

Feature

# Boneyard

by Tom "20mm" Hayden

*Boneyard. It reminds me of another word: junkyard. I associate images of sun-bleached skeletons carelessly strewn in the desert, everything of value having been picked clean from them long ago... A place relics whose time has passed, or those with wounds too deep to heal are discarded. Lost and forgotten. Or worse.*

*Over 4,000 of them on 2,600 acres of desert, they wait for whatever fate will befall them. Their canopies covered with white Spraylat, like hunting birds of prey wearing their hoods, they wait for the chance to fly again. But will they? Will these warrior craft which have flown in all parts of the world ever leave the ground again? They have seen combat, stared the enemy down face to face, taken their pilots and crews into danger and brought them safely home. And now they are here, where old aircraft go to die.*

*Is that what AMARC really is? I wondered.*



I sit quietly in the tour bus, looking out through the dark tinted glass at aircraft shining white in the morning sun. I feel a sense of attachment to them and concern for their future. Why should that be? After all, they are just machines: marvelous engineering and manufacturing achievements no doubt, but still machines. Why attach sentiment to inanimate objects who are themselves entirely without emotion?

I love aircraft, especially military aircraft, but that doesn't really explain it. I love cars too, at least some of them, and it doesn't seem to bother me that they end up in crushing machines. What makes these aircraft different, special? Why do I care if they get their wings chopped off by a 13,500 pound guillotine blade dropped from an 80 foot high crane? If they are ripped up with cutting saws, have their innards torn out, and

then their carcasses hauled away to metal recyclers to be melted down into cubes?



Or are they more than the sum of their airframes, engines and propulsion equipment, flight control, radar, weapons, and other systems? Do these machines have special places in our hearts because of what they have done and where they have been? Is it the stories they would tell if only they were able to tell them?





The bus passes rows of Navy F-14 Tomcats, mostly the A model. I watch them go and study the tail insignia. They are beautiful. They really do have something cat-like about them, as though ready to pounce. I can imagine them sitting on an aircraft carrier deck, the catapult ready to fire. I remember some history, events from around the world in which these magnificent aircraft played a part:

- **The Cold War.** Time and time again, F-14's, the Defenders of the Fleet, would play a deadly serious game of "catch the bomber" and intercept Soviet bombers that got a little close. I can still see the photos of Soviet "Bear" bombers and the crews waving at each other in not-so-friendly gestures.
- **1981.** 2 patrolling VF-41 F-14A's intercept and shoot down two Libyan Su-22 Fitter-Js over the Mediterranean Sea. It is the first incident involving Libyan fighter jets and the Tomcat. The second occurs in 1989 as 2 patrolling VF-32 F-14A's intercept and shoot down two more Libyan fighter jets, MiG-23 Floggers. Usually a lock on by the Tomcat's powerful radar is enough to dissuade the hostile aircraft, however, these MiGs did not take the hint. Tomcats rule.
- **1985.** Following the Achille Lauro incident, F-14A's from the VF-74 and VF-103, do a night intercept high over the Mediterranean Sea of an Egyptian airliner carrying the terrorists and force it to land. Vectored to the airliner's position by an E3 Sentry, the Tomcats positioned themselves to the front, sides, and rear of the airliner, with their lights and radios off. In the dark night sky, the airliner crew had no idea they had company. When they were ready, the F-14's switched on their position lights. I have always imagined the look of amazement on the airliner pilot's face as he suddenly saw the lights of Tomcat fighter aircraft he never knew were there, all around him.





The bus passes a lone B-52 G. Beginning their operational service in 1954, Boeing now estimates that the airframes of these aircraft will last past the year 2040, and it is very possible they will remain in service nearly 100 years. Already the sons of B-52 pilots have flown the same aircraft as their fathers. It is conceivable that their sons will be Buff pilots as well.

I heard a story about a B1-B Lancer bomber crew who had flown their aircraft to Davis Monthan Air Force base for the last time, because it was being retired. A reserved spot in the Boneyard. As they turned to walk away from the aircraft for the last time, emotion got the better of them and there were no dry eyes. "That's a beautiful aircraft." they were heard to say.





