

## Douglas A-3D Skywarrior Restoration: From Airport Eyesore to Airport Pride

Posted on [October 13, 2011](#) by [admin](#)

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The Mojave Desert of southern California can be a very foreboding place during any time of the year – from the extreme dry heat of the summer months, to the cold windy days of winter, it is anything but Mediterranean in climate and temperature. But, it is also here in this environment that Edwards Air Force Base, and the Air Force Flight Test Center (AFFTC) calls home. During its tenure as one of America's premier test facilities, many of the greatest aircraft, past and present, have been tested, evaluated, and developed. But AFFTC isn't just about flight testing, for over the years many of the systems and adaptations that have been developed and incorporated into current day aircraft had their origins here. For instance, back in the 1960's, the Air Force was concerned about how to slow or stop their aircraft when there was a malfunction to their landing systems, i.e., flaps, landing gear, brakes, etc. The Air Force borrowed a concept developed by the Navy that involved nylon netting set up as a series of barriers on aircraft carriers for aircraft in trouble when landing. But, they needed an aircraft to help them with experiments to test this concept at land based facilities. So, the Air Force looked to the boneyard at Davis-Monthan Air Force Base in Tucson, AZ for a likely candidate, and found a retired Douglas A-3D1 Skywarrior.



*Douglas A-3D Skywarrior during restoration process (Photo courtesy of Delbert Mitchell)*

Douglas A-3D1 Skywarrior, Navy BuNo 135434, (s/n 10327) was delivered to the Navy in November 1955. Shortly after its acceptance, it was assigned to Operation Redwing, a series of 17 nuclear tests conducted at Kwajalein Atoll, Eniwetok Atoll, and Bikini Atoll in the South Pacific in 1956. Of the 17 tests conducted, 135434 participated in seven, where the scope of the tests evaluated the A-3's special weapons delivery system, as well as instrumentation to record thermal radiation, blast, and gamma ray data. After completion of the tests, 135434 returned to the United States where it was assigned to Navy squadrons VAH-3 and VAH-9 at NAS Sanford, Florida. While assigned to these squadrons, 135434 participated in several deployments with various Carrier Air Wing Groups (CAWG) to the Mediterranean before being assigned in the early 1960's to the Naval Air Test Center (NATC), Patuxent River, Maryland, where it was used for barrier/arrested landings, and JATO tests. During one of the JATO tests the speed brakes were accidentally actuated causing extensive damage to the aft portion of the fuselage. Although repaired with thick aluminum riveted to the fuselage, the aircraft was flown to Lichfield Park, Arizona for disposition. When Congress mandated in 1966 only one aircraft storage facility as a cost cutting measure, and designated Davis-Monthan Air Force Base as the storage area for all military aircraft, the Navy closed Lichfield Park and moved all their aircraft to that facility, including 135434. It is here that the Air Force retrieved it for their barrier tests to be conducted at Edwards Air Force Base in the mid 1960's. 135434 was taken out of mothballs, serviced, then flown to Edwards for the impending barrier tests. After arrival, 135434 was modified with heavy aluminum weights, three on each wing, to keep the aircraft from becoming airborne during

the tests. She never flew again. After the barrier tests, the aircraft was declared surplus by the Navy in June 1967, then towed to various locations on the base before finally being abandoned on an unused runway. There it sat until restoration efforts began in January 2010 by a group of retired Navy enlisted aviators.

Retired Navy Master Chief, Mike Glenn is one of those profound individuals who does not take no for an answer. Nor does he let things get in his way – especially when it comes to Douglas A-3's. As a former Navy mechanic, during his active duty years he worked on A-3's. Later, as an employee with Hughes Aircraft (now Raytheon Corp), he maintained a fleet of A-3's doing contract work for the Navy, and as a flight engineer with the naval reserve in Patrol Squadron 65 (VP-65) out of NAS Pt. Mugu, CA, and Patrol Squadron 91 (VP-91) out of NAS Moffett Field, CA, Master Chief Glenn knows how to get things done, and he knows how to massage the bureaucratic military system – whether it's orthodox or not. When he found out Edwards Air Force Base had an abandoned Skywarrior on the base, he immediately contacted the Edwards Museum Foundation, and its director, Mr. Fredrick Johnsen, about restoring the airplane. With the blessings of the Museum, Master Chief Glenn began contacting former squadron mates, and other retired A-3 Navy friends to see if they would be interested in the restoration of 135434. In January 2010, a small group of volunteers assembled at the Edwards Museum to begin the task of putting things together to retrieve 135434 from its isolated confines. They began the process of restoration, to hopefully culminate during the Centennial of Naval Aviation in November 2011. After a cursory inspection of 135434 at its windswept parking space, it became abundantly clear that a lot of hard work was in store for the volunteers. The harshness of the desert environment, although minimizing corrosion, had definitely taken its toll on plexiglass, control surface hinges, cockpit, radome, bomb bay, aft gun turret, main mount struts, nose gear strut, tires, wheel bearings, and paint. In other words, a huge mess awaited the impending restoration, but perseverance and skill sets, under adverse situations, is what makes challenges common place for these veterans. Once 135434 was raised from the crumbled asphalt, and new wheel bearings and tires put in place, a two mile tow to the protective confines of a covered hangar was initiated. 135434 was now protected from the harshness of the Mojave Desert for the first time in over 40 years, and the next phase of its rejuvenation would begin in earnest in February 2010.

