

Puff the Magic Dragon: Development of the AC-47 Gunship

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Paths to the Present
FLASHBACK



The Vietnam War presented those tasked with fighting it numerous challenges. The United States was fighting a “limited war,” restricting itself to military actions without formally declaring war in the country. It was unwilling to use nuclear weapons, which had been the benchmark of military innovation after World War II as a part of the Cold War against the USSR. Modern weaponry was built to fight in this new, nuclear age, leaving the U.S. unprepared to fight conventionally in Vietnam. The fast, modern, jet fighters of the time were not well suited for combat in the country’s thick, jungle canopies, nor were they made to participate in the counterinsurgency efforts needed to confront the guerilla fighting style of the Viet Cong.¹ So, the US Air Force innovated a solution, the AC-47.



The AC-47 goes by many names, originally the FC-47, more famously “Puff the Magic Dragon” or “Spooky” but, was the first in a line of aircraft to be called a Gunship. It was a modification of the C-47 “Skytrain” which gained a stellar reputation for its reliability and multifunctionality during World War II. After that conflict, many of these airframes were left in storage and flew in support of various humanitarian missions like the Berlin Airlift.

During the Airlift, the C-47 assisted other cargo ships, like the C-54, in landing over 1,500,000 tons of supplies to West Berlin.² Later on, in the Korean War, C-47s did



everything from saving Marines during the Yalu River retreat³ to working alongside other carriers to bring home American POWs.⁴ Originally, the C-47 served its own role in Vietnam, in areas such as troop transpor-

C-47 in flight over Wright-Patterson Air Force Base

tation and training,⁵ but it later became the base for the first gunship due to a couple of key features.

The Gunship theory was to create a fixed-wing, side-firing aircraft with the ability to perform pylon turns.⁶ The turn allowed the aircraft to orbit over a fixed point, wherein the weapon would focus a heavy amount of fire on a single target. By flying in circles, the aircraft gained better accuracy and firepower against that target.



AC-47 in-flight

This was preferable to the modern fighters of the time, whose speed made it so that they had to take multiple passes against a single point. It was this side firing capability that fit the specific needs of the Vietnam War for counterinsurgency and close air support. The AC-47 was designed for use in defense of Special Forces Camps and hamlets where it could provide close air support against enemy invaders and assist in counterinsurgency by dropping flares and breaking up Viet Cong attacks.⁷

While the concept of a gunship dates back to 1926⁸ there are a few key people in relation to its inception in Vietnam. Both Lt. Col. Gilmour MacDonald and Major Ralph A. Flexman proposed the gunship idea back in the early 1960's. In 1961, MacDonald presented his proposal to a Tactical Air Command panel and Flexman, an assistant Chief Engineer with Bell Aerospace Systems Company, came up with the idea in response to Bell's contracting to create technology for counterinsurgency and limited war.⁹



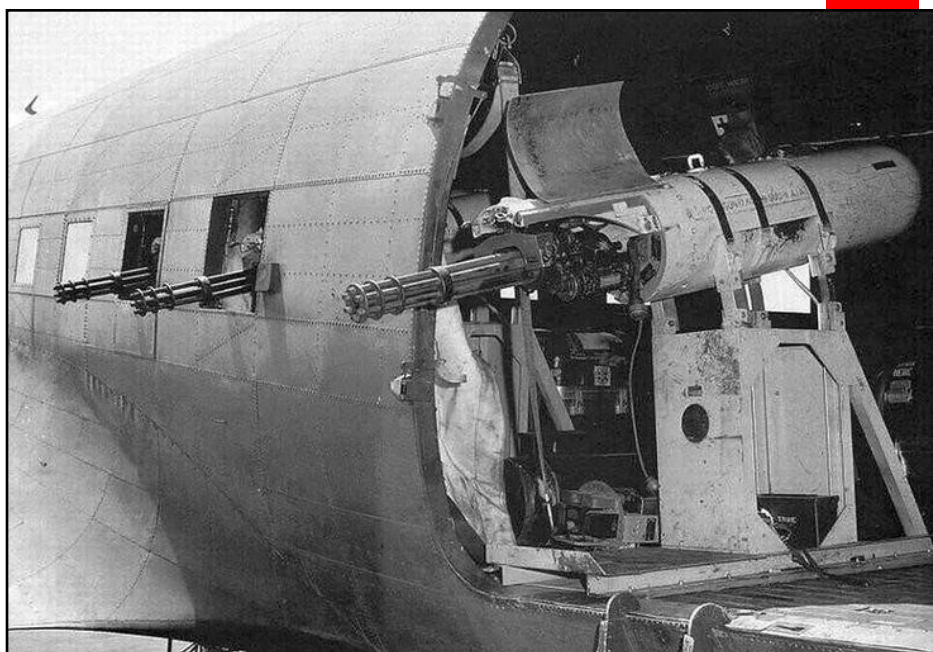
Col Ronald Terry

Later on, inspired by their work, test pilot Captain Ronald Terry who was a part of an Air Force Systems Command (AFSC) team studying a 5-year limited war plan,¹⁰ proposed that the C-47 be modified for the gunship, and was the first to test fly it in 1964.¹¹

