

# Break the Paradigm

## Prepare Airpower for Enemies' "Most Likely Course of Action"

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After 15 years of fighting in a global conflict with radical Islamic terrorists, the United States finds itself facing the probability of a continuing struggle against asymmetric attacks from an enemy unwilling or unable to face it in open conventional battle. However, more than a decade and a half after the events of 11 September 2001 (9/11), little has changed in the way the USAF envisions the future and positions its force to meet the needs of twenty-first century warfare. Careful examination of the Air Force senior leadership exposes their paradigm for preparing the force for future conflict—but is their paradigm correct or are we developing a force without understanding the way warfare has changed?

Next-generation (next-gen) fighter proponents continue to reign supreme in the halls of senior USAF leadership and strongly influence USAF strategy and major

weapons acquisitions. Air Force senior officials place a *singular* focus on low probability, worst-case conflicts with advanced state actors such as China, North Korea, or Russia. This focus drives the USAF to overemphasize procurement of costly next-gen fighters like the F-22 and F-35, at the sacrifice of a balanced force of varied and proven aircraft capable of covering a broad range of possible and more likely scenarios. The overemphasis on next-gen fighters also ignores anecdotal evidence of thousands of engagements in years of fighting on the post-9/11 battlefield against less technologically capable enemies. While there are valid age and maintenance concerns with the current fighter fleet, the most troubling aspect of next-gen fighter proponents revolves around an outdated twentieth-century paradigm of joint warfare. Many advocates of the next-gen fighter and the advanced bomber mistakenly oversimplify twenty-first century conflict and the strategic nature of its complex battlefields, emphasizing accurate bomb delivery against a sophisticated integrated air defense as the sole sufficient contribution for air-to-ground operations. Holding an outdated paradigm, USAF leadership's driving singular focus is on the development of the next-gen fighter which ignores, and may increase, a serious gap in Air Force capability. The essential *missing* "mission effect" *most commonly needed* in our *most likely* wars of the twenty-first century, an effect I'll call the "gunship effect,"<sup>1</sup> is misunderstood and remains marginalized by the USAF and underfunded by Congress. These assertions will be supported as the central argument develops.

Air superiority and the ability for US airpower to operate on the battlefield is still primary in importance for the joint force air component. The USAF must maintain the ability to project and protect air assets to leverage airpower for the war fighter. However, the USAF next-gen fighter paradigm concludes it must develop a force built around faster, stealthier, and more high-tech fighters to thwart enemy competition. The problem with this model is twofold: first, it assumes the enemy we face will fight us in classic conventional force-against-force battle; second, it assumes our adversaries have, or will increase, their capability to a point of making our current generation of fighters inadequate and obsolete. While air superiority is of prime importance to leverage airpower, even optimistic assessments of enemy force capability find few enemies capable of matching our current generation of fighters, especially with the mixture of the already built F-22 (approximately 187 aircraft).<sup>2</sup> Furthermore, continuing a *sole focus* on the F-35 (current USAF requested buys are 1,763 aircraft<sup>3</sup> at \$160 million a copy)<sup>4</sup> misses the important problem of winning our nation's most likely foreseeable conflicts. Our reliance on pre-9/11 and perhaps even a pre-1964 view of warfare and establishing an Air Force primarily optimized to fight high-tech air foes with a specialized, "more advanced than any enemy" fighter remains deeply rooted in USAF culture. This paradigm may posture our Air Force to dominate the air while watching helplessly as we lose the war, placing all eggs in the next-gen fighter basket. The plan to purchase large numbers of the F-35 aircraft, and retire most, if not all USAF, US Navy and Marine Corps air-to-ground fighters is needlessly risky and ill-conceived. Never in aviation history has a single aircraft type been a true jack-of-all-trades aircraft, able to conduct air-to-air, denied area interdiction and close air support (CAS) roles with sufficient capability to meet the joint force needs. We must prepare for *both* the enemy's worse case and most likely courses of action. In short, USAF leadership's focus and devel-

opment of a force built around defeating a “sophisticated state enemy” in a conventional force-on-force fight must be *balanced* with the missing gunship effect or we invite strategic failure in the most likely future conflicts.<sup>5</sup>

