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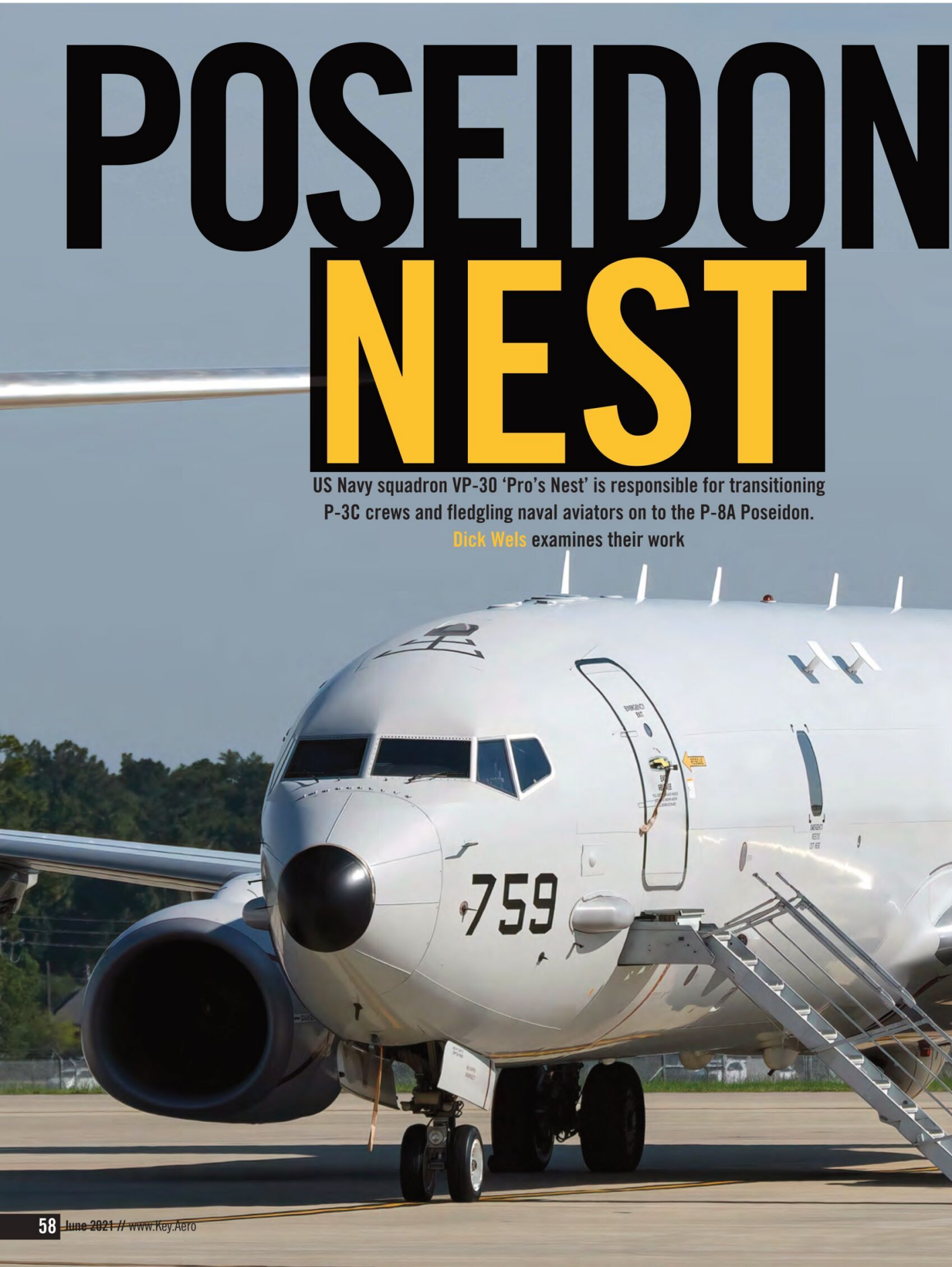
POSEIDON NEST

US Navy squadron VP-30 'Pro's Nest' is responsible for transitioning P-3C crews and fledgling naval aviators on to the P-8A Poseidon. Dick Wels examines their work



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Below: The base of the P-8A is the commercial 737-800 ERX which is heavily modified to meet US Navy requirements for a future-proof maritime patrol aircraft **Dick Wels**

MORE THAN 60 years after its first flight, the P-3C's US Navy career is coming to an end, with Boeing's P-8A Poseidon taking over the long-range anti-submarine warfare (ASW) mission.

On October 11, 2019, Patrol Squadron (VP) 40 returned to its home base at Naval Air Station (NAS) Whidbey Island, Washington, from the last active duty Lockheed P-3C Orion deployment.

Today, all the US Navy's patrol units operate the P-8A, except for the Reserve Squadrons VP-62 'Broad Arrows' and VP-69 'Totems', plus Fleet Replacement Squadron VP-30 'Pro's Nest', which will fly the P-3C a little longer. The transition from P-3C to P-8A, as well as the training of fresh naval aviators for the Poseidon, is in the hands of the men and women of VP-30 at NAS Jacksonville, Florida.

