The Aerospace Advantage Podcast – Ep. 196 – What's Up with NGAD? The Stakes – Transcript

Heather "Lucky" Penney: [00:00:00] Welcome to the Aerospace Advantage Podcast, brought to you by PenFed. I'm your host, Heather "Lucky" Penney. Here on the Aerospace Advantage, we speak with leaders in the DOD, industry, and other subject matter experts to explore the intersection of strategy, operational concepts, technology, and policy when it comes to air and space power.

So, if you like learning about aerospace power, you're in the right place. To our regular listeners, welcome back. And if it's your first time here, thank you so much for joining us. As a reminder, if you like what you're hearing today, do us a favor and follow our show. Please give us a "like" and leave a comment so that we can keep charting the trajectories that matter the most to you.

The past few months have been filled with rumors that the Air Force might cancel its Next Generation Air Dominance aircraft, what we call NGAD for short. Comments by the Air Force Chief of Staff and Secretary of the Air Force back in June added further fuel to the fire. Well, turns out the rumors were generally accurate with the Air Force announcing that NGAD is on "pause."

[00:01:00] What that means right now is pretty opaque, so that's what we're here to discuss today. What this means, why it matters, and possible courses of action that the Air Force might pursue. And let's be clear, this isn't just about NGAD. It really ties to the Air Force's ability to project power inside the threat environment, over the enemy's home territory.

Whether we're talking about long range strike, airborne ISR, electromagnetic spectrum functions, or air superiority, all of this will be impacted depending on what course the service takes on NGAD. And this is not just an Air Force issue. It ties to the nation's ability to fight and win. At the end of the day, victory demands taking the fight to the enemy on a decisive scale and scope.

We can't achieve that launching mega missiles at an extreme range that cost over $50 million per shot, where it's one and done. So, with that, we're bringing most of the team here today. I'm pleased to introduce Lieutenant General Dave Deptula. He's bringing his air commander perspective to the table. And for the younger crowd out there, [00:02:00] General Deptula created the air attack plans for the Desert Storm, Enduring Freedom, and commanded several other air operations.

So he's a leader second to none on that front. General Deptula, thanks for joining us.

Lt Gen David Deptula, USAF (Ret.): Hey, great to be here, Heather.

Heather "Lucky" Penney: And Gonzo is with us too. Mark Gunzinger, if literally anyone's written the book on why we need an inside force, that's him. He was a DASD for forces, transformation and resources. He did force planning and force planning guidance.

He gets this stuff. And he also was willing to put his life on the line. He was a long time bomber pilot with a nuclear mission. So, he's bringing the long range strike perspective to the table. Gonzo.

Mark "Gonzo" Gunzinger: Yeah. Thanks. You're on target. This might be the most critical issue we've addressed this year in a podcast.

Heather "Lucky" Penney: I fully agree. And we're delighted to have JV Venable new to our team, but certainly not new to the issues bringing his vast wealth of experience in the combat aviation to the role as well as his analytical experience as well. JV is going to be speaking [00:03:00] with us regarding the air superiority mission with all of that firsthand experience.

John "JV" Venable: It's great to be with you, Heather and everyone. It's a really nice to be among this great group of people.

Heather "Lucky" Penney: Mike Daum, JDAM, is here to discuss the threat environment. He's our China expert. He's lived in China, he speaks fluent Mandarin, and he really gets the stuff like few others.

Mike "JDAM" Dahm: Glad to be here, Heather.

Heather "Lucky" Penney: And finally, our Executive Director, Doug Berkey. He's here to give us that Congressional perspective. What is the Hill thinking and how are they processing this development. Doug.

Doug Birkey: No, Heather. Thanks, really appreciate it.

Heather "Lucky" Penney: So, we know this is a big group, but it's a hugely consequential issue.

And we want to talk about all the angles. General Deptula, let's start with you. Airplanes are fundamentally tools. We don't buy them because they're cool, although they are. But at the end of the day, they exist to empower strategic options and operational concepts to provide that kind of decision space and operational effectiveness.

So, the question for you is why does the nation require a stand in air power that can penetrate enemy [00:04:00] defenses, execute key mission functions, and return to base to generate more sorties?

Lt Gen David Deptula, USAF (Ret.): Well, Heather, short answer is because the nature of modern conflict, requires the capability and capacity, to create desired effects inside adversary airspace.

The scale of potential targets involved in a major theater operation today simply cannot be dealt with by standoff alone. And this is a subject and a topic that too many people inside the Pentagon because they haven't experienced it, don't seem to pay much attention. Let me give you an example.

The Desert Storm air campaign consisted on the order of 40,000 aim points. A major war today with a peer competitor, remember, Iraq wasn't a competitor. Although it was a [00:05:00] significant and well armed adversary, it didn't have the kind of war fighting capacity that China or Russia does. So, major war with a peer competitor will likely be on the order of 100 to 200,000 aim points. And there's no way that can be executed by a standoff alone. For a variety of reasons, which could be the subject of an entire podcast on its own. But if you look what's going on today, we've got the army and the Navy, building or planning to build surface to surface long range weapons that can cover thousands of miles, but at a cost of over $50 million a shot and that's being conservative.

So, we need to invest the money in aircraft that can penetrate and execute missions, in a far more repeatable, high volume fashion. Victory demands, it's going to demand decisive, [00:06:00] overwhelming power projection. Not impractical options that waste money or easily defeated and contribute little value to winning.

So, the ability to penetrate, do it again, and again until mission objectives are met is what's key to winning. Period.