I know I am not alone in this passion. I recently spent some time talking with men who flew B-24 Liberator bombers, B-17 Flying Fortress bombers, and B-29 Super Fortress bombers, and it was clear how they felt personally about the aircraft they flew into combat as young men. One lamented the fact that there was currently only one operational B-24 in the entire world. Witness the extraordinary attempts at recovery of WW II era fighters and bombers. Thousands were mass produced for the war effort, but now only a handful remain.

I have seen documentaries on some of the efforts. People have invested their time, their fortunes, and their lives, in order to recover machines made of aluminum, rubber, steel, and glass. In 1992, a recovery team went to Greenland and was able to extract an aircraft from the "Lost Squadron", a P-38 Lightning, named "Glacier Gal" from beneath a covering of almost 300 feet of ice. In 1993, another team attempted the recovery of a B-29 bomber, the "Kee Bird" from a frozen lake in the northwest portion of Greenland, actually above the arctic circle. Unfortunately, one man died during the recovery effort, and as they were attempting to fly the aircraft out, an auxiliary power generator in the rear of the aircraft broke loose and created a fire which destroyed the great bomber just moments away from what could have been her final flight home. A neighbor of mine was a member of that team.

Still, I am not sure why I feel as I do. Perhaps it's because I have "flown" some of these aircraft on a personal computer with flight simulators. Today's computer flight simulations are of a very high fidelity and with amazing graphics. Some have been compared favorably with military simulators. I have performed the engine startup sequence in an F-16, and flown carrier landings, or "traps", in an F/A-18 Hornet and hit the "three wire". I instantly recognize the cockpits of F-15 Eagles, A-10 Thunderbolt II's, F-4 Phantoms, A-6 Intruders, F-14 Tomcats and more. I have spent hours going through complicated radar, defensive, and weapons systems routines. The missions can be quite complicated and demanding, but once completed, you definitely feel a sense of accomplishment. And maybe a sense of attachment to the simulated aircraft that got you there and back.

"Boneyard. That's what this place used to be called." The voice of Larry, our tour guide for the one hour and ten minute bus ride through AMARC. "But the Air Force prefers the acronym AMARC, for Aerospace Maintenance And Regeneration Center. This is not just a place where aircraft go to be chopped up into pieces. Virtually all the aircraft here flew in on their power and over twenty percent will be refitted and will fly again. Some will be sold to other countries, some will go the Mojave range and be used as drones."

I know he's right and yet...

Although I have lived in Tucson much of my life, I hadn't learned much about the Boneyard. As a boy I spent many a morning on a dirt road with a barbed wire fence alongside it, searching for aircraft parts and hoping to find something interesting to take home. My intentions, if I recall, were to build my own jet aircraft cockpit at home. Gauges and switches were especially prized. I dreamed of finding a joystick by the side of that road, but never did. When I was ten I bought an old military surplus helmet and oxygen mask and swaggered around the house pretending to be a fighter ace returning from a harrowing combat mission.

Education is a wonderful thing, even for someone of my advanced age, and taking the AMARC tour was worthwhile. Actually seeing what is happening, the process and procedures, and having it explained opened my eyes considerably. Plus, I did some research on my own. What I found was that far from being a "Boneyard", AMARC is a joint-use refitting and reclamation facility with all types of aircraft from all branches of the military. Heavy bombers, tactical bombers, fighters, fighter/bombers, refueling tankers, transports, search and rescue, electronic surveillance/command and control, electronic warfare, anti-submarine, helicopters, they're all here.



Touring the base and seeing aircraft in various stages of dismantling does lend credence to the "Boneyard" description at first glance. There are portions that look like an aircraft junkyard with parts littered around, airframes sitting in wooden cradles with the tail assemblies and wings removed. But it actually is a very effective and efficient process, with the goal in mind of maximizing the value of every single component part on each aircraft. While it may look haphazard to the untrained eye, everything here is done in a very deliberate and controlled manner. Parts are removed as needed while protecting the rest of the aircraft for future use until literally there is nothing left but scrap.

