the black of night, is around.

This unfortunate crew "busted" altitude during the flare drop and it got worse from there. Situational Awareness went by the boards. We'll never know why the BN was unable to caution the pilot in time. Maybe the wingman's crew, aware of the unusually steep rate of descent and the *Intruder*'s behavior after that, coulda helped with a warning.

There was no indication of mechanical trouble, by the way.

Flight Discipline is the buzzword for this tragedy. Before you worry about bombing or other phases of the mission, FLY THE AIRPLANE!

Naval Air Aids Kuwait Liberation

This coverage of the Persian Gulf War, continued from last issue, is drawn from news reports, Defense Department press releases, and press releases from participating units.

Navy and Marine aircrews pounded Iraqi forces as coalition ground forces rolled over the occupation forces, liberating Kuwait in an offensive that took only 100 hours to achieve victory.

The offensive launched on February 24 came after five weeks of the most intensive aerial campaign in history. Navy aircraft from six carriers and Marine aircraft from bases in the Arabian peninsula and from amphibious ships in the Persian Gulf spearheaded the assaults and paralyzed the opposing Iraqi forces. A provisional cease-fire went into effect on February 27.

At the outbreak of the war on January 17, three carriers (*America*, *John F. Kennedy*, and *Saratoga*) were arrayed in the Red Sea. *Theodore Roosevelt* was rounding the Arabian peninsula for the Persian Gulf, where *Midway* and *Ranger* were deployed. By mid-February, *America* had relocated to the Persian Gulf as well, massing four carriers in the confined gulf, a feat all the more remarkable in that only four months before it was noteworthy for one carrier to enter the gulf.

Navy and Marine Corps fliers mounted about 30,000 combat sorties in the six-week-long war. When the ground assault began, the Marines engaged in classic close air support with their FA-18, AV-8B, and A-6E jets and AH-1 helicopter gunships. The Navy joined in with its A-6Es, FA-18s, and A-7s. At one point, the fleeing Iraqi forces jammed a highway north of Kuwait City and were pounced upon by a fierce aerial assault described by one flier as "shooting fish in a barrel."

As part of the Central Command's strategy, the Marine amphibious forces offshore Kuwait made several helicopter feints toward the shore, tying up a considerable number of Iraqi forces in Kuwait. A large-scale amphibious assault was, in the end, not required. The large contingent of active and reserve Marine CH-46E, CH-53D/E, RH-53D, and UH-1N transport helicopters afloat and ashore was heavily engaged in supporting Marine forces fighting in Kuwait.

Because the Iraqi air force offered feeble opposition to the aerial assault, opportunities for aerial encounters during the war were few and Navy crews scored only three aerial kills. On January 17, the first day of the war, FA-18C pilots LCdr. Mark Fox and Lt. Nick Mongillo of VFA-81 shot down two MiG-21s while inbound to a target, the first-ever aerial victories for the *Hornet* (see following article). The other kill was an Mi-8 helicopter, downed with a *Sidewinder* missile on February 6 by a VF-1 F-14A off *Ranger*, flown by Lt. Stuart Broce and Cdr. Ron McElraft, C.O. of the *Wolfpack*.

The Gulf War has marked many other "firsts," including the first combat for the systems weapon improvement program version of the A-6E, with VA-145 off *Ranger*, also making the first combat firing of the HARM (high-speed antiradiation missile) by an *Intruder*. The first operational use of the AGM-84E surface land attack missile was successfully accomplished by *Saratoga*-based VAs 35, 46, and 72. The war also marked the first strikes ever launched by an LHA in combat, when *Nassau* (LHA-4) launched VMA-331 AV-8B *Harriers* into action. VAW-116 aboard *Ranger* was the first E-2C squadron to take the APS-138 radar into combat.

While attack aircraft and strike fighters carried out the bulk of the aerial attacks, other Navy and Marine aircraft got into the act as well. For the first time in the aircraft's history, EA-6Bs fired HARM missiles in combat. The S-3 antisubmarine aircraft also fired its first shots in anger against land and naval targets (see following stories). The F-14 TARPS (tactical air reconnaissance pods) aircraft provided vital battle-damage assessment photography to strike planners. Vital aerial refueling was supplied by Navy A-6Es, KA-6Ds, A-7Es, S-3s, Marine KC-130s, and Air Force and British tankers.

Forward air control (FAC) of strikes was provided by OV-10s of VMOs 1 and 2. For the "Fast FAC" role, the newly delivered FA-18D *Hornets* of VMFA(AW)-121 deployed to the war zone for the two-seat aircraft's first combat action. The FA-18Ds also flew night-attack missions.

The success of the aerial campaign is in large part due to the sophisticated electronic warfare (EW) effort. Navy and Marine EA-6Bs literally "jammed Iraqi electronics into darkness." The S-3B's EW suite, designed for maritime use, was pressed into a new role overland by VSs 22 and 30 as a threat warning system. E-2Cs provided the warning that enabled the FA-18s to down the MiGs, as well as round-the-clock surveillance and strike control. EP-3Es from VQs 1 and 2 conducted electronic reconnaissance for coalition forces, as did EA-3Bs from VQ-2, taking their "Electric Whales" to war for the last time before the aircraft's scheduled September retirement.

The war at sea in the Persian Gulf was no less intense, with the Iraqi Navy being completely destroyed by U.S. and British aircraft. A-6Es and FA-18s did most of the work, but VF-2 F-14As strafed Iraqi patrol boats as well. Silkworm missile sites along the coast were also taken out by A-6Es. The APS-137 inverse synthetic aperture radar aboard S-3B and P-3C aircraft proved instrumental in countering the Iraqi gunboats. SH-3H helicopters from the carriers, with no submarine threat to counter, were kept busy ferrying boarding teams to suspect vessels and special warfare forces to drop points. HH-60H strike rescue helicopters from HCSs 4 and 5 conducted combat search-and-rescue missions. It was an SH-60B crew from HSL-44 Detachment 8 aboard *Nicholas* (FFG-47) that rescued the USAF F-16 pilot from the Persian Gulf on January 24. SH-60B and SH-2F helicopters from every HSL squadron and SH-3H helicopters from the carriers were also busy spotting mines, and MH-53E *Sea Dragon* helicopters from HMs 14 and 15 were engaged in sweeping them. Mine-sweeping efforts continued in earnest even after hostilities ended.

Reserve units in addition to those noted in the last issue were also employed in the Gulf War. P-3Cs from VP-91 and VP-MAU(M) were deployed from NAS Moffett Field, Calif., to augment active squadrons VPs 4, 8, 19, 40 and 46 in patrolling the war zone waters. Reserve HS-75 Detachment Alpha in Diego Garcia was the SH-3H helicopter unit that rescued three USAF crewmen after their B-52G crashed returning from a mission.

A VA-75 A-6E launches from the waist of John F. Kennedy with iron bombs destined for delivery on Iraqi targets.

Lt.jg Christopher J. Madden

The Storm Breaks – A-7E Corsair IIs from VAs 46 and 72, some equipped with HARM missiles, launch into the moonless night from John F. Kennedy at 0120 local time on January 17, 1991, on the first day of Operation Desert Storm.

Capt. Steve Ramsdell

Kill of the Wolfpack – The silhouette of an Iraqi Mi-8 Hip helicopter marks the VF-1 F-14A Tomcat in which the Wolfpack's C.O., Cdr. Ron McElraft, and Lt. Stuart Broce shot down the helicopter on a mission from Ranger in the Persian Gulf.

USAF

A VMFA-333 FA-18A Hornet taxis by loaded A-6E Intruders from VMA(AW)-224 at an air base on the Arabian peninsula.

VC-6, the Navy's remotely piloted vehicle squadron based at NAS Patuxent River, Md., provided detachments aboard the battleships *Missouri* and *Wisconsin*. The VC-6 crews launched small, radio controlled *Pioneer* drones over the Kuwaiti shore, using television cameras to relay gun-firing coordinates back to the ships, to great effect.

The tremendous logistics effort needed to support Navy and Marine forces during the war required the deployment of a large number of transport airplanes and helicopters to ships and bases in the war zone. All four fleet H-46 squadrons (HCs 5, 6, 8, and 11) provided the detachments aboard the Combat Logistics Force ships that lifted the stores and ordnance to the largest naval force assembled since WW II. SH-3G/H and CH-53E helicopters from HCs 1, 2, and 4 also furnished support. VR-24's C-2A Carrier Onboard Delivery (COD) aircraft were joined by C-2A detachments from VRCs 30, 40, and 50 (brought over by deploying carriers), as well as US-3A COD aircraft from VRC-50. Navy and Marine UC-12 aircraft were used for intra-theater liaison missions, and reserve C-9Bs staged in Europe afforded airlift of vital parts and personnel.

An unusual twist to the war took place early when Iraqi forces caused a massive oil spill in the Persian Gulf. Naval Aviation answered the call with the deployment of two Coast Guard HU-25B *Falcon* jets from Cape Cod, Mass., and HC-130H *Hercules* to support them. The HU-25Bs used their *Aireye* side-looking airborne radar and infrared sensors to map the spill.

The outstanding success of Naval Aviation in the war was not achieved without cost, however. Thirteen Navy and Marine Corps aircraft were lost to enemy action during the war (see table, page 6).

Six fliers were killed in action, and two remain missing. Eight others were captured by Iraqi forces but returned to U.S. control shortly after the cease-fire. Two others were rescued after being shot down. Two Navy fliers and seven Marines died in the 10 aircraft lost in mishaps in the war zone.

Within two weeks of the cease-fire, the Navy and Marines began drawing down their forces in the region. Three carriers were released: *Midway* returned to Yokosuka, Japan, and on March 28 *John F. Kennedy* and *Saratoga* returned to their home ports on the East Coast. *Nimitz*, with CVW-9 aboard, sailed for the region from the West Coast in March. The air units remaining in the region continued air patrols, logistics, and mine-sweeping operations.

Mauler Bombs on Target

By Lt. Shawn E. Dennis, VS-32

On Wednesday, February 20, during a routine surface surveillance flight, the VS-32 *World Famous Maulers* accomplished what no other S-3 squadron has ever done in the 15-year history of the Lockheed *Viking*. Through diligent planning of never-before-used S-3 high-altitude bombing techniques, superior crew coordination, and precision flying, VS-32 became the first S-3 squadron ever to successfully engage and destroy a hostile vessel.

After launching from *America* (CV-66) in the Persian Gulf, LCdr. Bruce Bole and his crew Lt. Curt Lyter, Lt. Geof Hutton, and AW1 Raymond McCrorken proceeded on station to monitor and report unknown surface contacts operating in the north Persian Gulf. Under the control of *Valley Forge* (CG-50), an Aegis cruiser, the crew began its search utilizing the S-3B's inverse synthetic aperture radar and forward-looking infrared sensor system.

At 1435 local time, *Valley Forge* vectored the crew to investigate a high-speed, unknown contact. The crew quickly acquired the contact of interest on radar, and the entire crew coordinated all sensor information to refine the intercept course flown by LCdr. Bole. Within minutes the aircrew gained the small radar contact visually. The craft was then confirmed as an armed hostile, and the *Maulers* were cleared to attack.

Having extensively researched various weapon delivery methods previously not employed by the S-3, the *Maulers* were well prepared for the call to action. Flying a high-altitude profile to avoid the antiaircraft artillery threat, LCdr. Bole and his crew started their attack run on the target. The *Maulers* would have one shot at the target. All other warplanes in the area were unable to acquire the gunboat visually and the contact continued to transit at a high rate of speed.

At 1445, just 10 minutes after receiving the call, the *Maulers* released a stick of three 500-pound bombs, then proceeded to exit the target area. At this time, the crew noted flashes from possible antiaircraft batteries in the area and an evasive egress was effected.

At 1447, *Valley Forge* and another aircraft monitoring the attack both reported radar contact lost. Subsequent reconnaissance found the contact to be dead in the water and confirmed a mission kill.

PH2 Bruce Davis

A VS-30 S-3B Viking, armed with Rockeye cluster bombs, maintains an antisurface threat alert aboard Saraatoga (CV-60) in the Red Sea during Desert Storm.

USN

Lt. Robert Wetzel and Lt. Jeffrey Zaun were captured by Iraqi forces when this VA-35 A-6E BuNo 161668 was shot down on the first day of Desert Storm. Both were released after the cease-fire.

Navy & Marine Combat Air Losses – Desert Storm

Date	Type	BuNo	Unit	Crew
17 Jan	FA-18C	163484	VFA-81	LCdr. Michael S. Speicher MIA
17 Jan	A-6E	161668	VA-35	Lt. Robert Wetzel POW
				Lt. Jeffrey N. Zaun POW
17 Jan	A-6E	158539	VA-35	Returned safely, but damaged beyond economical repair
18 Jan	A-6E	152928	VA-155	Lt. William T. Costen KIA
				Lt. Charles J. Turner KIA
18 Jan	OV-10A	155435	VMO-2	Lt. Col. Clifford M. Acree POW
				CWO4 Guy L. Hunter POW
21 Jan	F-14A+	161430	VF-103	Lt. Devon Jones Rescued
				Lt. Lawrence Slade POW
28 Jan	AV-8B	163518	VMA-311	Capt. Michael C. Berryman POW
02 Feb	A-6E	155632	VA-36	LCdr. Barry T. Cook MIA
				Lt. Patrick K. Connor KIA
09 Feb	AV-8B	162021	VMA-231	Capt. Russell A.C. Sanborn POW
23 Feb	AV-8B	161573	VMA-542	Capt. James N. Wilbourn KIA
25 Feb	AV-8B	163190	VMA-542	Capt. Scott Walsh Rescued
25 Feb	OV-10A	155424	VMO-1	Maj. Joseph J. Small POW
				Capt. David M. Spellacy KIA
27 Feb	AV-8B	162740	VMA-331	Capt. Reginald C. Underwood KIA

KIA = Killed in Action
MIA = Missing in Action
POW = Prisoner of War (All were released)

Notes: Lt. Robert J. Dwyer of VFA-87 was listed as KIA after his FA-18A was lost on an 05 Feb combat mission. The loss is not attributed to hostile action.
Losses to operational causes during Operation Desert Shield include two CH-53Es, one SH-3H, two UH-1Ns.
Aircraft lost en route to the war zone include one UH-1N, one EA-6B, and one FA-18C.
Losses to nonhostile causes during Desert Storm (through March 1991) include two AV-8Bs, two FA-18As, two FA-18Cs, one A-6E, one A-7E, two AH-1Js, one CH-46E, one UH-46D, one SH-60B, and one UH-1N.

Triple-A Site Strike a First for VS-24 Scouts

JO2(AW) Doug Gabos, USS Theodore Roosevelt

Often times, things are done in war that can be considered out of the ordinary. A strike by an S-3B *Viking* from VS-24 was no exception.

For the first time in the squadron's history, ordnance was dropped on enemy territory by an antisubmarine aircraft flying off *Theodore Roosevelt* (CVN-71).

General purpose MK-82 500-pound bombs found their mark on an Iraqi antiaircraft ar-

tillery, or triple-A, site in southern Iraq. "As far as we know, the ordnance dropped was successful," said LCdr. Larry McCracken, VS-24 operations officer.

Cdr. Mike Miller, VS-24 C.O., said that thanks to CVW-8 commander Capt. William Fallon and the individual strike leaders, the new *Viking* has been folded into virtually every mission.

"Ordnance delivery on coastal targets from an S-3 is just another example of the tremendous flexibility of CVW-8 and *Roosevelt*," said Cdr. Miller.

LCdr. McCracken explained that the *Scouts* wanted to see if the strike could be done. "We proved it could. It was just a matter of putting the weapons away," he said.