P-3C Orion

The P-3C made its first flight on August 19, 1958 and came into US Navy service in 1962. The former backbone of US sub-hunting is equipped with four turboprops and features a characteristic 'stinger tail' containing a magnetic anomaly detector. Lieutenant Hilleri Groves, in transition to become a P-8A instructor with VP-30, explains: "The magnetic anomaly detector basically detects any metal in the water and that's not necessarily submarines but, for instance, also shipwrecks on the bottom of the ocean."

She also describes the P-3C crew: "For missions, a flight crew of 11 is on board, including three pilots and two flight engineers in the flight station. The flight engineers are responsible for fuel calculations and all mechanical systems on board. An in-flight technician is on board to repair any avionics that break during the flight. In the back are five system operators: one navigator, two acoustic operators, one non-acoustic operator working the radar and a tactical co-ordinator [TACCO] who oversees the activities in the back. The TACCO is responsible for the tactical operation of the aircraft and its systems and will also release buoys or torpedoes to detect and kill enemy submarines."

P-8A Poseidon

In 2004, the P-8A Poseidon was selected to become the successor to the Orion. Based on the Boeing 737-800ERX airliner, it is powered by two CFM56-7B27A turbofans that push it along at a maximum of 564mph, a little over 93mph faster than

Generally a crew of three pilots fly the P-8A: the aircraft commander; the 2nd pilot (the systems expert); and the 3rd pilot (a junior pilot) **Hans Drost**

the Orion. Three flight and six tactical crew operate the aircraft. The Poseidon flew for the first time on April 25, 2009 and three years later the first production P-8A was handed over to VP-30 to begin training Poseidon crews.

Lieutenant Bob Valentich, a P-8A instructor, sums up some of the aircraft's advantages compared to the Orion: "The P-8A can fly higher, faster and longer than a P-3C. We have better technology; digital versus analog. We have more capabilities, better avionics – multi-screens and a lot of computers and technology – so things happen faster. Our combat effectiveness is about four hours on station, depending on altitude, airspeed and what we are doing there."

Even with deliveries ongoing, the P-8A is under constant upgrade. "Trying to replace an aircraft that has been out there for 60 years and bring a new plane in, there is a lot of learning that has to go on with the systems," says Valentich. "We are constantly getting avionics and system upgrades and we are flexing and trying to figure out exactly how to use the systems in the way they were designed, to our maximum efficiency."

Learning to fly the P-8A starts with primary flight training in the Beechcraft T-6 Texan II. "After graduation from primary, there are multiple paths pilots can go on," Valentich explains. "Ours is the multi-engine path. At NAS Corpus Christi, Texas, we do our multi-engine syllabus. We fly the Beech T-44 Pegasus, an airplane much smaller than the P-8A. After completing the course, students get their wings. As qualified naval aviators, they head to their Fleet Replacement Squadron.

"For the P-8A, that's VP-30, at NAS Jacksonville. The students go from flying an analog aircraft to a digital one. I'm teaching them to use the avionics and flight management computers. There is a lot more automation in the P-8A; things happen faster and it is more robust.

"We have operational flight trainers [OFTs], or full-motion simulators, in our Integrated Training Center. Two-thirds of our events are conducted in the simulator building, whereas a third are done in the plane. That's very different from the P-3C, where the majority of the syllabus is done in the aircraft. We have fewer flights, but we use the simulator more often in a more controlled training environment.

"Before pilots start in the OFT, there is training on flight management computers in order to understand how to use them. That way, they have a grasp of the system before they go to the OFT.

Three of the four last P-3Cs of Fleet Replacement Squadron VP-30 'Pro's Nest' **Henk de Ridder**

The first delivery of the Orion to an operational squadron took place in 1962, while 2020 marked the end of P-3 operations for US Navy active duty squadrons. Today, only two Navy Reserve squadrons fly the P-3. The last Orion is expected to be phased out in 2023 **Henk de Ridder**

P-8A operations at Jacksonville reached the nine-year mark in 2021, with the first Poseidon delivered to the Naval Air Station in March 2012. This aircraft, 168857 'LK-857' is operated by Jachsonville-based VP-26 'Tridents' **Hans Drost**

> THE AVERAGE TIME TO GET FULLY QUALIFIED ON THE P-8A IS SIX TO EIGHT MONTHS, DEPENDING ON TRAINING SCHEDULES
>
> LIEUTENANT BOB VALENTICH, P-8A INSTRUCTOR

Above: In huge hangars, Poseidon maintainers do their job on a VP-8 aircraft. P-8A maintenance turnarounds are pretty standard and quick
Dick Wels

Left: The P-8A's weapons bay is located in the underside of the fuselage, behind the wings, and can accommodate depth charges, free-fall bombs and Raytheon Mark 54 torpedoes
Dick Wels

"Meanwhile, the tactical crew will have been training separately in the weapons tactics trainer. This is a model of the 'tube' of the aircraft, where the TACCO and four sensor operators practice their role. After they all have completed their syllabus, we merge them and they fly together on tactical events and we do tactical simulations in the weapons system trainers. Then we put the whole crew together and introduce the crew concept. In training, crews vary based on training requirements and different timelines, but the operational fleet squadrons try to keep crews together."

