Welcome to The Buzz. I'm Christopher Conover this week, Southern Arizona begins a long goodbye to a familiar part of the community. Since 1976, that sound, A-10s flying in and out of Davis Monthan Air Force Base, has become a familiar sound, but it's going away. The Air Force plans to retire all of its A-10s by 2029. The A-10 was a plane built around a gun, and that gun is part of what makes the A-10 iconic to aviation buffs. Not only the look, but the sound which we heard a few years ago at Hawgsmoke, the annual live fire competition for A-10 pilots, a pilot callsign SWAT explained what we heard.

About a 50 round burst here. The impacts plus the bullets breaking the mach and then we actually heard the sound of the gun. So it goes in that order, you know, depending on where you are in space.

To begin our look at the A-10 We met Brad Elliot, the head of marketing at the Pima Air and Space Museum, which has an A-10 built in 1975 on display.

We're over here in Hangar One kind of towards the track to exit the museum. You'll find an A-10. We also have The Bing One and Bing Two exhibits, which were officers lounges that got shipped over here. And we've added a lot of exhibitry around those as well. We've got the pilot suit there, the flight suit. And then we also have the movie prop A-10 that was in Terminator Salvation back in 2009. So lots of A-10 exhibitry to see here, including the barrel out on display and some of the bullets that go with it, which you'll get to see how big those are. Pretty impressive plane. This one actually served at Davis Monthan Air Force Base for the majority of
its service time, and it's still painted in that scheme, with the 355 training squadron. It's so awesome to have some local history on display here as well as just a big heavy hitter in aviation history.

**Christopher Conover 02:31**

Joining us at the museum was how Sundt, the author of war plane how the military reformers birth the A 10 warthog, we're standing here, literally under the wing more or less. Of an A 10. Having read the book, this was such a unique design and design process. Even when the Air Force said okay, let's do it. They had them build the a 10 and the a nine and said, Oh, we're not going to do this on paper, we want to do a fly off that was really different. Yet

**Hal Sundt 03:10**

I think the innovation that went into this airplane is not just the airframe itself but the processes and methods that went into testing it so that the folks that I spent a lot of time with, Pierre Sprey and others, who were kind of known as the military reformers, they were the in many ways the guiding spirit behind this thing. One thing they really believed in was relentlessly testing and prototyping projects, rather than just trusting it to be theoretical models and things like that. So it's a testament to seeing if what you've built can actually withstand what you think it can.

**Christopher Conover 03:48**

Talking about Pierre Sprey, not the most popular guy at the Pentagon kind of came out of McNamara's whiz kids and then became one of the founders, if you will, of the reformers. He kind of had his own beat that he marched to. But the A-10 was part of what came out of that.

**Hal Sundt 04:06**

Absolutely, he was such a unique individual. He, his life story is incredible. His family fled Europe in the early '40s. And they settled in Queens. And at 15 he enrolled at Yale, where he studied engineering, mechanical engineering and French literature. So he was always kind of on these two, these two competing pads. And when he got to the Pentagon, he was really relentless in questioning why are we doing what we're doing? And in doing so, he made some friends and made a lot of other, I don't know if I would call them enemies but

**Christopher Conover 04:48**

but not friends.

**Hal Sundt 04:49**

Exactly. Exactly. It's interesting too, because Pierre was this really brilliant individual and you
would think that someone would that intellect and brainpower and creativity would want to design something that I guess we would call really sleek or sexy. And instead, he directed all of that energy towards wanting to build something that supported troops on the ground. And the result, which was courtesy of the folks at Fairchild Republic, was this rather odd looking airplane that at least when I first started researching this, I used to think the A-10 was ugly. But now I see it. And I actually think it's a pretty beautiful airplane.

Christopher Conover  05:29
But it's not sleek, like the F 14 that Tom Cruise helped make famous that we walked by, or some of the other fighters. I also found it interesting reading your book, there was the group in the Pentagon known as the Bomber Mafia, coming out of World War Two, talking about precision bombing. And Pierre was like, 'No, that's not what we need to be doing this go fast precision bombing is the wrong direction, they're too expensive. What you need are low, slow and cheap,' which the A-10 was compared to, you know, some of the fighters completely different direction he thought the Air Force should go.

