



TCAS Saves the Day

By Cdr. Mike Wesson

TCAS

The traffic-alert-and-collision-avoidance system II (TCAS II) is an airborne system that uses active surveillance to alert the pilot to the presence of other nearby aircraft. TCAS interrogates the transponders of other aircraft to determine their positions and altitudes and shows this data to the pilot of the TCAS aircraft by means of a traffic display. TCAS II issues two types of advisories: the resolution advisory (RA), which identifies an intruder that is considered a collision threat, and the traffic advisory (TA), which identifies any intruder that soon may cause an RA and whose position, therefore, should be monitored closely. For each intruder causing an RA, TCAS II recommends a vertical-escape maneuver to help maintain safe vertical separation from the threat aircraft. TCAS II is required in the United States on all commercial aircraft with more than 30 seats, and it soon will be mandated in many European countries.

I strapped into the Navy's newest and finest logistics transport: the C-40A Clipper, which is our next generation 737-700 and can get in anywhere. Our mission from NAS Jacksonville was to pick up 120 Sailors in Norfolk and drop them off at NAS Mayport, so they could begin three weeks of work-ups with their ship. We held our crew brief, preflighted our jet, and took off on time.

Our day went perfectly until we received the latest weather information at NAS Mayport: a broken ceiling at 400 feet. "No problem," we thought. ATIS reported runway 05 in use, and Airport Surveillance Radar (ASR) were the only available approach; once again, no problem. We can set up our navigation displays to depict a final course for the runway, and we can program a glideslope in the FMC (flight-management computer) to aid in our descent.

Our problems began when we were vectored on downwind. A lot of traffic appeared on the traffic-alert-and-collision-avoidance system (TCAS). A few targets seemed to hover within a few miles of my location, at our altitude, despite our traveling at 200 knots. Much of our time during the approach phase of flight was spent trying to locate various light civilian targets. These targets, and Mayport's close proximity to a civilian field, should have made the hair on my neck stand up. They didn't. After we configured the aircraft for landing and began our descent to the MDA, we had the oral warning, "Climb... climb."





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A target appeared on our navigation display virtually at our location. We completed our emergency procedure while following the guidance of our TCAS until “clear of conflict” was announced. Shortly after we initiated our climb, the Mayport ASR controller notified us of the traffic. I think we passed within about 300 feet of a light civilian aircraft that just had taken off from Craig Field, located about five miles from Mayport, directly beneath the flight path for runway 05. After our near miss, we were offered runway 23 by our controller but couldn’t accept it because of fog along the coast. We elected to repeat an ASR to 05, where we landed.

During my postflight of the aircraft exterior, I saw a petty officer walking out to the plane. He asked if I was one of the pilots; he seemed shaken. He said he was our ASR controller, and he has no control over the VFR traffic at Craig Field. The weather conditions that required

me to conduct an approach strictly were coastal and did not affect the civilian field. The controller said the aircraft I almost hit suddenly just had appeared on his display. I thanked the controller for taking time to talk to me, then we flew back to NAS Jacksonville and reflected on the day’s events.

This near-midair almost took 126 lives and a valuable Navy asset. I know you can’t control everything that goes on around you, but you certainly can work to stay aware of your situation. I failed to brief the proximity of the civilian field to our final-approach path and relied on ATC to keep me clear of the VFR traffic during our approach. Fortunately, for my crew, my passengers, and me, I was flying an aircraft with TCAS. It truly saved our lives on this supposedly easy day of flying. 

Cdr. Wesson flies with VR-58.