There were a couple of pushbacks early on for using a C-47 as the base of the gunship. It lacked the speed and altitude of the more modern aircraft of the day which made it vulnerable to small arms fire. Actually, after an initial capability study was done by the Pacific Air Force (PACAF) in March 1965, it was concluded that the C-131 would be a better base for the gunship. In the end, the C-47 was chosen instead due to the airframes availability and the ability to overcome its drawbacks.¹² It was first tested in combat at Bien Hoa AB, December 1964,¹³

and testing with the concept and the airframe continued into 1965. From the beginning, it proved to be highly effective and highly lethal, in one test in February 1965, “more than 300 Viet Cong were killed in a matter of a few minutes. Estimating the ratio of wounded to killed at three to one.”¹⁴

In May 1965, the C-47 was officially chosen to become the base for the gunship and AFSC and Air Force Logistics Command (AFLC) began coordinating the modification process.¹⁵ The task was given to Warner Robins Air Materiel Area’s (WRAMA) Directorate of Procurement and Production in July 1965 and was conducted by Air International Company in Maimi, Florida.¹⁶



AC-47 gun pods

The C-47s were modified with “three GAU-2A guns, a gun sight, a ballistic cloth (for crew protection against small arms fire), and associated wiring, controls, and racks.”¹⁷

In the end, over 50 C-47s were converted and sent to serve in Vietnam.¹⁸ They flew in the 4th Air Commando Squadron created by Tactical Air Command (TAC), 12 July 1965 and based out of Forbes AFB, Kansas for training.¹⁹

They originally deployed and became operational in Tan Son Nhut during December 1965, and were later assigned to the 1st Air Command Squadron from August 1965 to March 1966.²⁰ Ultimately, they flew missions in various Air Bases such as Da Nang, Pleiku, Nha Trang, Bien Hoa, and Can Tho.²¹



They were created, and best suited, for flying night-time counterinsurgency missions in defense of hamlets and Special Forces camps. However, they performed in a variety of mission types like reconnaissance and cargo flying. Its large storage capacity allowed it to carry a multitude of ammunition and flares. It would light up an incoming enemy invasion, both with flares and fire, which not only stripped away the defense of darkness but provided fast,

accurate close air support shooting 8,000 rounds a minute on targets 8,000 feet away.²² In this way, the AC-47 had a psychological effect on those it flew against, and took on a mythical identity, living up to the name “Puff the Magic Dragon.”

Even more impressive than the AC-47 itself are those who operated it, this is the case of Airman 1st Class John Levitow. A loadmaster on the AC-47 called “Spooky 71” flying the night of 24 February 1969. An enemy ground mortar exploded in the wing of the aircraft over an army post at Long Binh.

While severely wounded, Levitow not only pulled unconscious crew members away from the door of the aircraft but pushed a live flare out of the gunship saving, both himself and everyone on board. All in all, he suffered over 40 wounds and was awarded the Medal of Honor for his actions.²³

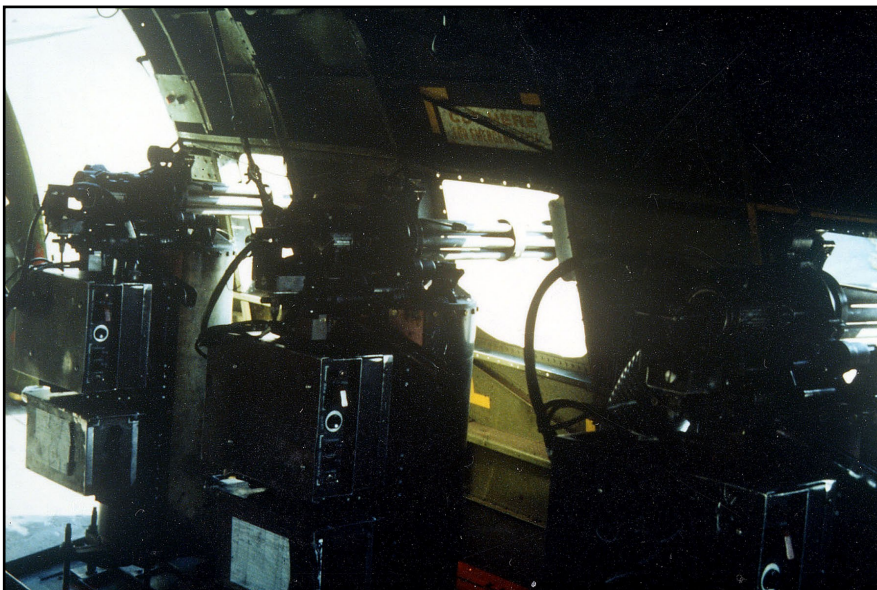
The AC-47 is only the first of many aircraft to be converted into a Gunship. Other aircraft carried on the “Spooky” title like the AC-130 “Spectre” and the AC-119 “Shadow” and “Stinger” which continued fighting well past the Vietnam War. However, the AC-47 is an excellent example of the phrase “necessity is the mother of invention.” Between the constrictions of limited war and the treacherous terrain that Vietnam offered, the AC-47 proved that you can in fact teach an old dog new tricks.