In current USAF circles, air interdiction, and specifically CAS, remains a distant second to air superiority focus in terms of design criteria for its high-dollar, next-gen fighters. While the USAF strategic ability to interdict deep targets in a Cold War-style battlefield was greatly enhanced by the B-2 more than two decades ago, CAS continues to lag in development, languishing as part of the outdated USAF paradigm. Conventional USAF thinking has not adequately distinguished our ability to find and fix ground targets from the act of accurate weapons delivery. Instead, USAF design envisions a military only, uncluttered battlefield with easily identifiable targets where collateral damage (CD) plays an insignificant role. In simplest terms, our air-to-ground fighters remain a highly accurate bomb dispensing force. While the advanced cockpit and helmet of the F-35 lends to a better “human factor” assessment of data, in practice, it adds little to our ability to find, fix, and efficiently strike the target with our current complement of F-series USAF and Navy aircraft.<sup>6</sup> The USAF’s outdated and singular focus on next-gen fighter development is compounded by a misunderstanding of its air-to-ground role, causing aircraft, sensor, and weapon system procurement errors. This mistaken paradigm makes decisions like the A-10 retirement seem like a suitable course of action despite an ever-increasing need for its unique attributes and mission capabilities.<sup>7</sup> The blinders are strong, and the joint force needs are misunderstood by USAF senior leadership. Gen Gilmory Michael “Mike” Hostage III, the Air Combat Command (ACC) commander, singled out the A-10 for its inability and lack of usefulness on today’s battlefields like those found in the Middle East and Syria as examples in 2014, only to have the A-10 redeployed to Iraq for use in Syria less than a year later for just such a purpose.<sup>8</sup> Indeed the animus of senior leadership to suggestions their paradigm is off target from their own very combat-hardened and tested force was again shown when the ACC vice commander, Maj Gen James N. Post III, opened the January 2015 annual weapons and tactics symposium, a collection of the USAF’s best tactical experts, by warning officers that praising the A-10 attack plane to lawmakers amounted to “treason.”<sup>9</sup> Many USAF planning and procurement cycles have not resolved an appropriate paradigm for the twenty-first century battlefield and US strategic conflict because too many USAF senior leaders still hold an *outdated model* of war in the modern world.

Current conflicts point the way for future enemies of America to fight against our conventional force. Whether tackling a terrorist organization or state actors, the United States will likely face an embedded foe, intermingled with civilian noncombatants. This makes enemy identification difficult with either the existing air-to-ground conventional Air Force (CAF) or the continued acquisition of the F-22 or F-35. Neither significantly advances current status quo in our ability to deal with the twenty-first century battlefield when it comes to finding and fixing the target and engaging with quick, persistent, and appropriate yield weapons. With current capabilities, positive identification (PID) is often difficult for air assets and remains one of the USAF’s most troubling weaknesses. Even when the enemy’s PID is gained, our available weapons and air platforms lack the ability to attack quickly using the low-yield, low-CD engagements our leaders in Washington expect and

public scrutiny demands. The PID and weapons effect weakness cannot be resolved until we break our paradigm and focus our procurement on a glaring gap in our ability to provide gunship effect on a large scale to the joint force on today and tomorrow's battlefield.

Gunship effect is one of the most important, yet misunderstood mission effects the combined joint warfighter needs from its air arm. Despite small overall numbers (currently 28 aircraft in the DOD in just two Air Force Special Operations Command [AFSOC] squadrons), the AC-130 gunship has remained deployed to combat since 9 October 2001, covering both Operation Enduring Freedom (OEF) through today and Operation Iraqi Freedom (OIF) in its entirety. Understanding the high demand for this low-density air asset is important to understanding the way warfare has changed. Gunships fly every night and routinely fire their weapons in battle. While operational needs have changed in both theaters, in the author's experience, gunships have historically shot between 10 percent (low) and more than 30 percent (high) of their sorties in OEF from October 2001 through May 2011, and similarly in OIF from March 2003 through August 2008, making the gunship perhaps the highest weapon-engagement-to-sortie-ratio aircraft in the post-9/11 combat in both theaters.<sup>10</sup>