While the S-3B *Viking* is capable of carrying ordnance, its primary mission is not that of a ground attack aircraft. But, if flown at high altitude or striking an at-sea target, the *Viking* is capable of performing the mission.

"We proved we could drop bombs in support of the allied strikes," said the ops officer. "I thought it worked out pretty well. It's the first time we ever really looked at doing something like that and I think it's a viable option."

"I'm very pleased with our initial efforts on these type strikes," said Cdr. Miller. "*The Scouts* continue to expand and prove the versatility of the S-3B."

AW1 Kenny Hager, the sensor operator for the nighttime strike, said the flight was really no different from any other, except everyone knew they were going in to drop the bombs.

"There's always a concern flying onto the coast and it may have added a little more tension. But we all felt confident going in there that there would be no problems," Hager stated.

He said when the bombs were dropped, he was surprised to see flashes going off. "We were flying at a pretty high altitude and I didn't think I'd see anything. But I saw flashes of light coming from the tactical coordinator's window and as we were flying away we saw triple-A being fired over Kuwait City from the main strike."

Five VP Units to be Cut

Steps are under way to disestablish four of the Navy's 24 fleet patrol (VP) squadrons before the end of the fiscal year as part of planned force-level reductions. Two squadrons each from the Atlantic and Pacific Fleets have been selected, the first VP squadrons to be disestablished since the late 1960s. In addition, the reserve VP Master Augmentation Unit (VP-MAU) at NAS Brunswick, Maine, is scheduled for disestablishment.

The two East Coast squadrons to be cut are VP-44, flying P-3C Update IIs as part of Patrol Wing (PatWing) Five at NAS Brunswick, and VP-56, which flies P-3C Update III retrofit aircraft as part of PatWing-11 at NAS Jacksonville, Fla. Both of the West Coast squadrons to be cut are based with PatWing-10 at NAS Moffett Field, Calif.: VP-19, equipped with the P-3C Update I, and VP-48, which flies the Update III retrofit version of the P-3C.

The 32 P-3C aircraft released from these squadrons will be redistributed, with two to three reserve VP squadrons changing from the P-3B to the P-3C this year, and one more in FY 92. In addition, VPs 1 and 4, active squadrons at NAS Barbers Point, Hawaii, will transition to the P-3C Update III retrofit version. VP-1 was originally scheduled to transition to the Update I; VP-4 had already done so prior to its 1991 deployment to the Indian Ocean. (See *NANews*, Mar-Apr 90, "MPA Force Modernization Underway," p. 8-9.)

The reduction of four squadrons follows the FY-90 aircraft allowance reduction, which reduced the 24 fleet squadrons from nine to eight aircraft each, and reduced the 13 reserve squadrons from nine to six aircraft each.

The VP-MAU at NAS Brunswick operates a small number of P-3C and UP-3A aircraft to train Naval Air Reserve crews to augment fleet squadrons in event of call up. The unit will be disestablished effective June 30, 1991.

Disestablishment ceremonies for the four active squadrons have been scheduled as follows: VP-19, May 17; VP-44, May 31; VP-48, May 23; and VP-56, June 28.

12 CVs, 11 CVWs Planned by FY 95

The Navy plans to reduce the number of operational aircraft carriers (CVs) to 12 and the number of active carrier air wings (CVWs) to 11 by FY 95, according to the Secretary of the Navy's posture statement released on February 21. The plans are being made in line with increasing fiscal pressures while maintaining a flexible power-projection force to protect the nation's interests.

The Navy currently has three *Nimitz*-class CVs under construction which will replace older carriers. *Midway* (CV-41) is planned for retirement in FY 92, to be followed by *Ranger* (CV-61) in FY 93 and another CV in FY 95. *Forrestal* (CV-59) is on track to replace *Lexington* (AVT-16), the Navy's training carrier, which is being decommissioned this year.

The two reserve CVWs will be retained under the plan, as will the three Marine air wings, but the active and reserve wings will continue to be restructured. The plan also calls for the deactivation of one Marine A-6 and one KC-130 squadron.

A-X, FA-18E/F Proposed

In wake of the cancellation of the A-12 stealth attack aircraft, the Navy is generating a requirement for two designs: a new attack aircraft now designated the A-X, and a much-modified improvement of the FA-18C/D, designated the FA-18E/F.

The A-X, needed to replace the aging Grumman A-6E *Intruder*, is not expected to enter service until the next decade. In the meantime, the Navy plans to continue upgrading the A-6s in inventory, including purchasing more composite wings to replace fatigued metal ones.

The single-seat FA-18E and two-seat FA-18F are proposed to be more than just avionics upgrades; they are envisioned to be larger airframes with more powerful engines, incorporating the space to carry more fuel to increase the combat radius and weapons payload. The new variant is planned for procurement in FY 96.

The Navy is also looking at options to upgrade the P-3C patrol plane, to result in the P-3C+. The *Orion*'s planned replacement, the Lockheed P-7, was cancelled last year.

F-14D Remanufacture Terminated

In a decision announced on February 26, the Secretary of the Navy directed the termination of the F-14D remanufacture program. The affected contract was to have resulted in the remanufacture of 12 F-14As into F-14Ds using funds obligated in FY 91.

The decision comes in the wake of a FY-90 Defense Department decision to terminate production of new Grumman F-14Ds. If the current decision stands, the Navy will eventually receive a total of 37 new and six remanufactured aircraft. Four of the remanufactures will be completed by Grumman Aerospace, and two will be completed by the Norfolk Naval Aviation Depot.

In a move to reverse the

Don S. Montgomery,USN(Ret.)

Atlantic Ocean. . .A super Etendard aircraft of the Argentine navy comes in to briefly touch down on the flight deck of the nuclear-powered aircraft carrier Abraham Lincoln (CVN-72). The plane took part in touch-and-go landings aboard Lincoln during the vessel's circumnavigation of South America last year.

decision, however, the House and Senate Appropriations Committees voted to restore funding for the remanufacture program in a rider attached to the Persian Gulf War supplemental spending bill. The eventual fate of the program had not been decided at press time.

The Defense Department's FY-92 budget proposal postpones the Navy Advanced Tactical Fighter (NATF) program, which was envisioned as a replacement for the F-14D in the next decade.

Warhorses Put to Pasture

The *Warhorses* of VA-55 faded into history in a ceremony held at NAS Oceana, Va., on February 22, 1991. The A-6E squadron, part of the recently disbanded CVW-13, was officially disestablished on January 1 as part of force-level reductions.

VA-55 was established in October 1983 as the medium attack squadron for CVW-13, which was being formed as the Navy's thirteenth carrier air wing and planned for assignment aboard *Coral Sea* (CV-43). The *Warhorses*, carrying on the traditions of an A-4 squadron of the same name that saw extensive action in Vietnam, made all three of their major deployments to the Mediterranean Sea with CVW-13 aboard *Coral Sea*. On its first deployment, VA-55 struck Libyan targets in March and April 1986 as part of the U.S. retaliation against Libyan terrorist actions.

Although the *Warhorses* returned from their last deployment, *Coral Sea*'s farewell cruise, on September 30, 1989, they were not out of action yet. VA-55 provided crews and aircraft to augment VA-75 aboard *John F. Kennedy* (CV-67) as she sailed in August 1990 in support of Operation *Desert Shield*, later seeing combat in Operation *Desert Storm*.

Cdr. John W. Henson was the last C.O. of VA-55. A tombstone marking the passing of the *Warhorses* was placed in the front garden of the NAS Oceana Officers Club.

VQ-4 Shifts Atlantic to E-6A

The Atlantic Fleet's first Boeing E-6A TACAMO (take charge and move out) aircraft was accepted at VQ-4 in January 1991, commencing the squadron's transition from the veteran EC-130Q *Hercules*. The new aircraft, with greater range and endurance, will enhance the squadron's capability to maintain a constant airborne alert in communication support of fleet ballistic missile submarines.

In a ceremony held at NAS Patuxent River, Md., on January 25, VQ-4 skipper Cdr. P. A. Moore welcomed BuNo 164405, the first of seven E-6As that the squadron will eventually receive. Operational missions using the new aircraft will commence in June 1991. The retirement of the squadron's EC-130Q and TC-130Q aircraft is expected to be complete by May 1992.

Like VQ-3, its Pacific Fleet counterpart which introduced the E-6A into service in 1989, VQ-4 is conducting a "no standdown transition," the difficult process of maintaining 24-hour operations while learning to fly and maintain a new aircraft. VQ-3 and Boeing personnel are assisting VQ-4 with the transition.

Lamps Unit Set for Japan

A LAMPS MK III helicopter squadron will be organized in Japan later this year. HSL-51 will be established at NAF Atsugi effective October 1, 1991, to provide detachments of SH-60B *Seahawk* helicopters to the Seventh Fleet's surface warfare ships home-ported at Yokosuka, Japan.

The new unit will essentially be a consolidation of several LAMPS detachments now assigned to the various HSL squadrons based at NAS North Island, Calif., and NAS Barbers Point, Hawaii. The consolidation will improve the efficiency of operations, maintenance, and administration by placing the detachments under a single command. HSL-51 will operate 10 SH-60Bs and will be staffed with approximately 45 officers and 165 enlisted personnel.

For the Record...

- The Navy's second *Wasp*-class amphibious assault ship, ***Essex*** (LHD-2), was christened at Pascagoula, Miss., on March 16. The fifth Navy ship to bear the name, *Essex* will carry on the traditions of her most recent predecessor, CVS-9, a veteran of combat in WW II and Korea.
- Two squadrons are slated to move to **NAS Lemoore**, Calif., during 1991: **VAQ-34**, the West Coast electronic warfare training squadron, will move from NAS Point Mugu, Calif., by June 1; **VFA-151**, an FA-18A squadron based at NAF Atsugi, Japan, is slated to arrive by September 30 as part of the CVW-5 realignment resulting from the replacement in Japan of *Midway* by *In-*

dependence.

• VMA-142, a Marine Corps reserve squadron at NAS Cecil Field, Fla., was redesignated **VMFA-142** on December 21, 1990, as it transitioned from the A-4M *Skyhawk* to the **FA-18A** *Hornet.*

• **VS-21** has completed transition from the S-3A to become the first West Coast **S-3B** squadron. VS-21 will eventually join CVW-5 in Japan when *Independence* (CV-62) replaces *Midway* (CV-41) there later this year.

• **VMFA(AW)-225** is scheduled to stand up at MCAS El Toro, Calif., in October 1991 as the Marine Corps' third FA-18D squadron. The squadron will be a reactivation of a former A-6 squadron that was deactivated on June 15, 1972.

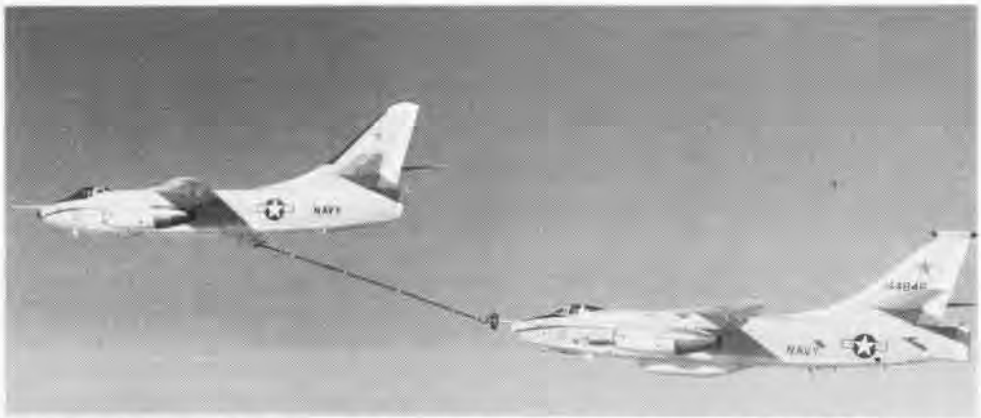
• **VP-46** and **VP-9**, based at NAS Moffett Field, Calif., have transitioned to the **P-3C Update III retrofit** version, passing their **Update I** versions to **VP-4** and **VP-17**, which until recently operated the baseline P-3C at NAS Barbers Point, Hawaii.

• **VAdm. William C. Bowes**, formerly Director, Joint Cruise Missile/Unmanned Aerial Vehicles Joint Projects, assumed duties as the eleventh **Commander, Naval Air Systems Command**, on March 22, relieving VAdm. Richard C. Gentz, who retired on February 1 after more than 33 years of active service.

• **RAdm. Anthony A. Less**, Assistant Deputy Chief of Naval Operations (Plans, Policy, and Operations) has been nominated by the Secretary of Defense for appointment to the rank of Vice Admiral and assignment as **Commander, Naval Air Force, U.S. Atlantic Fleet.**

• The Defense Department announced on February 5 that the remains of **Capt. Verne G. Donnelly** were identified from a set of 20 remains repatriated by Vietnam in September 1990. Then-Cdr. Donnelly was shot down over North Vietnam on September 16, 1972, while piloting a VA-35 A-6A from *America* (CVA-66).

A Brazilian Air Force S-2 Tracker antisubmarine aircraft underwent catapult launch and arrested recovery trials late last year at the Naval Air Engineering Center, Lakehurst, N.J., after being reengined with turboprops in Canada.



Last KA-3B Retired – After 33 years of service, the Navy's oldest aircraft and last KA-3B tanker was retired by VAQ-34 on December 17, 1990. KA-3B BuNo 138944, seen refueling (above) an ERA-3B, entered service in July 1957 as an A3D-2 bomber and was converted to a tanker by Naval Air Rework Facility, Alameda, Calif., in September 1967. The "Whale" was twice retired and returned to service from storage in the Arizona desert, and in 1983 became VAQ-34's first aircraft. It was used to support battle group exercises, ship workups, and various research, development, test and evaluation programs. The aircraft was turned over to the National Museum of Naval Aviation, Pensacola, Fla. (Information and photo courtesy Ltjg. C. R. Brewer, VAQ-34 PAO.)

NATC Retires Old Friend – Members of the Force Warfare Aircraft Test Directorate, NATC Patuxent River, Md., bade farewell in February to NS-3A BuNo 157993, used extensively as a test platform at NATC beginning in 1984. The second S-3A built, 993 was used by Lockheed for flying quality improvement tests, in-flight refueling tests, and stores separation tests, and later by Lockheed's "Skunk Works" for special projects. After transfer to NATC, 993 was used for various projects until 1988, when it returned to Lockheed for modification as the aerodynamic prototype of the ES-3A electronic reconnaissance aircraft, then returning to NATC. No. 993 was retired to NAS Cecil Field, Fla., where VS-27 is stripping its airframe and restoring it to an S-3A configuration for permanent display at the base's front gate. (Information and photo courtesy NATC Patuxent River PAO.)

Impressions of the Desert Storm Carriers

By Capt. Steven U. Ramsdell

Capt. Ramsdell made a five-week tour of the Persian Gulf region, where he collected oral history interviews and other war information as he visited all six aircraft carriers, the amphibious command ship *Blue Ridge*, and Riyadh, Saudi Arabia.

Simultaneously with the first bell on the hour came the unmistakable whoosh and thump of a steam catapult. As the bells ceased ringing, something less common echoed throughout the ship, the stirring melody of the "William Tell Overture." This was not a call to return to the thrilling days of yesteryear; this was the sound of *Ranger* (CV-61) launching another strike against the aggression of Saddam Hussein. The same sequence of sound was repeated nearly 150 times on *Ranger*; it expressed the exhilarating reality of Naval Aviation in *Desert Storm*.

Although her music was unique, *Ranger* was not the lone carrier in the operation to liberate Kuwait. In addition to *Ranger*, *Saratoga* (CV-60), *John F. Kennedy* (CV-67), *Midway* (CV-41), *America* (CV-66), and *Theodore Roosevelt* (CVN-71) answered the call. From the beginning of *Desert Storm*, these six carriers brought the full weight of their awesome striking power to bear against the Iraqi aggressors, but their strikes were not conducted in isolation from our sister services and those of our allies. They were part of an integrated campaign that brought together all of the coalition's forces to achieve a quick and decisive victory.