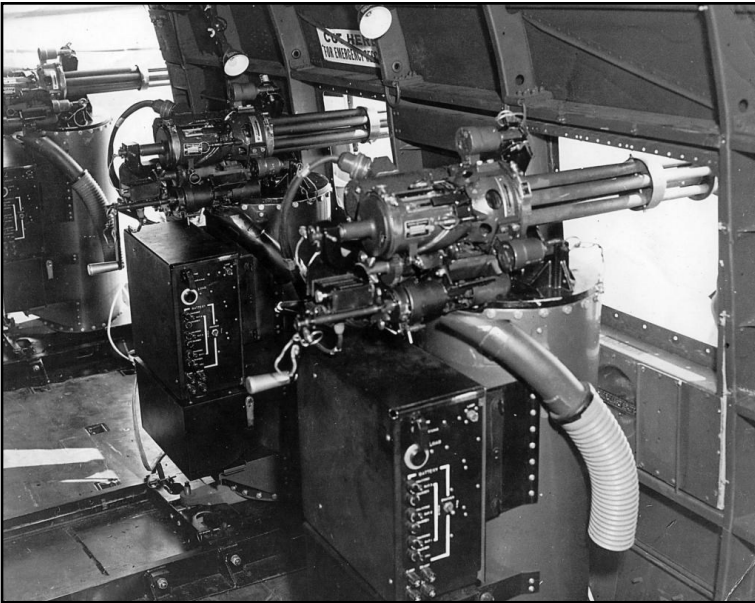
Sergeant John Levitow with Medal of Honor

Endnotes

1. William Head, *Night Hunters: The AC-130s and Their Role in US Air Power*, College Station: Texas A&M University Press, 2014, 2
2. Daniel L. Haulman, *Wings of Hope: The US Air Force and Humanitarian Airlift Operations*, Washington: Air Force History and Museums Program, 2007, 4
3. Richard Maltais, *History of Warner Robins Air Materiel Area, 1 July 1969 – 30 June 1970, Part II: WARMA's Role in Southeast Asia: AC-47 Gunship, 1960-1968* (Project Big Shoot, Robins AFB: Office of Commander, March 1970, 2
4. Haulman, *Wings of Hope*, 5
5. Maltais, *AC-47 Gunship*; Head, *Nigh Hunters*
6. Head, *Night Hunters*
7. Maltais, *AC-47 Gunship*
8. Jack Ballard, *Development and Employment of Fixed-Wing Gunships, 1962-1972*, Washington: Office of Air Force History, 1982; Head, *Night Hunters*
9. *Ibid.*
10. Vernon Burk, *Air Force Logistics Command Support of Forces in Southeast Asia: Special Aircraft Projects, 1965-1968*, WPAFB: Office of AFLC History, February 1971, 35-6
11. Maltais, *AC-47 Gunship*
12. Burk, *Special Aircraft Projects*, 37
13. *Ibid.*
14. Kenneth Sams and Edward Burtenshaw, *Project CHECO: Southeast Asia Report: First Test and Combat Use of the AC-47*, HQ PACAF, December 1965,1
15. Burk, *Special Aircraft Projects*, 37



7.62mm guns inside the AC-47



MXU-470/A minigun modules in an AC-47

16. Maltais, *AC-47 Gunship*, 12
17. Burk, *Special Aircraft Projects*, 37
18. 53 total
19. Maltais, *AC-47 Gunship*, 12
20. AFLC, 41
21. AFLC, 41
22. Sams & Burtenshaw, *Use of the AC-47*, 1
23. Source from Dr. Head about story

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Sams, Kenneth and Edward Burtenshaw. *Project CHECO Southeast Asia Report: First Test and Combat Use of the AC-47* (Headquarters PACAF, 8 December 1965).

Special Projects Division Directorate of Plans and Policies DCS/Plans and Operations. *AFLC Support of Weapons Systems in Southeast Asia 1 January 1965- 31 December 1969* (Headquarters AFLC, 15 December 1970).



4th Air Commando Squadron AC-47 with "Spooky" nose art



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