



Three A-10Cs assigned to the 190th Fighter Squadron 'Skull Bangers' in a formation flight of three aircraft lining up for the tanker Jason Wong

Last of the gunfighters

Patrick Roegies, Paul Gross and Ben Gorski recently spoke to Major Sky 'Comet' Lesh of the 47th Fighter Squadron 'Dogpatchers' about the objectives of the latest Exercise Hawgsmoke – possibly the last large-scale gathering of A-10 units

Brrrrrrrrt... brrrrrrt...!" The silence over the Barry M Goldwater Range in Arizona is shattered by the unique sound of 65 shells per second leaving the Gatling GAU-8 cannon of a Republic A-10C Thunderbolt II. It is a sight, but mainly a sound, that anyone who has ever witnessed it will remember forever. And many such memories were made during the 2024 edition of the biennial US Air Force Hawgsmoke gunnery competition.

For four decades, the A-10 has been a proven and reliable platform for the combat air support (CAS) role. During the First Gulf War (1990-1991) the A-10 proved its value in an actual combat scenario. With air superiority as an umbrella the A-10 ensured ground troops could advance by taking out any potential threat opposing the coalition forces. Some 25 years later, the aircraft still fulfils an important role in CAS with no newcomer in sight.

The A-10 community gathers every two years for Exercise Hawgsmoke with the intention to share experiences, align tactics and successfully complete the Hawgsmoke competition.

Where there's smoke...

In early 2000, it was likely that Hawgsmoke would be abandoned and the air force gunnery competition would not be revived. However, Hawgsmoke adapted and was opened up to every A-10 unit in the Air National Guard, operational Air Force and Air Force Reserves; and the Hawgsmoke exercise continued to evolve through its experiences.

The first Hawgsmoke didn't include many of the events now part of the competition. Initial formation flights were flown as two-ships, changing to today's four-ships and so the exercise kept evolving.

Vision, mission, purpose, necessity

Hawgsmoke traces its heritage back to the Gunsmoke exercise – officially known as the Air Force Worldwide Gunnery Competition – a biennial air-to-surface gunnery meet for conventional weapons, hosted by the USAF. It originated in 1949 and was eventually succeeded by today's exercise.

Major Sky 'Comet' Lesh of the 47th Fighter Squadron 'Dogpatchers' explained:

"Hawgsmoke is the current biennial United States Air Force bombing, missile and tactical gunnery competition for A-10 Thunderbolt II units. The exercise is hosted by the winners of the previous competition and provides both skills competitions and an opportunity to share in the camaraderie and fellowship of the A-10 community.

"The inaugural Hawgsmoke was organised in 2000 at the Alpena Combat Readiness Training Center in Michigan. It was hosted by the 172nd Fighter Squadron from Battle Creek Michigan with Colonel Clifford 'Cliff' Latta initiating the first-ever event.

"The primary purpose remains to increase the tactical skills of the Hawg driver community. The competition would emphasise flying parameters and tactics that may have been relegated to the background prior to Low-Altitude Safety Targeting Enhancement (LASTE). For example, teams and individuals would lose points for releasing their bombs below a realistic abort altitude. Before LASTE, Hawg pilots were released to fly lower to increase their chance of getting a better bomb score. From

Hawgsmoke 2000 onwards, Hawg pilots were also penalised for exceeding the five seconds on final limit and for not performing the proper safe escape manoeuvre. These Hawg friendly tactical events, also saw the likes of long-range strafe and low-altitude Maverick attacks.

"Another purpose for the drills from Hawgsmoke 2000 edition onwards was to establish a biennial event where former A-10 pilots could meet to exchange experiences with the new generation keeping the fighter pilot traditions alive and to honour their fallen comrades in the now-famous Reading of the List Ceremony.

"The third purpose of Hawgsmoke is to allow current A-10 pilots an opportunity to show their capabilities and ability to master their aircraft. The goal behind gathering all A-10 units is to have a low-key fighter pilot weekend with fellow Hawg drivers, which just happens to have a competition attached."