Why are the gunships, a small percentage of the total force, performing such a large number of CAS engagements? Two significant traits stand out: Gunships provide enhanced situational awareness (SA) and low-yield, quick, persistent, and accurate fires in one combined platform. The gunship effect best meets the ground customer, and indeed, the joint force commander's need for battlefield SA. There are several interrelated qualities the AC-130 uses to amass SA. Unlike most CAS and intelligence, surveillance and reconnaissance assets—the AC-130 has two visual sensors instead of a single sensor, in the form of thermal and television cameras. Unlike remotely piloted aircraft (RPA), these visual sensors work in concert with a pilot's wide field of view and use of night vision goggles (NVG). For the AC-130U, the visual sensors provide video through two sensor operators, while a fire control officer (FCO) directs the sensors and the navigator, trained in tactical navigation and battlefield coordination, communicates with ground parties. This allows for multiple crew positions watching multiple cameras and fields of view. Each visual sensor, operating independently, can zoom in to examine individual personnel movement while the pilot on NVGs, unencumbered by the need to drive the sensor balls himself, provides a wide field of view "slaving" of the sensors to activity on a large scale, instantaneously over an area the size of a small city. This combination of multiple eyes on an objective and multiple humans overlapping their eyes allows the gunship to overcome what other one- or two-person fighters cannot provide: extra brainpower able to track a fluid battlefield environment. While RPAs can add additional personnel to view their single sensor, the lack of an additional sensor and the pilot wide field view greatly restricts RPA SA, especially on a cluttered and dynamic battlefield. Although most fighter aircraft now have one visual sensor, their single all-in-one sensor/operator/pilot is limited in what the pilot can see, hear, and digest. The pilot becomes task-saturated with combined flight and mission duties, restricting the ability to process and act in a cluttered battlefield. While the F-35 is leveraging the latest technology to ease the load, pilots still will be limited by the physical qualities and speeds one human can process information while flying a

high-speed or “fast CAS” fighter. A single human focused on a single view is quickly overwhelmed and overly focused on a single target during fluid situations in urban environments or cluttered terrain.

In addition to multiple eyes, the gunship uses multiple ears and data feeds. With more than six radios and multiple personnel able to communicate on different channels *simultaneously*, multiple ground, air, and command and control elements feed the gunship's SA of the battlefield with verbal and data cuing. The pilot and FCO can *listen* to all incoming radio traffic simultaneously from the ground party, other aircraft, and command and control channels, by delegating *outgoing* radio calls to the navigator, copilot, and electronic warfare officer. This enables the pilot and FCO to build their SA in ways no fighter pilot/radio operator can match. While RPAs have taken over for the fighter in many circumstances due to longer loiter time, current RPA views are restricted by its single sensor combined with minimal radio contact (single channel) often restricting their SA to a single contact point literally called “steady stare” by the warfighter. In a real-world environment, this often causes a loss of SA in the fluid dynamic situation of a cluttered or urban environment. Distributed duties and crewmembers working in parallel is a hallmark of gunship operations and the key attribute when combined with multiple visual aids and communication paths allowing its crew to maintain exceptional SA in a fluid, dynamic situation.

As an example of the differences between fighter/RPA coverage and AC-130 coverage, picture an anthill before and after it is kicked to understand how a single sensor from a single/dual manned aircraft or RPA has limited SA. It is like viewing the anthill through a straw. Although you can see very clearly the few ants in your field of view, just outside the “straw-view” are multiple avenues of approach and additional anthills nearby. The gunship maintains better SA by combining its two visual sensors and the pilots' wide field-of-view, having multiple humans with access to the multiple views, using separate scans tracking both close-in action and the avenues of approach and listening to radio chatter from multiple players. This ability of finding and distinguishing the enemy activity from noncombatant activity is strategically important in today's fight, yet the USAF's old paradigm of a conventional battlefield ignores or minimizes the clutter found on a modern battlefield. We fight an unconventional foe who hides their activities among the general populace we endeavor to positively influence. CD concerns cause our troops to move into close contact before the enemy shows its hand and restricts aircraft with less situational awareness from being brought to bear. The United States must combat the enemy's ability to blend with civilians and limit our ability to detect and thwart their activities. In future conflicts like a fight against Iran or even a North Korean invasion of South Korea, the Air Force *must* develop the ability to positively identify enemy forces or activities and strike or suppress those activities while protecting intermixed noncombatants or close-in friendly forces. Finding, fixing, and tracking enemies is overly simplified in the outmoded USAF paradigm. Combat identification, as it is often called, means sifting through a myriad of noncombatant and extraneous activity and is among the most difficult challenges of today's and tomorrow's battlefield. The most conventional opponent will certainly fall back on asymmetric attacks as their force-on-force fails, much the way Sun Tzu predicted, and a force

without gunship effect will quickly become paralyzed.<sup>11</sup> One only needs to look at ISIS and Syria to recognize this problem.

Although most gunship missions start with the ability to provide an unsurpassed SA of the battlefield, their unique combination of strike attributes makes them one of the most requested, used, and lethal strike platforms. While many strike assets are available, gunships combine several key characteristics making them more desirable than any strike platform on today's battlefield or any advance the F-35 might make: quick and persistent fires; low-yield weapons for reduced CD; and the ability to fire close to friendly forces.