Hal Sundt  06:12
It's what makes the A-10 I think such an interesting airplane. And I should say, the A-10 story is very intimately connected with the F-16s as well. So Pierre and the Reformers before they were known as the reformers, there was another group that they kind of came out of that were called the Fighter Mafia, and that was a direct response to the Bomber Mafia. And they believed in this idea of building things that were practical, purposeful, that tried to do you know, more or less one thing really well and the A-10 became this thing that was excellent at flying close to the ground. And an airplane like the F 16 originally was known as a lightweight fighter was excellent at air superiority and I think sometimes what happens in conversations with the A-10 is there's this belief, you know, as its, impending retirement comes about that folks who believe in the A-10 believe that it is the only thing that works and everything else isn't great. And actually, that's not true. Folks who believe in the A-10 totally believe in needing air superiority and all of that. And it's about this teamwork and involving multiple tools to do a job together rather than having one thing that can maybe try and do everything all at once. I should add to that Pierre had this really strong belief in close air support. That's the mission that the A-10 does. The other person who he would often correct folks when he was introduced as the father of the A-10, he would gently say, no, no, no, that is actually this gentleman named Avery Kay, who was a bomber navigator in World War II and then was working in the Pentagon and had this own realization that hey, we need an airplane like the A-10 as well. I was became quite interested, particularly in Pierre's story, but what I think is so amazing about the A-10 is there are all these people who were involved in it's in its design, and its its story.

Christopher Conover  08:07
And when they were designing the A-10, one of the things they really talked about was what now makes the A-10 famous other than its silhouette is the gun you talk to A-10 drivers, as pilots for of the A-10 like to be called drivers. And they all tell you, 'Yeah, I wanted to fly the gun.' And that's really what this is. This is a 30 millimeter vulcan cannon with wings and engines.
Hal Sundt 08:32
Pierre told me once. What made this challenging and first is that no one had ever designed an airplane to be accurate at shooting the ground, which is such a funny thing to think about when they first were conceiving of the airplane, before it was even going to a design phase when they were coming out on paper with, hey, what does this thing need to do? The gun was at the center of the airplane. And so they literally started with the idea that we need this gun that can presumably destroy tanks, and we're going to build everything out from it.

Christopher Conover 09:05
The original design for this, as you said was destroying tanks coming through the gap into Western Europe Russian tanks that was its job. It was almost retired right before the Gulf War because no one was doing tank wars anymore. But then the first Gulf War came around, and the A-10 got new life.

Hal Sundt 09:29
It did. As part of that, what's really interesting too, is the A-10 was used a lot for hunting tanks in the Gulf War, but it ended up doing a whole bunch of other missions as well that hadn't exactly been anticipated when they were first conceiving of this airplane. In fact, if we think about the A-10, a close air support platform. What's kind of ironic is that in Desert Storm, it really did very little close air support at all, but it did quite a bit of hunting tanks, bombing targets. Although it was intended to do one thing extremely well, it actually did demonstrate its ability to be this Swiss Army Knife of sorts, which was quite surprising and fun to think about in retrospect.

Christopher Conover 10:12
One of the stats I liked in your book was you're talking about the stealth fighter, which made its debut if you will, in the Gulf War, and the Pentagon was very excited about it and talked a lot about it and how none of them were shot down. Someone had looked at all the sorties the air work done by US aircraft, and the A-10 actually had a better record, and also not being shot down at night, which is when the stealth fighter was flying during the Gulf War. And they said, No, the A-10 was actually a better plane overall.

Hal Sundt 10:13
Well, it's interesting when it came to survivability in accounting for how many missions were flown by the stealth fighter versus the A-10. That ended up being about the same, there were a few A-10s that were lost in combat, but relative to the amount of sorties that A-10s flew, statistically, it was essentially the same. The one thing that I found interesting in that report, it was from the Government Accounting Office, was that even though they were debunking some of the myths about stealth is this curable thing, they were not deriving stealth technology. So they believe that the A-10 did extremely well. But I would caution against saying that they said
it was better than the stealth airplane, they just thought it was complimentary. And I think I tend to just like to emphasize this, that there are discussions around the A-10, that they can get a little bit contentious one airplanes better than another, all of that the folks who are responsible for bringing the A-10 into being and those who fly it now. I mean, they love their airplane, but they really do believe in this complimentary approach to things. All that being said, yes, after Desert Storm, when they did this after action report and looked at the results. The A-10 was, I don't know if there's a star of a war, but it performed extremely well, for an airplane that and a tool that at the time was believed to already be outdated. And in fact, it wasn't at all it was ideally suited for what we were beginning to see as modern combat.