Heather "Lucky" Penney: Just the scale and scope, like you said, 100,000 to 200,000 aim points times $50 million a shot, that's definitely not winning the

cost equation there. I mean, I just can't imagine how we would commit to a standoff force as opposed to ensuring that we've got the ability to go inside to bad guy land.

And when I think about what you were doing through Operation Desert Storm, Baghdad had just gotten out of the War of the Cities, right? So it was highly defended. They had what we called a supermez. And we still went in there and took it down. So Gonzo, the idea of penetrating survivable air power isn't a new debate.

It goes back a long way. And you were [00:07:00] part of this in a lot of different ways from being an operational B 52 pilot, putting your life on the line. To when you were a Deputy Assistant Secretary for Defense doing force planning. And most recently with decisions on long range strike in the B 21. So what's your take on this?

Mark "Gonzo" Gunzinger: Yeah, yeah, Lucky the debate between penetrating and standoff airpower began decades ago, about the time that long range cruise missiles entered the Air Force's inventory. Now, I've researched and led studies on this for decades and suspected it as one of the most overanalyzed topics in DOD. So, one quick example.

I helped lead the Department's Deep Attack Weapons Mix Study as part of the 1997 QDR, and that led to the SecDef's decision not to buy more than 21 stealthy B 2s, but many don't understand that the belief that the Air Force and Navy's fighters could provide sufficient strike capacity for regional conflicts was a major reason for [00:08:00] this short sighted decision.

It wasn't driven by doubts over the B 2's viability and its cost effectiveness. In fact, the DOMS, which is the acronym for the study, compared the cost effectiveness of stealthy penetrating strike aircraft with carrier aviation, land based missiles, and other standoff strike systems, and the results were unambiguous.

Penetrating aircraft were the most cost effective means to strike deep targets at scale. Period. OSD embargoed those findings and I was not allowed to mention them when I wrote the QDR 97 bomber guidance. And the fact is, the same has proven true in every study I've been a party to since then, including the joint assessment that led Secretary Gates to greenlight the B 21.

Heather "Lucky" Penney: That is a powerful testimony. JV, NGAD is a key part of empowering that kind of penetrating airpower. I mean, a lot of people

might say, "Eh, that's not a big [00:09:00] deal, we've got B 21, that's a stealthy bomber, it goes downtown, so why do we need to have NGAD?"

John "JV" Venable: Well, that's a great question, Heather. I'm going to go back to what Gonzo said.

It's really troubling. Embargoed the findings. If you don't like the answer, you basically squelch everybody's ability to talk about it. And that is where we run into headlong trouble throughout our governmental process and certainly about our ability to defend the United States. This family of systems that's associated with NGAD, if you will, go back 2014 timeframe. This concept had two parents to it, if you will.

One was TAC Air, the follow on, to the F 22, and the other one was a long range strike platform. That's now the B 21 and each had loyal wingmen associated with it now called Collaborative Combat Aircraft. How you go from that to sliding the tactical fighter side of it, the NGAD, the Next Generation Air Dominance platform off to the side. And focusing [00:10:00] now on the B 21, now as the sole parent of a bunch of siblings underneath it. To me, it doesn't make sense. I'll go back. I was at Nellis 2000 at Fighter Weapons School and listened to guys that had just come back from an exercise over the Nellis complex. It was the first B 2 strike package that they had put in, and they basically put up a bunch of caps to see if we could take out the B 2.

And you know what? They couldn't find it on radar. But it was a clear night, and they looked up, and with their Mark 1 night vision goggles, they found it, and they went up and shot it down with a gun. Right? With the guns that are on the F 16. This idea that you don't need someone going in and sweeping out the threat in front of a B 21 is absolutely catastrophic.

Yeah, it has great capabilities, but it is a not an invincible platform. And what we need is NGAD to be a part of that, not, not a small part, but to be its [00:11:00] own lever to come in and clear the skies for these platforms.

Heather "Lucky" Penney: Yeah. I mean, I think this is a case where we have to realize that the bomber will not always get through, if you don't buy the entire family of systems.

Any system of systems engineer will tell you, if you start degrading a certain percentage, the entire system loses its effectiveness. And so just by drawing down on NGAD, if we don't have enough numbers there, we're going to, we're going to make the entire system ineffective.

John "JV" Venable: I agree with you. And this, this idea of having something out in front of it. 1943, the early days, the bombers that we sent throughout Europe without the long range fighter escort were slaughtered. They were absolutely, the survival rate was in the 10 to 25 percent rate for crews that flew during that time. We don't want to replicate that.

We don't want to relearn that history.

Heather "Lucky" Penney: No, absolutely. You know and the other piece about that is, is that survivability is more than just the RCS. It's more than just what [00:12:00] we, when we think of stealth, we normally think about what the radar cross section is, but survivability is so much more than that. And your story about the B 2, really makes that, loud and clear.

So, General Deptula, what are your thoughts to add to that?

Lt Gen David Deptula, USAF (Ret.): Well, Heather, I think JV hit the highlights, but let me just emphasize the notion of family of systems. NGAD may have the potential to operate with a greater degree of low observability than any other airborne system. That's important in putting together an air campaign.

There are too many scientists and engineers out there that postulate that if the potential exists to uncover the effects of stealth, then it's no longer a value, or perhaps it's no longer a value. I would tell you that nothing could be further from the truth. To do that would require the capability and capacity to accomplish that, that [00:13:00] means, if you will, across a vast quantity of airspace.

