Illustrations by Ted Wilbur

Tomcat Tangle

A section of F-14Ds was on a "photoex," taking pictures of each other. A goal was to photograph the underside of a fully loaded *Tomcat* in vertical flight. The aircraft maneuvered in close formation and entered vertical flight with a 3.5 to 4.0 G pull. While the lead F-14 maintained a steady pull, the wingman maneuvered to take the photo. In vertical disposition, the lead *Tomcat* rolled 90 degrees with the wingman close aboard. Then, the formation pulled into a loop culminated by a vertical fan break with 90 degrees difference in heading at the maneuver exit.

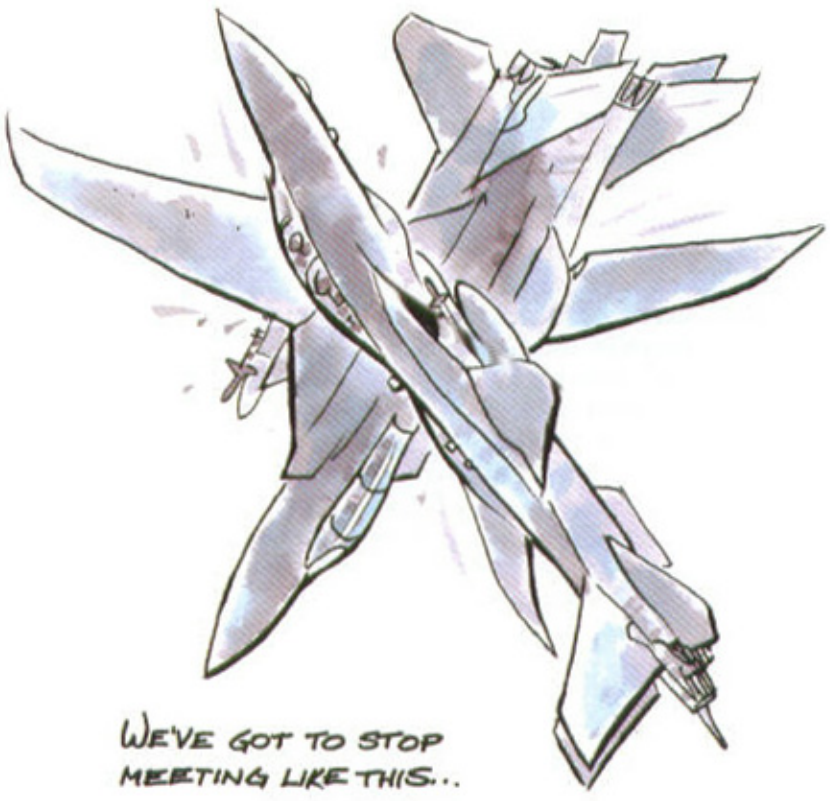
Following this successful maneuver, the flight made a second attempt. But this time the leader pulled up with only 3.0 to 3.5 Gs. This resulted in a slower airspeed at the top, which created a proverse yawing (opposite to adverse yawing) tendency.

The wingman had maneuvered inside and under the leader, who executed an oblique pull over the top, aggravated by the proverse yaw. This shifted his aircraft right into the wingman's. A catastrophic collision occurred with lead inverted and 40 degrees out of the vertical. Both aircraft became uncontrollable after impact. The pilots and radar intercept officers (RIOs) in both aircraft ejected successfully, suffering first-aid injuries. The aircraft were lost at sea.

Grampaw Pettibone says:

Singe my shutters and scratch my lenses! What a mess!

For beginners, the wingman didn't maintain safe separation from the leader. Second, the wingman's RIO failed to caution the pilot of impending danger. On top of all that, the flight was the third of three squadron events from the carrier and ONLY THE FIRST was supposed to be a photoex. The second and third were to be performance demos of fully loaded aircraft without vertical maneuvering, air combat maneuvering or slow speed/high-angle-of-attack flight. The first event had mechanical problems and was not a factor. The second event performed the "vertical" photoex contrary to the approved schedule and overstressed the aircraft in the process. Then



came the third and fateful event.

