

## A Trader, a Tracker and “Willy Fudd”



S-2E Tracker. NNAM

Visitors to the flight line behind the Museum’s restoration hangar are treated to an array of airplanes of all shapes and sizes, but as the tour trolley makes its way between the rows of aircraft, those looking out the windows cannot help but take a double take sometimes. Three of the airplanes bear a striking family resemblance, their separate pathways to the Museum beginning in 1950. On 20 January of that year, the Navy invited aircraft manufacturers to submit designs for a new carrier-based antisubmarine aircraft. As is often the case in making decisions on carrier aviation, the genesis behind this effort was efficiency, the Navy since the end of World War II having operated pairs of AF *Guardians* in hunter-killer teams. One aircraft, the hunter, carried the detection equipment, while the other, the killer, carried the necessary weapons to attack an enemy submarine. Combining the two roles into one aircraft would save critical space in the limited confines of a carrier deck and make for more efficient flight operations.

Eighteen different manufacturers submitted a total of twenty-four proposals, with the one from Grumman Aircraft Engineering Corporation ultimately winning out. It was fitting, for aircraft the company designed — the F4F *Wildcat* and TBF *Avenger* — had formed the arsenal for escort carriers that waged a campaign against German U-boats in the Battle of the Atlantic during World War II. Called the S2F *Tracker*, the piston-engine aircraft packed much equipment and a four-man crew into a plane whose overall length was

actually one inch less than the AF *Guardian* it was designed to replace. Its pug-nosed fuselage was flanked by mammoth engine nacelles, the fuselage not encumbered by a large radome like that fitted beneath the AF-2W *Guardians*. Instead, the antenna for the AN/APS-33G search radar fit into a much smaller radome and the airplane also boasted a retractable tail boom for magnetic anomaly detection (MAD) gear. An internal weapons bay was located on the port side of the fuselage and there were also racks for wing-mounted ordnance.

The prototype S2F *Tracker* first flew on 4 December 1952, with carrier suitability testing occurring on the largest — USS *Coral Sea* (CVA-43) — and smallest — USS *Mindoro* (CVE-120) — of carriers then in service. The airplane entered operational service with Antisubmarine Squadron (VS) 26 in February 1954, with Grumman eventually producing four production models of the plane, which pilots affectionately nicknamed the “Stoof,” after the airplanes acronym S2F. The final version was the S2F-3S (redesignated S-2E in 1962), which was delivered to the U.S. Navy and Royal Australian Navy between 1962 and 1967. Among the 252 examples that rolled off the assembly line was the Museum’s S-2E (Bureau Number 151647), which was accepted by the Navy on 25 March 1964. Assigned first to VS-28 and then to VS-24, the plane made deployments on board three different antisubmarine warfare carriers — USS *Wasp* (CVS-18), USS *Essex* (CVS-9) and USS *Randolph* (CVS-15). It later joined VS-34 briefly at Naval Air Station (NAS) Quonset Point,

Rhode Island, before transferring to NAS Glenview, Illinois, where it spent the final five years of operational service in VS-73, a Naval Air Reserve squadron. The plane arrived at the Museum in 1975.

Believing they had a capable and flexible platform in the S2F, Grumman quickly adapted it to other roles in Naval Aviation. In December 1951, even before the S2F first took flight, company engineers modified the design so that it would be capable of carrying nine passengers or 3,500 lb. of cargo. When the Navy expressed an interest in the plane as a carrier on-board delivery (COD) platform, the total load was increased to 8,500 lb. in order to accommodate tactical nuclear weapons then carried on board flat-tops. Designated the TF-1 (later redesignated C-1) *Trader*, the airplane first became operational in 1955. The Museum’s example was the seventh TF-1 accepted by the Navy, joining the fleet on 30 June 1955.

The plane would spend the majority of its extensive service operating from the deck of the carrier USS *Lexington* (CVA-16), beginning with her last Far East cruise in 1960-1961. When the carrier was redesignated (CVS-16) and assigned duties as the training carrier at NAS Pensacola, Bureau Number 136754 went with her. From 1963 to 1976, the venerable airplane burned a path in the sky between NAS Pensacola’s Forrest Sherman Field and the flight deck of *Lexington* operating in the Gulf of Mexico, in the final years of its service averaging double the monthly flight hours of COD aircraft in the fleet. After it passed the 15,000 hour mark in flight



C-1 Trader. NNAM



E-1 Tracer "Willy Fudd." NNAM

hours, the decision was made to retire the aircraft, and it arrived at the Museum in 1976, still wearing a special paint scheme honoring the nation's bicentennial.

The same year that the TF-1 joined the fleet, Grumman engineers again put their heads together and developed another mission for the *Tracker* airframe, modifying the design with a twin-tail to accommodate the rotating antenna of the AN/APS-82 search radar for airborne early warning. The result was the WF (later redesignated E-1 *Tracer*), known to a generation of aviators as the "Willy Fudd" or "Stoof With a Roof." The first examples were delivered to the fleet in 1960, with the Museum's airplane (Bureau Number 148146) accepted by the Navy

on 30 December of that year. It spent its service life rotating between Airborne Early Warning Squadrons (VAW) 11, 12 and 21, deploying on Atlantic and Pacific cruises in the carriers USS *Constellation* (CVA-64), USS *Wasp* (CVS-18), USS *Saratoga* (CVA-60) and USS *Franklin D. Roosevelt* (CVA-42) before being retired to the Museum in 1975.

Indeed, the inherent flexibility of the design that took shape on blueprints at Grumman translated into one of the most versatile airplanes of the Cold War era when its services were greatly needed. As the Soviet submarine force burgeoned in numbers and capability, it was the S2F/S-2 *Tracker* that was at the forefront of the U.S. Navy's defenses. As

tacticians devised ways to defend carrier battle groups against Soviet air attack, the requirement for a capable airborne early warning platform to track inbound planes and direct interceptors to them was paramount. Into this role stepped the WF/E-1 *Tracer*. And in sustaining a carrier at sea by transporting supplies, personnel and welcome mail to sailors, the TF/C-1 *Trader* more than fit the bill.

Collectively, the Museum's examples of these venerable aircraft form an important chapter in Naval Aviation history, the trio serving a total of 47 years flying for the Navy at sea and ashore and earning their places on display for tens of thousands of people to appreciate.