It assumes that all enemy systems are operating as necessary, that command and control is optimal. And that the enemy has knowledge of the time and place of and penetration known and a host of many other factors. But that's not the reality of warfare. In fact, frictions in every element of operations occur.

So, decisions should not be made on potential, but rather reality. The reality is that stealth or low observability, reduces the probability of detection, thereby increasing the probability of penetration and survivability. And frankly, the alternative yields unnecessary advantage to the enemy. So, we've got to continue with [00:14:00] developing the kinds of low observable characteristics across the spectrum that NGAD promises to provide.

And, um, many of us are a bit concerned that there are folks that are saying, well, this is possible for the, so therefore the bad guy's going to have the ability to do this. And so therefore, we don't need to do it anymore. And that logic just doesn't work in the reality of, the kinds of threats and challenges that we're facing.

Heather "Lucky" Penney: That kind of low observability where you shape and use materials to decrease, um, you know, the radar returns, is a crucial arrow in our quiver of survivability. And that also means, gets back to the family of systems of how NGAD and B 21 are supposed to operate together.

Gonzo, you were part of that whole B 21, um, program when long range strike, which was the bomber program in the aughts that kind of got put on a [00:15:00] diet and then B 21 came out and it was dependent on the other family of systems. Can you speak little bit how you conceived of the interdependence of these aircraft and their capabilities to achieve survivability?

Mark "Gonzo" Gunzinger: Yeah, absolutely. Yeah, I was in on the ground floor of assessing requirements for a new bomber and it was always intended to be part of a family of systems. Which should include next gen munitions, penetrating airborne and space based ISR, possibly penetrating electronic attack aircraft, and a penetrating counter air aircraft, which we now know is the NGAD.

So, why this family systems approach? Well, in the first place, it's the way our Air Force has always preferred to fight. It was not a new concept. In combination, those assets gave our airmen the ability to survive and create decisive effects. It also allowed the Air Force to think through how it should parse out mission [00:16:00] systems and functions across this family.

And that helped open up options to design the B 21 for a price that would ensure the Air Force can afford to buy them in significant numbers, not just 21 of them. But today, I'm very concerned that this family systems is at risk, including new munitions, airborne ISR, and of course, the NGAD. And there are three main reasons for this: budget, budget, budget, not to family systems approach itself or emerging threats.

Heather "Lucky" Penney: I know it's so worrying. You know, part of the family systems is also Collaborative Combat Aircraft. Those little loyal wingmen that we had talked about earlier. Uncrewed aircraft that are essentially autonomous and whether or not they're tethered as a loyal wingman or operating

somewhat independently these will be part or should be part of the family of systems.

And we know that Secretary Kendall is putting a lot of emphasis here. Gonzo, you've been executing a lot of this work analytically from our side here at Mitchell. Why can't CCA then fill the [00:17:00] NGAD role, right? I mean, we have constantly heard for several years, even over a decade, "Ah, it's a last man to fighter."

Why can't CCAs just go ahead and do that?

Mark "Gonzo" Gunzinger: Well, I'll footstop four words. It takes a family. And in a recent podcast, we talked about big takeaways from Mitchell's exercises that have explored CCA operating concepts that are going to be critical to our Air Force ability to deter, fight, and win in the Pacific.

So, here's just two of them. First, it's important for the Air Force to develop ways to use CCA as a primary force to disrupt, detonate, defeat China's air defenses. And that includes using lower cost CCA, including weaponized variants to force the PLA's defenses to react and waste their resources. That's going to help create the temporary degree of air superiority that the rest of the force is going to need to strike and do other operations.

But. And this is a big but. This does [00:18:00] not mean that CCA will replace F 22, F 35s, and NGAD. And this is in the words of the experts that have played in our exercises, over a hundred of them. CCA, NGAD, 5th Gen, and even 4th Gen fighters, they're all going to be needed to achieve air superiority. But the secret sauce is determining how to best combine CCA with these crewed aircraft to create unpredictable threats that enemy determines it must honor. Again, that's not a Mitchell Institute opinion. It's based on insights from warfighters and technologists and even industry experts that played in our exercises.

Heather "Lucky" Penney: Yeah, I mean, I love, I love how your studies, your exercises are really showing where the value proposition of these uncrewed aircraft are to detonate, to disrupt, to deplete, and degrade. And also even to de synchronize, right?

Get the adversary, off timeline of when we're gonna be pushing. You [00:19:00] know, when I've done some studies on autonomy and agents, right? The AI brains of an uncrewed aircraft, I always come back to human cognition in the battlespace is going to continue to be a key combat advantage for us as we work

through the fog and friction of war. When you're deep into bad guy land, and you might be cut off from other communications, having a human in the cockpit is going to be a crucial combat advantage for us.

So, I just sort of alluded to the threat environment, JDAM. I want to bring you into the conversation because we've heard senior leaders say that new emerging intelligence regarding what China's capabilities might be is a reason for them to pause and then re examine, are they going in the right direction with, NGAD.

You know, obviously China is one of the most heavily defended regions in the world and they are smart. I mean, they are not a third tier capability. They've got great engineers, they've got a phenomenal manufacturing workforce. So, we know that we need to respect their capabilities. [00:20:00] On the other hand, it's also impossible to make any place a hundred percent protective.

As I've said before, it's not as if when you cross the that red magic marker line of max effective range that you instantly vaporize. So, I'd like your thoughts on the notion both of the threat, the emerging threat, as well as are the days of penetrating aircraft done?