Not surprisingly, teamwork created a lasting impression on the carriers in *Desert Storm*. The air campaign unfolded under the watchful eye and coordination of airborne command and control and early warning aircraft. Many times those planes were Navy E-2s, but many times they were U.S. Air Force AWACS (airborne warning and control system) aircraft. A continuous link maintained between them and the ships in the fleet ensured a coordinated effort.

Teamwork brought the full weight of each air wing to bear against Iraqi targets. As our attack and strike planes made their bombing runs, Saddam's fighters were chased from the skies ahead by our fighters, and his radars, pinpointed by electronic surveillance, were blinded by jamming and showered with antiradiation missiles. The attacks themselves delivered the entire spectrum of Navy air-to-ground weapons, smart bombs, iron bombs, cluster weapons, and rockets, and were made generally from medium altitudes, above the effective range of defensive antiaircraft artillery and small arms fire.

Strikes by Navy and Marine Corps aircraft frequently were preceded or followed immediately by U.S. Air Force strikes, or strikes flown by allied forces. This integration put the best combination of weapons on the right targets, whether those weapons were Navy, Marine Corps, Air Force, or allied.

The Navy's robust capability to suppress enemy air defenses with EA-6B jamming and antiradiation missiles from many of our carrier-based aircraft was often used to protect USAF and allied strikes. Navy fighters and USAF fighters frequently shared combat air patrol stations over Iraq. During those missions, the Navy fighters made frequent visits to Air Force tankers for refueling. Navy aircraft could also be found taking fuel from Royal Air Force tankers.

Most of the Navy's long-range strikes, including all of those flown from carriers in the Red Sea, required Air Force tanking support, given with exceptional cooperation and professionalism. Navy KA-6 tankers accompanied these strikes to increase tanking effectiveness, themselves refueling periodically from the Air Force tankers and then transferring the fuel they received to Navy strike aircraft. This cooperative effort accelerated the refueling process, effectively increasing the number of bombs on target.

With their antisubmarine gear removed and replaced by machine guns for a war without submarines, Navy helicopters found themselves in the thick of the action. They stood by for combat search and rescue missions at the north end of the Persian Gulf, hunted mines, took prisoners, and delivered the manpower that gave clout to the Maritime Interdiction Force (MIF) operations in the gulf and Red Sea.

Desert Storm strikes were launched from the Red Sea by the carriers Saratoga (in lead), John F. Kennedy (foreground), and America (background).

Photography from Navy F-14s equipped with the Tactical Air Reconnaissance Pod System was highly sought support for all U.S. and coalition forces during every phase of the war, and it became extremely valuable for planning and battle damage assessments during the land battle.

The air campaign was centrally planned and directed by the Joint Force Air Component Coordinator located in Riyadh, Saudi Arabia. Direct participation in such a centrally directed air campaign was something new for Naval Aviation. At the outset of Operation *Desert Shield*, Navy strike planners were ordered to Riyadh to participate in the development of the plan that became the air portion of *Desert Storm*. As the plan matured in the weeks before *Desert Storm*, it was rehearsed in "mirror image" strikes that duplicated every detail of the real strikes as closely as possible, except the attacks were made on practice targets outside Iraq. This preparation tested and refined the incredibly complex coordination of forces from all of the services and made the initial strikes go like clockwork.

In order to make the system function smoothly in the battle groups, all six carriers organized strike cells that brought together the strike planning elements of the embarked admiral's staff, the carrier's staff, and the embarked air wing. This innovation allowed each ship to operate as a single combat team and facilitated the effective integration of its full potential in the air war.

The air strikes early in the war were directed at strategic targets, air defenses, communications facilities, and chemical and nuclear weapons facilities. As the campaign developed, the focus of attention turned toward preparation for the ground war. By the middle of February, *America* moved from the Red Sea, where she began the war, to the gulf to join *Midway*, *Ranger* and *Teddy Roosevelt*. Her relocation and the forward movement of the carriers to the northern part of the gulf increased carrier striking power closest to the area of the expected land battle. Targets were more and more the units, tanks, and other equipment of the Iraqi army in and around Kuwait, the Kuwaiti Theater of Operations (KTO). Even *Saratoga* and *JFK* in the Red Sea began to send a steady number of strikes into the KTO, while they continued to concentrate on the strategic targets in central and western Iraq.

Carrier aviation also supported coalition ground forces by giving credibility to the threat of an amphibious assault along Kuwait's coastline. The seriousness with which Iraq took that threat resulted from the pattern of Navy and Marine Corps air strikes during the weeks before our counterinvasion began, and it resulted in a deployment of Iraq's army favorable to our ground attack.

The credibility of a sea-based attack must also have been enhanced by the destruction of Iraq's navy, largely accomplished by carrier aviation. By the end of the war, more than 100 Iraqi vessels had been sent to the bottom, and the Iraqi navy ceased to exist as a viable fighting force.

Perhaps the strongest impression

Ordnance is readied for lift to the flight deck of John F. Kennedy.

from the carriers during *Desert Storm* was the reality of war. Most obvious was the continuous parade of ordnance being lifted from magazines, moved across mess decks, and then lifted again to the flight deck for loading and delivery against Iraqi forces. But it was also evident in the uncharacteristic appearance of the carriers. They were rigged for battle.

Learning from the experience of USS *Stark*'s fight for survival, *Midway* stripped the wax from her decks to avoid unnecessary slipperiness when fighting fires with foam, a possibility that, fortunately, did not materialize. With a view to the Iraqi small boat threat, machine guns were placed on her sponsons behind protective sandbags. Throughout the carriers, loose objects that could become hazardous missiles if thrown by the explosive concussion were removed or secured. Decorations were removed from bulkheads, and flammables, such as curtains, were taken down and stowed.

The war was apparent, too, in less serious, but no less important, symbols. On the noses and side panels of air wing aircraft the silhouettes of bombs, missiles, mines, SAMs, camels, radar dishes, and – in the case of two VFA-81 FA-18s and one VAW-125 E-2 on *Saratoga* – MIG-21s made their appearance as tallies for achievements in battle.

One of the most striking impressions of the carriers in *Desert Storm* is that they delivered an exceptional return on the investment made in them and their aircraft. *Midway* was still delivering the goods half a century after she was designed. The six flattops in the war included three of our four oldest. Except for *Teddy Roosevelt*, the one nuclear carrier in action, the newest ship, *JFK*, was 23 years old.

Flying from her deck were the A-7s of VA-46 and VA-72, warriors that performed with distinction – to the agony of Saddam and his cohorts – in their swan-song appearance in battle 26 years after being flown for the first time; the heaviest punch in five of the six air wings was the A-6, 31 years after it took to the sky for the first time. F-14s, frequently used as symbols of state-of-the-art fighter aircraft, still dominated the sky more than 20 years since their first flight, and the FA-18s, the epitome of contemporary multimission strike fighters, have been in production for 13 years. The other actors in the air wings – S-3s, EA-6Bs, E-2s, and SH-3s – are veterans with 19, 20, 31, and 32 years of service, respectively. Clearly, the carrier forces in *Desert Storm* passed the test of time with flying colors. We invested in equipment that works and lasts.

The carriers in *Desert Storm* also validated the investment we've made in training. Benefiting from the program at the Naval Strike Warfare Center, Fallon, Nev., and the training conducted in the Atlantic and Pacific Fleets, Naval Aviators hit Iraq with the most sophisticated and thoroughly integrated strikes ever flown by American aircraft. The realism and intensity of this preparation allowed our aircrews – most of whom did not have previous combat experience – to perform like veterans on their first missions, and they demonstrated the highest level of airmanship in the history of Naval Aviation.

Many of the strikes flown during *Desert Storm* proceeded to and from their targets in formations of dozens of aircraft around Air Force tankers, at night, often in bad weather. After four to eight hours in the air and exposure to some of the heaviest flak ever encountered, these flights concluded with night carriers landings and were flown mishap free. The absence of noncombat losses under those extreme conditions was a triumph for Grampaw Pettibone, the professionalism he inspires, and the organization that's kept the old gentleman on the payroll all these years.

The investment made in the maintenance of our aircraft over the last 10 years resulted in operational readiness rates, under combat conditions, that could not have been imagined under any conditions just a few years ago. Many squadrons had all of their planes fully ready much of the time, especially the FA-18 outfits. And maintenance problems were quickly remedied on all aircraft. The number of parts required from off-ship supply centers for repairs to the aircraft embarked in each ship were typically a handful or fewer.

But the best investment made by Naval Aviation proved to be that made in our people, who deserve much of the credit for the condition of our veteran aircraft. Twenty-four hours a day on six carriers, the sailors of Naval Aviation went about the business of fighting a war with steady motivation and finely honed skill. Twelve-hour work days were the minimum, as they always are at sea on carriers, and substantially longer hours more often the norm. Throughout the carriers, after weeks at sea, morale remained high based on the professional satisfaction of doing a job that had to be done – and doing it well. For Naval Aviation, the all-volunteer force worked.

The bottom line impression from the carriers in *Desert Storm* is that even after 150 or so renditions, *Ranger*'s crew and the rest of Naval Aviation stand ready to respond to that other ranger's theme song when the call comes again. ■

"Ordies" load laser-guided bombs onto pylons of an A-6E Intruder.

Saratoga MiG Killers: Hollywood Need Not Apply

By JO3 Dirk T. Rose, USS Saratoga

We've all seen the films that roll out of Hollywood: *Top Gun*, *Iron Eagle*, and other combat-action flying movies. In each, the typical scenario is good guy versus bad guy – normally ending in a brilliant explosion as the enemy is blown out of the sky and the good guys cheer. Soon after, the credits roll and that's it. But in real life, we know it isn't like that.

Lieutenant Commander Mark Fox, operations officer of VFA-81, an FA-18C *Hornet* squadron assigned to *Saratoga* (CV-60) and home-based at NAS Cecil Field, Fla., has been flying since he was in junior high school. A native of Abilene, Texas, he graduated from the U.S. Naval Academy in 1978 and earned his wings in 1980.

"I've always wanted to fly tactical airplanes. When I first saw the FA-18 prototype at an air show in 1978, I focused my desire on flying the *Hornet*." After a tour flying A-7s, he transferred to the FA-18 and while on *Coral Sea* (CV-43) made the *Hornet*'s first Mediterranean cruise. "There's nothing better than flying a single-seat airplane. You might be the rawest, newest nugget in the squadron, but you're flying your own plane," said Fox.

"This has validated the strike-fighter concept. This is the first time to my knowledge that an airplane has made an air-to-air kill while carrying four 2,000-pound bombs and continued on to hit the target."

LCdr. Mark Fox

It wasn't until January 17, 1991, over Iraq, that he experienced his first combat. "We were going against an airfield in western Iraq on the war's first-day strike launched from *Saratoga*," Fox recalled. "I launched as a spare; I was not scheduled to actually go on the strike unless one of the 'go' aircraft had a problem."

PH2 bruce Davis

LCdr. Mark Fox stands the alert in his "office" – a Hornet assigned to the VFA-81 Sunliners aboard Saratoga in the Red Sea. Fox was flying FA-18C BuNo 163508 AA-401 when he shot down an Iraqi MiG-21 fighter.

But if any butterflies were in his stomach, there wasn't a lot of time to worry about them. "I didn't leave thinking I wasn't going to come back," he said. "During the few hours before entering Iraqi airspace, I was thinking about a lot of practical things: making sure everything was set up, switches were in the right position, and keeping the other three planes in sight. There isn't time to think about anything but the mission you're flying."

As for the mission, four *Hornets* flying from *Saratoga*, which was on station in the Red Sea, were tasked with dropping MK-84 bombs on an Iraqi airfield. An E-2C *Hawkeye* from *Saratoga*'s Carrier Airborne Early Warning Squadron (VAW) 125 was providing strike control and battle management for the mission. Lieutenant John Joyce, the *Hawkeye*'s air control officer, radioed an alert to the inbound *Hornets*. Moments later, Commander Howard McDaniel, VAW-125's skipper, who was also in the E-2, amplified Joyce's earlier heads up. In no uncertain terms, Joyce "called" the bogies: "*Hornets*, bandits on your nose at fifteen." The bandits were Soviet-made MiG-21 *Fishbeds*, single-seat, late-1950s models.

"It all happened very quickly," Fox explained. "We were approaching the target preparing to deliver our bombs when we got the call. I switched back to air-to-air and got a lock on one of them. I had the MiG on the right, while the second *Hornet* in our formation, flown by Lieutenant Nick Mongillo, took the one on the left. The other two *Hornets* also acquired radar locks."

Fox went on to describe the MiGs as "approaching us, nose on, supersonic. Our relative rate of closure was over 1,200 knots. They weren't maneuvering. I shot a Sidewinder first and thought I had wasted it, because I couldn't see it tracking toward him, so I immediately fired a Sparrow. The Sidewinder hit first, then the Sparrow

PH2 Bruce Davis

E-2C BuNo 159107 AA-600 sports two MiG-21 silhouettes. The crew of VAW-125's Tigertail 600 detected the two Iraqi fighters and made the calls that enabled the two Hornet pilots to shoot them down and resume their bombing mission.

Capt Steve Ramsdell

A MiG-21 silhouette adorns FA-18C BuNo 163502 AA-410, the Hornet flown by Lt. Nick Mongillo, the other VFA-81 Sunliner who downed an Iraqi fighter.

hit the flaming wreckage. The whole event, from the E-2's call to missile impact, took less than 40 seconds."

Lt. Mongillo hit the second MiG with a Sparrow. When asked to compare the incident to Hollywood's version of combat, he responded, "This was nothing like the movie *Top Gun*," he said. "That movie was accurate only in portraying movement in the cockpit and the amount of work involved in actually flying the airplane. Movies like *Twelve O'Clock High* or *The Bridges at Toko-ri* come closer to capturing the stress and emotion of combat. It's difficult for Hollywood to get that gut-level feeling. They usually fall short."

One segment that might come close is the explosion of the MiG after having been hit by Fox's missiles. "There was a flash from the Sidewinder impact, followed by a brilliant orange-yellow flame and puff of black smoke. The Sparrow hit the flaming aircraft seconds later. The rear half of the *Fishbed* was engulfed in flames. The canopy was still on when it went by me. I don't think the pilot got out."

This is where the two elements of conflict, between man and technology, separate. Not only was a machine destroyed, but possibly a human life was taken as well.

"He [the Iraqi pilot] knew what he was getting into when he climbed into that Iraqi jet and took off after us, in the way I view it," said Fox. "I haven't had any haunting second thoughts that I probably killed the guy; given the opportunity, he would have been glad to do the same to me.

"I don't consider myself a steely-eyed killer," Fox continued, "but in a war, to beat the enemy, you have to kill him – and this is war."

Yet Fox found an inner peace in the midst of the conflict. "I have a deep personal faith in God and realize He is ultimately in control, not me," he stated. "The areas of my life I can control – mental preparation and combat training – I work very hard at. But I know my limitations and can live with myself. This war has strengthened the personal faith that existed before the shooting ever started."

One thing LCdr. Fox stands fast by is that this was a team effort – a Carrier Air Wing 17/*Saratoga* kill, not a Mark Fox kill.

"I don't want to be a grandstand player," he emphasized. "It could very well have been someone else. I give credit to all of the VFA-81 guys who work on the plane, the *Tigertails* who made the call, and the yellow shirts, ordnancemen, Grapes, snipes, and others who made it possible for us to fly off *Saratoga* in the first place."