Incoming aircraft are processed according to the military's use requirements at the time. There are three basic types:

- **Process In.** Arriving aircraft have their weapons, hazardous or explosive materials, ejection seats, classified or easily pilferable items removed. Systems under spring or hydraulic tension are relieved. At the Flush Farm, fuel systems are drained (the fuel is cleaned and stored for use in other aircraft) and the systems purged with lightweight preservation oil. The aircraft are taken to the Wash Rack, where



they are cleaned and inspected for wear and tear, damage, and corrosion. The sealing process involves taping seams, covering all openings: access panels, doors, intakes and exhausts, and then covering canopies and other surfaces with 2 coats of Spraylat, a non-hardening vinyl plastic, the final coating in white to protect against light and heat. The aircraft are then towed to their spot in the desert and secured.

- **Process Out.** Selected aircraft are removed from storage and prepared for flight ready condition. This may take several months, depending on the aircraft's condition and what it's destination will be. Target drones must be flyable by a pilot out to the Mojave range, where they will be fitted with the remote control equipment needed for that job.
- **Reclamation.** Removal of parts and assemblies as needed for replacement parts on operational aircraft in use around the world and for sale. This is a very important part of AMARC and is what keeps many of the operational aircraft in the fleet safe and available for use. Also, it is much more economical to use the parts off of older aircraft, because once an aircraft has gone out of production, any attempt to get a limited number part run from the manufacturer is going to result in a very heavy price tag. In fact, it is these types of circumstances that may help explain things like the infamous \$600 hammer. What AMARC does, through its Reclamation process is maximize the fleet aircraft inventory to best effectiveness for the military, at the best cost for the taxpayer. In fact, AMARC may be the only part of the military that produces more revenue than it costs.





Obviously, many aircraft are stored at the AMARC facility, pending their disposition. There are four categories of aircraft storage:

Type 1000: Aircraft which could be readily made flight-ready.

Type 2000: Aircraft which may eventually be returned to flight status, but more likely will be reclassified to Type 4000.

Type 3000: Aircraft in flight-ready status, held for transfer or sale.

Type 4000: Minimal preservation. These aircraft will be parted out and eventually scrapped.

Virtually every day at AMARC, aircraft are coming in, going through processing and assigned to storage types, decisions have been made and will be made regarding their status and the needs of the military to best utilize the resources the aircraft represent in their current condition. Aircraft are flown out, either back to duty status, to another country, or to the target range. Still others are sold as display aircraft and are moved to museums, parks, and other facilities. Every scrap of worthwhile material is accounted for and used where needed in this continuing process of renewal.

I sometimes think of myself as a naïve child in matters like these. I hate to see something I have affection for damaged or destroyed, and if I had my way, they would all be preserved forever somewhere, for what utility I do not know. Just the comfort of knowing they're there, I suppose.

The military does not have the luxury of idle contemplation concerning the future of these aircraft. They live in the very real world of military aircraft operations and readiness, a world of safety concerns, budgetary concerns, of having to justify everything they do and knowing that the justification will have to stand scrutiny years later for who-knows-what group of Monday Morning Quarterbacks to second-guess. I recognize the difficult jobs they have to do and now I have a little appreciation for just how they do them and how well they do them. The men and women of the military, and the civilian contractors operating AMARC are doing something that deserves appreciation. Appreciation that is not reflected in a name like Boneyard.

But even with the knowledge I now have of AMARC there's a part of me that wishes that 50 years from now



there will still be flying F-4 Phantoms, F-14 Tomcats, A-10 Thunderbolt II's, and others, for our children and their children to watch, to marvel over, to wonder about. What stories would those aircraft tell if only they were able to tell them? Maybe with the help of AMARC, the stories will be told and imaginations fueled by old warriors still flying proudly.



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