Christopher Conover 12:24
The other thing that came for the A-10 out of the Gulf War was it was doing missions at night, it had no night vision. So the pilots were using the infrared off the maverick missiles to line things up at night. But that's when the flightsuit behind you comes into play. retired as a colonel Muck Brown, he got night vision in the A-10 as probably some will argue the top A-10 driver ever.

Hal Sundt 12:53
Absolutely, From all the folks that I've spoken with. Muck Brown is the finest hog driver of them all. He inspired so many hog drivers and folks who relied on the A-10. And what was so interesting and what you hear, whenever someone praises a hog driver, what they praise is their humility. They are tremendously humble. And that made it so special, particularly with Muck Brown, because he was also a tremendous visionary. So he had this, this real vision for the future and the potential of what the A-10 could do, but was remarkably humble. He was thinking early on it's funny to hear this now we think of Oh yeah, of course A-10s would be supporting troops special forces on the ground doing these harrowing close air support missions, but in the early '90s that wasn't really thought of as an immediate application of the A-10. Muck Brown thought to himself, you know if we can get this thing fixed with night vision capability, the A-10 can do a whole lot more and he was responsible for developing the the testing and certification and all of that and in a very short amount of time. Got it so that hog drivers could wear night vision goggles, and it became extremely applicable to the A-10 in later conflicts after the 2000s.

Christopher Conover 14:11
I won't say early on in the A-10's career. But while it was still a relatively young plane, Pierre and others were talking about what's its replacement, always looking ahead. That's still the question today as we are retiring the A-10

Hal Sundt 14:28
Absolutely, one of the surprising things to me when I spent this time speaking with Pierre and doing a lot of research was that almost as soon as the A-10s were rolling off the production line, he was thinking about a replacement. So in the late 70s. Pierre was already thinking, hey, this thing can be more agile. It can have greater acceleration, not necessarily greater top speed,
and crucially, it could be a lot smaller. He felt that the A-10 was much too big. So he then spent the next 30-40 years envisioning and thinking about what could replace this airframe. And so sometimes when he and other folks would get backed into a corner about hey, the A-10, it's time to retire it, we need something better his counter argument wouldn't be No, it's the perfect airplane, he said, I agree with you, I think we need to continue to develop things for close air support. It does seem like at this point in time, there’s not a super viable replacement for what the A-10 does, which is both a testament, I think, to how well designed this tool, this airframe has been, and a bit disheartening that we haven't had anything else in the line to take it over.

Christopher Conover 15:41
And the Army at one point, it said, oh, we'll use helicopters and the A-10, shut down, the Cheyenne helicopter basically. It didn't shoot it down, but shut it down when it came on board.

Hal Sundt 15:51
That's one of the funny origin stories of the A-10 is, is folks will often say this was an airplane that was designed to kill tanks. However, in truth, in a way, it was actually an airplane that was designed to kill an Army helicopter. Because if that helicopter had gotten into production, then there wouldn't have been funding for the A-10 in the first place. And it was a bit of genuine combat need and some bureaucratic maneuvering that led to this thing flying. Its story to me is infinitely fascinating. And I don't know, I'm just looking at this airplane now. It's a special thing to see.

SWAT 16:32
All right. Well, thanks for joining us here at the museum under the wing of an A-10.

Hal Sundt 16:36
Absolutely. I love being around the warthog.

Christopher Conover 16:38
That was how Sundt, author of war plane talking with us under the wing of an A-10 at the Pima Air and Space Museum. Kim Campbell spent 24 years in the Air Force ascending to the rank of colonel. Along the way, she logged nearly 2000 hours in the A-10, including more than 100 combat missions. She also was awarded the Distinguished Flying Cross for heroism. We spoke with her about what it was like to fly the low and slow plane and the mission over Baghdad that earned her the Distinguished Flying Cross, she began our conversation explaining that the A-10 was the plane she always wanted to fly.

