

Hasslin' Hornet

Two FA-18Cs were on an overwater one-versus-one air combat maneuvering flight. Following an engagement during which the wingman executed a left oblique maneuver, the leader called, "OK, let's knock it off. I'm at your right side now. Level your wings." The leader intended to maneuver the flight for the next setup.

The wingman, however, was experiencing difficulty. He had flown into an 80-degree, nose-up attitude, 120 knots airspeed. Shortly thereafter, his *Hornet* stagnated at 25 degrees nose up, 70-degree left angle of bank, 60 knots airspeed. The pilot increased left rudder, left aileron, and backstick and the FA-18 departed controlled flight.

The leader thought his wingman appeared to be in a flat attitude relative to the horizon but did not realize the pilot was out of control. The pilot in trouble retarded throttles to idle and held flight controls neutral. At 16,000 feet, descending airspeed indicated 48 knots.

"Do you have a visual on me?" transmitted the leader.

"Knock it off. I'm ballistic," responded the wingman, alerting the leader he was, indeed, out of control.

The leader rogered.

The wingman then selected "normal" on the heads up display symbology in order to obtain boxes around altitude and airspeed. He did not, at any time, recall the angle of attack (AOA) reading but heard the AOA tone intermittently.

The leader maintained continuing relative position on the falling *Hornet*. At 14,000 feet, he called, "10,000 feet" to advise the wingman of the approaching altitude. The wingman rogered. Passing 11,000 feet, he momentarily selected military power while maintaining neutral flight controls, then reselected idle.

The *Hornet* was now oscillating slightly in roll and pitch. "Get the AOA down," transmitted the leader. As the motion became more violent, the wingman had to work harder to maintain neutral stick by bracing his feet against the rudder pedals and his body against the seat with both hands on the stick. He could not understand why the *Hornet* was not accelerating or beginning to recover. He actuated



the spin recovery switch but that didn't help.

The leader radioed, "9,000 feet," and at 7,500 feet the wingman decided to eject. He took his left hand off the stick and placed it on the throttle to transmit his intentions. He took his right hand off the stick and located the ejection handle.

When the leader noticed the *Hornet* pitch nose down, he reported, "You're gaining airspeed. That's good," just as the wingman transmitted, "Ejecting." Neither heard the other's call.

The wingman safely ejected and was rescued, uninjured. The time from the "Knock it off. I'm ballistic," call to ejection was 39 seconds, and in this period the *Hornet* swung 350 degrees counterclockwise, losing 7,000 feet.

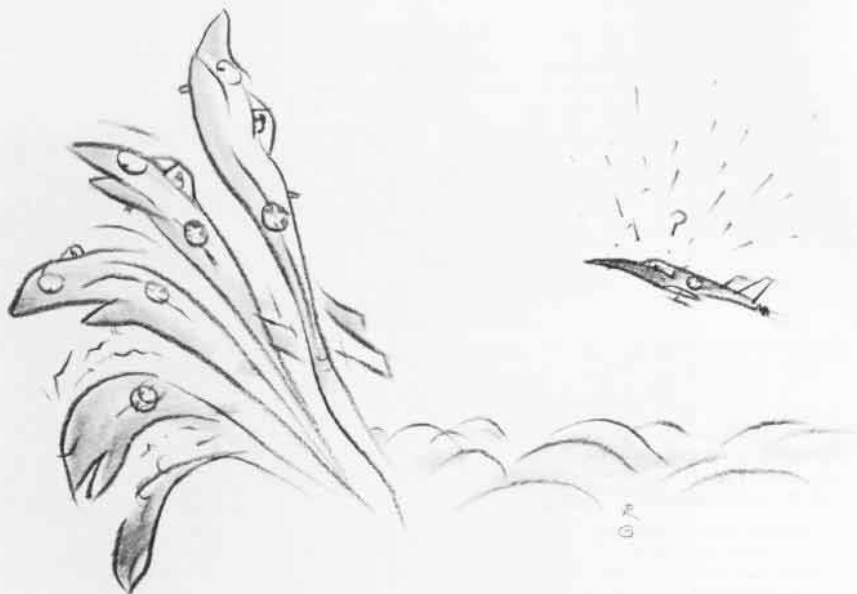


Grampaw Pettibone says:

Holy Howlin' Hornets! This flyer put himself into his own vise by violatin' one of the hard rules of the aviatin' business: maintain flyin' speed! He couldn't complete the vertical maneuver, then induced the departure with increasin' left rudder, left aileron, and backstick at too low a speed.