However, it is most likely the Hawgsmoke 2024 edition was the last, due to the approaching withdrawal from use of the A-10C. For this edition, the 47th Fighter Squadron

Bullets are spraying out as the 75th Fighter Squadron Hawg driver releases its burst towards the target Christian Beye



hosted – the 'Dogpatchers' are also referred to as the 'Termites' of Davis-Monthan Air Force Base, Arizona.

Operational challenges

Major Lesh commented on the greatest challenges an A-10 pilot experiences when operating the A-10 in a modern combat environment: "The A-10 has continued to

prove itself as a lethal attack asset over the many years of service and varying combat environments. However, the adversary air forces are continuously developing and changing their tactics. With that development our armament and tactics must evolve equally to maintain our lethality.

"Our weapons officers and test squadrons have relentlessly kept this mission at the



Hawgsmoke editions

Year	Organising unit	Location	Unit emblem
1998	172nd Fighter Squadron	Battle Creek Air National Guard Base, Michigan	
2000	118th Fighter Squadron	Bradley Air National Guard Base, Connecticut	
2002	47th Fighter Squadron	Davis-Monthan Air Force Base, Arizona	
2004	No event		
2006	303rd Fighter Squadron	Whiteman AFB, Missouri	
2008	190th Fighter Squadron	Gowen Field Air National Guard Base, Idaho	
2010	190th Fighter Squadron	Gowen Field Air National Guard Base, Idaho	
2012	357th Fighter Squadron	Davis-Monthan Air Force Base, Arizona	
2014	47th Fighter Squadron	Davis-Monthan Air Force Base, Arizona	
2016	47th Fighter Squadron	Davis-Monthan Air Force Base, Arizona	
2018	74th Fighter Squadron	Moody Air Force Base, Georgia	
2020/21	190th Fighter Squadron	Gowen Field Air National Guard Base, Idaho	
2022	190th Fighter Squadron	Gowen Field Air National Guard Base, Idaho	
2024	47th Fighter Squadron	Davis-Monthan Air Force Base, Arizona	

Above: Many aircraft arriving at Davis-Monthan Air Force Base for Hawgsmoke 2024 were those assigned to the 422nd Test & Evaluation Squadron based at Nellis Air Force Base, Nevada. This aircraft is clearly used for operational testing of new innovations to the aircraft Aaron Paxton

Right: A relatively clean 76th Fighter Squadron 'Vanguards' banking away from the tanker after refuelling. The aircraft needed to be refuelled multiple times during their transition flight to Davis-Monthan Air Force Base Jason Wong

Below: The 'Sandy 1' mission is the toughest to fly as it puts the aircraft in a vulnerable position. Tactics are developed and trained to ensure the job is done and the survivability for the Hawg driver and personnel on the ground is as effective and safe as possible Christian Beye

forefront while maintaining the foundation of what it means to be a Hawg pilot and combat air support expert. Therefore, we consider Hawgsmoke to be just a small example of the versatility and criticality of our critical mission.”

He discussed key lessons learnt from the latest competition and how they are applicable to current or future combat operations, particularly in joint or contested environments: “This year’s Hawgsmoke showcased the first GBU-39 small diameter bomb tactical competition. We have strived to keep the A-10 with the latest and greatest munitions that will bring the fight to the enemy.”

Score!

During the exercise, each participant’s results were scored and rated. Major Lesh explained the process: “The host unit’s weapons officer is normally in charge of creating the event. The 2024 edition of Hawgsmoke was no different. The 47th Fighter Squadron weapons officer put together the entire plan. He forwarded the overall plan to each participating unit at the same time. The projected scenarios make it so

that the actual layout of the range and location really does not matter, and the advantage is minimal. The scoring process is accomplished by multiple weapons officers from across the Hawg communities to guarantee no favoritism in the scoring.