After the first day's success, it was easier to go back to war. "We are well trained and flying an utterly reliable airplane," Fox said. "It's a real confidence builder to successfully complete a mission once and then go back and do it again. I went back that same night.

"But it hasn't changed the way I approach my job. I don't take the Iraqi threat lightly. My mouth still goes dry and heart beats faster when I'm north of the border," he added.

With help from Hollywood, this could be made to look like a glamorous event, but LCdr. Fox downplays the glamour aspect of the MiG kill. He emphasizes the technology, which enabled them to successfully complete their primary mission – bombing the target – in spite of the presence of enemy fighters.

"This has validated the strike-fighter concept," Fox stated. "This is the first time to my knowledge that an airplane has made an air-to-air kill while carrying four 2,000-pound bombs and continued on to hit the target. It was very satisfying to watch those bombs explode on target. If the MiGs had gotten behind us, we would have had no choice but to honor their threat. You can't do that with 8,000 pounds of bombs. We would have had to jettison our ordnance to face them, and that would have served their purpose in stopping our strike. They failed; we succeeded.

"The idea of a plane having both air-to-air and air-to-ground missions is viable," he went on. "American industry has produced the technology required to build an aircraft capable of outstanding performance in both missions. The challenge remains to train effectively enough to realize the *Hornet*'s full potential in both areas." Fox concluded, "There isn't enough room on the flight deck for a single-mission plane anymore."

When it comes to drama in Naval Aviation, Hollywood can't compete with the *real* thing. ■

The Fighting "I" Takes Manhattan

Story and Photos by Joan A. Frasher

While a war raged in the Persian Gulf, one Navy carrier was moored in the New York City harbor. A veteran of WW II and Vietnam, the nearly 50-year-old *Essex*-class carrier *Intrepid* (CVS-11) rests permanently and majestically at Pier 86, West 46th Street and 12th Avenue in Manhattan.

The history behind *Intrepid* is glorious but not without the price such glory extracts. While her planes scored many hits during WW II, she was damaged by a torpedo, burning kamikazes, bombs, shells, and anything else the Japanese could throw at her. This added to her reputation of being one of the most damaged carriers in the war. After WW II, *Intrepid* was prepared for mothballing. However, she was reactivated five years later for transfer to the East Coast where she was again decommissioned

A Grumman F11F-1 Tiger rests under Manhattan's skyline.

A rare Royal Navy Supermarine Scimitar occupies a position among the assorted aircraft on the flight deck.

in order to be converted to a modern attack carrier.

Reclassified CVA-11 and recommissioned in reserve on June 18, 1954, she became one of the first carriers in history to launch aircraft with American-built steam catapults. On October 15, she went into full commission as part of the Atlantic Fleet. In February 1966, the carrier cruised off to war in Vietnam into the same waters of the South China Sea in which she had earned her WW II fame.

After serving three combat tours off Vietnam and service as a CVS in Atlantic antisubmarine duty, she was decommissioned in 1974. Between 1974 and 1982 she was used in special events, such as the celebration of the nation's 200th anniversary. Through the foresight of Zachary Fisher, a Manhattan real estate tycoon and avowed patriot, a fund-raising project was begun to preserve the carrier and save her from the fate of many of her WW II sister ships.

First opened in 1982, the Intrepid Sea-Air-Space Museum now includes three vessels. Besides *Intrepid* herself, there is USS *Growler*, the world's only guided-missile submarine on display, and the Vietnam-era destroyer USS *Edson*. The aircraft collection contains approximately 40 planes of all services.

Intrepid is a full-fledged museum with a rotating exhibit program. Its displays chronicle all of the major aspects of carrier aviation, from Eugene Ely's first landing on USS *Pennsylvania* in 1911 through the milestones of the

Photo courtesy of Sea-Air-Space Museum

The Sea-Air-Space Museum complex consists of Intrepid, the guided missile submarine Growler, the Vietnam-era destroyer Edson, and about 40 aircraft.

The latest exhibition to open is "War in the Gulf, the Liberation of Kuwait," which ironically opened the day before a tentative cease-fire was declared in the Persian Gulf.

20th century, to carrier operations during the Persian Gulf War in 1991. In addition to 500,000 visitors a year, grants from New York State and City, private donations, major corporation parties, weddings, bar mitzvahs, and premiere motion picture parties have kept *Intrepid* afloat.

Randi F. Gerber, Director of Public Relations, emphasized that because of a small, but dedicated staff, jobs often switch hands as the need arises. Recently, a Lockheed A-12 *Blackbird* was donated to the museum by the U.S. Air Force. The 100-foot-long aircraft was partially disassembled in Palmdale, Calif., and trucked by five tractor-trailers to Galveston, Texas, where it was reassembled and painted. It was then tugged from Galveston to Jacksonville, Fla., on a barge. Two contractors were hired for the trip, but the tug, *Hackensack*, and the rest of the crew belonged to *Intrepid*. At Jacksonville, they picked up a U.S. Army M-42 and a restored A-7E. The *Corsair* was a saga in itself.

When *John F. Kennedy* visited New York in June 1990, she tied up alongside the venerable *Intrepid*. The retired aircraft carrier hosted the men of JFK and her air wing on a number of occasions. VA-46 had a specially warm relationship with *Intrepid* because the squadron was assigned aboard her as VB-18 in 1944. Together they distinguished themselves during the Battle of Leyte Gulf.

VA-46 volunteered to restore a crashed A-7E and donate it to the museum. When Iraq invaded Kuwait, *Kennedy* was called out and VA-46 could not the finish the job. VA-105 willingly took on the responsibility at NAS Cecil Field, Fla., volunteering to get the plane to NAS Jacksonville. A museum representative worked with the squadron and people at Jacksonville to lift the *Corsair* aboard a shallow-draft barge and into deep water, where it could be transferred to *Intrepid*'s tug.

The tug's crew triumphantly returned to New York on December 1, 1990, and lifted the three new artifacts aboard via the largest floating crane on the East Coast. It had taken the crew six weeks to complete the journey. While the A-12's reputation for speed (world's fastest aircraft) has been well established at Mach 3+, its top speed on this last leg of its journey was 11 mph!

To date, there are two full decks that are usable for exhibitions and static displays, the hangar deck and the flight deck. The hangar deck contains five theme halls. The Hall of Honor serves as a perpetual tribute to the recipients of the Medal of Honor – America's highest award for valor – displays various historical artifacts, and provides an audio-visual presentation. The U.S. Navy Hall features the modern peace-keeping Navy. The highlight of this hall is a large, special-effects theater which recreates the excitement of carrier aviation in a film called *Air Power at Sea*, narrated by Cliff Robertson. Pioneer Hall displays aviation in a bygone era when man first began to fly, while Intrepid Hall takes the visitor back to October and November 1944 when *Intrepid* aided in the defeat of the Japanese navy. Technologies Hall presents some of the greatest technological advances in sea, air, and space which have had a significant influence on 20th century man.

The latest exhibition to open is "War in the Gulf, the Liberation of Kuwait," which ironically opened the day before a tentative cease-fire was declared in the Persian Gulf. This exhibit is unique because it chronicles an ongoing war. As such, some of its displays will be regularly revised and enlarged when more data and additional artifacts become available. It will remain open at least through 1991.

The flight deck is a young and old aviator's dream – new and old planes resting under Manhattan's skyline, including two Grumman F11F-1 *Tiger* fighters mounted on pedestals at the end of the flight deck and the angle deck, and a rare Royal Navy Supermarine *Scimitar*, a transonic strike fighter delivered by HMS *Ark Royal* in 1986. All of the aircraft displays on both decks are mockups, donations, or on permanent loan to the museum.

Intrepid has become a monument to American ingenuity and esprit de corps. The Intrepid Sea-Air-Space Museum is first and foremost a tribute to the men and women who have pioneered the marine and aviation sciences and contributed to the patriotism and expansion of America's defense. ■

One of Intrepid's latest additions: VA-105-restored A-7E BuNo 159268 in colorful mid-1970s markings.

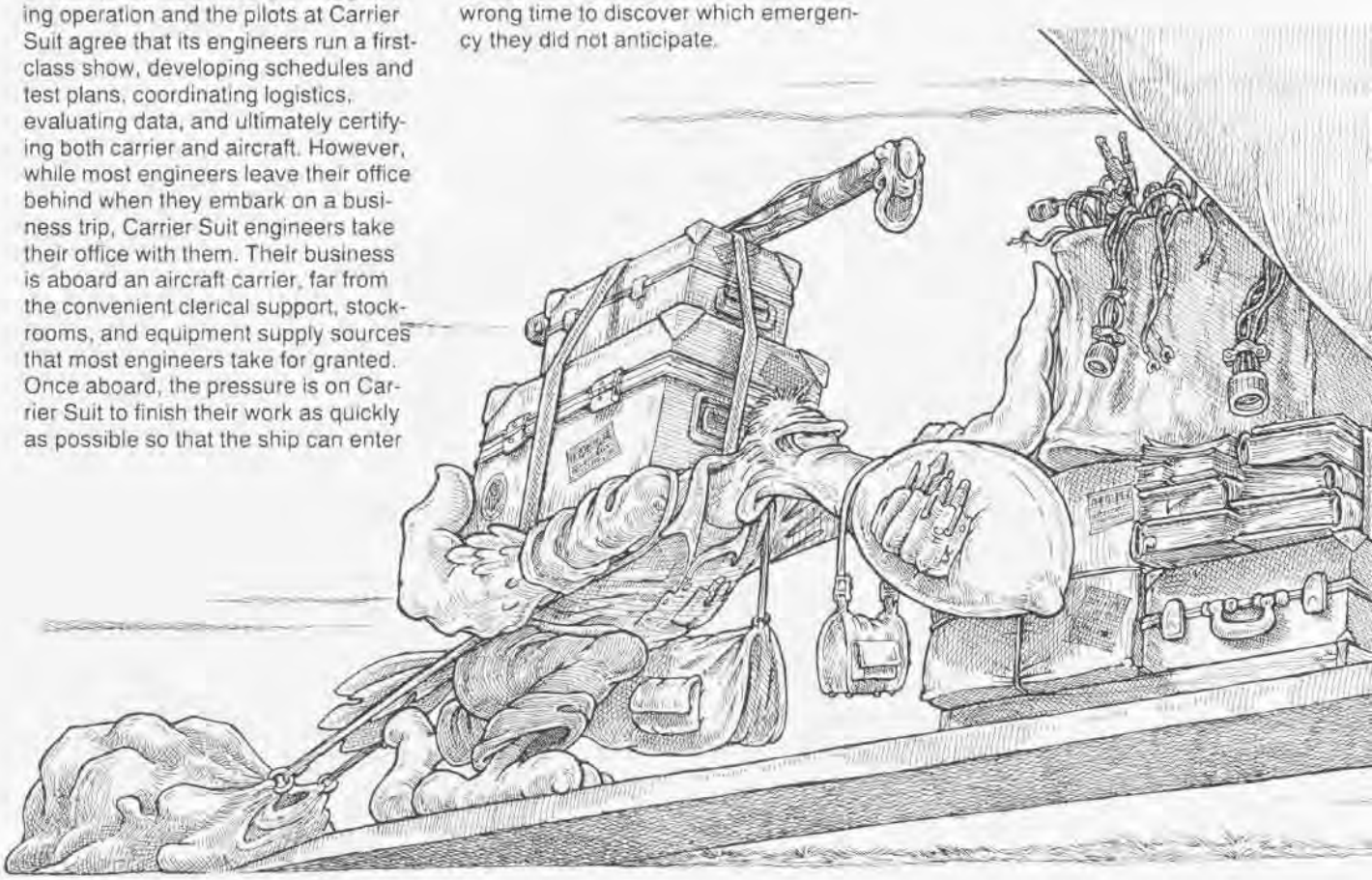
Hank Caruso's Aerocatures Sketchbook:

Dressed for Success...

It's a given that Naval Aviation would not exist without the floating bulk and complexity that is the aircraft carrier. It's a given that the aircraft operating from these carriers are a unique technological species whose anatomy and personality reflect a highly specialized symbiosis with the carriers they live on. But it's not a given that carrier-suitable aircraft or aircraft-suitable carriers happen as a simple matter of course or as a fortuitous accident. This essential compatibility evolves through an intricate mesh of experience and talent that supports the development of each carrier and carrier-based aircraft.

The Engineers

Carrier Suit is basically an engineering operation and the pilots at Carrier Suit agree that its engineers run a first-class show, developing schedules and test plans, coordinating logistics, evaluating data, and ultimately certifying both carrier and aircraft. However, while most engineers leave their office behind when they embark on a business trip, Carrier Suit engineers take their office with them. Their business is aboard an aircraft carrier, far from the convenient clerical support, stockrooms, and equipment supply sources that most engineers take for granted. Once aboard, the pressure is on Carrier Suit to finish their work as quickly as possible so that the ship can enter or rejoin its fleet operations. This is the wrong time to discover which emergency they did not anticipate.



Carrier Suit

Story and Illustrations © Hank Caruso

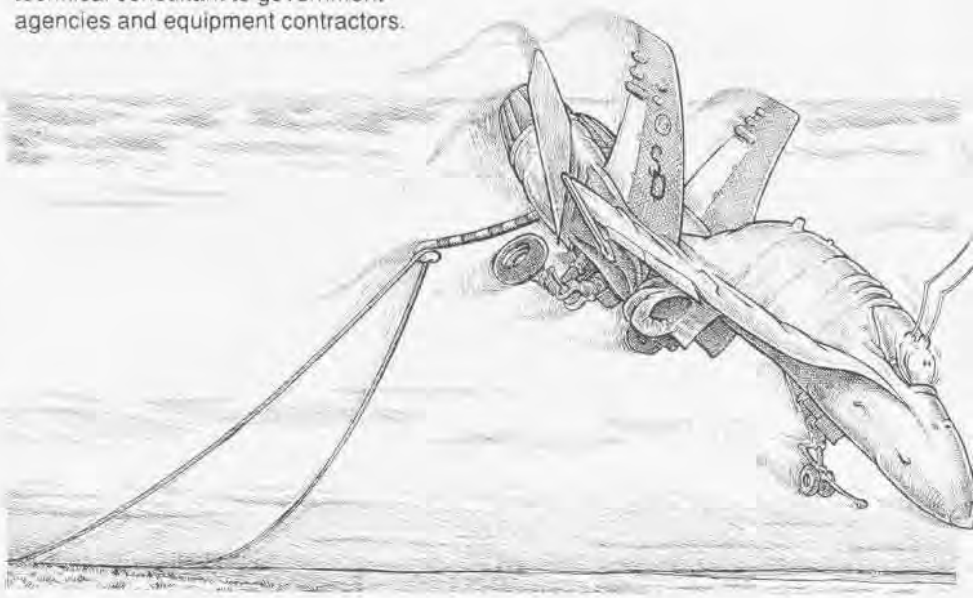
Ultimately, however, the focus of this development narrows to one organization: Carrier Suitability, a department in the Strike Aircraft Test Directorate at the Naval Air Test Center, Patuxent River, Md. Established in 1949, Carrier Suit (as it is usually called) has the responsibility of giving the final blessing to the marriage of aircraft and carrier. To ensure that the marriage will work, Carrier Suit relies on an experienced, highly motivated team of engineers and pilots, each of whom refers to his or her job at Carrier Suit as one of the best in the Navy.

The illustrations on the cover and on these pages portray the broad range of Carrier Suit responsibilities, which include aircraft compatibility with each carrier's catapult launch and arrested landing equipment and visual and electronic landing aids; evaluation of aircraft structural and functional integrity; and assessment of aircraft flying qualities and performance characteristics during takeoff and landing (manual and automatic). Carrier Suit also provides information for fleet operating procedures and NATOPS (Naval Air Training and Operating Procedures Standardization) manuals, evaluates advanced launch and recovery technologies, and acts as a technical consultant to government agencies and equipment contractors.