The AC-130U and AC-130W use guns as "direct, side-firing" aircraft. The gunship's attack orbit and observation orbit for these weapons are the same. The orbit that other ground attack assets now use when viewing the battlefield with their sensor is often not their attack profile. Run-in to the target of some form is often required to dispense ordnance. This difference is highlighted when comparing any forward firing asset attack video versus a gunship video. When forward firing attacks from fast CAS are made, the time between receiving the fire mission from the joint terminal air controllers (JTAC) and munitions on target can usually be measured in minutes, and reattacks often require realigning for another run. (Reattacks often are measured in more than a minute and can be problematic as the sensor often reaches gimbal limits during the attack and must reacquire the target(s), who has often moved, or blended into the local populace). The gunship guns are direct, side-firing, providing quick, highly accurate, and repeatable engagements as the relative position of the target stays fixed in the aircraft orbit or "pylon turn." With roughly 8–10 seconds time of fall, initial attacks on average take less the 30 seconds<sup>12</sup> to impact on target, and reattacks are as simple as pulling the trigger again and again throughout the orbit as the targets are tracked and destroyed. The inherent ability for a side-firing aircraft to quickly, accurately, and repeatedly attack targets and maintain SA as the situation progresses is unmatched in airpower, yet historic air prejudice against side-firing aircraft belies its success and unique ability to provide continuous persistent fires during close contact with enemy forces. While the USAF has developed newer weapons that allow a level of "off-axis" firing, the response time to impact and repeat attacks often remains measured in minutes and the fighter must work to reacquire the target and maintain SA. With the gunship side-fire, the enemy has no chance to regroup and continue attacking, as is often seen during run-in attacks from other aircraft that leave gaps between ordnance impacts.

The gunship also has selectable low-yield weaponry. The AC-130U gunship's largest munition is a 105 mm direct-fired howitzer round. With a projectile weight of approximately 33 pounds,<sup>13</sup> this munition is an order of magnitude smaller than most of the USAF's conventional bombs. The gunship's smaller calibers are often used when the 105 mm is not necessary. In many cases the 40 mm or 25 mm munitions of the AC-130U and 30 mm of the AC-130W provide only small single-digit explosive weights against individual personnel.<sup>14</sup> Consider some of the thousands of gunship engagements during OEF and OIF, replaced with a 2000-lb., or even smaller 500-lb. bombs. Gunship crews practice a simple credo: when prosecuting targets, don't create more future enemies while killing the ones you are targeting. Unfortunately, the current USAF paradigm holds accuracy as the dominant value of

air-to-ground operation and the most important factor in the design of its current and next-gen fighters, weapons, training, and employment. Despite their accuracy, even the 500-lb. bombs typically carried by today's fighters dropped with single-digit-miss distances are often not appropriate in a twenty-first century fight, especially in urban operations when the targets are individuals mixed in with the civilian populace.

In today's fight, CD is a major center of gravity, as we attempt to gain public support with the local populace our enemies attempt to control and influence. To this end, RPAs and many rotary wing aircraft employ the AGM-114 Hellfire missile. At approximately 100 lb. of overall weight with an explosive payload of 20 lb.,<sup>15</sup> it is larger, yet comparable to the 105 mm Hellfire missiles are frequently used in a strike role, instead of bombs because of their comparatively low yield. However, Hellfire employment itself can still take a minute or more, depending on the platform carrying it. For example, on a combat employment during OIF surge operations, a ground element requested an air asset target a small building with Hellfire. Despite being on target, the air asset asked for four minutes for setup, and the engagement eventually took almost eight minutes. The AC-130U overhead was then asked to target a nearby small building. The building was destroyed a mere 13 seconds after receiving clearance for fire.<sup>16</sup> All the while troops were within 200 meters of the enemy position taking sporadic fire. It's no wonder ground forces love the quick reaction of a gunship, especially when in direct contact with the enemy!