Mike "JDAM" Dahm: So yeah, I appreciate that.

Everything you said is, is absolutely true. We have to respect the threat, but I want to point out to our listeners that up until 2015. So, like nine years ago, China's People's Liberation Army was organized into military regions. Just bear with me a second on the China geeking out, but those MRs, military regions. Those were set up for defensive purposes, right? So, just up until 9 years ago, they were organized really almost 100 percent for defense. And over its history, since 1949, China wanted to defend against attacks from [00:21:00] either the United States or the Soviet Union.

So, when you look at Chinese air bases and command and control bunkers, PLA bases are dispersed. They're hardened. And frankly, you're lucky if you can find a Chinese fighter in a hardened aircraft shelter, because if it's not in that hardened aircraft shelter, it's probably hiding in the tunnel in the side of the mountain. So, yes, the PLA does have this incredibly dense network of active defenses, rings and rings of surface to air missiles and orbit upon orbit of defensive counter air fighters.

And so maybe you just send waves of standoff, stealthy cruise missiles up against that kind of threat. But what did I just say? China has been preparing for an overwhelming air attack for over 70 years. Because to attack the types of

military targets you need to attack in a campaign, you know, against China or even North Korea, Iran, or Russia. The targets that we're going to have to go after are going to [00:22:00] be hardened, and in some cases, deeply buried. That's where they're putting their critical targets. You need to be able to deliver heavy, penetrating weapons from an aircraft overhead. Long range standoff weapons like your $50 million hypersonic missile might be able to deliver the necessary effects, but at those costs, you know, you're, it's not a winning strategy.

The reality is you need to have aircraft that can penetrate and survive in heavily defended territory and then deliver a large number of weapons that can hit and kill key targets that are hardened against attack.

Heather "Lucky" Penney: So, JDAM, Mitchell, we are totally on board with penetrating aircraft because we believe that not only is that the most effective way, but it's also the most cost effective way to achieve the effects that we need within the battlespace.

So, whether or not that's going to be kinetic, non kinetic, getting into the battle space and fighting from the inside out is how we are going to win. Senior leaders have said they're [00:23:00] looking at NGAD because of emerging intelligence. What do you think is going on there?

Mike "JDAM" Dahm: So, there's only so much that we can discern from senior leader comments, but indications are there is something going on with their realization about threats from, specifically from the People's Republic of China and how that might affect this future family of systems and the types of investments that we're making.

We only have indications at this point, but I got to tell you, we have to keep moving forward on these things. There will always be new threats. There will always be new technologies and new countermeasures that are going to come out against the types of systems or family of systems that we're building.

But to say that, you know, we need to push the pause button and reassess every time a new technology comes online or a new threat emerges. Well, we're just not going to go anywhere then we're not going to have any program because we're never going to have the [00:24:00] perfect program. The reality is we need to invest in the cutting edge technologies that we've been investigating and keep moving forward.

And then as problems arise, we will have to bolt something onto the system or we will have to add something to our operational concepts to compensate for these emerging threats.

Heather "Lucky" Penney: And we don't operate the NGAD alone, right?

Or any, capability that we have alone. As an integrated air campaign, we layer capabilities to achieve the effects and survivability that we need. And as you said, we can't afford to stop. One of Doug's favorite quotes is from General Corley, "if you're always chasing program next, you'll never have a program at all."

And that's one of the things that I'm concerned about. As you mentioned, emerging threat intelligence information. Are we, do we have to take a look at it? Yes, and we need to continue to press forward. There are enduring attributes of the threat environment, the geography, the range, the speeds, the [00:25:00] altitudes, the payload, all of that that are going to be enduring, that are based off the geography. If you just start building the airplane, we can modernize it and adapt it, as we need to.

So, it brings up a really important point that I want to ask our Cold Warriors here, General Deptula, JV, and Gonzo. We've been here before. I mean, it's not like the Soviet Union was permissive region. It's not like they were also not only investing in their own capabilities, but their counters as well.

And nor was Baghdad permissive on night one. It was a super mess, right? For Desert Storm. And yet we as the United States Air Force built airpower, both from a capability and a capacity perspective, to penetrate and execute these missions. I'd really love to hear what your mindset was back in the Cold War, because it was not the permissive environment that we've been in for the past 25 years.

Lt Gen David Deptula, USAF (Ret.): Well, Heather, you make some good points just in stating your question. I have to remind people that Baghdad on [00:26:00] 15 January, 1991 was the most heavily defended airspace the world had ever seen. It had greater SAM and AAA density than Hanoi during the Vietnam War and greater than Moscow at the height of the Cold War.

But 24 hours after our attacks, it was denuded to that protection. As a result of a concerted air campaign designed to do just that by means of an effects based design that capitalized on a variety of weapons, timing, and desired effects that we impose to achieve that objective. And we can do that again, wherever

required and whenever required, if, and only if, we possess the right tools, attitude, and creativity.

So, I guess what I'd add in there is just to reiterate, I was going to jump into the JDAM's [00:27:00] remarks, but I didn't have to, because he made the point and then you followed it up. I mean, we've got to build capabilities to deal with modern age threats. And if we keep on pushing them out when it comes time to fight, we won't have sufficient numbers that are necessary to prosecute the campaign.

Heather "Lucky" Penney: And to paraphrase Don Rumsfeld, "you go to war with the military you have, not the military you wished you had." And we don't have a hedge force anymore. Our aircraft are aged, they are falling out of the sky. I mean, just take a look at the amount of divestments that the Air Force is making right now.