“Each squadron participates with four aircraft and the final score per four-ship depends on the results achieved in three different ways of deploying weapons – dropping the unguided GBU-39 small diameter bombs, firing the AGM-65 Maverick and the firing of the drill cannon. For all three deployments, special targets have been placed on the range course. For dropping the bombs, there are two passes where a minimum height has been set, below which the bombs may no longer be dropped. For firing the on-board cannon, there are four passes where a burst is given at two different targets. Here too, a minimum height applies, and lines have been drawn in the course with white car tyres beyond which no more shooting is allowed. A number of factors such as the flight height and the evasive

For Hawgsmoke, the competitors receive mission details at a set time prior to execution, so the brief and mission preparation are vital to having a chance at winning Patrick Roegies

action afterwards are boundary conditions that affect the final score. Several weapons instructors assess the results in order to reach a final conclusion that is as transparent as possible.”

Tactical debriefing and lessons learned is a critical part of every operation. Major Lesh shared what were the most important takeaways or improvements identified after key events, such as the low-altitude tactical navigation (LATN) or combat search and rescue (CSAR) exercises: “A debrief is often more critical than a brief in gathering the lessons learned and making the necessary changes to guarantee following missions’ success. However, in the Hawgsmoke competition, the competitors receive the mission details at a set time prior to execution, so the brief and mission preparation are vital to having a chance at winning. The debrief is less critical since everything has already been recorded, so it’s more about the bragging rights following the award ceremony.

“From the very beginning as Hawg wingmen, we train extensively in a low-altitude environment. First earning our 500ft qualification. This qualification is followed by a two-ship flight leads training where we earn our 300ft qualification, and finally our 100ft qualification as experienced flight leads. Needless to say, no matter how often you

train to find specific targets at 100ft altitude, while travelling 350mph over the ground it is no easy task. Mission planning at ‘1g’ is critical to identifying the funneling features that we utilise to get our eyes in the target area when it matters most. No matter the planning, however, the risks of operating at low altitude are always higher, and our contracts and standards helps to minimise this risk.”

The Longest Stick

The AGM-65 Maverick ‘Longest Stick’ challenge highlights the A-10’s standoff capabilities and defines the tactical considerations for extended standoff engagement. Maj Lesh explained the tactical considerations when deciding to employ munitions from such extended ranges, and how the benefits of standoff distance are weighed against potential limitations in sensor fidelity or target confirmation.

“Hitting long-range precision targets with the AGM-65 Maverick at distances of over nine nautical miles is no small feat. Several factors both situational and technical need to be considered when determining the optimal shot parameters.

“The AGM-65 Maverick has proven itself repeatedly in combat ever since Desert Storm. The Maverick still proves to be the

Hawgsmoke 2024 participants

Unit	Tailcode	Home base	Emblem
25th Fighter Squadron	OS	Osan Air Force Base	
47th Fighter Squadron	DP	Davis-Monthan Air Force Base	
66th Weapons Squadron	WA	Nellis Air Force Base	
74th Fighter Squadron	FT	Moody Air Force Base	
75th Fighter Squadron	FT	Moody Air Force Base	
76th Fighter Squadron	FT	Moody Air Force Base	
104th Fighter Squadron	MD	Warfield Air National Guard Base	
107th Fighter Squadron	MI	Selfridge Air National Guard Base	
190th Fighter Squadron	ID	Gowen Field Air National Guard Base	
303rd Fighter Squadron	KC	Whiteman Air Force Base	
354th Fighter Squadron	DM	Davis-Monthan Air Force Base	
357th Fighter Squadron	DM	Davis-Monthan Air Force Base	
358th Fighter Squadron	KC	Whiteman Air Force Base	
422nd Test & Evaluation Squadron	ET	Nellis Air Force Base	

go-to weapon when combatting armour vehicles, especially when it comes to standoff. This is why brand new Hawg pilots are trained early on the Maverick and it remains in our daily tactical mission set. It is often a favourite in the Hawgsmoke competition in trying to get the longest shot. A lot goes into a successful Maverick launch/firing – atmospheric, run in direction, dive angle, shadowing, and in the overall health of the training Maverick sensor, all determine whether or not you will successfully lock up the target at the longest range.”