The final strike attribute necessary for CAS is the ability to fire very close to friendly forces. CAS is defined in joint regulation as "air action. . . against hostile targets that are in close proximity to friendly forces."<sup>17</sup> For decades the distance associated with CAS was 1 km from friendly troops. This basic definition of CAS and the USAF paradigm lumps all CAS together, and many munitions dropped in OEF and OIF could be classified as CAS. However, not all CAS is created equal and is today often conducted at very short distances to both friendly forces and CD concerns. Distances of less than 200 meters to friendlies are common for gunship engagements. In 2007, a gunship crew was awarded Distinguished Flying Crosses for firing less than 15 meters from prone friendly forces in the open, pinned down by enemy personnel.<sup>18</sup> In July 2009, an AC-130U shot multiple targets in mountainous terrain on one particularly harrowing mission, at enemies inside 35 meters and as close as 10 meters to friendly forces.<sup>19</sup> Gunships are routinely used within the "danger close" distances most other air assets rarely cross as ground forces trust the gunship and request the danger close shots when engaged in close-in combat. Even when friendly forces are not within danger close distances, CD concerns restrict most air assets because of the potential damage, as ground forces call for "0 CD estimated" engagements. The exception has been the AC-130 that performs this kind of CAS routinely. Performing such CAS quickly and accurately with low-yield weapons is integral to the twenty-first century fight as it negates the side effects CD can cause to tactical missions and strategic messaging. AC-130s, helicopter gunships and the A-10 often perform this type of CAS, while fast CAS and bombers of our CAF are only used for such CAS when these assets are not available and there is no other option. If the USAF were to poll the JTACs who have more than 50 engagements in combat (which we now have in large numbers), the overwhelming predictable conclusion would indicate gunships and A-10s are performing a variation of CAS the rest of the fixed wing

assets cannot provide or do so only in extreme circumstances when gunships (first choice) and A-10s (second) are not available. All other fixed-wing assets would be a distant third—and the F-35 will do nothing to alter this reality significantly.

AC-130 gunships have been used in virtually every major (and minor) battle since 9/11. Unlike some SOF aircraft, the gunship has often worked conventional as well as SOF missions. From nightly coverage of Marines in the battles for Fallujah, Iraq in 2004 to working individual SOF high-value targets, gunships are used because ground commanders highly value the gunship effect—SA and quick, persistent, low-yield fires. Between 9/11 and 2011, gunships flew roughly 65 percent of their total annual flight time in direct combat.<sup>20</sup> Total annual time includes all home station training, initial student training, test and evaluation, exercise support, etc. To provide perspective, if the USAF had doubled the number of gunships (and their total flight time) and correspondingly cut the ratio of combat flight hours to all other flight time in half, the gunships would still have one of the highest ratios (roughly 30 percent) of combat flight hours per total hours flown since 9/11.

Although the AC-130J is now being fielded by AFSOC, it will only replace the AC-130U one-for-one. Why not build more gunship effect into the USAF? Part of the answer is who most directly benefits. First, the joint conventional ground force needs more gunship effect. If the gunship were provided with its long-loiter SA and quick, persistent CAS, the ground force commander could directly cover his most dangerous areas of responsibility with a CAS asset *proactively*, instead of waiting for CAS response to a troops-in-contact situation. This would allow ground commanders to take on direct action missions against preplanned and intelligence generated targets with gunships overhead, building the ground forces situational awareness and decreasing risk by making the battlefield more difficult for the enemy to effectively operate undetected.

While the US Army and Marines could greatly use more gunship effect, they lack the authority and funding to build more gunship effect. The USAF is primarily tasked and resourced for airpower development, and the traditional USAF views the gunship effect as a “niche need” or “niche mission,” still considering current warfare and today’s battlefield an aberration, much as it was viewed in Vietnam. In Vietnam, the inadequacy of high-dollar air superiority fighters like the F-4 (heralded much like the F-35 as a do-it-all fighter) to provide this gunship effect on the battlefield, led to the use of the A-1 Skyraider, similar in mission to the A-10, and the creation of the AC-gunships (AC-47, -119 and finally the AC-130). However, the USAF fought to divest and retire such aircraft, with only special operations managing to save the AC-130 and improve on the original as a special operations asset. On today’s battlefields, JTACs and fire direction personnel requesting CAS, use fast CAS as additional ISR, much as they do an RPA, loading the air stack with “eyes.” If fighters are used to engage enemy positions by the ground force, it’s often as a last resort, when AC-130s, Hellfire-shooting RPAs, or even 30 mm strafing A-10s are unavailable. Even early in the post-9/11 conflict, the changing nature of warfare was highlighted at the 2004 USAF Central Command weapons and tactics conference. Representatives of tactical communities from all USAF specialties in the combat zone got together with US Central Command ground fire support teams.<sup>21</sup> JTACs described fighter weapon employment in OIF as “when I have a big building to break.” Other-



wise, AC-130 gunships or helicopter gunships were preferred. Ironically, 40 years after Vietnam, the gunship, like the A-10, fights the same USAF paradigm, in a world where its mission effect is needed even more.