Now, Gonzo, you were tasked with flying the deepest into the interior of the Soviet Union. What are your thoughts on this whole conversation?

Mark "Gonzo" Gunzinger: Yeah, I spent a good bit of my B 52 flying years training to deter nuclear threats to our homeland. Now, I had the privilege of crewing with some of the most highly trained pilots, navigators, [00:28:00] EWs, and gunners that the Air Force has ever produced, but to a person, they were dedicated to doing what was needed, what was necessary, to deter nuclear attacks and complete our missions should deterrence fail. And that required striking targets deep in our adversary's homeland, even though it was unlikely that we would recover safely after strikes. Why? Well, we knew that failing in our missions would have an existential impact on the United States.

And we also knew that the key to deterence was maintaining our capability and will to hold at risk, targets that our adversary valued most dearly. Even in the face of the most capable air defenses in the world. It was absolutely inconceivable to us that our nation would ever give up that capability. And it should be inconceivable to even contemplate doing so today in a security environment that is far more challenging than it was during the Cold War. [00:29:00]

John "JV" Venable: I'm going to jump on there. Gonzo, the idea that we were ready to go, that you had the best navigators, bombardiers, the gunners and the pilots flying alongside of it that were trained and ready to go.

I lived that as well in the fighter community. We were a nuclear alert squadron that also would go in until that nuclear alert button was pushed. We would go in as a composite force, fat package, and going back to something that General Deptula said earlier, decisive and overwhelming. We had the numbers we needed to punch through some of the most highly sophisticated, mobile, integrated air defense systems that you could possibly imagine.

From the ground, the ZSU 23 4 all the way up to the SA 11. And if you got up into the ionosphere, you're talking about the SA 5 overlapping rings that we decided to go in and go low through. We knew we were going to take losses, and so we had to punch a hole through the [00:30:00] force structure that the Soviets had arrayed. Get to the targets and get back out.

And our air to air guys knew that they were going to take losses as well, even though we had the most sophisticated air to air platforms in the world at the time, and our guys were getting 250, 300 hours a year, while the Soviets were getting 130 hours a year. They knew that they had to keep a kill ratio of 8 to 1 in order for us to win the war.

And for us to think about that now, we absolutely have to go back to this idea of decisive airpower, the capacity, the capability and the readiness to strike fear in the hearts of the CCP and make sure one, that they don't step across that line. And if they do, we don't just bloody their nose. We make sure they never want to try it again.

Heather "Lucky" Penney: Amen. JV, I love everything that you said there because it's not just about the capacity, the willpower, but ultimately if you can feel this kind of force, you can [00:31:00] deter and prevent potentially the conflict from escalating even further. But what I'm hearing from everyone is that we really need to grow capacity now, today. To have a viable stand in force that can fight and win, JV in the way that you just described. And here is key component of that. It's not just airplanes. It's pilots, their training, their experience, and the munitions as well.

John "JV" Venable: Yeah. You go down that path and the logistical pipeline that's required to produce the force and sustain the capacity to continue to drive the fight to the enemy is huge.

When you think about, where we are in peace time, the average squadron right now, fighter squadron in the Air force is 18 PAA. And what that means is you've got 18 aircraft and they're manned at a 1.25 air crew to airplane ratio. When you go to war, it's a 1.5 ratio because of the high ops tempo.

And how we dealt [00:32:00] with that during the Cold War was we would have wings, operational wings, with three fighter squadrons in them. You always had broke aircraft or those that were in deep maintenance. And so two fighter squadrons would basically go and deploy. And the third fighter squadron would be used to basically sustain the other one and then train replacement pilots as they went to war.

That allowed us to up the manning to 1.5 and give them the entire kit that they needed to go forward and wage war. Today, our wings are two squadron. One squadron at times manning like they are at Spangdahlem. We've got no real ability to up and move the way we did. The average Guard unit, one squadron per base, which means you're going to get about 50 percent of what you want to deploy out there.

And so our numbers, if you just go back to the Cold War, we had 29 operational fighter squadrons in Europe alone. At 14 in the Pacific in 1987 [00:33:00] and when the bubble went up and the balloon actually, the fighting commenced, we have another 40 fighter squadrons in the United States that were ready to deploy within mobility plus 30 days to feed the fight.

So, you think about the numbers, they were decisive. They were absolutely trained to the gills to go and and slay that dragon. And that, that always kept the Soviet Union on pause. We need that capacity today and we need that readiness up, up to the point where we're ready to go.

Heather "Lucky" Penney: That's eye watering. Three to make two, but you needed to have that.

And you need to have that to be able to, do the fight tonight mission. As well as the additional elasticity and the reserves back home to be able to feed the fight forward. And we are just way too skinny now. And we're looking at divesting aircraft even further. And now pausing or delaying NGAD.

John "JV" Venable: I could go just down this path one more minute, Lucky. You've got [00:34:00] 29 fighter squadrons in Europe and, and during the Cold War. We got 32 active duty squadrons today in the active duty Air Force, total.

Heather "Lucky" Penney: Doug, what are you hearing from Congress in the broader defense world?

Doug Birkey: Well, I'm hearing a lot of concern.

You brought it up in your opening and the rumor mill had been going on this for a while and there are a lot of reach outs to us under the radar going, Hey, what do you think? Are they really going to do this? And fundamentally. The members of Congress, their staffs, you name it, they have been hammered for decades that there's one absolute precondition for success in any kind of warfare, and that is control of the sky.