Kim Campbell 17:10
Kim Campbell  17:19
I actually was really passionate about the A-10 from the start. And so it was really my top choice coming out of pilot training. For me, it was all about the mission. And so I learned in pilot training talking to other pilots. And keep in mind this is this was pre-9/11 my time going through pilot training. So the A-10, you know, just wasn't quite as prominent as it is today. But for me, it was all about the mission, supporting our troops on the ground. I love talking to other pilots who had done that mission and shared with me how important it was and how critical it was. I also found out I really enjoyed low level missions, which is something that the A-10 is very good at. So it was all about selecting a mission versus an airplane. And it was a mission that I felt like I could get behind this idea that closer support meant we're bringing people home, we're helping people be safe and get home to their families.

Christopher Conover  18:11
You mentioned those low level missions, which the A-10 is so good at. Most pilots, when they're that close to the ground, if they're not over the runway are very nervous because something bad is going on. What's it like to fly it that was low levels that the A-10 is so well known for?

Kim Campbell  18:32
Well, I actually think it's a lot of fun to fly at those low levels. And, you know, I think talking from training missions and my experience flying out on the ranges in Arizona, it's a great opportunity to test your skills and work on your skills and work on task management. Because there's not a lot of time or room for error when you're that close to the ground. But it's an opportunity for us. And you know the reason we can fly low level as we can hide from threats and stay in the terrain. And what we're training for is that at some point we potentially, once we pop up out of the terrain, we can surprise the enemy. So it gives us a tactical advantage to be able to fly low level like that.

Christopher Conover  19:10
You mentioned that big mission now of the A-10, that close air support. Did you ever get a chance to talk to any of the troops on the ground that maybe you bailed out or maybe it was a pilot you flew cover for after they had gone down? Do you ever get a chance to talk to any of those folks?

Kim Campbell  19:30
Well, I think that's one of the special things about being an a tank pilot is we have such a strong bond with ground troops that we support. We're very involved in their missions and learning about what they do so we can better support them and I think probably the biggest honor that I have from my time flying the airplane is hearing from the ground troops that we supported. And I carry with me today to this day a note from some ground troops who is supported over downtown Baghdad back in 2003, from Operation Iraqi Freedom. And I will tell you those notes mean more than anything, it's a reminder of why we do what we do every day, you know, why we chose to fly the A-10.
Christopher Conover 20:13
What's it like on those missions? You said, talk to the ground troops? Are you actually getting to talk to them? Are you talking through an intermediary?

Kim Campbell 20:24
Well, it depends. But I think a lot of the time specifically, if I look back at some of our times flying missions in Afghanistan, we were stationed with a lot of the ground troops at Bagram Airbase. And so we would meet before a mission, we would get to know who they are, we talked through the mission, we'd understand what they were going out to do. And then they would go out into the fields, they would do the mission, we would support them overhead. The one person that we're talking to on the radio is often an Air Force person that is embedded with the Army ground troops, which is generally who we support, occasionally Navy SEALs. But in general, we get the opportunity to brief before a mission and then debrief afterwards. So after the mission, once they get back in from the field, a lot of times we'll get to do a brief and connect with them as well. So it really depends on on the mission and the location and what we're doing. But those opportunities are pretty incredible, because it really solidifies the teamwork that goes into it, and really working together in advance to make sure that that mission is a success.

Christopher Conover 21:23
I know that the time I've spent out at Davis Monthan, the newest A-10 I ever saw had an 83 serial number, which means it was built before a lot of people were even born. What's it like to fly an old plane like that? Obviously, still getting the job done, though?

Kim Campbell 21:41
Yeah, absolutely. I think you know, the thing about the A-10. Yes, it is a little bit older, but many of our airplanes are old these days. And it has gone from some pretty significant upgrades. I mean, we upgraded the A-10 a model to the A-10 C-model. So it's got a lot of upgrades that it didn't have when it was first built in terms of reliability, durability, backup systems, you know, some of those things remain the same. But we also have the ability now for precision engagement. And some of the modifications that we've made really has made us more efficient and effective over the years. So kudos to our crew chiefs that keep those older airplanes flying. I mean, they really do put in the work to make sure that they're ready to go and that they can take a beating and still keep flying.