Above: A Hawg driver assigned to the 25th Fighter Squadron prepares for start-up Paul Gross

Below: Two Osan Hawgs waiting for taxi clearance Paul Gross

maintaining accuracy with 60°, 45°, 30° and 20° profiles: “Manual bombing is a skill that is practised less and less as the munitions have developed and been upgraded on the A-10.

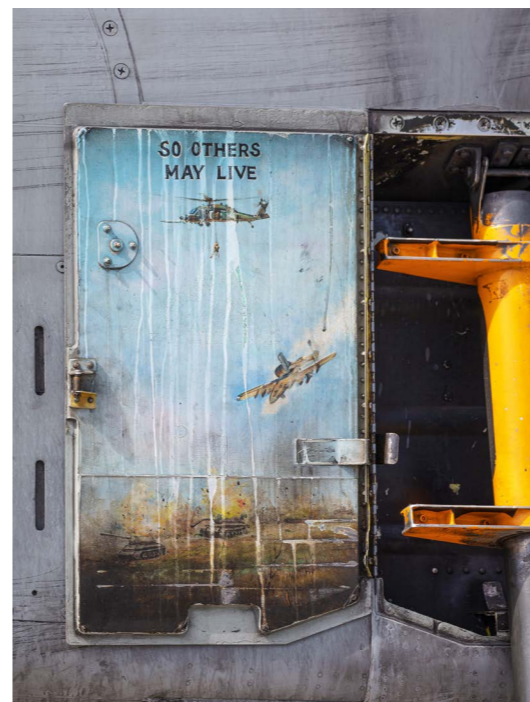
Manual delivery

However, decreasing manual bomb delivery accuracy is still practised, too. Without the use of constantly computed bomb sights, manual bomb delivery requires a deeper understanding of aircraft ballistics and wind factors. Manual deliveries during the Hawgsmoke competition are still included and scored. Maj Lesh commented on the techniques critical to

However, many A-10 pilots still practise this proficiency in the off-chance the aircraft has an issue where only manual bombing will allow for the employment of the weapon. Without getting too deep into the details, a decent amount of maths, skill and a bit of luck goes into a shack of a manual bomb.”

The employment of the GBU-39 small diameter bomb represents a significant evolution in the A-10’s capabilities. He discussed how the introduction of this munition changed the approach to tactical employment in both the competition and in real-world scenarios: “The A-10 weapons officers and test pilots have relentlessly strived to keep the A-10 equipped with the latest and greatest munitions that will bring the fight to the adversaries. Practising these capabilities, even in the parameters of a biennial Hawgsmoke competition, still provide the opportunities to refine our skills. This year’s Hawgsmoke event showcased the first GBU-39 small diameter bomb tactical competition. The standoff capability that the GBU-39 offers is unmatched with any other weapon the A-10 carries. Bringing this weapon into our daily training habits will only improve our lethality and versatility in combat.”

The CSAR mission demands rapid situational assessment, especially under the stress of potential communications interference. Maj Lesh told how a Hawg driver manages the task of identifying legitimate survivor signals while



Above: Artwork on a 25th Fighter Squadron Republic A-10C Thunderbolt II Paul Gross

Right: Evasive action is also part of the strafing run score equal to an actual combat situation Patrick Roegies

navigating spoofed communications, and what tactical procedures are prioritised to ensure the mission success: “It’s no small and easy task as ‘Sandy 1’ to lead in the recovery of an objective, which in most cases is a downed pilot. This is why the ‘Sandy 1’ upgrade is one of the more challenging upgrades you can have as an A-10 pilot. Not all instructors hold the patch. One of the many challenges you receive in the upgrade is deciphering multiple spoofer communications while in flight and working through identifying the objective of the foe. The United States Air Force has certain techniques to achieve this, but it still does not make it easy in a hostile environment with lives on the line.