And you heard it from General Jumper and General Mosley when they're advocating for the F 22. You heard it from Secretary Kendall. When he made NGAD one of his operational imperatives. You've heard it from leader after leader over the last couple of years when they testify about NGAD and why they've got to make these investments, they've come to the Hill and they said, we have got to divest legacy aircraft so that we can free up money for [00:35:00] NGAD.

And those divestitures were allowed because everybody wanted to invest in NGAD. You saw it. They're even talking about block 20 F 22 divestitures to free up funding for NGAD. And now all of a sudden to hit this pause, everybody is going, hold on now you gotta be kidding me. This isn't just about the Air Force, this is about the nation's ability to project power, fight, and win. This is the keystone here. Now, obviously it all goes to getting power inside and striking targets and netting effects and all that. But you got to have this condition for that to work. You have to have this condition to keep the joint. Assets alive. I mean, ships don't really work well when they're under attack, nor do ground installations, whether it be Army, Marines, Space Force, Air Force, bases, whatever.

This is a vital capability. And there is serious, serious concern. And it also speaks to a notion of trust. You know, they were given set of reasons multiple years. [00:36:00] They agreed to facilitate those both with the divestitures and additive investments, that were very, significant. And now all of a sudden they want to know what's going on.

And so, if this is a short term pause and they're just recalibrating and they're going to continue on. This is like, LRSB, Long Range Strike Bomber going to B 21 and it went on a bit of a diet. Okay, people can probably get their head around that. But fundamentally, I think the department is going to have to come online very soon with some reasoning because people are very, very concerned.

Heather "Lucky" Penney: Well, I wouldn't really consider LRS to uh, B 21, a pause. That was years and years.

Doug Birkey: Which is time we don't have right now.

Heather "Lucky" Penney: Exactly. So what does this mean for the industrial base?

Doug Birkey: It's hugely significant. If you look at what is considered new right now, think of something like the F 35, well guess what?

That competition between Boeing and Lockheed, it was held when I was in college. and while that feels like it wasn't long ago, it actually was. General Deptula was not [00:37:00] a general back then. It's amazing. We always think of him as a permanent general, but he wasn't. And JV was uh, you know, off in that F 16.

Heather "Lucky" Penney: Do you want to let us know when you graduated from college so we can actually calibrate this for the audience?

Doug Birkey: But bottom line, you have to keep these design teams active. You have to keep certain bandwidth in your production base available to have the throughput. If you do not exercise that, your system atrophies and it is almost impossible to get regenerated.

I mean, it can, but it takes a tremendous amount of time and investment. Even most concerning, you know, I talked about the airframe folks and all that, it's propulsion. Think about the engines that are on the current fighters. The F 15, F 16, those date back to the seventies and you talk about the F 22, that's really a late eighties design, the F 35 is on a derivative of the F 119 for the F 22, that's really a nineties piece of technology, it's been enhanced over the years, it is time, we have got to [00:38:00] step up to the bar and invest in that propulsion infrastructure and these design teams and the production base, they need it.

The, the commercial side has gone through multiple technical iterations in this time period. Military side has not. We have got to catch up. It's one of the few asymmetric advantages we have as a nation with aviation. We've got to stay on it.

Heather "Lucky" Penney: I remember JV and General Deptula, you probably remember as well. I mean, one of our key advantages wasn't just our training.

It was also that our engines, our engines were so much more reliable and across the propulsion or the OEM across the design teams. Guess what? R&D is not what keeps them alive. They've got to have that production from the design

teams that Doug, that you talked about all the way down to the supply base as well.

Mark "Gonzo" Gunzinger: Let me jump in, if I could. Remember the next gen bomber was canceled and that led to the two years study to determine if we really need a penetrating bomber. Which culminated with, yeah, we do. But you know, we lost as a nation, five [00:39:00] years in between then and the new bomber program and probably eight or $9 billion, wouldn't it be great to have those five years back? And that's 2010 dollars back as well. Is that what we're going to be asking ourselves in 2030 some odd year about the NGAD because we've delayed it?

Heather "Lucky" Penney: I'll tell you, I, Gonzo, that is wisdom. I mean, what Doug says about the trust, it makes me really worried that we're, going down the wrong path. And when they say it's just paused, paused for how long?

General Deptula, a lot of the air breather missions, like this is another element of this, right? A lot of the air breather missions have been done by the Air Force, especially the ones tied to ISR. They're migrating to space. So, with people suggesting that we don't need the air domain as part of the mission anymore, do you think that's prudent?

I mean, is this potentially one of the future courses of action we might see with NGAD? That it just all goes to space?

Lt Gen David Deptula, USAF (Ret.): The bottom line, [00:40:00] Heather, is we need to have multi domain options. The air is not going away. And yeah, sure. An ISR aircraft can get shot down, but guess what? So, can a satellite. Might not get shot down, but it can be put out of commission.

So, we need both to complicate an enemy's calculus, add different solution paths, and build basic resilience into our strategy. Counting on options that present single points of failure, is really not a prudent defense strategy. And I think most folks understand that, but it's not, on the other hand, it's an extraordinarily complex issue.

Because what the Department of the Air Force leadership is dealing with today. And we haven't discussed this a lot, although we mentioned it early on but it's [00:41:00] pervasive. There's simply more mission than we have resources to be able to accomplish. And the suspicion that really hasn't been overtly articulated,

but the suspicion is, that the department's doing everything it can because it has to, you know, cut corners is maybe not the right term.