Acknowledgements: There is a lot to the Carrier Suit story. Because of the broad scope of the department's responsibilities, there are many individuals to whom I am indebted for helping me experience its many activities. I would especially like to thank Capt. Raymond Dudderar, Cdr. Bob Christensen, LCdr. Bob Thompson, LCdr. Barry Love, LCdr. Kent Rominger, former-Lt. Rob Fisher, Roger Decker, Eric Ryberg, Steve Goga, and Kevin Nolan for their enthusiastic support.

High Trap

Although every carrier pilot strives for that picture-perfect OK-3 trap (arrested landing) at the end of each mission, there are times when the gods of flight decree otherwise. Worst-case landing situations are part of the aircraft evaluation performed by Carrier Suit. One of the worst is the free-flight engagement, in which the aircraft hook engages the arresting cable before the main landing gear touches the deck, thereby bringing the flight to an abrupt and highly stressful conclusion.



Under the Spell

The AN/SPN-42 (pronounced Spin 42) and, on a few ships, the AN/SPN-46 Automatic Carrier Landing System (now known as PALS, Precision Approach and Landing System) gives carriers a safe and positive means for landing aircraft under adverse weather conditions, at night, and under sea-state conditions normally considered undesirable for carrier landings. Operating in Mode 1, the PALS assumes fully automatic control of the aircraft's flight control system from approach to touchdown. The pilot is relegated to the role of a cautiously trusting passenger.

Cubi Point's Famous Plaque Bar:
Naval Aviation Landmark

Past tours of duty for most naval personnel represent memories of favorite places and good times that were shared. Naval Air Station, Cubi Point, R.P., has a unique spot where many aviators have passed time in friendly comradeship and then moved on, leaving mementos behind to mark their visit.

The NAS Cubi Point Officers' Club is famous throughout Naval Aviation for its Plaque Bar. The tradition of placing plaques in the O'Club bar was started during the Vietnam conflict and endures to this day. Transiting squadrons retire their old plaques and commission new ones for display to commemorate each Western Pacific (WestPac) tour. However, many of the older plaques are still hanging on the Plaque Bar walls, including one from the 1966-67 WestPac tour of now-disestablished Attack Squadron 172 which mentions Lt. Tom Mercer, now RAdm. Mercer, Commander, U.S. Naval Forces, Philippines.

Cubi's O'Club has been awarded a Five Star Accreditation by the Secretary of the Navy (SecNav) for the second consecutive time. The award, presented every two years, recognizes outstanding achievement in food service, ambiance, entertainment, and management excellence.

The club employs 140 people. One employee, F. Hernandez, has been working there for 22 years and remembers when the club started out as a bamboo hut on the side of a hill.

Club manager Jim Starzy recounts one story of an admiral, dining in the O'Club, who complained that the Plaque Bar patrons were making too much noise. Cely Bola, a club waitress, calmly asked the admiral if he remembered when he was a Ltjg. at Cubi and ended up on the floor one evening and how the staff helped him out. The admiral replied, "Enough said, Cely," and went back to his meal.

Starzy credits his management staff and employees for the SecNav award. "People get you the Five Star award," he stated. "It's due to teamwork between management and staff, command support, and our loyal customers."

To those customers, the bar is an unforgettable experience and a unique monument to Naval Aviation. ■

Thanks to the NAS Cubi Point Public Affairs Officer, Ens. Loy, for submitting this article.

Flatleys: Three Generations of Aviators

Vice Admiral James H. Flatley, Jr. (deceased), was best known as a WW II fighter tactician and combat ace, and for his leadership abilities, but it's his family legacy that's keeping the Flatley name soaring in Naval Aviation.

By JO1 Milinda D. Jensen

I always knew my father was a successful naval officer. He was a busy individual, socially active and always doing something for someone," said Brian Flatley, third son of the late VAdm. Flatley. "What I remember most about him was that he always had time for each one of us," he added.

Whether it was the time spent with each of his sons or the military climate that surrounded VAdm. James H. Flatley, Jr., all four boys entered the Navy.

"My youngest brother spent two years on active duty as a yeoman on the Sixth Fleet flagship," Brian remarked. "Another brother, Patrick, served as an airman on the flight line at Naval Air Station, Anacostia, D.C. Jim, my oldest brother, went to the Naval Academy."

It is retired Rear Admiral James (Jim) H. Flatley III who aspired to be a fighter pilot like his father. "I found it easy to set my own pace while trying to live up to the leadership standards. I had only been in my first squadron for about six months when my father

VAdm. James H. Flatley, Jr., with his two-year-old son, James III, sitting on the wing of an early F4B fighter in Hawaii, 1936.

RAdm. James (Jim) H. Flatley III and his first son, Seamus, on the wing of an F6F Wildcat in 1988 aboard USS Yorktown, Charleston, S.C.

passed away, reminisced RAdm. Flatley. Some of the people who had worked for him were becoming flag officers and captains of ships. It was easy to strike up relationships with them."

RAdm. Flatley recalled that even when his father wasn't around, he was always reminded of his contributions to Naval Aviation. "If you ask the aviation aficionados, they relate to the time my dad was a fighter pilot, his contributions to fighter tactical development, his role in setting up an aviation safety center at a critical time, and getting the pilot replacement concept in place. But his real forte was keeping a happy ship or air station and getting things done," his son said. VAdm. Flatley commanded two carriers and two air stations.

VAdm. James H. Flatley, Jr., and his son, RAdm. James Flatley III, have both been lauded for their leadership abilities.

"I believe that anyone with any ability at all to relate to people can be a successful leader," Jim Flatley related, "particularly in the Navy. Getting things done through our young sailors is what the Navy is all about. I was often accused of being too fatherly in my leadership approach, but I felt that was a missing element in the lives of many of the whitehats," he added.

With six children of his own, three of whom are now wearing Navy blue, RAdm. Flatley has had ample opportunity to play the role of father.

"My oldest son, James Henry IV (nicknamed Seamus), graduated from the Naval Academy in 1983 and is now flying F-14s. Seamus is an instructor pilot and landing signal officer in the VF-101 *Grim Reapers*, the squadron his grandfather established in 1943 as VF-10," RAdm. Flatley stated. "My next son, Joseph Francis (Joe), went through the Aviation Officer Candidate School program for his wings. He completed his first squadron tour in VFA-131 on *Coral Sea* and then *Eisenhower*. Joe is now an FA-18 instructor pilot and landing signal officer in VFA-106."

Kara Christie, the youngest of the six, graduated from the Naval Academy in 1990. "Kara has decided to fly," said RAdm. Flatley. While he does not deny that the whole aura of his and his father's flying careers influenced his children to enter aviation, he thinks the challenge of a career in Naval Aviation probably played a bigger role in their respective decisions.

"I've always said that flying adds something more to a young naval officer's life; it offers an extraordinary daily challenge."

Challenge is the best word to describe RAdm. Flatley's own military career. "When I took command of VF-31 [an F-4 squadron] onboard *Saratoga*, we were called on at the last minute to pick up and head into combat [Vietnam 1971]. It was a first for the ship and squadron," the former fighter pilot remembered. "The turnover was unique; my predecessor was responsible for getting the squadron ready for combat but he handed command over to me the day we sailed into the Tonkin Gulf. We picked up 11 new aircrewmen during stops in Hawaii and Subic Bay. When VF-31 launched into combat, not a single pair of the aircrew teams had flown together," Jim Flatley recalled.

> ***"Service life is definitely a sacrifice in many senses, particularly for family life."***
>
> RAdm. James H. Flatley III

The squadron flew 2,200 combat missions over the next 10 months and was the only squadron on *Saratoga* to bring all of its aircraft and aircrews home safely. VF-31 was awarded the Battle "E" and the Chief of Naval Operations Safety Award for its performance. "You just couldn't ask for a better squadron tour," the former skipper said.

Admiral Flatley attributes having a top squadron to taking good care of his sailors. "During Vietnam there was a strict policy on granting emergency leave. We left without a date to come home. That's particulary hard on families," he remembered. "So I made the decision that when real family emergencies came up, my guys were going back," he said. "We started the cruise with about 210 people. I remember letting about 33 go home, and I only got three of them back. To be that flexible and still perform relatively better than any other squadron on the ship says a lot. Everyone was working extra hard and those little gestures were what made the difference," the admiral stated.

Flexibility was a major part of life for the admiral's own family during deployments.

"I left my wife, Nancy, behind with an increasing number of children each time I deployed. When I went to Vietnam for the first time on *Kitty Hawk*, our sixth child, the young ensign [Kara] now, was about 10 days old," he recalled. "Nancy often reminds me that I left her with an old station wagon with four bald tires and six kids, eight years old and under. I was gone about 10 months that time. It took a significant toll on her and the children; you can't ever pay back that sort of thing," RAdm. Flatley emphasized.

"The kids always knew where their father was. We lived as if he was always near," said Nancy Flatley. Constantly reminding her children about their father helped Mrs. Flatley maintain the family unit.

Given the hardships and separations that Jim Flatley's family endured, he believes the reason that three of his children stepped into aviation was the positive impression his wife made.

"Nancy had to have handled situations extremely well or the kids would have been turned off to the military and to the dangers associated with flying," the admiral said. "Because there are a lot of Navy wives just like her, enlisted and officer, our Navy today has numerous sons and daughters successfully following a tradition of service to country."

Kara Christie is the latest of Radm. Flatley's children to embark on a Naval Aviation career.

"Knowing that Flatleys before me have 'done it' puts me on surer footing to succeed in the aviation field. I'm hoping that flying comes naturally; however, I know I'm going to have to work very hard to be the caliber of pilot my brothers, my dad, and my grandfather are and were," the young ensign said. Kara feels that her experience at the Naval Academy has given her the confidence to succeed.

"The Flatley name can be a hindrance or a help," she added. "People in aviation recognize the name and they give me the benefit of the doubt at first, but then they also expect me to prove myself." Ensign Flatley is scheduled to begin her flight training in September 1991.

While RAdm. Flatley and three of his children chose a career in Naval Aviation, his younger brother Brian, a former P-3 pilot, returned to civilian life but continued a close association with Naval Aviation.

As manager of Navy tactical requirements for the Lockheed Corporation, Brian Flatley maintains he's never really gotten out of the Navy. "I've supported the Navy and its mission right along. I was on the board of directors for the Tailhook Association until this year, and I'm on the board of directors for the Navy League in Beverly Hills," he said.

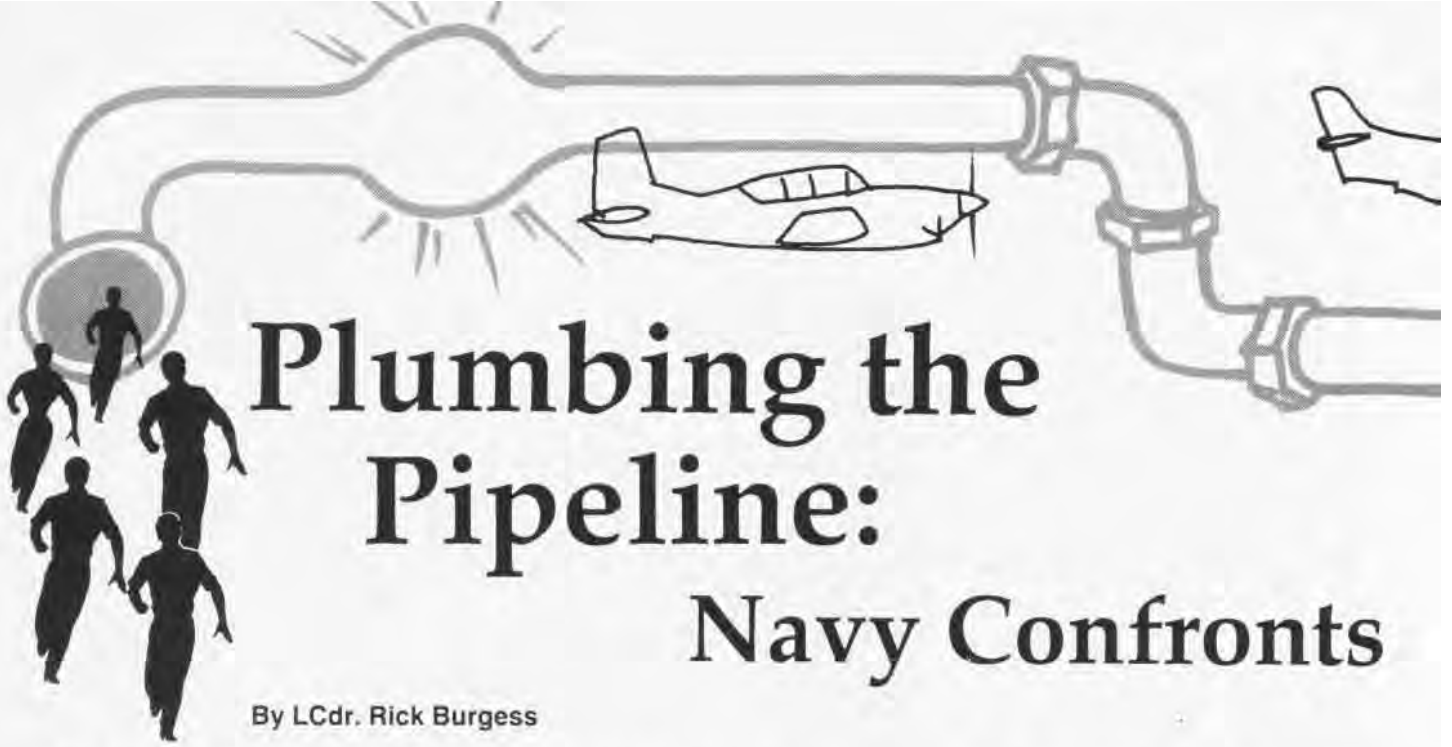
Mr. Flatley has four children; none at this point have chosen a career in Naval Aviation. Brian added that he exposed his children to as much as possible, but didn't try to influence them in any particular direction, unless they asked. He knows that his father followed that same course of action with him and his brothers.

Ens. Kara Flatley says the same about the rear admiral. "Whatever I learned about my father and his career was from others or when he was speaking in front of a group. He didn't bring his work home with him," the 1990 Naval Academy grad said. "My father was always very subtle about the Navy."

Perhaps it's this subtleness or the Flatley aura that's kept the family name in aviation circles for three generations. And with a fourth generation of Flatley grandchildren, perhaps that influence will continue a chronicle of the flying Flatleys into the next decade. ■

David Flatley, son of Vice Admiral H. Flatley, Jr. (deceased), and retired Vice Admiral James D. Stockdale are currently working on a Flatley biography.

Some family members posed with the most recent Naval Academy graduate, Ens. Kara Christie. From left, nephew Brendon (Seamus' son), brother Lt. James (Seamus), father RAdm. Flatley, the ensign, and brother Lt. Joe Flatley.



Plumbing the Pipeline: Navy Confronts

By LCdr. Rick Burgess

The Navy is taking steps to alleviate "pools" – the backlogs in the training pipeline that have frustrated student Naval Aviators – and estimates that the problem will be mostly eliminated within two years.

The backlogs are the result of a "series of a lot of things compounding all at once," according to Captain George Huxhold, head of the Aviation Undergraduate Flight Training/Manpower Branch in the office the Assistant Chief of Naval Operations (Air Warfare). The current problems largely stem from external factors, mainly force-level reductions following the defense build-up of the 1980s.