The February and March restoration sessions were more of an assessment evaluation, and most of the time was spent getting parts together, outlining work priorities, assembling reference manuals, establishing areas within the hangar to work in, coordinating with various Air Force work centers on Edwards for support, assignment of GSE & MHE, moving parts from the Raytheon hangar at Mojave Airport to Hangar 1210 at Edwards, procuring materials and hand tools, and overall, doing minor repairs. The April session involved removing the cockpit instrument panels, seats, hatches, and avionics for cleaning and restoration. Meanwhile, two former Navy Aviation Ordnancemen, and identical twin brothers, Delbert and Delwynn Mitchell, concentrated on the bomb bay and aft gun turret as their areas of the restoration project. After four decades of sitting neglected, all the desert creatures of the Mojave that could crawl, fly, walk, or slither had found a safe and secure nesting and resting area in the bomb bay and gun turret. Years of rodent nests and feces had literally packed the insides of the bomb bay doors,



*Restoration crew photo: Kneeling, left to right: Mike Glenn, Art Hernandez, Pete Nowicki. Standing, left to right: Delwynn Mitchell, Les Wall, Delbert Mitchell, Dennis Lundin, Ty Wilcox, Dennis Wilcox, Andy Barbre, Bill Grant, John Klepp. Missing from photo, Clark Warren and*

necessitating the drilling of oversized holes in the door ends to remove large quantities of dead vegetation. Pete Nowicki and Art Hernandez concentrated on the cockpit, replacing and cleaning gauges, and rejuvenating the dash area, to include the center console and throttles. Bill Grant and Andy Barbre used their skills as metalsmiths to replace and repair corroded aluminum, and to fabricate patches on torn nacelles and cowlings. Ty Wilcox, and his older brother Dennis concentrated their skills on repairing the cockpit plexiglass and frame, as well as fuselage sanding, engine repairs, and hydraulics. Dennis Lundin also used his talents on the cockpit glass, radome, avionics, and hydraulics. Steve Allyn, John Klepp, and Clark Warren helped in sanding the worn out paint, as well as assisting with the bomb bay and gun turret, and with the cockpit.

*Steve Allyn. (Photo courtesy of Delbert Mitchell)*

In May, 135434 got its first bath in over 40 years. Over six hours was dedicated to thoroughly washing the plane inside and out, top to bottom. It took over two hours just to clean the rodent nests and feces from the bomb bay doors. The once pristine gray and white paint scheme had now dissolved into a river of white, chalky residue as the water and soap carried it to the wash rack drains. Years of leaking hydraulic fluid that had dried on the bomb bay doors, wings, and fuselage underbelly, was now being scoured with abrasive to release their caustic hold from their surfaces. Slowly and aggressively, but with affection and respect, 135434 was being prepped from airport eyesore to airport eye pleaser.

As the months progressed after 135434's washing, a lot of work was accomplished. The J-57 engines were removed from their pods and thoroughly washed inside and out, then reinstalled. A new antenna cap was installed on the vertical stabilizer, the cockpit glass was removed, and new or repaired glass installed and sealed, corroded metal removed and repaired on the fuselage, ATM's installed, gun turret repaired to move in azimuth and elevation, entire fuselage, wings, and empennage sanded in preparation for painting, new top escape hatch installed, radome installed, cockpit instruments reinstalled, center console rebuilt and reinstalled, and many other accomplishments that literally transformed the aircraft from what it had been in January of 2010.

January 2011, was a new year for 135434, and she was in the final stages leading to a new paint scheme. Final sanding of the fuselage, wings, and empennage area prepared the metal for eventual painting. During this work session, the wings were unfolded to their flight position, detail work with the cockpit instruments was finalized, and the cockpit glass was finished and sealed. In February and March, 135434 was finally finished, leading to a waiting game with the paint shop at Edwards.



*The Restored A-3D Skywarrior (Photo courtesy of Delbert Mitchell)*

April 2011, 135434, had a date with destiny. After forty years of heat, cold, unmerciful winds, and neglect, 135434 awaited the tow tug that would transfer her from the hangar that had been home for the past 15 months, to the Edwards Paint Shop. As the tug towed 135434 to the Paint Shop, a small group of airmen and civilians on the flight line stopped what they were doing to watch, probably wondering, what kind of relic is this? It may not have been in their minds what the relic was, for 135434 was as old (if not older) than the observers watching her being towed. They probably didn't have a clue that she had been a forgotten guest of the Air Force all these years. Now she was on her way, like the Ugly Duckling, to the paint palace to be transformed into a beautiful swan. How ironic it is for 135434 to have

been abandoned for so long, and now as she passes, to capture the eyes and attention of an inquisitive audience who neither knows nor understands what she has been through.

An old paint scheme, Sea Blue, reminiscent of the Navy of the late 1940's and early 50's, and the color 135434 left the Douglas factory with in 1955, was meticulously applied to her frame and wings. After curing, she emerged totally different than when she went in. The marvels of paint, and the transformation or illusion it creates, cannot be underestimated. In 2010, an airport eyesore unworthy of mention, is now in 2011, an example of what a group of old Navy salts can do with a little encouragement, a lot of skill, an abundance of will power, and a desire to see a forgotten icon of a bygone era be restored to her proper place in aviation history. As Master Chief Glenn once said, "if we don't teach our children and grandchildren about these airplanes, then they'll never know what we did, or what part these machines played in our history." I couldn't agree more.



*Douglas A-3D Skywarrior, sporting her new Sea Blue paint (Photo courtesy of Tony Moore)*

On 14 October 2011, 135434 will be formally presented to the Edwards Museum during the 60<sup>th</sup> Anniversary celebration of Edwards Air Force Base, and it will be the centerpiece for the occasion. How ironic can it be that a piece of naval history will be the star attraction for an Air Force base anniversary. One can only surmise that 135434 has risen from the ashes of obscurity to become the symbol for what can be accomplished regardless of service orientation.

For more information, contact the A-3 Association at their website, [www.a3skywarrior.com](http://www.a3skywarrior.com).

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