But it's gotta prioritize and the prioritization maybe in fact inhibiting capabilities that we absolutely need to have to win in the future. So, multi domain's the way to go and avoiding single points of failure strategies is fundamental to the kind of resilience that you hear people talking about all the time. So, I think it is very imprudent to shift ISR capability into space [00:42:00] completely.

Heather "Lucky" Penney: Well, and it's not just shifting ISR to space completely, it would be shifting other air missions to space as well. So, that's one of the concerns is, would you then shift air superiority to space? But I, I think in many ways, and a lot of us have talked about this offline was, is this really a budget driven decision?

Lt Gen David Deptula, USAF (Ret.): Well, let me preface my thoughts here. None of us here on the program know the details of the current NGAD program.

So, these are possible outcomes without complete knowledge of the program content or the fiscal profiles. Option 1, would be to resume the program according to its current acquisition profile. Option 2, would modify or redesign in gad to accommodate some of the issues that have been discussed previously. And I think that previous remarks with respect that [00:43:00] this is not really analogous to what happened with the Next Generation Bomber program when it was canceled in 2009 and then came back in 2011 as the, B 21 program. Because we can't afford that time lag. But the bottom line is option two might be some sort of adjustment to the current program, the current NGAD program.

Option 3, is to come up with a new clean sheet design to build a completely new aircraft to replace the manned option of the NGAD as it exists. And we've talked about how difficult that might be because the time is simply not available. And then Option 4, is to cancel NGAD and rely on a combination of standoff weapons and uninhabited CCAs to achieve desired deep attack objectives in the future.

So, that's the spectrum of options that are out there. I'm certainly willing to entertain any others, [00:44:00] but those kind of go from one part of the spectrum to the other. Right now I think I'd give Option 2, knowing the pressures that the Air Force has got on it, as well as some of the threat challenges I'd probably give Option 2 the highest probability of selection and again, what degree of, of delay?

I don't know, but we can't afford delay in the context of years.

Heather "Lucky" Penney: So, I know that the rational response and justification for why NGAD is being paused right now has really been focused on emerging threat intelligence and knowledge of what capabilities China might have for NGAD. But really a lot of us are wondering if this is just about budget, budget, budget. We often hear about the cost of NGAD, but what's the cost of not having NGAD? I think we need to flip the script here. What are we giving up if we don't have this?

John "JV" Venable: That's a great question. Heather, I'll tell you that, [00:45:00] General LeMay once said something along the lines of we had this incredible time during World War II in 1939, 1942, where we could make freedoms forge works.

We could bring in industrial capacity and levy it in to wage war in a very large way. We don't have that time anymore. That's General LeMay's words from 1985. If that's true, we need to actually pursue this technology now. You delay it and you go back to what Gonzo said. We lost five years with that next generation bomber coming into the B 21.

If we don't pursue the next generation of thrust for our fighters, we've got another five year delay for that. Five to seven years until that starts being fielded. If...

Heather "Lucky" Penney: Fielded, but not in relevant numbers, right?

John "JV" Venable: And we need that capacity now. Not in five to seven years when we start building the capacity.

If we have another event like [00:46:00] Pearl Harbor, if we have one of those, how will we respond if we just say, "Hey, a bad actor, give us five to seven years and we may be able to actually put up a fight." Or we just throw up our hands and say, "We'll lob some long range weapons at you and call it a day."

Heather "Lucky" Penney: Well, you know, I mean, a lot of people called 9/11 a Pearl Harbor, but that was not against a peer competitor.

That was not against a peer enemy. And we won't have, like you said, JV, those five to seven years. And remember in World War II, those were the most deadly, lethal, years for our forces. That's why the Eighth Air Force lost more airmen than the entire Marine Corps during the course of World War II.

John "JV" Venable: It took two years to bring about the P 51. It took two years to bring about the most dominant fighter during that war. And we lost untold numbers of air crews during that time. It was a very expensive airplane over $400,000 in then year dollars. It's always been expensive to build these platforms, [00:47:00] but without them, we lose.

Heather "Lucky" Penney: The cost is more expensive if you don't have them both in blood and treasure.

John "JV" Venable: Absolutely right.

Mike "JDAM" Dahm: Lucky, let me chime in here and look, China and Russia both think they are in active conflict with the United States. And it's probably high time that we start at least behaving like we take that kind of threat seriously.

But when it comes to technology development, you know, we are in a race with the world, especially countries like China. And so I don't care what you call it. Nobody wants to call it an arms race because arms races are, I don't know, really expensive and really wasteful. So, let's call it a technology race.

But this race doesn't begin when a future war starts. We're running the race right now. So, if we're not investing in research and developing technology to field new weapon systems, what are we doing? Right? There's always going to be new technology out there, and there's always going to be a next generation of weapons and a next generation of aircraft, but [00:48:00] every day, every month, every year that we take a pause and wring our hands and huddle together about how we should run the race, adversaries like China are continuing to run.

In some technologies they're catching up fast. In other technologies like hypersonics, they're already ahead. So, you know, the Chinese government has this concept for how they're going to get ahead in military technology. They call it "overtaking on the curve." So, as the US and the world change direction and pursuit of different technology, China accelerates and overtakes on the curve.

Programs like NGAD are technology investments that get us to the next program, and then the next program, in this never ending race. And if we can't keep the speed on, if we can't accelerate through the curves, if we can't keep moving forward, well, we're going to get overtaken, and ultimately our

adversaries are going to pull away, and maybe establish a lead that we can't compete [00:49:00] with.