“The CSAR role remains one of the A-10’s most crucial but challenging missions.” When it comes to prioritising the elements of finding, fixing and authenticating survivors while maintaining situational awareness in a potentially hostile environment, he explained: “The CSAR mission is complex and dynamic in nature. No CSAR is equal to the other and Hawgsmoke is no different. Fortunately, the roles are broken up between the formations with ‘Sandy 1-4’ given specific roles. Each pilot has a task to accomplish in the mission of locating and or recovering the objective. The Hawgsmoke competition replicates this mission on a much smaller scale, but still brings the challenge of time constraints and new environments to the competitors.”

Tactical flexibility in dynamic scenarios

The Hawgsmoke exercise tests pilots across a range of tactical scenarios, as Lesh explained: “Hawgsmoke is designed to capture all the mission sets that A-10 pilots train to on a day-to-day basis. The challenge lies in the fact that you are executing all of these missions in



one set event, where everything is scored and timed. Each team must work together and use their expertise to not only finish the competition but win it all! The 47th Fighter Squadron put forward our A-squad of attack pilots and I am proud to announce our squadron came out on top overall in the 2024 event.”

Precision timing and formation co-ordination

Ensuring time-on-target precision while co-ordinating with a formation in a situational dynamic airspace requires detailed communication and planning. Lesh described how an A-10 crew manages to synchronise these variables, and what adjustments are made in-flight to stay within the narrow timing constraints of the competition: “Time-on-target precision is practised in multiple different mission sets; from simultaneous weapon impacts to off-target de-confliction in the low-altitude environment, to making a flyover at the World Series at the end of the National Anthem. Hawg pilots learn early on how to utilise and integrate the A-10’s basic timing logic and put it to tactical use when it matters most. It is for this reason that the Hawgsmoke competition uses timing as a big part of the overall score and deduction if not met.”

With multiple events back-to-back, Hawgsmoke presented a high-tempo environment. Lesh told how the Hawg drivers adapt to these fast-paced scenarios: “If you don’t put yourself in high-stress situations in training, then when you find yourself in those situations when actual lives are on the line, you might not be able to execute. Hawg pilots thrive on intensive training, with complicated and stressful scenarios. The more ‘tools in our toolkit’ that we can learn in training, the more we may utilise when the mission demands itself in combat.”

Effective crew co-ordination is paramount in multi-ship missions: “The A-10 community prides itself on adhering to techniques and standards that are accepted across all Hawg

squadrons. As a result, any mission-ready wingman should be able to fly on the wing of any flight lead and successfully employ in combat. The 47th FS Hawgsmoke team was made up of four very experienced instructor pilots. However, there was still only one flight lead.”

Big shoes to fill

He continued: “The A-10 has proven itself in the CSAR task for over four decades. The Hawg history books have shown us how Hawg pilots have risked their lives to accomplish the mission of bringing home the good guys. Although we do operate off a minimum equipment list (MEL) in order to launch, we have seen many instances where pilots have risked it all and taken a damaged aircraft into the fight in order to save lives.”

When the A-10 is withdrawn from use, the gap in combat air support and combat search and rescue (CAS and CSAR) needs to be filled. These are big shoes to fill and the air force is still studying this answer. The A-10 has a legendary CAS and CSAR history and is not easily replaced. Davis-Monthan Air Force Base is expected to host a new Air Force Special Operations Command Wing and will continue to host multiple modernised flying missions to include the EA-37B and HH-60W. Given the importance of CAS to joint operations, future CAS requirements are being carefully re-examined at the defence department level.

The A-10 has continued to prove itself as a lethal attack asset over the many years of service and varying combat environments. Maj Lesh said: “Our weapons officers and test squadrons have relentlessly kept this mission at the forefront while maintaining the foundation of what it means to be a Hawg pilot and CAS expert. Hawgsmoke is just a small example of the versatility and criticality of our mission. Integration in the bigger fight is a necessity that our leaders do not take lightly, which is why the A-10 continues to participate in joint exercises across the globe.” **afm**