Christopher Conover 22:25
Talking about taking a beating. You have one of the legendary A-10 taking a beating stories in the A-10 community. Tell us a little bit about that incident over Iraq.
Kim Campbell  22:37

Yeah, you know, I think the thing about that mission was it was a standard mission for all of us. I mean, it was what we were all trained and prepared to do is to support our ground troops. And by this time in the war, it was April 7, 2003. Our ground troops were in Baghdad and approaching Baghdad. And so you know, a little bit more high threat than normal, there was a lot more firefights going on. And just as any A-10 pilot would do, when the troops call for our assistance, we’re gonna go in and help them out in any way we can. And that’s exactly what we did that day was a mission over Baghdad, the difference was, the weather wasn’t great. So we got a little bit lower than we normally do to get down below the weather to support our ground troops. And as I was coming off my last weapons pass, I felt and heard a loud explosion at the back of the airplane and turns out a missile that hit the back of my airplane, sent shrapnel through the fuselage and tail sections and unfortunately damaged my flight control system. So immediately, I had no control over the airplane, it’s really plummeting down to Baghdad below at that point. And my only option other than ejecting, which was not a good option was to put the jet into our backup emergency system. Thankfully flipped that switch. And it worked exactly as it was advertised and was able to get that airplane back climbing and out and away from Baghdad.

Christopher Conover  23:54

Such a testament not only to your skills as a pilot, but also to the toughness of that airframe.

Kim Campbell  24:03

Yeah, absolutely. I mean, it had hundreds of holes in the fuselage and tail section and it completely severed my hydraulic lines. And so the fact that even with that amount of damage the airplane could keep flying. I mean, it really, I ended up flying it for an hour after that, all the way back from Baghdad back to our home base in Kuwait. Very durable, very reliable. I mean that the cockpit is surrounded by a titanium bathtub, which protected me in that moment. So none of the shrapnel in any way entered the cockpit. So again, you know, just a very reliable durable airplane, which means we can do the job that we’re trained to do supporting our ground troops take some hits and make it back safely, but still, you know, pretty long trip back to base. That was for sure with that amount of damage. It was probably the longest hour of my life trying to figure out what I was going to do if I was going to try to land that airplane or object. I chose to chose to land it back in friendly territory, thankfully kept me safe.

Christopher Conover  25:02

It did its job while you were doing your job keeping the troops safe. And everybody got home that night. So good one all around. So when it comes to--because you’ve been in the Air Force were in the Air Force for a long time-- is there anything better at doing that that close air support than the A-10? Or is that beyond the gold standard? It's Is it the A-10 standard?

Kim Campbell  25:29

I think the A-10 is the gold standard for close air support. I mean, I got to fly that airplane for
I think the A-10 is the gold standard for close air support. I mean, I got to fly that airplane for about 20 years. And I think the thing that makes us so good at close air support is it's the commitment to the mission. It's that it is exactly what we train to do. It's our primary purpose. And so almost every mission that we go out and fly and training is to support that close air support mission. Sure, we practice some other missions. And we do have some other missions that we do. But our primary mission and where we focus our efforts is close air support. It's our mindset of supporting the troops on the ground. And I think that is really what's most important, that makes us really good at it. Because we train to it, we practice we prepare for it. We work with the ground troops and during training scenarios. And so, you know, when you put in the work, you become really good at it.

Christopher Conover 26:22
I had the privilege or an opportunity to go out to Hawgsmoke, which is the annual competition for A-10 drivers out at the Goldwater Range, about five years ago. And I tell you what, to see those planes and those pilots doing their thing up close and personal. It's impressive.

Kim Campbell 26:44
Yeah, it is absolutely impressive to see it from that perspective. I've had the opportunity a few times to to be on the ground, be out on the ranges as well. And you kind of get to see it from a different perspective and hear it from a different perspective. But it really is an incredible airplane. I mean, it really has been very reliable. It has served our ground troops well. It happens to be my favorite one, but I'm obviously completely biased.

Christopher Conover 27:08
Well, thank you for joining us.

Kim Campbell 27:11
Absolutely. Thank you for having me.

Christopher Conover 27:13
That's retired A-10 pilot Colonel Kim Campbell. And that's The Buzz for this week. You can find all our episodes online at azpm.org, subscribe to our show wherever you get your podcasts. Just search for the buzz Arizona. We're also on the NPR app. Zac Ziegler is our producer and our music is by Enter the Haggis. I'm Christopher Conover, thanks for listening.

Nicole Cox 27:53
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