Heather "Lucky" Penney: JDAM, thank you for that wisdom. Now, JV, I probably owe you a tasty beverage because the quote, the LeMay quote that you just talked about, we've got it.

Gen Curtis LeMay (audio recording): We've got a few people to start with, and we had to build an Air Force. We didn't have one, we had to build an Air Force. We had to build the airplanes, had to build the factories to build the airplanes, had to train the workers to build them uh, get them built, debug them, test them, put them in the combat, train the people to fly them in combat, and fight at the same time.

And that's uh, it got to be, uh, pretty hairy at times. We were really unprepared, no doubt about it. And, uh, this made a impression on me that, uh, I still have. And that is that no American ought to ever have to go through that experience again. And I swore that if I ever had an opportunity to do anything about it, I would do it.

Heather "Lucky" Penney: General Deptula, we just heard from General LeMay speaking about how [00:50:00] hard it was and how tragic it was to have to build an Air Force from scratch while simultaneously executing combat operations. As an air commander, I'd like to give you the first word.

Lt Gen David Deptula, USAF (Ret.): Yeah, well, thanks, Heather. I think General LeMay's quote's prescient as it relates to what we need to do today, and that's to build a modern Air Force. And that's where, I think, part of this whole program and the concern that's evidenced by people with you know, ties, not ties, but in leadership positions with respect to national security strategy are concerned.

Um, you all have heard me say it before, and I'll say it again. Today, we're the oldest, the smallest, and the least ready Air Force that we've ever been. And yet we're facing the greatest threat, set of threats that the nation is facing its existence. So, you know, general, we would be smart to extract [00:51:00] from General LeMay's wisdom and observation in the past, because we simply are not going to have the time that frankly he had to rebuild the force. And we need to get our act together and modernize as rapidly as we can.

John "JV" Venable: Yeah. I think that LeMay guy is going places. I think, completely agree with General Deptula and the idea that we don't have the time,

is at hand, it's right now and we need to get our stuff in order and start moving in the right direction. Greater capacity, greater capability. And we need up the amperage on readiness twofold.

Heather "Lucky" Penney: I think I heard Secretary Kendall say, um, that we are out of time and I think he's right. I do not think we have time to pause NGAD.

So, we have a second quote from General LeMay that I'd like to share with everyone.

Gen Curtis LeMay (audio recording): Once the decision is made to use military force, then I think it should be used [00:52:00] uh, as quickly as possible. With as much strength as necessary, more strength than necessary probably, so you don't miscalculate. The main thing is to get it over with as quickly as possible.

John "JV" Venable: Stomp them down and stomp them down quickly. You have to be able to put that decisive blow in immediately or you're in for a long slog and we are not prepared for that.

Heather "Lucky" Penney: And General Deptula, air campaigns that you've designed and led, you have also had that mentality.

Lt Gen David Deptula, USAF (Ret.): Yeah, we had the mentality and you know what? We had a panoply of forces to be able to do that! And it is extraordinarily frustrating that, you know, not a lot of attention has been paid to or nowadays to Desert Storm, because it was a 43 day campaign. It was over rapidly with a minimum number of casualties. That's what we ought to be studying how to do.

You know, not [00:53:00] obsessing on 20 year campaigns that collectively resulted in strategic failure, but I digress what is different between 1991 and today is that today we have half the number of forces, less than half the number of forces, combat forces in our Air Force today than we had in 91. Yet the threats, are extraordinarily more challenging.

So, back to LeMay's first quote, we need to build modern capabilities, because we're not going to be able to hit an "on switch" when a conflict starts and deliver the forces that are necessary.

Mark "Gonzo" Gunzinger: I'd like to add to that if I could. Really comes down to our Air Force's ability to hold targets at risk, to quickly create decisive effects that are going to deny our enemies from winning the victories they desire.

But I'm really concerned that our Air Force is on the path toward becoming a standoff [00:54:00] force, just like the other services are today. And an over reliance on long range kill chains be an air to air, air to surface. That's going to create sanctuaries and time and space for the PLA to fight and win.

Heather "Lucky" Penney: One thing you can probably get more of when the balloon goes up is money, but what you cannot get back is time. And an 80 percent solution violently executed is better than 100 percent solution an hour late. Any last comments from the team?

Lt Gen David Deptula, USAF (Ret.): Yeah. Let me throw in one that, some of you have heard me say before, and that's with respect to cost. Just think about this, the only thing more expensive than a first rate Air Force is a second rate Air Force.

That's something our nation simply can't afford.

Heather "Lucky" Penney: Gentlemen, thank you. We are out of time and it's been quite a conversation. So, I appreciate your insights and I'm sure this is a topic we'll be talking about a lot more.

Lt Gen David Deptula, USAF (Ret.): Hey, great show, Heather. Thanks very much. [00:55:00]

Mark "Gonzo" Gunzinger: Yeah. Thanks guys. Till next time.

John "JV" Venable: Yeah. I learned a lot being with you, Heather and everybody. Thank you.

Mike "JDAM" Dahm: Thanks for the opportunity, Heather.

Doug Birkey: Hey, appreciate it.

Heather "Lucky" Penney: With that, I'd like to extend a big thank you to our guests for joining in today's discussion. I'd also like to extend a big thank you to you, our listeners, for your continued support and for tuning into today's show.

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See you next time.