The normal training pipeline of a student Naval Aviator (SNA) varies from one and one-half to two years. That length of time necessarily governs the time it takes to fully implement any changes in the pilot training requirement (PTR). A sudden drop in the required number of pilots, for example, will cause an excess of pilots until adjustments made in the pipeline take effect, all other factors being equal. There are other factors that can exacerbate the already painfully slow adjustment process; at a minimum, however, one and one-half to two years is needed for the system to adjust to major force-level changes.

Build-up of the Eighties

The extensive defense build-up during the 1980s under President Ronald Reagan called for a 600-ship Navy, including 15 carrier battle groups, to defend the nation's maritime interests and project America's power when necessary around the world. The Soviet Union was viewed as the primary threat. The build-up resulted in significant expansion of Naval Aviation, particularly with regard to carrier squadrons and Light Airborne Multipurpose System (LAMPS) helicopter squadrons. Carrier Air Wing (CVW) 13 was established on the East Coast in 1984 as the thirteenth CVW. The *Oliver Hazard Perry* class of guided-missile frigates and *Ticonderoga* class of guided-missile cruisers joined the fleet in significant numbers, with each ship designed to handle two SH-60B helicopters, adding a requirement for nine new helicopter antisubmarine light squadrons. In 1986, the fourteenth carrier air wing, CVW-10, was established on the West Coast.

The rapid expansion necessitated an increase in the Navy's PTR to 1,000 in to order fill all of these cockpits. A large number of pilots produced by the training surge that began in 1986 are still manning the fleet today, acquiring their initial aviation war-fighting skills. As a result, fleet squadrons currently have an overage of young first-tour aviators.

The Drawdown

CVW-10 was well into its workup cycle and getting ready to deploy when budget decisions forced the Navy to cut an air wing from the fleet. CVW-10 was disestablished in 1988, less than two years after it was formed, shutting down six of its squadrons as well. The pilots trained to staff that wing were assigned elsewhere, and now comprise a large "bump" in the manpower charts that the Navy is having to deal with today. That 1986 training surge to man CVW-10 also slowed other SNAs in the pipeline behind them, adding to the training backlog.

The warming of relations with the Soviet Union and defense budget reductions in the past two years have initiated force-level reductions in Naval Aviation that are taking effect this year. CVW-13 was disestablished in January, and by October four of its squadrons will be gone. Its two FA-18 squadrons will replace CVW-3's A-7 squadrons, which will soon be gone, and the scheduled stand-up of VFs 92 and 96 and VS-34 to flesh out CVW-13 for assignment to a large carrier have been canceled. In February, the execution order to cut four of the 24 active patrol (VP) squadrons this year was issued, coming the year after each of the 24 squadrons was reduced by one aircrew. The planned transfer to the Naval Reserve Force of all of the *Knox*-class frigates will reduce the requirement for active LAMPS squadrons.

The reduction of the Navy from a planned 600 ships to about 450 by 1995 necessitates further reductions in the Navy's pilot needs. The PTR is now planned to level out near 825, although for the next two years it will actually dip lower than that, while current excesses are purged from the system.

Reduced Pilot Need

FY-91 Cuts Up Front

With the backlog causing pools of SNAs at various flow points, the Navy took two immediate actions to fix the problem: reduced the number of student pilots currently in training, and reduced the student input. A painful decision was made to cut 300 student pilots in the pipeline during FY 91. Cuts were made all throughout the pipeline, rather than at one point, in order to maintain a steady flow and not create a hole in pilot manning that the Navy would have to live with for the next 20 years. Over 130 SNAs were selected for the cut, with normal attrition expected to make up the rest.

According to Capt. Huxhold, "CNET [Chief of Naval Education and Training] did a fine job in looking at student grades. They normalized over a phase, across training wings, taking into account excesses in each of the three pipelines [strike, maritime, and helicopter] and made a percentage cut. A lot of work went into making everything as fair as possible." A number of promising student pilots were encouraged to apply for transfer to the Marine Corps, Coast Guard, and Air Force, and some of them were accepted.

Valve at the Front

The Chief of Naval Air Training has decided to attack the pool problem primarily by controlling the student flow at the front of the pipeline, rather than pumping the excesses through at an increased rate, since follow-on fleet readiness squadron training is at maximum capacity. By tightly controlling student input at the beginning, pools in the middle will dry up and a steady flow will resume, alleviating the training inefficiencies, morale problems, and safety problems that pools aggravate. The goal is to enable a student to go through the pipeline in the nominal time once the training actually starts. Until the manpower drawdown steadies out, pooling will still occur at the front; at that point, however, students will have the option to wait for the valve to open or select another career track without having absorbed expensive training.

It should be noted here that all roads to a career as a Naval Aviator are still open, albeit more competitive. Naval Academy and NROTC (Naval Reserve Officers Training Corps) graduates may still apply, of course, and the Aviation Officer Candidate School and Naval Aviation Cadet programs are still open, though they have been reduced.

One of the benefits of the force-level reductions is the improved availability of flight instructors. This has enabled the training command to phaseout the use of SERGRADS (Selectively Retained Graduates), recently winged aviators retained in the training command for a tour of instructor duty. However, releasing them to billets in fleet squadrons will temporarily aggravate the pilot backlog for fleet cockpits.

Other Options

The Navy is also exploring other options to unclog the training pipeline. One under consideration is to encourage exchange tours or transfers to the Marine Corps, which is experiencing a shortage of strike pilots. Candidates could be shifted from the initial pool to attend The Basic School at Quantico, Va., and subsequently commence flight training or, alternatively, attend The Basic School after winning their wings.

NFO Pools Insignificant

While the Navy has had to deal with the serious problem of pilot pools, the Naval Flight Officer (NFO) pipeline has been far less of a problem. This is largely because the 1986 surge involved mostly helicopters and single-seat FA-18 squadrons, none of which require NFOs. Some excess in first-tour NFOs will temporarily occur in the VP community as the four squadrons disestablish this year. Because the NFO pipeline is shorter (one year) than the aviator pipeline, adjustments in the training rate are easier to implement.

Relief in Sight

Navy officials are optimistic that the problem of training pools will steadily diminish as a result of planned and executed actions. According to Capt. Huxhold, "If our planning is okay, we should be back on track in 18 to 24 months, and we'll actually be in pretty good shape in a year, by mid-1992." In spite of these painful choices, morale is good in the training command and the outstanding quality of Naval Aviators has never been better. ■

Organization of Naval Aviation in World War II

Generally, management of the many is the same as management of the few. It is a matter of organization. – Sun Tzu (China, 4th Century BC)

Set thine house in order. – The Bible: 2 Kings, 20:1

By John C. Reilly, Jr.

The Naval Aviation establishment which ended WW II was a far cry from the one which entered it. Seagoing aviation had to expand manyfold to meet the innumerable needs of round-the-world total maritime war. The organization that proved itself suited to the needs of the prewar service was quickly outgrown, and the war years brought a continuous process of change and adjustment.

Through the twenties and thirties, the prewar Navy was organized on a task basis. Where we now have Atlantic and Pacific fleets, we then had what was called the United States Fleet, roughly analogous to Japan's Combined Fleet. Based on the tactical concepts of the day, the United States Fleet was divided into a Pacific-based Battle Force and a Scouting Force, stationed in the Atlantic until 1932 and then shifted to join the Battle Force in the Pacific. Battleships, destroyers, and some cruisers formed the Battle Force. The Scouting Force consisted primarily of cruisers, one of whose primary roles was fleet reconnaissance. During this period, the makeup and use of these forces varied with the time. Aircraft carriers were assigned to the Battle Force, though *Lexington* (CV-2) served with the Scouting Force for a short while in the early 1930s.

In 1938, as world tensions grew at the time of the Munich Conference, an Atlantic Squadron was created. In the fall of 1940, this became the Patrol Force, reflecting its most important task: the Neutrality Patrol, established by President Roosevelt to keep hostile forces out of the Western Hemisphere. In February 1941, the Patrol Force became the Atlantic Fleet; at the same time, the United States Fleet was rechristened the Pacific Fleet. During 1940-41, the carriers, long concentrated in the Pacific with the Battle Force, were divided between Atlantic and Pacific.

A typical carrier air group, as it was called, of the 1930s included a fighting (VF), bombing (VB), scouting (VS), and torpedo (VT) squadron, nominally 72 combat planes in all. As always, there were the usual exceptions. *Wasp* (CV-7), smaller than her contemporaries, got two VF and two VS squadrons; not until early 1942 did she get a torpedo squadron to replace one of her VF squadrons.

Through the prewar years, in training evolutions and in the annual Fleet Problems – large-scale strategic and tactical war games played over thousands of square miles of ocean for a month or more – carrier aviation practiced air strikes as well as fleet scouting and air defense. American doctrine placed responsibility for fleet reconnaissance on the carrier VS squadrons. Radar did not even begin to join the fleet until 1941, and satel-

In 1940, Adm. J. O. Richardson commanded a fleet whose principal weapon was the heavy gun, with the airplane as its accessory. The next few years would change this radically.

Aircraft carriers and gunships, supported by under way replenishment groups, formed devastating concentrations of mobile firepower. Carrier task groups, operating a powerful new generation of naval aircraft, were both spearhead and shield of the Allied advance across the Pacific.

lites were decades in the future. Surface and aerial scouting still depended on the Mark I Eyeball; into the early campaigns of WW II, the principal task of VS units was visual reconnaissance. Scouting squadrons, like their VB counterparts, flew dive-bombers; once action began, VS and VB squadrons joined in strike missions. This gave a typical prewar or early-wartime carrier an air group with three attack aircraft to each fighter.

When we entered WW II, a typical carrier air wing still consisted of VF, VS, VB, and VT squadrons. Air wings, and their squadrons, were neatly numbered to correspond to their carrier. Thus, *Yorktown* (CV-5) had Air Group 5, consisting of VF-5, VB-5, and so on. This rather quickly broke down as air units were assigned and rotated and also, apparently, for security reasons.

Air groups evolved as the war progressed in a continuing process of adaptation to changing targets and circumstances. Choices had to be made among aircraft and weapons. This was not a search for the elusive ideal, but simply a determined effort to see that "if not the optimum, at least a satisfactory combination would be placed over the right target at the right time" (Desmond P. Wilson, Jr., *Evolution of the Attack Aircraft Carrier: A Case Study in Technology and Strategy*, Dissertation, M.I.T., 1986). Opportunities for attacks on major Japanese ships became increasingly rare, and operations against land targets took up more of the strike function. On the other hand, the threat of air attack, always present, took on a new dimension during the final year of war as kamikazes became a major menace to the fleet.

Scouting squadrons disappeared as surface and airborne radar took over the search and detection mission; by the Gilberts operation, late in 1943, a typical air group included 36-plane VF and VB squadrons and an 18-plane VT squadron. To meet the urgent early-war need for carriers, nine *Cleveland*-class light cruisers were completed as *Independence*-class small carriers (CVL). Though considerably smaller than their *Essex*-class contemporaries, they were true "fast carriers" and operated with the carrier striking force during the Pacific offensives of 1943-45.

The carrier striking force was organized into task groups, each made up of several flattops with their screen of gunships. During the Gilberts operation, three task groups of Task Force 50 each included two CVs and a CVL; a reserve task group had the old *Saratoga* and a CVL. By 1945, a task group of Task Force 58 could have as many as three CVs and a pair of CVLs. An early CVL air group included

Saratoga (CV-3) in the early 1930s. Prewar carrier air groups were heavily weighted with what we would call strike aircraft.

two smaller fighter squadrons and a composite squadron of *Avengers*; by 1945, it typically had one VF squadron and a small torpedo squadron.

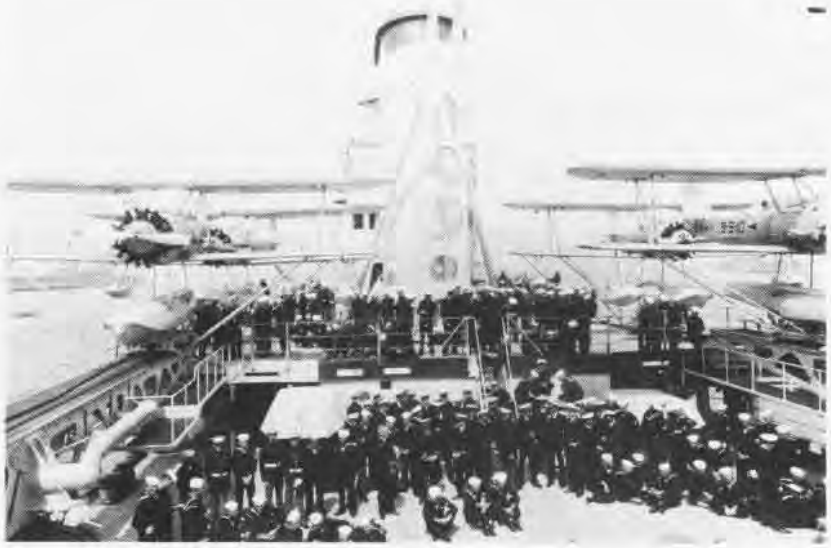
One problem that received much attention was the organization of the carrier force itself. Through 1942, carrier task organization was discussed at length. Should carriers operate singly or in company? As so often happens, battle experience elicited conflicting interpretations. At Coral Sea, for instance, *Lexington* and *Yorktown* operated together at first to coordinate their air operations and antiaircraft defense. When Japanese air attack began, however, the ships with their screens separated. At Midway, the three American carriers operated as two task forces. Admiral Ernest King felt that carriers should operate individually, each with its own screen. Some argued, with the Japanese experience at Midway in mind, that multicarrier forces presented vulnerable targets. Visual contact was sometimes difficult to maintain, and collisions were a threat at night or while radically maneuvering under attack. Admiral Frank Jack Fletcher, on the other hand, thought that the aggregate offensive and defensive capabilities of carriers operating together outweighed those of ships working singly.

By 1943, radar, introduced as the United States entered the war, had been disseminated throughout the fleet. This had a critical impact on fleet operations. Ships could now maneuver in numbers, even at night or in foul weather. As radar had helped the Royal Air Force to turn the tide during the Battle of Britain, so it now gave a vital edge to fleet air defense. Approaching hostiles could be detected at long ranges, and defending fighters could be effectively directed. Fire control radar and the proximity fuze increased the deadlines of screening ships' antiaircraft fire. All this helped to make multicarrier task organization possible. As constituted during the Pacific offensives from the Gilberts to the shores of Japan, the carrier task force was able to combine firepower, mobility, and defensive capability to a degree that even the world's first "cruise missile" offensive – massed kamikaze attacks off Okinawa – could not defeat.

"Jeep carriers," escort aircraft carriers built on freighter hulls, began to appear as the war went on. *Long Island* (CVE-1) was commissioned in 1941. A few more followed in 1942; by 1943, they were joining the fleet in numbers. The "baby flattops" could not handle a conventional air group, nor had they any reason to; their mission was antisubmarine warfare and, in the Pacific, close air support of amphibious landings. Where a fleet carrier might operate 90 fighters, dive-bombers, and torpedo bombers, a CVE would have a "composite" (VC) squadron made up of fighters and torpedo bombers. Though the small carriers did have torpedoes in their magazines, just in case..., the "torpeckers" were included in the VC squadrons primarily for their ability to carry loads of bombs and rockets for use against submarines or shore targets. Four *Sangamon*-class CVEs, converted from fleet oilers, were bigger than the others of their type. They were the only CVEs to have miniature air groups, made up of a small VF squadron and a VC squadron of TBF/TBM *Avengers* and dive- bombers.

Wartime experience showed that air superiority over target areas was es-

Cruiser Pensacola (CA-24) carries a four-plane section of VS-9. Each battleship or cruiser division had its squadron of catapult floatplanes used for spotting gunfire; cruiser airplanes also did fleet scouting. Catapult aviation was a significant part of the air Navy between the world wars.