There is another factor precluding the development of more gunships. While the USAF pays for the original C-130s, US Special Operations Command (SOCOM) funds all aspects of the C-130 gunship modifications, training, and employment. The cost of gunship operations consumes a large portion of the annual SOCOM flying budget. Bottom line: USAF has the money but wants to spend it on aircraft like the F-35, and SOCOM owns the gunship mission as it currently exists and can't break the SOF budget to support conventional ground force missions, let alone afford to research and develop follow-on systems in anything similar in scope and breadth to the F-22/F-35 programs. Should we build more gunships capacity? An honest, critical analysis of plentiful combat data provides a clear and unambiguous "yes." Moreover, an investment now will also allow for additional gunship capacity in the future.

It is important to understand, while the gunship effect is necessary today and in every conceivable future conflict, the gunship itself and the C-130 platform on which it rests, has many limitations. First, the modern C-130 is still primarily the same platform it was 50 years ago when it was first designed. It is essentially limited to night employment because daytime survival, based on aircraft limitations and the AC-130 employment profile, makes day employment extremely hazardous without serious improvement to defensive systems. Current C-130 platforms in "gunship guise" are "maxed-out" aircraft, often flying at maximum gross weight for a standard C-130. With almost 200 times the aerodynamic drag of a basic equipped C-130, the AC-130U, in particular, is underpowered and labors tremendously just to reach its relatively low employment altitudes. Such hard use of the maxed airframe and excess operations tempo has caused tremendous wear and tear and shortened the platform's estimated lifespan, expediting the need for the follow-on AC-130J. The plan to build a replacement gunship looked very little at modern options for providing the gunship effect. Even today, it may make near-term sense to convert existing larger lift capacity aircraft like a civilian cargo or passenger jet, or even the USAF's C-17, into gunships. With more thrust and weight carrying capacity, such aircraft could move faster to/from the objective, with the ability to go higher, outside of the threat and provide even longer loiter times, add visual sensors or weapons and provide better gunship effect, but such ideas were seen as unnecessary or too costly to the USAF leadership and were abandoned without careful consideration.

The United States should procure more gunships in the short term and focus on the research, development, and procurement of a 24/7 gunship effect. However, USAF leadership is so entrenched in its paradigm, that despite 15 years of evidence and experience from its war fighters, it is unwilling to give up *any* of the 1,763 F-35 planned aircrafts to save the unique, highly effective and much less costly A-10. The USAF next-gen proponents are mirrored by strong F-35 political support and incentive from a civilian industrial base with thousands of jobs based on F-35 production. The problem is, however, *our world has changed*, and with it, the needs of modern warfare. While the USAF focused on preparing its force for the enemies' most dangerous course of action, it was ill prepared, developed, resourced or

trained to fight the war in Vietnam. Today, in much the same way, it still holds to an outdated paradigm. This drives our F-35 procurement, focused largely on a “peer” enemy force fighting a conventional fight on an uncluttered battlefield. Even when examining future conflicts with state actors, we are unlikely to face this style of warfare beyond a few weeks—if at all.

The USAF should channel some of the energy and funds to procure next-gen fighters instead into providing the gunship effect in a modern package. Jobs lost to smaller quantities of fighter production would be replaced and gained back in building gunship effect. This may look very different from today's AC-130. It would be able to survive in both day and night routine use in low to medium threat environments, and probably have some if not all of the gunship crew removed, remotely positioning the gunship team out of harm's way, able to move their airborne office to an actual one! It would improve its sensor suite and weaponry taking the gunship effect to the next-gen level, providing improved SA and quick (less than 30 seconds), persistent (fires gaps less than 15 seconds) and accurate fires with selectable yield (able to target individual personnel within 10 meters of CD concerns). It would meet the *most likely* twenty-first century adversary head on against their method of employment, thwarting their ability to hide in plain sight, hug friendly or noncombatant personnel, and force us to risk public outcry over CD. Sadly however, such dreams remain unrealized “what ifs.” The USAF continues to rely on a hodge-podge of multiple aircraft designed to do other things being pressed into service to provide a poor man's gunship effect. USAF leadership equates placing a sensor pod on a B-1 or B-52 creates an acceptable alternative to the A-10 or AC-130.<sup>22</sup> While improving the bomber's usefulness, it does not replace the situational awareness of the A-10 or AC-130, due to its flight parameters, weapons types and delivery modes. One only needs to look at a recent friendly fire incident of a B-1 trying to conduct a less demanding version of this type of modern CAS in 2014 to see the unfortunate result of missing gunship effect on platforms not built to meet the battlefield CAS of today or tomorrow.<sup>23</sup> History has shown that reacting to changes in warfare rather than proactively anticipating those changes can *lose* wars. As Gen Giulio Douhet said in *Command of the Air, 1921*, “Victory smiles upon those who anticipate the changes in the character of war, not upon those who wait to adapt themselves after the changes occur.”<sup>24</sup> Unfortunately, many are still trying to fight the “last good air war.”