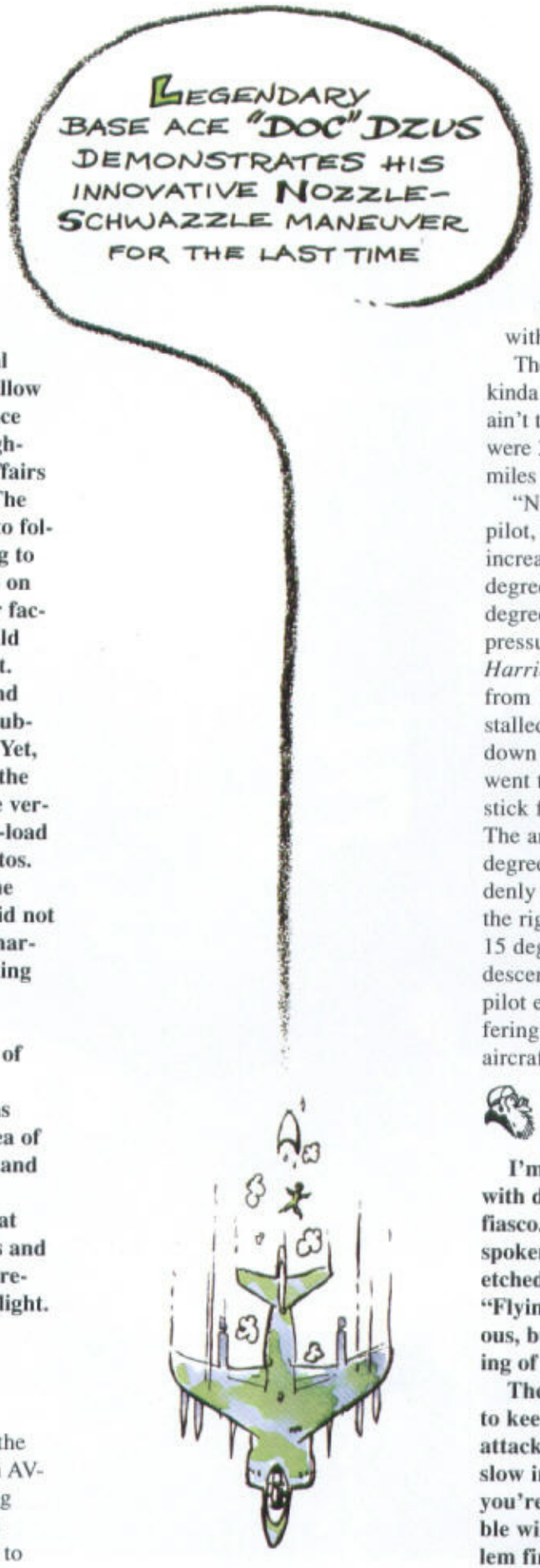
Turns out there were some vague guidelines provided by squadron superiors before these missions. Four days prior to the accident at an all-officer meeting, the CO gave general guidance for the mission to allow young pilots to gain experience with the *Tomcat* in heavy, high-drag configuration. Public affairs photos were also discussed. The ops and safety officers were to follow through after the meeting to ensure the aviators boned up on aircraft limitations and other factors, including what they could and could not do on the flight.

"John Wayne Loadout" and "Bring Film" were phrases published on the flight schedule. Yet, it was not clarified that only the first event was to conduct the vertical maneuvering in a heavy-load configuration—and take photos.

More salt to the wound: the briefing for the third event did not cover *Tomcat* maneuvering characteristics or Naval Air Training and Operating Procedures Standardization limitations.

Ole Gramps likes pictures of our Naval Aviators and their machines in action as much as anybody. He also likes the idea of our fliers getting pumped up and excited about their missions.

But he loathes briefings that lack the tried and true details and specific guidance which are prerequisites to safe conduct of flight. Nuff sed!



Hairy Harrier

Following a roll-and-go in the landing pattern, the pilot of an AV-8B *Harrier II* began a climbing right-hand turn downwind. He looked over his right shoulder to check his position relative to the runway. He reduced power and leveled the *Harrier* at the pattern altitude of 1,000 feet. He then went into a 60-degree angle-of-bank turn with the nozzles at 24 degrees.

The tower transmitted, "Keep it kinda tight on downwind, visibility ain't that great." Weather conditions were 3,000 feet scattered with three miles visibility.

"Not a problem," responded the pilot, looking to the right. He increased his angle of bank to 80 degrees, set the nozzles to 60 degrees and applied back stick pressure. Within three seconds, the *Harrier's* angle of attack increased from 11 to 23 units and the aircraft stalled, causing the nose to yaw down and to the right. The pilot went to full power and moved the stick full forward and to the left. The angle of bank returned to 60 degrees, right wing down, but suddenly the aircraft rolled rapidly to the right and went inverted. With 15 degrees nose down and descending through 800 feet, the pilot ejected. He landed safely suffering only first-aid injuries. The aircraft crashed and was destroyed.

Grampaw Pettibone says:

I'm just sadly shakin' my head with downcast eyes over this fiasco. Never were truer words spoken than when somebody etched in stone the following: "Flying is not inherently dangerous, but it is mercilessly unforgiving of human error."

The *Harrier* pilot simply failed to keep track of his angle of attack. Do that down low and slow in the traffic pattern and you're invitin' trouble—and trouble will have absolutely no problem findin' you.