It took him too long to analyze his out-of-control situation. He didn't use the AOA, visually or aurally, to figure out where his nose really was. He thought the nose was down when it was flat, and couldn't figure why he wasn't gainin' speed. The indicator kept tellin' him 48 or so knots. Confusion got the best of him.

He probably had high AOA hang-up or was in a low yaw rate



spin. Whatever, at the first sign of trouble, neutral controls mighta got him out of it. Could be he was unknowingly holdin' aft stick in and overridin' the feedback mechanism, too.

Key points: call on your indicators (AOA) and other instruments for help if things don't "feel" right – just like when you get vertigo off the bow. And know what to do before you have to do it – meanin' practice for emergencies.

Ole Gramps is all for bein' optimistic, as most Naval Aviators are. But the best pros are the wary optimists who know how to handle trouble immediately, especially when it comes unannounced.

Seasprite Smash

An SH-2F *Seasprite* had returned to base following a sensor operator NATOPS (Naval Air Training and Operating Procedures Standardization) check. The tower reported winds northeast at 10 knots, although the pilot (in command) and copilot thought they were stronger. The copilot performed three normal approaches for training purposes. Then the pilot made one normal approach to a hover with the automatic stabilization equipment (ASE) off. He did not inform the copilot prior to turning off the ASE. The pilot was then cleared to perform five minutes of hover work at the approach end of the runway while waiting for the hot-refueling crew to set up at the hot-pit area.

The pilot performed constant heading maneuvers while hovering, ASE off, in a box pattern. From a hover into the wind, the pilot then began an "ASE off turn on the spot" to the left. He did not announce this intention to the copilot.

At this point, the pilot thought the *Seasprite* felt "squirrely." The rate of turn slowed, then increased rapidly. Someone called "left" or "authority." The pilot applied full left pedal and held it in. He thought he had lost tail rotor authority and at 30-40 feet altitude lowered the nose to fly out of situation.

The copilot noted that as the tail passed through the wind line, it "whipped around and continued rotating.... [The *Seasprite*] spun around rapidly two or three times to the left."

(Note: With a helicopter yawing to the left, an increase of collective (power) will result in slowing the yaw

rate. In right yaw rate, an increase in collective will result in an increasing rate of right yaw.)

Nearing the ground, the pilot increased collective and the rate of spin slowed. The copilot asked the pilot if he had control but received no response. The sensor operator called "gear" and "ECLs" (engine condition levers) and the copilot secured the ECLs. The pilot did not hear the call for ECLs or ask to have them secured.

Everyone in the crew except the pilot had heard a "pop" or "bang" or "muffled thud" noise. The copilot suspected loss of tail rotor thrust.

Out of control, with wings level and nose high, the SH-2F struck the ground, bounced once, impacted tail pylon first, and came to rest in a right wing-down position. All four crewman egressed safely, suffering "first aid" injuries. A ground crewman was also slightly injured. The *Seasprite* was destroyed.



Grampaw Pettibone says:

Go! dang it! Headwork, cockpit coordination – and some other things – took the day off on this

one! The crew simply wasn't ready for trouble.

The experts checked the stricken *Seasprite* over really good and found no signs of mechanical problems. Most likely, that "pop" sound was the noise of an engine compressor stall, caused by disrupted airflow as the helo spun around.

Rotary wing folks have to remember that yaw rate during a turn-on-the-spot will increase after the tail of the bird passes through the wind line. The pilot didn't anticipate this effect. Nor did he recognize quickly enough the need to reduce pedal input to regain control. The left yaw, combined with the ASE off condition, aggravated matters. Sure woulda helped if the copilot had chimed in with a call to "neutralize the pedals," too.

So, strike one *Seasprite*. But learn from the accident.