In future conflicts, even in a conventional fight against a strong state actor, it is likely US strength and airpower quickly places the enemy at a disadvantage. Soon, however, the limitation of USAF conventional air force shows. The “niche need” for high-tech advanced fighters is gone after the first few weeks or even days, as the enemy cannot defend against current US capability in the form of USAF F-15/F-22 and Navy F-18s. As the fight continues, PID of enemy forces becomes more difficult as the enemy begins to hide, often within the local populace. US political will is strongly adverse to CD. Public support erodes as CD mounts when we must repeatedly drop overly large bombs on *individual* enemy combatants imbedded in civilian populations, (the overwhelming majority of targets in post-9/11 asymmetric battles), regardless of the target's legitimacy or our accuracy. Without 24/7 gunship effect, our ability to observe and discern enemy activity across the critical areas of the battlefield is greatly hampered, and our enemy adopts tactics such as the use of impro-

vised explosive devices (IED). While the IED itself is hard to observe once placed, the enemy activity associated with placing the IED is much more difficult for the enemy to hide with adequate gunship effect. Even today, ground commanders are attempting to find such activity with hundreds of small RPAs. If we caught and destroyed even 10–20 percent of the enemy implanting IEDs, the enemy network and support chain would be greatly damaged and hampered, if not destroyed.

We must carefully weigh the necessity for advanced air superiority fighters like the F-22 and advanced multirole fighters like the F-35 over the current fleet. Their need is the true niche need—when needed, nothing else will do, but once the high threat obstacles are eroded, other purpose built assets are often better suited to the “long war” that inevitably follows. The acquisition of next-gen fighters should be *balanced* with tried and true CAS of the A-10, and a 24/7 gunship effect, mandatory and in constant demand on any conceivable future battlefield. In current and future wars, the gunship effect could protect our ground forces and provide them freedom of movement. It would ensure our own civilian leadership’s confidence and garner public support in the strategic concern over CD, denying the enemy the ability to drastically affect public opinion and national resolve. Most importantly, it will provide the joint force unmatched SA of the battlefield and, when the fight gets close-in, it will be the ground force’s best friend. The USAF must change its paradigm of airpower and future war. It must reconsider the amount and likelihood of the enemy’s most dangerous course of action and rebalance toward the always needed gunship effect, useful in the enemy’s most dangerous course and absolutely critical in enemy’s most likely course for the twenty-first century. With such focus, we can turn out gunships for today’s fight and bring American design and ingenuity to bear, providing next-gen gunship effect and rout the enemy of the future. ♣

## Notes

1. The “gunship effect” is a term the author uses to describe a series of characteristics and capabilities necessary for prosecuting close air support (CAS) and air interdiction on modern battlefields.

2. Pete Hurrey, “F22 Fighter Program Crashes and Burns in the Senate,” 22 July 2009, *Thebaynet.com*, <http://www.thebaynet.com/articles/0709/f22-fighter-program-crashes-and-burns-in-the-senate.html>; and August Cole, “Senate Kills Funds for F-22 Fighters,” *Wall Street Journal*, 22 July 2009, <https://www.wsj.com/articles/SB124818597270968593>.

3. “Current Plans for F-35 Warplane Orders from U.S. Allies,” Reuters, 24 February 2013, <http://www.reuters.com/article/uk-lockheed-fighter-orders-factbox-idUKBRE91N0ET20130224?mod=related&channelName=Aerospace>.

4. Dan De Luce, “Why is the US Spending So Much on the F-35 Fighter?,” Agence France–Presse, 23 February 2014, <http://news.abs-cbn.com/global-filipino/world/02/22/14/why-us-spending-so-much-f35-fighter>.

5. Max Boot, “The Evolution of Irregular War: Insurgents and Guerrillas From Akkadia to Afghanistan,” *Foreign Affairs Magazine*, March/April 2013, <http://www.cfr.org/afghanistan/evolution-irregular-war/p30087>; Jeffrey B. White, Central Intelligence Agency, “Some Thoughts on Irregular Warfare: A Different Kind of Threat,” <https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/csi-studies/studies/96unclass/iregular.htm#top>; and W. Alexander Vacca and Mark Davidson, “The Regularity of Irregular Warfare,” <http://strategicstudiesinstitute.army.mil/pubs/parameters/Articles/2011spring/Vacca-Davidson.pdf>.