Aircraft radar let carrier fighters, like these Hellcats, operate against night-flying Japanese attackers.

sential for successful strikes. This led to changes in the aircraft mix in carrier air groups, giving fighter aircraft more emphasis. Newer fighters – the F6F *Hellcat* and F4U *Corsair* – unlike earlier VFs, could carry 500 or 1,000-pound bombs and the new air-to-ground rockets, so this did not meaningfully degrade the carriers' attack capability. Fighters were used as fighter-bombers to hit surface targets, and their new role was recognized by creation of VBF – bomber-fighter – squadrons. During 1945, the suicide plane became the principal threat to the fleet, and the fighter combat air patrol was recognized as the fleet's essential first line of defense.

Gunfire spotting had long been a primary mission of battleship and cruiser floatplane units. American catapult planes did not have the power and speed of their German and Japanese contemporaries, and planners worried about their chances to survive and perform their mission in situations where heavy opposition was expected. During the Normandy landings, Navy spotter pilots flew *Spitfire* Mk VB fighters borrowed from the British; the expedient worked well. The pilots liked the fighter's performance and ability to defend itself.

By 1944, an "observation-fighting" squadron, VOF-1, was ready for service. The pilots went through fighter training, then learned spotting from the Army at Fort Sill, Lawton, Okla., before going to Casco Bay, Maine, for final training with naval gunfire ships. They saw their first combat in southern France, flying F6Fs from the escort carrier *Tulagi*. Word of their capabilities got to the Pacific Fleet's amphibious commander, Admiral "Kelly" Turner, who asked for the new squadron's services in the offensives planned for 1945. *Hellcats* were now replaced by a mix of FM-2 *Wildcats* and TBM *Avengers*. The unit was rechristened a "composite observation" squadron, VOC-1, and supported the landings at Lingayen Gulf, Iwo Jima, and Okinawa.

Airborne radar was introduced early in WW II. The first radars were surface search sets used by land-based patrol bombers to hunt submarines. From the early Pacific campaigns, the Japanese had made good use of land-based planes for night attacks on our naval forces. Carrier-based *Avengers* later got radar and used it to guide fighters to make night intercepts. Before the war ended, improved radars were fitted to fighters, and night-fighter (VF(N)) squadrons went to sea in the carriers *Independence* and *Enterprise*.

Then as now, patrol (VP) squadrons formed a major part of the naval air establishment. Through the interwar years, patrol aviation meant flying boats – large multiengined seaplanes for long-range search and bombing missions from coastal bases. In 1935, patrol "wings" appeared, but these were not so much air commands as simply a means of referring to two or more VP squadrons operating in the

Much of the air Navy flew from land bases, directed by the fleet air wings. Patrol bomber crews such as this one had a worthy share in clearing U-boats from the Atlantic.

same general area. Two years later, VP wings were numbered and given their own command and organizational standing.

By 1939, a typical patrol wing had two to five squadrons of flying boats, with its own wing utility unit of planes. Like destroyer flotillas and submarine squadrons of their time, the wings also had command of assigned seaplane tenders. Patrol wings were first thought of as a form of coast defense, searching out and reporting threats to American territory. Others felt that the seaplane could play a combat role and that patrol planes should be used in conjunction with the fleet. During 1937, the patrol wings were assigned to the fleet's scouting force, and became – at least theoretically – a mobile force to work with the forces afloat though, in practice, they continued much as before.

In 1940, the Atlantic-based patrol wings were assigned to the new Patrol Force. When the Atlantic and Pacific fleets were created, in 1941, Atlantic VP aviation became Patrol Wings, Atlantic Fleet (PatWingsLant). Its Pacific counterpart remained part of what was now the Scouting Force, Pacific Fleet, until 1942 when it became PatWingsPac.

Wartime development of patrol aviation focused on developing an organization that would allow a vastly increased force to operate, virtually worldwide, as effectively as possible on its own or with other forces. Experience in the North Atlantic, even before the Japanese bombed Pearl Harbor, showed that patrol planes could be operated most efficiently as consolidated commands. This led to a reorganization in mid-1942. Where squadrons had previously been permanently assigned to wings, and wings had been thought of as potentially mobile formations, the wings now became stationary commands assigned to specific areas. The squadrons were assigned and reassigned to wings as the situation demanded. Each wing had a headquarters squadron (HedRon), which pooled ground personnel and handled most of the administrative and support

The carrier task force could take care of itself...

...and launch concentrated attacks...

...at targets at sea and on land alike.

tasks for the operating squadrons. Each HedRon had detachments, called patrol aircraft service units, to support squadrons at outlying bases. Similar outfits, called carrier aircraft service units and scout-observation service units, provided services ashore to carrier squadrons and floatplane units from battleships or cruisers.

World War II introduced landplanes to the VP establishment. Since land and seaplanes shared the same basic missions, they shared the same organization. Sea frontiers, the naval commands set up to defend our coastal areas, operated inshore patrol squadrons, variously designated as VS, VP, or VB squadrons. As airships came into service for antisubmarine patrol duty, they were organized into ZP squadrons. In the fall of 1942, these coastal patrol units came under the administrative control of the patrol wings, though the sea frontiers retained operational command. On November 1, 1942, patrol wings were redesignated fleet air wings, to be made up of all aircraft needed to perform land-based aviation missions in their respective areas. As in the surface forces, air groups – aviation task groups – were formed to carry out specific operations.

On September 1, 1942, Naval Air Forces, Pacific Fleet (AirPac), had been established to serve as a policy and advisory command; at the beginning of 1943, a similar command was created in the Atlantic. These acted as type commanders for all fleet air activities, ship and shore-based, to bring them into closer coordination and develop their overall potential. AirLant and AirPac continued to provide support and coordination to air forces operating from England and North Africa to the southwest Pacific through V-J Day. When the war ended in Europe, eight fleet air wings were operating in the Atlantic area, with nine in the Pacific; between them, they commanded 91 VP squadrons. Atlantic strength dropped quickly; in the Pacific, though the pace of war remained intense, air wing strength remained constant and squadron strength even went down slightly as the theater of war contracted around the Japanese home islands. By V-J Day, just over one-third of the Navy's VP squadrons were flying seaplanes. The rest were equipped with landplanes, a trend that would continue through the postwar years, although some flying boats were still in the fleet as late as the Vietnam era.

Wartime aviation experience – and, hence, organization – did not follow the original expectations of prewar thinkers. Geography, technology, and military situations often dictated new and untried courses. Many of the details of wartime command structures may not serve the precise needs of the future. But the attitudes behind them – flexibility, openness to new concepts, and readiness to adapt to changing circumstances – served the Navy well from the Neutrality Patrol to Tokyo Bay. They will be just as essential in the years to come. ■

Mr. Reilly is a historian and head of the Ships' History Branch of the Naval Historical Center.

In the next issue: Aviation Ordnance.

Boxer (CV-21) with her 1945-model air group. Most of the flight deck is taken up by the Hellcats and Corsairs of her two 36-plane VF squadrons. Smaller squadrons of Avengers and Helldivers are spotted astern. A typical late-war task group – 3 CVs and 2 CVLs – could put nearly 400 planes into the air, carrying over 214 tons of bombs and 2,000 five-inch rockets, to strike targets at ranges of 250 miles or more.

50 Years Ago — WW II

May 15: The seaplane tender *Albemarle* arrived at Argentia, Newfoundland, to establish a base for Patrol Wing, Support Force operations and to prepare for the imminent arrival of VP-52, the first squadron to fly patrols over the North Atlantic convoy routes.

May 27: The president proclaimed that an unlimited national emergency confronted the country, requiring that its military, naval, air, and civilian defenses be placed on readiness to repel all acts or threats of aggression directed toward any part of the Western Hemisphere. He announced that the Atlantic Neutrality Patrol was extended and that Pacific Fleet units were transferred to the Atlantic. The German battleship *Bismarck* was sunk by the British navy in the North Atlantic.

June 2: USS *Long Island*, the first U.S. Navy escort carrier, was commissioned at Newport News, Va., Cdr. D. B. Duncan commanding. Originally designated AVG-1, *Long Island* was a flush-deck carrier converted in 67 working days from the cargo ship *Mormacmail*.

June 6: Naval Air Station, Balboa, Canal Zone, established.

June 15: Naval Air Station, Kodiak, Alaska, established.

Awards

Naval Air Test Center/NAS Patuxent River, Md., won the **Naval Air Systems Command's Golden Anchor Award** for excellence in retention. Patuxent River was awarded the honor for large units.

NAS Willow Grove, Pa., received the **ComNavAiResFor FY-90 Activity Award for Safety Ashore.**

VT-10 received the **1990 Golden Anchor** and **Vice Admiral Robert Goldthwaite Award**, presented annually to one of the 20 squadrons which best exemplifies excellence in aviation training. Sponsored by Rockwell International, the award is named in honor of VAdm. Goldthwaite who contributed significantly to the Naval Air Training Command during his 45-year career.

NAS North Island, Detachment 0170 received the **1990 Barto Trophy**, which goes annually to the best NavAiRes Reinforcing/Sustaining Unit. Although the det mobilizes at the California site, the unit drills at NAS Dallas, Texas.

VT-26 won the **Admiral John H. Towers Safety Award** for FY 90. This award is presented annually to the Naval Air Training Command squadron that has achieved the most outstanding mission-oriented safety record during the fiscal year.

Adm. Jerome L. Johnson, Vice Chief of Naval Operations, became the latest recipient of the **Gray Eagle Trophy**. It was passed down from Adm. Huntington Hardisty, Commander in Chief, U.S. Pacific Command, who recently retired. The title of Gray Eagle designates the Navy or Marine Corps officer who has been an active duty Naval Aviator the longest.

Records

Cdr. Vernon C. Huber, C.O., VAW-122, has reached 4,000 hours in the E-2C *Hawkeye*. He is one of the first Naval Flight Officers in *Hawkeye* history to achieve this milestone.

Units marking safe flying time:

Squadron	Hours	Years
HC-3	110,000	16
HMA-775	3,000	2
HMH-462	10,000	2
HMM-162	10,000	2
HMM-165	4,000	1
HMM-262	10,000	2
HS-11	12,000	3
HS-15	19,000	6
HS-17	18,000	---
HSL-31	21,000	5
HSL-44	26,000	3
HSL-45	9,000	1
NAF El Centro	5,300	9
NAS Keflavik	10,000	15
VA-72	26,000	6
VA-97	18,230	4
VA-105	30,000	7
VA-185	12,000	4
VAQ-33	17,000	3
VAQ-134	25,000	20
VAQ-135	17,882	11
VAW-121	44,000	24
VF-14	15,000	4
VF-103	39,000	11
VF-124	25,000	2
VF-154	22,000	6
VFA-15	21,000	6
VFA-94	20,000	5
VMA-231	28,128	5
VMAQ-2	40,000	7
VMFA-115	30,000	---
VP-4	137,000	19
VP-9	77,000	12
VP-11	82,000	13
VP-31	14,807	4
VP-46	196,520	27
VP-48	157,000	23
VP-92	44,000	12
VQ-4	214,000	19
VR-24	39,000	7
VRC-30	96,000	15
VS-27	23,000	4
VS-30	41,000	11
VT-4	42,000	5
VX-1	25,000	5

Rescues

One of the new HH-60J *Jayhawks* stationed at the Coast Guard's **Aviation Training Center (ATC) Mobile, Ala.**, made one of its first search and rescue attempts when its crew helped find two Bayou La Batre, Ala., teens. The youngsters were in a 14-foot boat and did not return from a trip on November 13, 1991.

The 8th District Operations Center in New Orleans, La., called ATC Mobile for suitable aircraft to help find the missing adolescents. The suitable aircraft turned out to be a *Jayhawk* already on a training flight. The search included two Coast Guard boats, an Alabama Marine Patrol vessel, a private aircraft, and other private vessels crewed by friends and family of the teens.

After the helo searched an area 20 miles southeast of Pascagoula, Miss., for almost an hour and a half, the Bayou La Batre police located the youths hiding under a bridge. The two told police they hid from search units because they feared they would be grounded for bad report cards.

While pilot training is a primary mission at ATC Mobile, the center also provides search and rescue support in the Gulf of Mexico, law enforcement patrols from the gulf to the Atlantic Ocean, and helicopter support for icebreaker patrols.

Capt. Michael Nagelin, OinC, Training Management Element 22, at MCAS New River, N.C., was flying a training mission at Marine Corps Air-Ground Combat Center, 29 Palms, Calif., when his helo malfunctioned. Capt. Nagelin was piloting a CH-53E *Super Stallion* during an artillery exercise with an eight-man artillery gun crew aboard and a 15,600-pound howitzer (light caliber cannon) suspended underneath the helicopter.

Approaching the landing zone, Nagelin's helo developed an unusual noise and vibration, followed by loss of its tail rotor drive, causing severe control problems. Struggling to maintain a stable position above the ground, Nagelin ordered the jettison of the howitzer and shut down the engines so he could put the helicopter down in an upright position. Upon impact, Nagelin personally directed the quick evacuation of the aircrew and passengers from the aircraft, making it one of the first nonfatal flights involving a CH-53E tail rotor failure.

Anniversary

The **Coast Guard Reserve** began a year-long celebration in observance of the its 50th anniversary on February 19, 1991.

Established during WW II, these reservists have been participants in every subsequent war and conflict. Today's Coast Guard Reserve maintains its military readiness while performing a variety of Coast Guard missions, such as search and rescue, law enforcement, and environmental protection.

Honing the Edge

LCdr. Kathy Sullivan, USNR, studies the Earth's atmosphere for the National Aeronautics and Space Administration (NASA) during the week, but on the weekends during Operations *Desert Shield/Storm* she predicted weather for the troops.

As an astronaut and mission specialist, Sullivan does research on space geology at NASA's Johnson Space Center in Houston, Texas. Then, as the C.O. of the Naval Oceanography Reserve Activity 1570 unit, headquartered at NAS Dallas, Texas, she utilized her civilian skills to assist air reservists with their weather briefings. Sullivan pioneered the first actual weather briefings for reserve pilots and carrier group units, which included current desert weather conditions in the Persian Gulf. Sullivan and her unit predicted weather phenomena that affected air and maritime operations, such as data on tropical storms that impact navigation and flight operations aboard aircraft carriers.

Sullivan would like her unit to take the training program afloat with carrier group staffs as part of their annual two-week reserve training duty.

Scan Pattern

AN Allen Thompson grabs the nozzle and, with the help of AA Shawn Hall, rushes to refuel another aircraft under the watchful eye of ABF2 Thomas Andrews in John F. Kennedy's (CV-67) V-4 flight deck fuels division.

PH1 Ted Salois

Considered an experimental training vessel when it arrived at NAS Pensacola, Fla., in 1986, the **helicopter landing trainer** has long since lost its experimental tag. It recently recorded its 20,000th landing.

Art Giberson

HLT IX-514 returns to port after a day of flight operations in Pensacola Bay.

There is a new **Centurion patch for helo pilots**, designed by Ltjg. Karl Cooke of HSL-32. The patch depicts

The new helo Centurion patch is available from HSL-32, NAS Norfolk, Va., 23511.

the most feared view which helo pilots must experience – approaching the deck on a horizonless night when the

"SPIEing" Marines lift off from NAS Cubi Point, R.P., for a scenic "Special Insertion Extraction" ride around Subic Bay. A CH-46 Sea Knight from HMM-262 lofted more than 100 devil dogs during the squadron's recent SPIE training.

sky and sea are black. It is designed so that subsequent "centurions" can be stacked downward. The top of the inverted triangle displays the tricolor glide slope indicator (GSI) beam and reads "Small Deck Centurion" surrounded by "No Hooks" and "No Wires." The rest of the patch is black except for drop lights, line-up lights, and GSI lights.

PH3 Robert Noren, Jr.