Summing up, Valentich says: "We practice everything before we go to the aircraft. The average time to get fully qualified on the P-8A is six to eight months, depending on training schedules."

Pilots leave VP-30 as NATOPS (Naval Air Training Operating Procedures Standardization) qualified P-8A pilots. On their squadron they usually join a crew comprising the aircraft commander, the 2P, at a level below commander and the systems expert for the flight crew, and the 3P, the brand new junior pilot. The 3P is a fully qualified P-8A pilot, but only with basic tactics training. That knowledge is increased with the fleet as they become more proficient.

Transition training

VP-30 is also responsible for individual transition training for naval aviators moving to the P-8A from other types, with a specific syllabus for each of the variety of backgrounds these pilots come from. Among them, former P-3C pilots re-entering as department heads are typical, while prospective commanding officers of P-8A squadrons also come through.

A special program covers the transition of complete squadrons; VP-30 trained VP-1 and VP-46 in 2020, for example. "It's a three-stage transition process," Valentich says. "In the first stage, we send instructors to their Whidbey Island base for the simulator phase. In phase two, the entire squadron comes to NAS Jacksonville and then we fly with them. Phase three returns to Whidbey Island for the tactical phase."

Above: Hands on! A P-8A maintainer is working on one of the two CDL directional antennas of the Poseidon. The sonobuoy launch area is located just beside the antenna **Dick Wels**

Another task of VP-30 is to train crews for P-8A export customers. "We have Royal Air Force crews and the Royal Norwegian Air Force is also here", Groves says. "The first two crews from the RAF graduated in June 2019. More UK personnel have visited VP-30 for further training from British instructors and they were the first to stand up the P-8A program in the UK; the RAF will continue sending crews to Jacksonville to transition to the P-8A."

VP-30 runs between five and eight classes per year with approximately 20 to 30 students in each class. In addition, the squadron offers an Instructor Under Training course, teaching personnel how to instruct in the P-8A.

Maintenance challenges

"Compared to the P-3C, the P-8A is more reliable", Senior Chief Milton James says. "We get more flights out of it and maintenance turnarounds are pretty standard and quick. Young maintenance personnel usually come through an A-school for their knowledge of basic

Below: The US Navy wants to buy 108 P-8A aircraft for its long-range anti-submarine warfare (ASW), anti-surface warfare, intelligence, surveillance and reconnaissance (ISR) missions **Hans Drost**

training in their craft. The training can take six to 12 months depending on the job. From that point, they come to us and we start working with them keeping the planes up and they get more proficient in their job supporting the aircraft.

"Right now, VP-30 is maintaining 12 P-8As and we have four P-3Cs. The P-3C is a 1960s plane and trying to upkeep it is challenging."

Multiple missions

The Poseidon's primary mission is ASW, but it also is used for anti-surface warfare and can be equipped with the Harpoon anti-ship missile. Intelligence, surveillance and reconnaissance tasks, including counter-drug, search and rescue, humanitarian aid and disaster relief are also common.

Squadrons will also deploy from the Continental US to Kadena in Japan and NAS Sigonella, Italy. From there the P-8As go to detachment sites, including: Keflavik, Iceland; Lajes on the Portuguese island of Terceira in the Azores; and RAF Lossiemouth in Scotland.

Crews also deploy to South America, for counter-drug missions and disaster relief in Argentina, Chile and El Salvador. One squadron assisted Argentina with the search for the missing submarine ARA *San Juan* in 2017.

The P-8A is also designed to operate with Northrop Grumman's MQ-4C Triton, a high-altitude, long endurance, unmanned aerial vehicle operated by Unmanned Patrol Squadron (VUP) 19 'Big Red'. The unit is split, with operators and aircrew based at NAS Jacksonville in the mission control center and maintainers and other logistical support personnel based at NAS Point Mugu, California. The aircraft will also operate from Guam and Naval Station Mayport, Florida, in the future.

The Tritons fly intelligence, surveillance and reconnaissance missions and relay information back to mission commanders in that area. The Triton is able to send full-motion video to the Poseidon, providing the crew far more visibility to concentrate on their primary mission. Some VP-30 instructors are dual qualified on Triton and P-8A.

Right: Packed with P-8As, the vast flightline at NAS Jacksonville proves that the P-3 Orion is almost phased out in the US Navy **Dick Wels**

Below: The P-8A is powered by two CFM56-7B27A turbofans **Dick Wels**

> THE POSEIDON'S PRIMARY MISSION IS ANTI-SUBMARINE WARFARE, BUT IT IS ALSO USED FOR ANTI-SURFACE WARFARE AND CAN BE EQUIPPED WITH THE HARPOON ANTI-SHIP MISSILE

Above: Poseidon 169010 '010', assigned to the Bureau of Personnel Sea Duty Component Dallas, is equipped with the Raytheon Advanced Airborne Sensor (AAS) **Dick Wels**
Below: Although stripped of its unit markings, this P-3C AIP+ Orion still belongs to training squadron VP-30 **Dick Wels**