6. Adam J. Hebert, "Compressing the Kill Chain," *Air Force Magazine*, March 2003, <http://www.airforcemag.com/MagazineArchive/Pages/2003/March%202003/0303killchain.aspx>.
7. Rich Smith, "A-10 Warthog is Out, F-15 and F-16 are In, Says the Air Force: Air Force Still Aims to Save Some Dollars. But Does This Plan Make Sense?," *The Motley Fool*, 22 March 2015, <https://www.fool.com/investing/general/2015/03/22/a-10-warthog-is-out-f-15-and-f-16-are-in-says-the.aspx>.
8. Chelsea Todaro, "A-10 Warthog No Longer Suitable for Middle East Combat, Air Force Leader Says," *National Defense Magazine*, 27 July 2014, <http://www.nationaldefensemagazine.org/blog/lists/posts/post.aspx?ID=1570>; and "In Shift, Pentagon Deploys A-10s to Fight ISIS in Syria," *DOD Buzz Online Defense and Acquisition Journal* by military.com, 20 October 2015, <http://www.dodbuzz.com/2015/10/20/in-shift-pentagon-deploys-a-10s-to-fight-isis-in-syria/>.
9. Brendan McGarry, "General: 'Praising the A-10 to Lawmakers is Treason,'" *DOD Buzz Online Defense and Acquisition Journal*, 16 January 2015, <http://www.dodbuzz.com/2015/01/16/general-praising-the-a-10-to-lawmakers-is-treason/>.
10. Author's estimate based on multiple reviews by author during routine inquiries during the 10 years post 9/11.
11. Sun Tzu, "The Art of War," 12, items 24, 25, 26, 28, with special emphasis on 30 and 33 of chapter "Weak points and Strong Points," Kindle edition, trans. Lionel Giles.
12. AC-130U/AC-130W side fired munitions (guns) only.
13. "M102 105mm Lightweight Towed Howitzer," *GlobalSecurity.org*, <http://www.globalsecurity.org/military/systems/ground/m102.htm>, accessed 28 February 2017.
14. "Bofors 40 mm gun" on *Wikipedia.com* (article derived from various sources). [https://en.wikipedia.org/wiki/Bofors\\_40\\_mm\\_gun#cite\\_note-2](https://en.wikipedia.org/wiki/Bofors_40_mm_gun#cite_note-2).
15. Andreas Parsch, "Directory of U.S. Military Rockets and Missiles AGM-114;" Boeing/Lockheed Martin (Rockwell/Martin Marietta); and "AGM-114 Hellfire," <http://www.designation-systems.net/dusrm/m-114.html>.
16. Author's personal experience during Operation Iraqi Freedom 2008.
17. Office of the chairman of the Joint Chiefs of Staff, "Close Air Support," Joint Pub 3-09.3, 25 November 2014, chap. I para. 2, p. I-1, [https://fas.org/irp/doddir/dod/jp3\\_09\\_3.pdf](https://fas.org/irp/doddir/dod/jp3_09_3.pdf).
18. Distinguished Flying Crosses awarded 12 September 2007 for operations near Al Karmah, Iraq.
19. From the author's personal copy of denied recommendation for DFC for one of his squadron crews in operation enduring freedom, 16 July 2009.
20. AC-130U flight percentage based on multiple reviews by author during routine inquiries over the 10 years post 9/11.
21. Author's personal experience at the weapons and tactics conference in the fall of 2004 in Bahrain.
22. Air Combat Command commander's remarks during the Air Force breakfast program 29 July 2014, *Air Force Magazine*, airforcemag.com., [http://www.airforcemag.com/afatranscripts/Documents/2014/July%202014/072914hostage\\_AFA-AFBP.pdf](http://www.airforcemag.com/afatranscripts/Documents/2014/July%202014/072914hostage_AFA-AFBP.pdf).
23. Dan Lamothe, "Investigation: Friendly Fire Airstrike that Killed U.S. Special Forces Was Avoidable," *Washington Post*, 4 September 2014, <https://www.washingtonpost.com/news/checkpoint/wp/2014/09/04/investigation-friendly-fire-airstrike-that-killed-u-s-special-forces-was-avoidable/>.
24. Quoted from Italian Air Marshal Giulio Douhet, "Giulio Douhet Facts," Your Dictionary. Copyright 2010 The Gale Group, Inc, <http://biography.yourdictionary.com/giulio-douhet>.



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