Carl Vinson (CVN-70) gets a bath while testing its countermeasure wash down system. The system was originally developed for defense against nuclear, biological or chemical attacks but has also been adapted to be used in fighting fires.

Change of Command

CincPacFlt: Adm. Robert J. Kelly relieved Adm. Charles R. Larson.

CNET: VAdm. John H. Fetterman, Jr., relieved VAdm. John S. Disher.

CVW-7: Capt. J. C. Sherlock relieved Capt. J. M. Luecke.

ComPatWingsLant: RAdm. Jon S. Coleman relieved RAdm. Byron E. Tobin.

ComTacWingsLant: RAdm. Paul W. Parcells relieved RAdm. Frederick L. Lewis.

HS-3: Cdr. Joseph P. Avveduti relieved Cdr. Thomas F. Darcy.

HS-5: Cdr. John W. Smith relieved Cdr. George E. Kovach.

NAS Norfolk: Capt. Dannie H. Allen relieved Capt. Barton C. Gohmann.

VAQ-136: Cdr. Richard C. Perkins relieved Cdr. Richard H. Porritt, Jr.

VAQ-139: Cdr. Thomas R. Miller relieved Cdr. John J. Flanagan.

VAW-113: Cdr. Walter C. Joller, Jr., relieved Cdr. John B. Gregor.

VAW-121: Cdr. Mark F. Klauss relieved Cdr. Mark R. Milliken.

VC-1: Cdr. Gary W. Deulley relieved Cdr. Joseph W. White.

VF-32: Cdr. Robert E. Davis relieved Cdr. George S. Slaven, Jr.

VFA-113: Cdr. Danny L. Clarkson relieved Cdr. Gary L. Koger.

VFA-127: Cdr. Vance Toalson relieved Cdr. Gary Barrett.

VMA(AW)-242: Maj. Daniel A. Driscoll, Jr., relieved Lt. Col. Tom E. Sulick, Jr.

VR-24: Cdr. Jack Punches relieved Cdr. Carl Dodd.

VCR-50: Capt. Paul R. Statskey relieved Capt. Theodore C. Sexton.

VS-22: Cdr. Michael R. Brower relieved Cdr. Thomas J. Lee.

VT-10: Cdr. Robert W. Bennett, Jr., relieved Cdr. Thomas L. Daniels.

VXN-8: Cdr. Jerome P. Boyle relieved Cdr. Garland R. Johnson.

Correction: The March-April 1991 issue of *Naval Aviation News* inadvertently omitted the Blue Angels air show scheduled for October 19-20 in Dallas, Texas.

NANews Says Goodbye to JO1 Jensen

Naval Aviation News extends a warm goodbye to JO1 Milinda D. Jensen. Her excellent stories and typesetting abilities will be missed as she heads for duty onboard *Shenandoah* (AD-41), home-ported in Norfolk, Va.

After a two-year tour as an assistant editor at *NANews*, JO1 Jensen goes to an all-encompassing job dealing with nearly every aspect of Navy journalism – from a SITE (Shipboard Information, Training and Education) system to general public affairs.

During her tour with the magazine, JO1 Jensen's travels included the Arctic and Iceland, writing articles on subjects ranging from women in aviation to historical aviation figures. She also handled a variety of demanding collateral duties.

"I depend on her so much, I'm going to be lost for a while," said JOCS Barbara Cornfeld, command senior enlisted advisor and *NANews* photojournalist. "Whenever I needed some help with photo printing or with something around the command, or if I had a situation where I needed to be in two places at the same time, I could always count on Petty Officer Jensen to pull through for me with some help."

As if her days weren't busy enough, JO1 Jensen spent her evenings completing several Navy correspondence and University of Maryland courses, earning her Bachelor of Science degree in Business/Psychology.

As LCdr. Rick Burgess noted, "Petty Officer Jensen's energy and initiative were great blessings to the magazine. She really left her mark on *NANews*, and can be justly proud of it."

ANA Bimonthly Photo Competition

Above, PH2 Bruce L. Davis won the second bimonthly ANA Photo Contest with this shot captioned, "Heavy Metal – AA Donald Broadfoot (left) of VF-74's line division and AA Steven Nath of V-4 Fuels are dwarfed by the powerful turbo engines of an F-14A+ Tomcat aboard Saratoga (CV-60) as they perform post-flight checks in support of Operation Desert Shield." Left, Cdr. John Leenhouts received honorable mention for his photo of an A-7E Corsair II heading into Iraq loaded with MK-82 500-pound bombs. The VA-72 aircraft launched from John F. Kennedy (CV-67) in the Red Sea during Operation Desert Storm.

The Association of Naval Aviation Photo Contest

The Association of Naval Aviation and its magazine, *Wings of Gold*, is continuing its annual photo contest which began in 1989. Everyone is eligible except the staffs of *Wings of Gold* and *Naval Aviation News*. The ONLY requirement is that the subject matter pertain to Naval Aviation. Submissions can be in black and white or color, slides or prints of any dimension. Please include the photographer's complete name and address, **and PHOTO CAPTION**.

Cash awards: Bimonthly — $100; Annual — First, $500; Second, $350; Third, $250.

For deadline and submission details, call (703) 998-7733.

Mail photographs to: Association of Naval Aviation Photo Contest, 5205 Leesburg Pike, Suite 200, Falls Church, VA 22041.

PROFESSIONAL READING

By Cdr. Peter Mersky, USNR-R

Dyke, Capt. David W., USNR (Ret.). *Navy Pilot-Naval Flight Officer*. ARCO, Simon & Schuster Consumer Group, 15 Columbus Circle, New York, NY 10023. 1990. 280 pp. Ill. $15.95.

This moderately priced paperback is something you'd never look for: a how-to book on becoming a Naval Aviator. It looks like the various prep books you'd find for taking the postal employee test, or the Armed Forces Test Battery in those spinning display racks. The book is aimed at the youthful reader, 18-23 bracket, who might be considering a career in Naval Aviation.

Capt. Dyke, an experienced light-attack aviator, touches on most areas that the young applicant would encounter: Naval Aviation history, aerodynamics, power plants, and weather, as well as what the newly winged aviator can expect in the first squadron and later tours. He also describes the programs for astronauts, test pilots, "Top Gun," and the *Blue Angels*.

There are typos and an occasional breakdown of style editing. The book also uses the same photo for the same aircraft in different sections. With all the photography available, better selection, and reproduction, would have greatly enhanced the book's appearance.

However, the book provides a good overall presentation of text and a solid combination of history and current information. It is obviously a labor of love by a Naval Aviator who wants to see the line continue.

Dorr, Robert F. and Robert D. Ketchell. *Wings of Gold: Earning Your US Navy Wings*. Motorbooks International, 729 Prospect Ave., Osceola, WI 54020. 1990. 128 pp. Ill. $14.95.

A well-photographed, entertaining look at undergraduate Navy flight training, *Wings of Gold* is a good companion for Capt. Dyke's book, *Navy Pilot*. Although it contains occasional misphrasings, *Wings of Gold* is perhaps the best peek at Pensacola's Aviation Officer Candidate School (AOCS) since the movie *An Officer and a Gentleman* – and a lot more accurate.

Photographer Ketchell's color views of flight lines and of the tense, earnest faces of student Naval Aviators convey the pressure of the training pipelines, as well as the dedication of these young trainees.

The book takes the reader from AOCS to wings, including survival training, flight instruction for fixed and rotary-wing aircraft, and personal glimpses of *real* people going through their training. Although the more glamorous jets receive lots of attention, other types are also showcased, including the multiengine P-3 and C-130 and the carrier-based airborne early warning E-2.

Wings of Gold provides the best look at the intense and rewarding world of Navy flight training outside a recruiting brochure or the actual experience.

WEATHER FRONT

Acid Rain

By Capt. Neil F. O'Connor, USN(Ret.)

Acid rain: Since you fly through it, you ought to know about it! Most scientists agree that acid rain starts with the use of coal, oil, and natural gas. The principal sources of these contaminants are from industrial plants which release large amounts of sulfur dioxide, nitrogen oxide, and other combustion products. To get a little closer to home, be aware that aircraft engines emit nitrogen oxide in their exhaust.

While tall smokestacks might keep the immediate neighborhood free of pollutants, they are vented higher into the atmosphere where they are caught up in the wind flow aloft. The flight of ground-generated effluents might last from a few days to months. It is the long-term airborne pollutants that create the greatest acid rain problem. During the course of their flight, they interact chemically with the sun and are transformed into other compounds of sulfur and nitrogen. If there is sufficient moisture

aloft, they act as the nuclei for raindrops which then fall as acid rain.

PH is the chemist's method of expressing degrees of a solution's acidity on a scale of 0 to 14. A zero pH is excessively acidic, while a 14 pH is overly akaline. The neutral point is pH 7.0 and any level lower than that number is acidic. Some examples: Battery acid has a pH of about 1, vinegar 3, distilled water 7, the base swimming pool is maintained between 7.4 and 7.6, seawater about 8.4, ammonia 12, and lye 13. Precipitation with a pH of less than 5.6 is classified acid rain.

Unpolluted rainfall might be expected to have the same pH as distilled water (pH 7), but Mother Nature doesn't work that way. Large amounts of naturally produced nitrogen oxide are found in the atmosphere. Every flash of lightning produces a significant amount of nitric acid, and forest fires produce nitrogen oxide that is swept aloft by the wind. Volcanic action is another source of natural pollution. While rainfall in most eastern states of the U.S. averages a pH of about 4.6, it has not reached the point where Atlantic Fleet aircraft require a freshwater washdown after every mission.

Desert Shield/Storm

In your "Airscoop" article "Desert Shield CV Force to Double" in the Jan-Feb 91 issue, your description of the U.S. naval aircraft involved in Operations *Desert Shield* and *Desert Storm* was thorough, except the Navy's H-46D helicopters were not included. Detachments from HCs 8 and 6 (NAS Norfolk, Va.) have been supporting battle groups in the Mediterranean and Red seas, while dets from HC-11 (NAS North Island, Calif.) and HC-5 (NAS Agana, Guam) have supported U.S. forces in the Persian Gulf and Indian Ocean.

From the beginning of *Desert Shield*, the H-46 dets, teamed with the Navy's able-bodied logistic ships, have logistically supported the largest U.S. naval armada assembled since WW II. The H-46's unique "flair" for vertical replenishment, combined with the vertrep community's "can-do" attitude and "stick-and-rudder" proficiency, provide the fleet the ability to be resupplied in almost any type of weather, day or night, giving the U.S. Navy the edge over what could be a logistic nightmare.

These hardworking professionals take great pride in doing their job well, so that our naval forces have the best odds possible in battle. Our contributions to Operations *Desert Shield/Storm* may not be headline news, but they should not be overlooked or underestimated.

Ltjg. R. F. Browning
HC-8
NAS Norfolk, VA 23511

Ed's note: NANews regrets that it overlooked the H-46 vertrep detachments in the Desert Shield/Storm stories. Your letter is a breath of fresh air from that otherwise untouted community. This editor takes this opportunity to mention that the HC and HSL communities, perhaps because they deploy almost exclusively in small dets, do not always document or publicize their activities in detail. Their command histories submitted every year often fail to record the departure and return of every detachment – information which is important to researchers. We have to rely on base newspapers and press releases for much of our news. If the squadron PAO doesn't put it in, the story won't get told. We knew from experience that the H-46s were out there, but you wouldn't know it from the papers. Thanks for getting the word out.

A-12

Imagine the days of the gulf war without the Patriot missile. In the 1980s, that system was almost scrapped because it was six years behind schedule and $2 billion over budget. Many other high-tech weapon systems, now proving their worth in this conflict, began with similar rocky starts. The lesson learned: Weapon systems development is not a predictable or smooth path.

This should be in the forefront of Congress' mind as it debates whether to restart the Navy's A-12 medium-attack bomber program, canceled in early January by Secretary of Defense Cheney. The Navy greatly needs an aircraft to replace its aging A-6 *Intruder*. With its advanced systems and stealth design, the A-12 would be able to precisely strike enemy targets and leave without being detected.

Yes, it will cost more than originally projected to complete development of the A-12, but the amount required is nowhere near the price to start again from scratch. In comparison to the Patriot missile development, the cost and schedule slips are small.

The most priceless thing the A-12 offers all Americans is the potential to not have to view battered U.S. aviators being paraded on TV by future Saddam Husseins. This reason alone justifies rethinking the decision to cancel the A-12.

Lt. Jeffrey G. Canclini
7207 Forest Wind Court
Arlington, TX 76017

Reunions, Conferences, etc.

Constellation reunion proposed. POC: Rich Romeo, 9809 Montour St., Philadelphia, PA 19115, 215-969-3786 or FAX 215-676-0224.

Fleet Aircraft Service Squadron 113 proposed reunion. POC: R. J. Borecky Velotta, 4106 Dartford Rd., South Euclid, OH 44121, 216-692-3104.

VT-22 reunion planned, NAS Kingsville, TX. POC: Galen Wiser, 920 Sherman St., Wayne, NE 68787, 402-375-4855.

NAS Whiting Field proposed reunion. POC: Ty Boutwell, 519 Lakeshore Dr., Monroe, LA 71203, 318-343-8433.

Navy Helicopter Assoc. Symposium, MAY 14-17, Virginia Beach, VA. POC: Lt. Nick Alaga, 804-444-3822, or NHA, 619-435-7139.

VP-19 disestablishment ceremony for all past "Big Red's," MAY 17, Hangar 3, NAS Moffett Field, CA. POC: Lt. Louis Guerra, AV 494-5602 or 415-404-5602.

NAS Patuxent River, Md., Air Show and Open House, MAY 25. POC: PAO, AV 356-7512 or 301-862-7512.

Tripoli (LPH-10) reunion, JUN 1991, New Orleans, LA. POC: Jim Metts, 1103 22nd St., Nederland, TX 77627, 409-722-1468.

VQ-1/2/5/6 reunion, JUL 5-6, Washington, DC. POC: Cdr. T. K. Quigley, 14506 S. Hills Ct., Centreville, VA 22020, 703-697-2523/815-0061.

Aviation Boatswain's Mates Assoc. Symposium, JUL 30-AUG 3. POC: Wally Lemmon, 2447 Seaway St., Atlantic Beach, FL 32233, 904-272-4681.

VS-21 reunion, AUG 1991, San Diego, CA. POC: Alfred Novacek, Box 44, Dwight, NE 68635, 402-566-2425/2195.

Intrepid (CV/CVA/CVS-11) reunion, AUG 10, aboard *Intrepid*, New York City. POC: Fred Hemmerich, 144 Furler St., Totowa, NJ 07512.

VRC-50 reunion, AUG 9-11, Orlando, FL. POC: Clint Staples, 6910 Windstream Ter., Orlando, FL 32818, 407-299-8428.

Forrestal reunion, AUG 16-18, Washington, DC. POC: Art Billingsley, 505 Rose Ave., Fruitland Park, FL 34731, 904-787-3763.

Guadalcanal Campaign Vets reunion, AUG 21-24, Omaha, NE. POC: Gene Keller, 4043 Standish St., Kalamazoo, MI 49008, 616-344-0265.

NASWF 1953-57 reunion, AUG 22-24, Albuquerque, NM. POC: Wayne Downing, 406 Lawnwood Dr., Circleville, OH 43113, 614-474-2496.

Bunker Hill (CV-17) reunion, AUG 22-25, San Antonio, TX. POC: Jack Ballas, 109 Trailwood Dr., Euless, TX 76039, 817-571-7935.

NAS Twin Cities reunion, AUG 24, Minnesota ANGB, Minneapolis-St. Paul Intl. Airport. POC: Kirk Johnson, 7325 14th Ave. S., Richfield, MN 55423, 612-866-7194.

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